

Marsh cautions Felch to save everything, and is distressed to find that some "sternal" bones were discarded. Mudge and Williston seem to have trained him badly.

Department of the Interior, United States Geological Survey
Washington New Haven

Jan. 4th, 1884

Dear Mr. Felch,

Enclosed please find check for \$97.³⁵ as you requested. To make you up the \$45. as per account, I enclose two vouchers for Smith to sign, if that will answer your purpose. If not, send me duplicate (2) bills receipted of purchase, to that amount, and I will try to get them paid.

I want you to feel that your work has been good for you as well as for me. I was greatly grieved to hear that you had thrown away some sternal bones. These are next to the skull in importance. Mudge and Williston knew little of collecting, or they would have told you to save everything. That is the rule in fossil vertebrates. There may be exceptions, but they are few.

If you are at any time in doubt, be on the safe side. A very large and very rotten limb bone is perhaps not always worth saving, but anything odd or new to you is always just the thing to save.

Yours Very Truly
O. C. Marsh

P.S. I am surprised that you pay any discount on my checks. You ought to get par or even a premium on checks so near New York. All my others farther in the west do.

Felch writes to Marsh that the weather is too bad to do much but that he did go to the quarry and found a piece of the jaw for skull No. 2 that he will send with next freight. He they need a place in the quarry to house bones and he suggests a 10 by 16 foot board building giving details and cost.

Canon City, Colo.
Jan 7th, 1884

Prof Marsh
Dear Sir

The extreme cold and stormy weather of the past few days, and which still continues, prevents doing much in the quarry.

I went over on Thursday however; to see what I could do towards finding some of the missing portions – belonging with skull No. 2

I removed a block of rock some 20 in. long 15 wide and 8 or 10 thick – on the top face of which was found the back part of jaw No. 2 of that skull. This piece is shaped something thus about 4 inches long two or more wide in the widest part and quite thin at the narrow end.

The rest of the face of the block is full of fragments of bones mostly quite small – whether any of them belong to the jaw or skull I am not able to tell.

It is possible more pieces may be inside the block – but I thought I would not work it down any more but send it along with the next lot of freight.

I also tried to run in along the vertebrae from where we left off on the Allosaurus but the rock is frozen so hard it would not work at all – and I broke most every tool that I attempted to use – and I had to give it up till the weather warms up a little.

We are much in need of some place at the quarry - to keep things housed in better shape than we have had – for it is difficult to take care of different bones and their fragments by laying them around in the quarry as we have had to do.

Sometimes we start in on a bone – and before getting it out may work around several more – that have to be in part or wholly removed before taking up the one started in on. All these pieces with their fragments have to be placed around and kept track of – which with the little working room we have makes it hard – and causes a good deal of annoyance – especially during a stormy time or in the heavy rainy season – when it is almost impossible to keep everything at rights as it should be. So also with our papers – diagrams – maps – tools etc – two or three times in the summer we were washed out and had a good deal of work to do over again

If we had a small board building say 10 x 16 – with board roof and cracks battened – without floor – but plenty of shelf room around the sides we could make it much more convenient and profitable in the end

In this also – such work as fixing up the bones to pack could be done to better advantage – and some of the work could be done in stormy weather

1000 ft. of common lumber would I think be sufficient – which costs in Canon \$26 pr. M. and could be put up in a few days after getting the lumber on the ground – the hardest part of the job being in packing it up the hill on our backs some 250 yds from the road. If you think best I can put this up during the cold weather at better advantage than at other work – though every day that is warm enough to work on the fossils I will do so

I will send on the list of contents of boxes soon – have them written up - but will look them over again – to see if any mistakes have been made – and to see if I can make the record any better towards preventing the getting things mixed up in opening the boxes

Respectfully Yours
M. P. Felch

Marsh needs a full list of box contents so they can unpack them a few at a time. He recommends Felch keep a copy in case any are lost. His Diplodocus paper will be out soon and he will send Felch copies.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Jan. 16th, 1884

Dear Mr. Felch,

On my return from Washington yesterday I recd your letters of the 31st ult. and 7th inst.

Please send me soon full list of contents of boxes as numbered. We may want to unpack only a few of the boxes at first and must know just what each contains before we begin. You better keep copy of list so that we can compare notes if anything is missing, or incomplete.

You better put up your shanty at the quarry soon. I am sorry you had not suggested it sooner.

My paper on Diplodocus will be out soon, and I will send you copies.

We are working on Skull No. 4, but it is in bad condition.

Better make out very full lists of all the Carnivore bones as we shall unpack them first of all.

We need that lower jaw of No. 2, very much, and all other fragments of the skull you can get.

Yours Truly
O. C. Marsh

Felch writes to Marsh about final settling of accounts for 1883 (mistakenly entered as '84). He then discusses a missing sternum, about which he has asked Smith. He gives details about it and will ship.

Canon City, Colo.
Jan 16th, 1884

Prof Marsh
Dear Sir

Yours with check and vouchers came in due season. I should have answered sooner but the weather has been so stormy I have had no opportunity to send mail to town till to-day.

As I said before when writing in regard to the extra amount – I do not wish to take it unless satisfactory – and you think I should have it.

I have however got Smith to sign the vouchers but if you had rather not use them you need not do so – as I send with this a receipt in full for the pr. ending Dec. 31st, 1884 for the am't rec'd on check \$97 ^{35/100}

When I was up to see Smith on Sunday I asked him in regard to the sternal bones – and he says the two sent were all there were – with the exception of one still here, that was packed away in a box with some fragmentary bones.

I looked it up on my return and find a small one some 10 or 12 inches long – but am not certain it is a sternal bone – as it does not look like the others found – has more the shape of one side of a clam or oyster shell.

This was found while stripping off in Aug. to get at the upper end of the big femur – lay some three feet above that and no other bones near

I will save this and send it in the next lot

Respectfully Yours
M. P. Felch

Canon City, Colo.
Jan 12th, 1884

\$97.^{35/100}
Rec'd of Prof. O.C. Marsh the sum of ninety seven ^{35/100} dollars to balance accounts for work on fossils for self and outfit for the yr. Ending Dec. 31st, 1883

M. P. Felch

Felch writes to Marsh the requested length on the length of a carnivore. He then says he will order the lumber for the shed to be put in the quarry and plans to put a forge in the quarry also. He thanks Marsh for his paper on Diplodocus and asks for a few extra copies if possible, one being for his brother who he mentions as having been the original finder of the fossil quarry. He asks for specifics on employment for the season and ends with a hope that Marsh will be able to come to the quarry this year.

Canon City Colo.
Jan. 23rd, 1884

Prof Marsh
Dear Sir

Yours of the 16th rec'd

I suppose you have got by this time the parcel containing list of contents of boxes

The list is copied from my record and is accurate I believe.

It happens the ones you want most and first – are the most scattered. Hereafter I will keep bones belonging to the same skeleton nearer together.

Sometime since you wished to know the length of the last Carnivore.

From the end of the snout (skull 4) to where the last vertebrae are now in sight, it measured – 14 feet 8 1/2 inches. The vertebrae were measured in a line through the middle of each centrum.

The last of this taken out is in Box No. 31 – from this block to within about a foot of the end – a portion of the vertebrae with the impressions of the neural spines are still exposed – while those at the extremity are yet whole and when we get to work there again may get out one more good block.

It may be a few more are still beyond those now uncovered. We should get and save all of it possible

Of skull No 2 I have not been able to do any more toward finding the missing portions – and though I have made several attempts to do work the weather is so disagreeable and the rock so frozen I cannot accomplish much

I will go to town soon and order the lumber – and while I am waiting for it will clear off a site for a place to put up the shanty. Shall also put up the forge at the quarry – and then we can work to much better advantage and with less confusion in many respects.

I shall be glad to get your paper on Diplodocus and if you can spare a few copies for me to give my friends – one to my brother who first discovered these fossils here – and who is much interested in the work and one to McGuire I will consider it a great favor.

I would like to make some definite arrangement soon about work for the season – think if it is possible for you to spare the time to come out it might pay in the end. I think more help could be profitably employed this season.

Respectfully Yours
M. P. Felch

Marsh gives Felch a yearly sequential box numbering system that will be useful in New Haven. He gives information on Skulls No. 3 and 4 and lists details to look for in tail vertebrae, wanting the terminal ones sent in rock.

Department of the Interior, United States Geological Survey
Washington, New Haven,

Jan. 28th, 1884

Dear Mr. Felch,

I enclose check for \$45. to complete payment for everything to 1st inst. The boxes have not yet arrived, but we hope to see them soon.

In your next lot for 1884, you better number all boxes. (Except on freight) continuously, beginning with No. 1, your next box. Then we shall have no duplicate numbers here. Fossils sent by mail can in the same way be numbered. "Parcel" No 1. etc. beginning this year, 1884.

In referring to the last year (1883), you can use the same terms for your mail sending's. Parcel, 1, 2, 3, etc.

We will also call the boxes sent by Express, Boxes No 1+, No 2+, no 3+, etc., while the lot now on the way can be known as boxes No 1, 2, 3 etc simply.

I will send you several copies of the Diplodocus paper tomorrow or next day. You will see what a grand skull No 3 is. It is not as perfect quite as represented, as we restored one side from the other.

We are at work on Skull No 4, which is coming out better than I expected, although much dilapidated. We shall restore one side from the other, and thus make out a fair drawing. I want much to know the entire length, but don't risk losing half an inch to find out. It is important in a tail to know.

- (1) how many vertebrae behind the sacrum have no chevrons,
- (2) how many carry chevrons,
- (3) how many have a neural arch,
- (4) how many round ones behind those that have an arch
- (5) are the last vertebrae flattened.

It would also be well to make careful measurements, and sketches, if there is any danger of the small terminal ones being lost. The last vertebrae of Allosaurus (Skull 4) would perhaps not be larger than a pipe stem, and an inch long. It would be so easy to lose half a dozen that you better send them in the rock if possible. We have fine tools and lots of patience here.

Yours Very Truly
O. C. Marsh

Felch writes about monetary accounts and has hauled the lumber for the storage shed as near to the quarry as possible. He will make a trail and draw it up from there with a horse. The weather is better, and with work to resume soon, he has a man he would like to hire, with the approval of Marsh.

Canon City, Colo.
Feb. 3rd, 1884

Prof. Marsh
Dear Sir

I send with this the monthly statement for Jan.

I think that I had better get itemized bills of all purchases and send you once a month when I can do so – and then you can see just what they are.

Whatever the amount is – more or less – can be averaged on the work account at the end of each quarter as has been done.

In most cases interest is charged on accounts running over 30 days

As I have not put in full time for Jan. I made no charges for hauling the lumber = five trips with my team.

I have got most of the lumber as near to the quarry as I could get it – and shall build or make a trail up the hill this week to draw it up with a horse to the quarry – as the lumber is green and heavy – and too much to carry alone.

When once on the ground it will not take long to put it up.

The weather is getting fine again – the frost coming out of the rocks and if cold does not set in again work can be resumed before a great while on the bones.

In my last I wrote something about making definite arrangements for help this season. I had then in mind engaging a young man who I think will work into this work as well as Smith and who will work for 40 dollars pr month and board – would like to know whether I will employ him or not by the 20th of this month.

I have several applications for work – some who will work for less – but a man like Smith is worth two of them on the average in any place you could put him where good work and strict attention to business is of any account

If you can let me know what to do by the 20th I will then do as you think best about it

Respectfully Yours
M. P. Felch

Marsh writes that the shipment has arrived and specimens were well packed, arriving in good condition, but he was overcharged nearly double the rate of the quote and refuses to pay the extra. He admonishes Felch to be sure to retrieve all fragments of bones so they can reconstruct them completely. He asks Felch to keep his list of box contents in a book so no "slips of paper" will be lost.

Yale College Museum, New Haven, Conn.

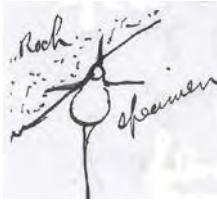
Feb 6th, 1884,

M. P. Felch,
Dear Sir,

The boxes arrived in good order a few days ago. We have taken out the skeleton with Skull No 4, and a few other specimens, and find them so far well packed, and coming out in as good order as could be expected.

Skull 4 and the "Allosaurus" skeleton are both Allosaurus, but appear to be different species. The first is only about half the bulk of the second, and different in several points. In neither of them have we as yet any traces of the fore limbs, except the scapula with Sk. 4, and one claw.

The block of black vertebrae behind the sacrum of Sk. 4. is not complete, the neural spines being



apparently left in the rock, something like this: You will find the pieces under the place where the block lay. The calcaneum is missing on all three tibia now here.

Among the jaws in box 4 are a large one of Allosaurus (flat cutting teeth.) and two jaws of Crocodile round teeth, with pitted dermal plates  that go with all crocodiles.

The two "sternal" plate bones as you call them are dermal plates of Stegosaurus, and we also found an ilium of the same genus in one of the boxes with skeleton No 4.

I am glad Stegosaurus is found in your quarry, as we want a good skull very much.

I would like to know just how long and large the last caudal vertebrae are that go with skull No 4, so far as you have uncovered them. Also how high the neural spines of the first three caudals (behind sacrum) are.

In keeping contents of boxes, it is important to record each, in a book when the packing is done. Slips of paper, we know by experience, may be lost.

The freight charges were nearly double those on the memorandum you sent me from the Cañon City Agent. I have refused to pay the rate demanded, and the matter is now under consideration.

I hope you rec^d the Diplodocus papers. I shall soon have some to send on Sk. No. 4, which after very careful treatmen(t) with gum arabic, and fine tools is coming out much better than I expected.

I am in hope that we may find some bones of the fore limbs of Allosaurus in some of the boxes, as the jaw in box 4 shows that the portions found were scattered. We now know all except the fore limb and the hand, and sternum if there be any.

I will write again as soon as I have examined more of the specimens.

Can the Alloasurus jaw in box 4 go with the skull you have not yet found?

Yours Very Truly
O. C. Marsh

Marsh gives Felch information on government payment vouchers and employment of quarry workers. He tells Felch that his packing of fossils is very good and asks what Quarry 2 is.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Feb. 11th, 1884

Dear Mr. Felch,

Yours of the 3rd has just reached me.

I enclose check for \$131.³¹ as per account sent.

When you pay bills to be used as vouchers for the government, two are necessary, one being an exact duplicate of the other. You can, as in this case, send me single ones for monthly account. I am glad to know that there may be a chance of work soon in Quarry No 1.

You may employ the young man you mention whenever you can use him to advantage.

I hope you can also secure the services of Smith for the season, or part of it. Please let me know what price per month he will work for. Also Tyler if you wish him to continue. I should like as many as can work to advantage.

We are unpacking your fossils, and they generally come out well. My men here praise your packing. This afternoon, for example, they were unpacking Box 8, and found in a cloth sack a cervical vertebrae very fragile, but well secured in sawdust. It was one of the two near the head (of your series 34 to 21). I think this series is Diplodocus, and should like much to know about the rest of the skeleton.

In writing the other evening without your list, I think I gave the wrong number of the box with the jaws. I want Box 4, and Jaw "E" in rock is very important. It is probably Labrosaurus, a carnivore.

Where and what is Quarry 2. I have no idea.

Yours Very Truly
O. C. Marsh

Marsh writes to Felch enclosing a drawing (does not appear in our material) and requests more information.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Feb 14th 1884

Dear Mr. Felch,

I enclose a drawing of a bone you sent in Box 1. It is very important, and I am anxious to know what animal owned it.

Your notes imply that it came from West End. Can it belong with the Jaw E. found by Brown May 1883? Let me know soon.

Yours Truly
O. C. Marsh

A quick note to Marsh. Felch has received the Diplodocus papers. The area is now having the worst weather known in these parts.

Canon City, Colo.
Feb. 15th, 1884

Yours of the 5th & 6th also papers on the Diplodocus rec'd today. Will write fully in a day or two – are now having the coldest and most severe weather ever known in Southern Colorado.

Respectfully
M. P. Felch

Marsh writes to Felch requesting information concerning Allosaurus ribs and the number of Diplodocus vertebrae, indicating to him how valuable such information is.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Feb. 16th, 1884

Dear Mr. Felch

Among the *various* remains with Skull 4 and the Allosaurus skeletons, I find no ribs of the body. Did you find none or could you not save them? These ribs are very important, as in Europe very remarkable ribs were found with one animal (Megalosaurus) very like Allosaurus, but which may differ in just this particular. The ribs found in Europe went across the abdomen something



like this. Did you notice anything of this kind in taking out the skeleton with Sk. No. 4. Every fragment of this animal becomes more and more important.

Did you count the vertebrae in the series of which you sent three (April 1883, 34 to 21). I should like much to know how many there were between the front one we have (3rd or 4th from skull) and the large one you sent complete. It is always important to know just how many vertebrae there are between given points, or in so many feet, (16 1/2 in this case by your diagram. This series appears to be Diplodocus hence very important.

Don't let my remarks about these various points discourage you. I only want to show you how to add to the value of each specimen found.

Yours Truly
O. C. Marsh

Felch writes to Marsh that he has received the check and Diplodocus papers which he comments on at length. He then discusses details of the skeleton belonging to Skull No. 4 and his plans to obtain the information needed by Marsh. In regard to the claw Marsh would like to be found, Felch states that all rock large enough to contain them is checked before going over the 'dump'. He mentions where certain specimens are packed and tells of his record book where that he plans to keep even better records. He then discusses the freight overcharges and calls the D&RG "a Corporation of Highway Robbers". He again mentions the worst cold spell ever known in Cañon City, 26° below zero.

Canon City, Colo.
Febr. 16th, 1884

Prof. Marsh
Dear Sir

Since my last I have received two letters the one of Jan — with check for \$45.⁰⁰ to square accounts to Jan. 1st 1884 — and the last of Feb. 6th — also have received 6 copies of the Diplodocus papers for which I am greatly obliged.

Being interested, my opinion in the matter may not amount to much but I think the specimens here figured and described are the finest and most complete of anything I have seen — with the exception of those in *Odontorinthes*.

I am puzzled to know however where the series of vertebrae lay of which fig. 4 Plate IV (12th caudal) is a representative the only continuous series of caudals found in '77 were shown on a map of East End — sent in June last.

The central and neural spines were shorter in proportion to the one shown here and there was a large opening in the sides of each centrum, besides other points of difference.

I had supposed that this series I have described above belonged to the *Diplodocus* — but in the one figured I cannot find a likeness to them.

In regard to the skeletons of Sk. No. 4.

Just as soon as the snow thaws away again and the first work I can do I will commence where the block was taken out behind the sacrum and see if any is left in the rock belonging with that — or if I can get measures from the impressions left.

After that block was taken out we did not think the remainder would be of any special value — and in stripping off to find if some of the fore limbs or toes could be found did not take the care that we should and only kept the measure of those uncovered to get a general idea of the comparative lengths of the different parts — to guide us in the future should we find another skeleton in position like this one.

I think however that I can get most all the points you wish for yet – as most all the impressions show well and there are several yet at the small end nearly or quite entire.

I think the best way will be to take some light paper and commence with the large ones and mark them out in the rock as they lay with measures of each as near as I can get them – and those that can be taken out in fair condition also marked on this continuous diagram. The ll" one of this series from the sacrum was sent in Box No 29 and perhaps you can tell by that – if the chevrons extended as far back – and whether it has a neural arch.

The last that are uncovered are still round I think.

I do not think you will find any of the fore limbs of either Allosaur in any of the boxes – but hope you may.

Since receiving instructions in regard to them and the hands we have looked faithfully for them and I have not let a fragment of rock big enough to hold a claw go over the dump without examination

Of the first and larger Allosaur I hope yet to find them as the chances are all in our favor for so doing

I suppose the jaw of Allosaurus found in Box No. 4 is the one that was packed by itself in a small box

This was found in West End near Range F. No. 69. Near this jaw there was a small humerus packed in Box No 2 and another limb bone marked L. A in No 4, also a singular vertebrae

shaped something thus  packed in some of the first boxes, exactly where I have no record

I hardly think this jaw belongs to the larger Allosaur for it is but little more than half as large as No. 4 and the skeleton- the larger one- must be more than twice the bulk – Am inclined to think there is more of the animal still back of where this jaw was found – as it was not more than three or four feet from where the jaw lay that one of my boys found the claw.

This portion of the quarry has not been worked since May to any extent

If the illium of Stegosaurus is Bone K+ you will find in Box 30 both pubic bones J+ & L+ that go with it as the illium K+ exactly overlay them.

Both bones J+ and L+ when taken out were splendid specimens. If the skull of this skeleton is found it must be back in the hill from where these bones lay as the course of the vertebrae take that direction

My record of boxes I keep in book form – from which I copied the record I sent you.

I think I can place any important bone you want from my record with the exception of a few at the start before I got to know the importance of something definite and certain to refer too – and here after I shall take pains to make even fuller records of particular bones location etc than I have done.

I am glad that No. 4 is going to turn out so well – and hope it will figure as well as No. 3 though it is hardly to be expected as it was flattened out and crushed in on the upper side when we found it.

In regard to the over charges for freight it is no more than can be expected of the D&R.G. Ry. Co. notoriously a Corporation of Highway Robbers that fleece everyone that comes in their way

Knowing this I went personally twice to the Agt. and made a square contract – and nothing was said about prepayment 'till the boxes were loaded on the cars – and then the Agt. would not specify rates on the bill – but made me sign an agreement that I would guarantee charges paid.

Had I of known of this before loading the boxes I should either have telegraphed to you for instructions on to the Agt. at Pueblo of the A. T. & S. F. Ry. for rates over their road and shipped them that way – but I was in something of a hurry to get them off without delay and let the matter go on – though I half expected something of the kind would turn up.

Today the weather seems to be getting a little warmer and we hope soon to be able to do something again

I had got up all my lumber and done two days' work on my trail when the storm set in – the most severe ever known here 26° below zero in Canon.

Respectfully Yours
M. P. Felch

Marsh writes to Felch about no chevrons with the Diplodocus vertebrae and mentions that Williston thinks they may belong to the tail of the type Diplodocus of the 1877 dig. To keep animals separate, he cautions Felch to mark each fragment or pact bones from each animal separately.

Department of the Interior, United States Geological Survey,
Washington,

Feb. 18th, 1884

Dear Mr. Felch,

We are still unpacking, and much interested in what comes out.

Today in Box 12, the Caudals, series 2, East End were taken out in good order, but there were no chevrons with them. They are Diplodocus, and Williston thinks may be the end of the same tail that forms the type of Diplodocus taken out in 1877. Is this probable?

It is important to look for the chevrons of this series, as Diplodocus, you know, has very peculiar chevrons, quite unlike the other Sauropoda.

The chevrons in the same box that you say are of series 1 and 3, are Sauropodan, but it is very important not to get them mixed. Were the six chevrons in Box 2 mainly Series 1 or Series 3.?

It is always better to put in one box only one animal, or to mark each fragment, so that that we can at once separate them.

Stegosaurus seems to be abundant in Quarry 1.

Yours Truly
O. C. Marsh

Felch writes to Marsh that he is sending a diagram of the tail of No. 4, mentions the neural canal in view and gives measurements of Spine No. 1. He gives Marsh information on some measurements, the numbers of which may not match up and then asks Marsh to send information on neural arches.

Feb. 19th, 1884

I got as good a diagram of the remainder of the tail of No. 4 yesterday as I could which I send with this

The frost has broken them up some but I think a few near the end can be gotten out showing all important points. At the turn (No. 11) there is a chevron in sight from there to 20 that side of the vertebrae are still under the rock – only the top side being in view.

A splinter from off the side of 16 shows the neural canal – and No 11 is broken in two showing the size of the neural canal there to be about an inch deep and a half inch or more in depth.

Spine No 1 is I think a part of the last one on the blocks containing the sacrum - No's 2 – 3 – 4 – 5 – & 6 matching the other block sent with long chevrons.

The length from the end of the snout to and including No. 20 as we took it is

	ft	in
Hand	2	3
From head to sacrum	4	8
Blocks with sacrum	2	6 1/2
From sacrum to extremity	4	10
Total	14	3 1/2

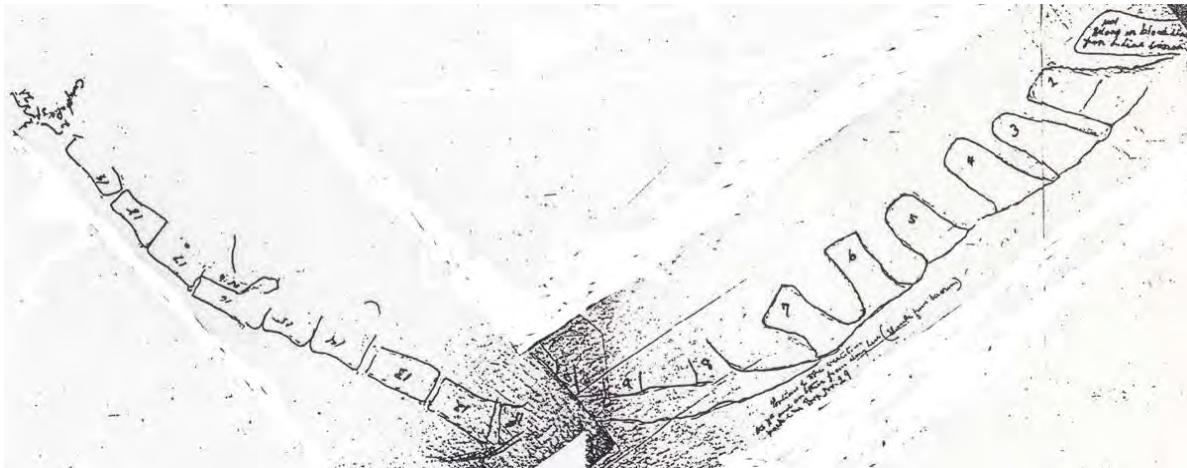
There were two, or three vertebrae on the blocks with the sacrum that did not belong to it if I remember right – and the one sent in Box 29 and marked No 11 was reckoned from the vertebrae at the time, I believe and so would not correspond with these numbers on the diagram

I am not quite sure that I know exactly what constitutes a neural arch. Please set me right about it.

M. P. Felch

Transcribed at the Garden Park Paleontology Society's Dinosaur Depot Museum, Cañon City, Colorado.

Original material housed at the Marriott Library, Special Collections Division; University of Utah, Salt Lake City.



**Portions of the vertebrae the 11th and another from along here (eleventh from sacrum)
paced in Box No. 29**

Felch writes to Marsh about financial matters and then discusses various bones and which may belong together. He encloses a map showing the location of Quarry No. 2. in relationship to Quarry No. 1, and also the area of his own residence. He mentions fossils and the Laosaur metatarsal from Quarry No. 2. He then details lining up help for the coming season.

Canon City, Colo.
Feb. 20th, 1884

Prof Marsh
Dear Sir

Have rec'd yours of the 11th with check for \$131.^{31/100}.

I have made an arrangement with dealers – that purchases made for one month whether on the first or last of the month shall be paid by the 20" of the following month and called 30 days

I know that bills must be made out in duplicate to pass through the Auditors Dept's in Washington for I had three year's experience in getting accounts through but as dealers here don't like the trouble of hunting up items and making them out twice – I thought it might suit you as well to have monthly statements to look over like the last – and the sum total at the end of the yr. could be averaged on general work account as formerly.

The bone found in Box 1 came from near the extreme West End – together with a lot of large foot bones packed in Boxes 1 & 2. From that point to where the jaw (E) lay – some 20 feet east there was nothing continuous but the bones were scattered.

It is quite possible that more bones relating to the bone may be found still in the wall behind – and if thought best, work can be done there sometime this season to find out.

That there are more bones still under the wall that belong with jaw (E), I have no doubt.

As I wrote in my last I do not believe it belongs with either allosaurus but near it was a humerus – another limb "L A" Box 4. the vertebrae ~~not placed~~ not placed but in some of the first boxes some peculiar ribs that Brown packed with portions of a jaw in rock, Box 6. = and the sharp claw. The ribs like those in 6 are still continuous under the wall and probably more of the skeleton

The two cervicals Box 8 – and another from the same series in Box 1 might have belonged to Diplodocus as you will see by the map the top of the series ended nearby where some sections of those teeth were found in, in this portion of the quarry those teeth were abundant.

We had however always supposed that jaw "A" found near "Range A. No 3" belonged with the series.

No limbs were found with this series – unless some of the large hind limbs way back = G = H = J = & K = might have belonged with it – as the length of the animal would reach that distance easy I should think – but it was hard to trace anything definitely in that direction the bones lay crowded together so thick. My big vertebrae 39 inches long that I has so bad luck with I think from its general shape and deep cup was from the same animal as the rest

I send an outline of our grounds that will give you an idea of the location of Quarry No 2.

Some two or three years since I found here some toe and other bones – and after Brown had concluded there was nothing more in No. 1 worth looking up I let him go over there where he worked during the remainder of his stay. The spot is a little mesa about 1/3 acre in extent – Williston would remember it as the place he used to shoot at squirrels from our side of the gulch – is full of fossils – and though they are not generally so well preserved as in No. 1 would I think get better as work could be carried in further

The slender metatarsal of Laosaur = sent by mail last summer came from this quarry. I think there are bones enough in our vicinity to last for years

I have made arrangements about help – will put on one man – Elijah Hammond – a splendid quarry man to take charge of that work – will be ready in a week or 10 days.

By the 1" of April perhaps a little before Smith and Weld can go to work.

Weld is the young man I spoke of – who will I know make an expert workman – like Smith he is careful – skillful and trustworthy. With this team I think we can accomplish a good amount of work and do it well.

Smith wants 50 dollars pr month and board the others 40. I can board for 20 dollars pr. month and furnish beds and not less as living rates are high

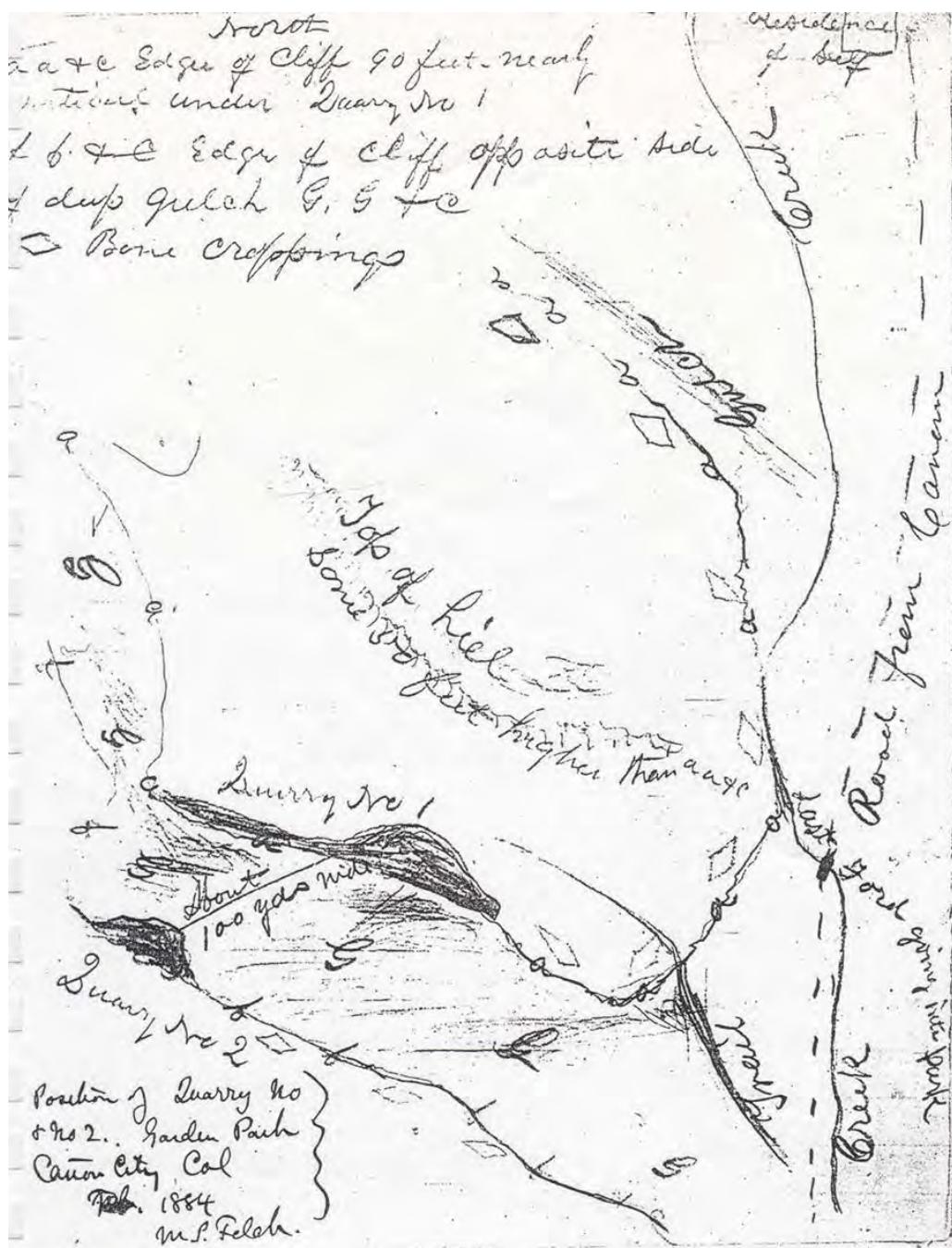
M. P. Felch

Canon City Colo.
Febr. 20th, 1844

\$131.^{31/100}

Rec'd of O. C. Marsh check for one hundred and 31/100 dollars for work and material on fossils for Jan. 1884

M. P. Felch



North

aa & c Edge of cliff 90 feet – nearly vertical under Quarry No 1

ff & c Edge of cliff opposite side of deep gulch G.G & C

◇ Bone croppings

Residence of Self

Position of Quarry No 1 & No 2. Garden Park Canon City Col

Feb. 1884 M. P. Felch

Felch writes to Marsh that he has received the letter about the ribs and gives information on them. He then tells of an error in a recent diagram where he referred to diapophyses as neural spines. He says the questions about details do not discourage him, rather show their importance and help him learn what he needs to know to do a better job.

Canon City, Colo.
Feb. 22nd, 1884

Prof. Marsh
Dear Sir

Yours of the 16th about the ribs rec'd

We found what we called ribs with No. 4 – still they might have been chevrons. I made an accurate and full sized sketch of one that came a little in front of the sacrum and sent it with other diagrams in Nov. I send another as near as I remember it – though it might have been a trifle longer and more curved toward its upper portion than this one. There is no question but what they were plenty in the first Allosaurus many sections and pieces of which are still in the quarry

In both they are rather small and round. By the way – is it a special feature in carnivores to have round ribs?

I suppose you have discovered the mistake I made in my last Sundays diagram of the remainder of the tail, in calling the diapophyses- neural spines – along from 1 to 5 or 6

I have been at work and find the nueral spines quite different

Though the frost is out of the rock it still works bad – crumbling easily but I shall be able I hope by sending some portions by mail and measures of the rest to come pretty near an accurate idea of them. Two diagrams 1 and 2 show the 5th (numbering as in the last) neural spine and side processes

From 5 to 11 I shall be able to get nearly the exact size of all with little trouble – but from 5 forward to sacrum it will be difficult to get them exact – as they are in several pieces of crumbly rocks, made so by frost. In one piece of the rock the apex of three or four are complete – and a wedge shaped piece holds the middle of two – while the base containing the impression has the remainder. I can fit up the block with the base – back to its original place – also the one with the distal ends it its former place – and measure to the last – and get the length quite exact. The block containing the ends complete I will send by mail – as a little distance from them there is something I cannot make out unless they be small toe bones. More of these show in another small piece of rock and also in the bed under where these came from – which I will try and remove carefully and find out what they are.

I made no record of the number of vertebrae in the 16 1/2 ft series - but think it was the 7th

or 8th from the top that the larger one came from. A cup- Box 8- from the one at the base of the series – is from a vertebrae nearly two feet in length

As to getting discouraged by answering questions and going over the ground again – I look at it in the opposite way – for I think if the specimens were of no particular value it would not pay to be looking up the various points relating to them – besides in doing this I larn much of value to me that I could not any other way, in the situation of things.

I send also a diagram made by Brown of some ribs near jaw E in Box 6. More of these with vertebrae were found in E. End a description of which I will sometime send. I believe them to be carnivores and nearer to the Megalosaurus than the Allosaurus

Respectfully Yours
M. P. Felch

Felch includes a further note, answering an inquiry about caudals and chevrons. He gives information as to mapping and box location.

Feb. 24th

Yours of the 18th about the caudals and chevrons in Box 12 came last night.

The caudals may have belonged with those found in '77 as their location was not far from the limb found

The series is accurately shown on map of East End

There were no chevrons found with either this or the 16 1/2 foot series.

All the chevrons in Box 12 belonged with series 1 & 3 – the small ones with No. 1 the large with No. 3.

Vertebrae to correspond were packed in Boxes 32 – 36 & 37

Will have some more done on tail of No. 4. soon

M. P. Felch

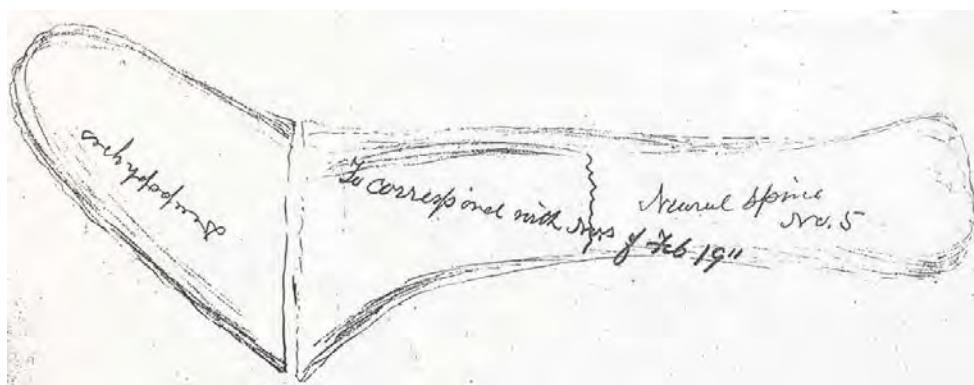


Diagram No 1 The outline of the spine is quite exact
Neural spine No.5
To correspond with Nos of Feb 19"
Diapophyses

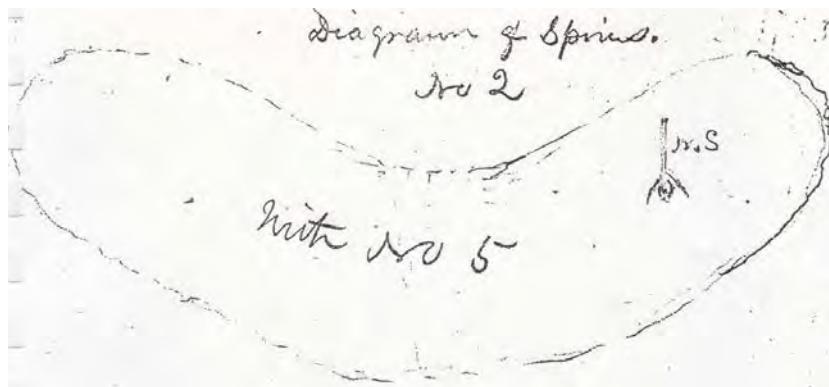
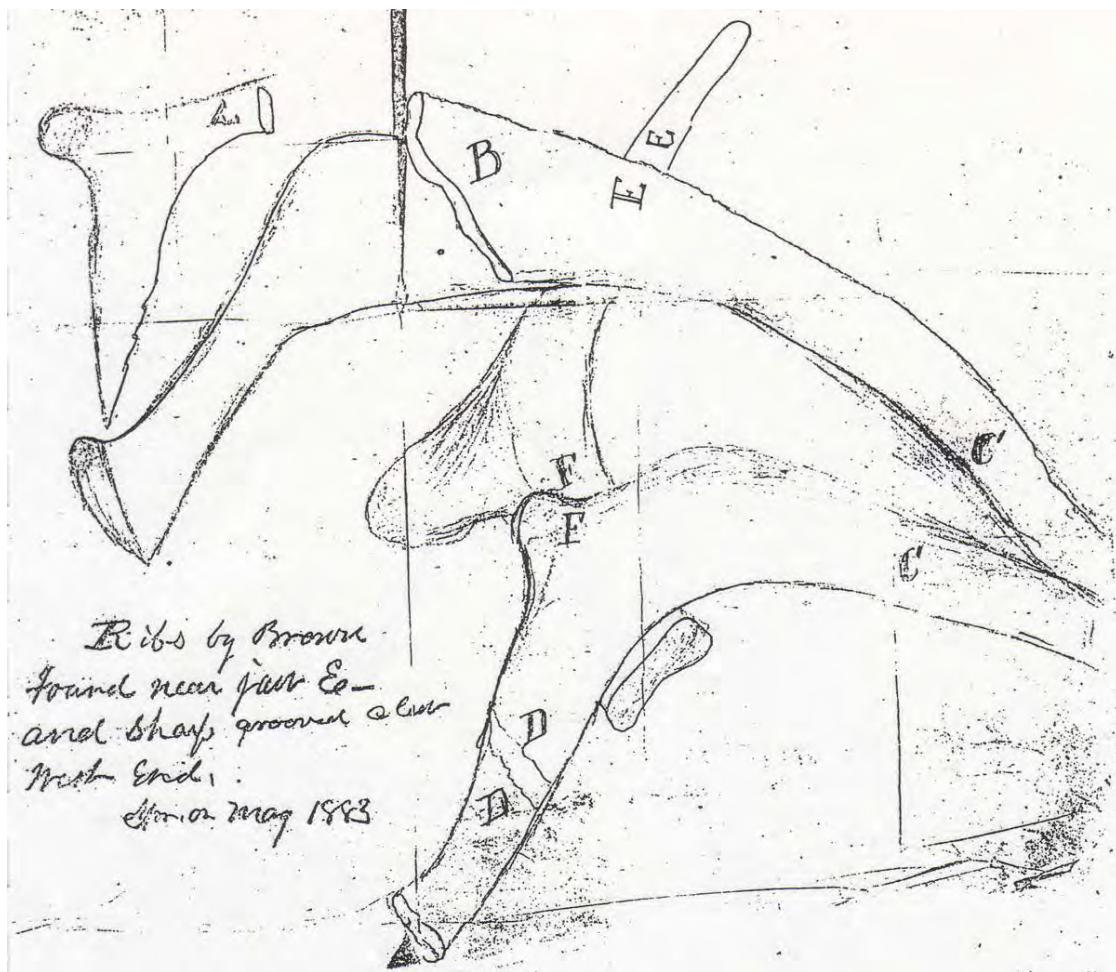


Diagram of spines. No 2 with No 5



Rib or Chevron front of sacrum Skull No 4



Ribs by Brown found near jaw E – and sharp grooved claw West End

Apr or May 1883

Marsh writes to Felch praising him for the work he is doing while admonishing him not to lose so much as a grain of corn sized fragment on Sk. No. 4. He is sorry that some of the fragments were not sent and asks Felch to check the dump in the spring. He criticizes Mudge and Williston for sending only the best, but then says they did their best and may deserve more credit.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Feb 24th, 1884

Dear Mr. Felch,

Your letters of the 16th and 19th are here.

The diagram of the tail of Sk. 4 shows that there must be at least two feet more (perhaps three or four) yet to be recovered. The break at No 11, indicates I fear that the rest is more or less scattered. I hope not seriously.

Please don't risk losing a fragment as large as a grain of corn on this entire skeleton, which is becoming more and more important each day as we work it out here. The skull will figure quite as well as Diplodocus, as we can restore the missing part on one side from the other. Diplodocus, of course, was not as perfect at all points as it appears, but one side helps out the anatomy of the other.

I think you can in the spring recover some important fragments of Sk 4, and skeleton from the dump. You will of course recognize the pieces by their color and texture, and how they are almost worth their weight in gold.

There has never been so good a chance to get an entire Dinosaur in this country as you had on this specimen. Had every chip been saved, and measurements and diagrams (measured) been made before each part was taken up, we could have made an almost perfect restoration. Hindsight is better than foresight of course, but for fear we may never get another chance half as good, try for every missing fragment. An impression on a rock is often very important as we can make a plaster cast of it.

The neural arch of a vertebrae is the part that protects the spinal cord above. This disappears at



the end of the tail, and only round cylindrical centra remain. A dog's tail will show this perfectly

The jaw in Box 4 is new, probably, but the dentary bone (circling the teeth) is preserved. The back half of the jaw having become separated. Perhaps you may find it later.

We have about half of your boxes unpacked, and the bones came out well. We wish there were labels with each specimen among the specimens from East end, we have the feet of the small Morosaurus (Skull No 1), and hope to find more in the other boxes.

Your quarry is certainly a good one, and, if I seem particular about small points, I will show you their importance later.

Don't forget the dump. I have worked over many a one with great profit, and we may have to go back to 1877 material yet as Mudge and Williston often dug bones as they would potatoes, and saved only the best or what they thought the best. Perhaps however, when I come to go over these fossils again I may give them much higher credit. They did their best.

Yours tr
OCM

Felch writes to Marsh that he has mailed the neural spines and diagram and can send more if needed. He plans to follow the tail he is working on to the end unless it goes under the wall. He asks Marsh for a pair of dividers or compasses to aid in measuring as they cannot be found in Cañon City.

Canon City, Colo.
Feb. 26th, 1884

Prof. Marsh
Dear Sir

I send to-day two boxes by Reg. mail containing some blocks with portions of the neural spines. The diagrams enclosed will show where they belong. It must be understood that these spines are not complete – were fractured and partly lost – and crumbled by frost – but by placing the blocks back to their original position I got from impressions and what was left of the bones a good idea and accurate measure so far as I went. In numbering these I commenced – with the fragment on block B as one – making a difference of one all the way through as compared with the other diagrams sent.

I also send in with the blocks the 14th spine as numbered last.

I have the 12th and 13th also complete in one block with a portion of each vertebrae attached which if I can get in one box I will also send after getting those hardened up with glue if you would like them

There is quite a lot of this material left – some of which might be interesting that I will put by itself – and if you should want it at any time I can send it.

I removed all to-day up as far as the 15th – but could find no more chevrons behind the one shown on the diagram of last week No. 12 or 13 I think.

In working these out I got on to another limb bone – which when I first struck it I hoped might prove one of the missing fore limbs – but on following up on one side for over two feet I found it to by much too large for the animal

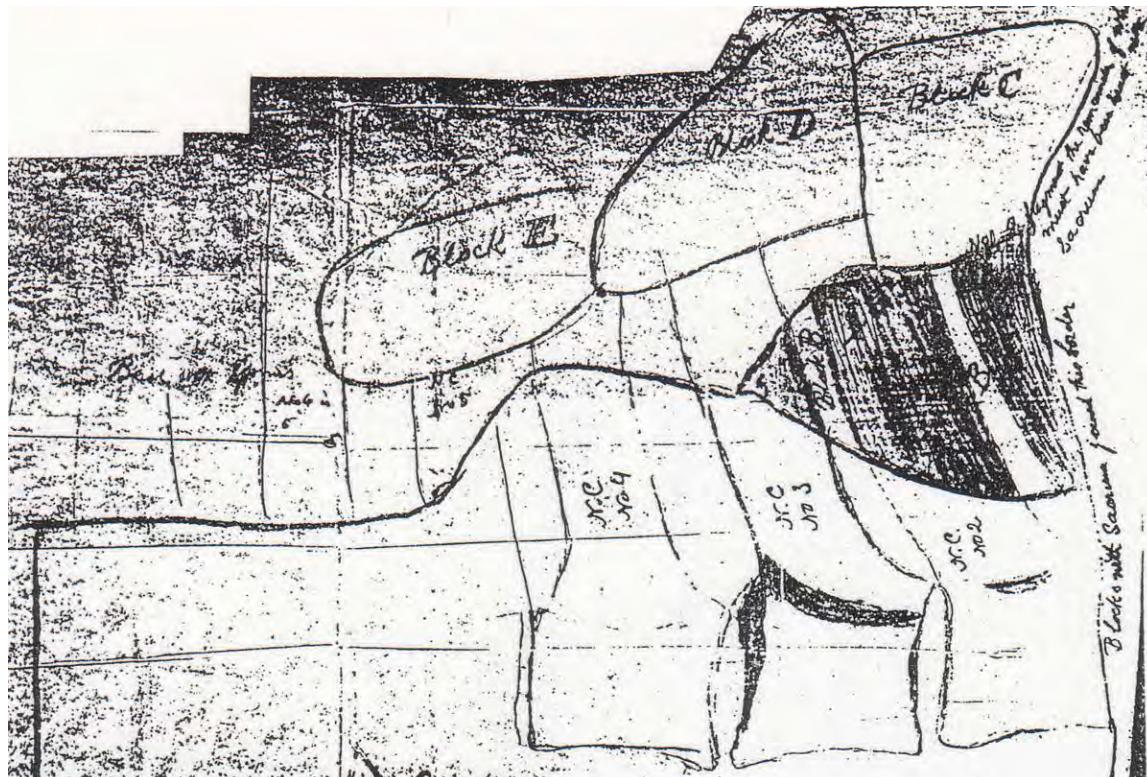
On the underside of the blocks C. & D. you will find some small bones a part of which still remain in the rock from which these were taken. If of any value I can get out the remainder and send.

I will follow up carefully on the tail till I find the end if it does not go under the wall

I have received several copies of Harpers & Scribners for which I am much obliged.

I have tried to find a pair of dividers or compasses to do measuring with in places where I could not get at it otherwise – but cannot find them here – and I thought if you could send a pair they would be very convenient at times

Very Respectfully
M. P. Felch



From the top of this block the block containing the long chevrons (behind sacrum) as taken leaving the impression as figured here

M. P. Felch

The distances on this diagram from center to blocks C. D & E are not accurate but those on separate slips and numbered to correspond are as exact as I could obtain them. What is found in the above blocks added to those on separate slips will be the correct measure of each

Blocks with sacrum joined this border

Fragment the remainder of which must have been found with sacrum

Marsh writes giving information on bones they are working up and suggests his box lists may not be complete. He also asks Felch to go through the dump for specific missing parts, reminding him again to save everything.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Feb. 28th, 1884

Dear Mr. Felch,

We have worked out the block of vertebrae just behind the skull No 4. and find them very important. This block contains 5 cervical or neck vertebrae, all perfect, and in position as the animal died. The first vertebrae of the back (dorsals) should come next, and the break is clean cut, but we find nothing to go on, as yet.

The next back of this that we do find is away back in the lumbar region just in front of the sacrum, and here the front break is again perfect. The whole dorsal vertebral series is missing. - unless possibly you did not put it on your list, and it is in some box not yet unpacked. I cannot for a moment imagine that you would let any of the men throw such valuable material over the dump, and suppose you may possibly not have taken it up. If so, I am very sorry, as the whole determination of the genus to which this animal belongs turns on the dorsal vertebrae and the ribs belonging to them.

The absence of this part delays my paper on this point, but I hope all will come right.

Let me say here that the first principle of collecting is to save everything that you are not perfectly sure is of no value.

Before any other work is done, I think the dump ought to be searched carefully for parts of the two carnivores. As these were found late in the season their fragments must be near the top.

At Como we worked over a whole dump twice for parts of a skull that we knew must be there, and found them.

Please don't put anything more on the dump until the matter of these two skeletons is settled. One vertebrae of this kind is worth just now a great deal to us.

If you have the block of dorsals still with you, send it on by Express, and with it every fragment you can get of the skeleton Sk No. 4.

If you still have any of the Allosaurus, send that (every fragment) by Express, but don't mix the two.

Yours Truly OCM

Felch writes to Marsh that he is sending a box with the neural spines. The weather has again turned bad but he is doing some work with glue and cloth to be able to get them out whole. He then talks about some unusual fragments associated in some way with the neural spines.

Feb. 29th, 1884

Prof. Marsh
Dear Sir

I have fixed up another box to send by mail tomorrow with the 12th and 13th neural spines – together with portions of the rest of the vertebrae of each

We have had another severe snow storm – and it has made it bad for a few days – but I cleared away – so as to get at the 20th and 21st – hardened up the exposed portion with glue, and pasted over all with cloth and will try to get them out entire as soon as I can

There appears to be something singular about those fragments top of the neural spines that I thought at first might be toe bones. I believe of like nature occurs all the way along – as the block with 20th & 21st and one on two more exposed portions show them.

Yours Respectfully
M.P. Felch

Marsh writes to Felch that all 39 boxes of his shipment are unpacked. He is satisfied with the season's work, but cautions him as to what to do better next year and delineates which specimens are most important.

Department of the Interior, United States Geological Survey,
Washington D. C., New Haven

March 1st, 1884

Dear Mr. Felch,

We have now unpacked all the 39 boxes, and I am well satisfied with the seasons work. I know however, that you want to do much better this year, and so will tell you where you missed some good things last summer

The object of the work is not to get a certain quantity of bones, however good, but to get material for accurate restoration of the animals found. You know the Restoration of Hesperornis in the Odontornithes. I want to serve every animal I find in the same way. Consequently two bones found together as they were in the animal are worth half a dozen equally good bones found separated

Hence it is important to treat all bones found as parts of a possible restoration. If all cannot be saved, the thing is to measure those left, and sketch them so as to help out that part.

Your great chance (the luckiest of any yet found in the West) was the skeleton of Skull No 4. Here not only was every fragment important, but the number of the vertebrae their proportions, and shape, and exact order were all of the highest importance. So of the ribs, toe bones etc. Such a chance probably will never occur again for you had the material for an entire restoration in a single specimen. Had I known the specimen was so good, or that there was a chance of any important part being lost I would have left everything here, and gone out at once, as this was the chance I had long hoped for.

I hope sincerely we can yet rescue most of this skeleton, and make it useful. The species is new and probably it represents a new genus and family.

The next thing of importance you have found is the Allosaurus skeleton, and I hope you may yet get the skull. Here also every fragment as large as a grain of corn is well worth saving. This is a different animal from Skull No 4, but first cousin.

Skull No 3 is very important and that is saved in good condition as it was left in the rock, the best possible packing material. When you can send blocks of rock containing bones, this is the best way, especially skulls, feet or vertebrae. Unfortunately we know next to nothing, as to what goes with Skull No 3. So of Skull No 2 and No 1, both of which are interesting but far inferior to No 3 and 4 as the latter are nearly complete.

All the large bones you found and sent are interesting, especially such as have feet bones with them. The most interesting are the series of vertebrae of which you saved but three (Diplodocus) cervicals (34 to 21 I believe) these could have been carefully measured, if they could not be saved, and also numbered the first and last and some intervening ones saved at all hazards.

Of the three series of caudals in East End 1, 2, and 3, it was very important to keep each series and the chevrons of each by themselves. Also to keep each chevron with its own vertebra.

Perhaps the most important single specimen is the jaw in rock from West End. This is new. The small jaw (Mammal) found by Brown was important.

This will, I am sure, guide you a good deal about what we want, and how to get it. I am confident you will do your best.

Yours Truly
O. C. Marsh

Felch writes that he forgot the letter to Marsh when he last went to town. They have found more slabs with vertebrae and he gives information on these. He wishes they had been able to save more of one specimen, probably No. 4, but regrets they did not know then what all to save, as instructions from Marsh had been only general. He further states that he appreciates the critique as he knows much more now and can improve the work.

Mar 2nd, 1884

I went to town yesterday to mail the box and fix up monthly accounts and by mistake left my letter at home

I received yours of the 24th and this morning I sent up for Smith to come down and have a council on this No. 4 skeleton. We visited the quarry and have found the block that came in front of the sacrum with portions of vertebrae – and I think possible with pieces of ribs in it.

We also found another small slab with two and portions of more vertebrae in it – that I am positive came in some 3 or 4 behind the large block with the long chevrons – Smith is not certain as to this – thinks they may belong to the other Allosaurus – but I think you will place them with No. 4

There may still be more recovered but there will be a missing link along from where this block mentioned as coming in front of the sacrum – to those cervicals I sent with this skull. Along where the scapula lay for perhaps nearly two feet I think all was wasted in getting that out – and nothing remained but impressions when I took up the work myself and saved what I could of the slabs with the cervicals sent. I saved those even before we had got to the skull or had uncovered any limbs – as I thought they were entirely new in one feature at least – that of having so many small ribs or spines all the way along.

Of course had we known when we first struck the skeleton at the scapula that it would have turned out to be as valuable as it has the result might have been different than it has and if I has myself understood the law “To save everything in vertebrates”. We should now have been in possession of all there was of it – but you know up to that time your instructions to me were only general in these matters, and till quite recently I did not fully realize all that was required.

In many things I have anticipated your suggestions and in others have improved on some early methods and teachings – and I know for a fact that I have saved good specimens where others would have thrown them over the dump – and I had by far the most difficult ground to work. So much I can say without any egotism at all. Now that I better know what to do if any omissions occur it can be charged up to laziness or indifference. I do not want you to think I have taken any offence by what I have written – only to know that where mistakes have been made it has been through ignorance – and any suggestions – requirements as to how the work shall be done – to improve it - and to have it come out in better shape and more intelligible at that end will be thankfully received

I have cut out the block with the 20th and 21st (19, 9, & 20 of full diagram sent first) and I think you will find them complete I shall try and send by mail if not too heavy. Beyond this block I

took out another toward the end of the tail but continuous from 21 and will try and find the end as I believe it all to be there. The only break discovered at all so far was just in front of sacrum where one vertebrae stood above the others. At 11 there was quite a sharp curve making the

neural spines at the top come near together thus  but there was no break.

Though some of the material is badly shattered up – I think I can diagram – label and pack so that you can replace them very nearly where they belong – and get all we have found with the exception of that part under the scapula

I will as soon as the snow gets out of the bottom of the gulch take a hunt and see what can be found.

M. P. Felch

Felch writes to Marsh that the caudals (20 and 21) are too heavy to send by mail. He discusses another string of vertebrae which may go into the wall, and then explains his enclosed diagram. He has found a tooth, likely Allosaur, and will send it while continuing to work slowly in case they find another scattered skull like No. 2. He ends by stating that there is no end of bones in any direction.

Canon City, Colo.

Mar. 4th 1884

Prof Marsh

Dear Sir

I was intending to send the 20th and 21st caudals by mail but find the block too heavy. I think the two are complete.

When all the material of this skeleton is worked out with what I have now on hand there will be several hundred pounds = perhaps a thousand, unless it is worked down considerable more, which I can do in some places without risk

I suppose you will want it all sent – and I was thinking that if those blocks already sent by mail could be kept with the diagram and not worked out = when the rest was sent on of that portion, you could get it accurate

I have been at work on the remainder and am somewhat puzzled about how it is coming out. I send a diagram of what has turned up = as the diagram though not accurate as to distances, and numbered different in some places = will give a better idea than I could write without it.

Starting in at 22 the first block showed a vertebrae at X 1 and X 2. and along the red line apparently continuous – while the X-1 was solitary. Working along in front another of these solitary ones came in a 3 X and I expected then to find them all scattered on running diagonally from 2 to 3 – but in getting the block out from 2 to 4 it showed the regular series as shown on the red line. Though only the ends can be seen where the blocks are separated I am sure they are continuous on the red line – and now point into the wall which from the last one in sight is only about 20 inches. They seem to keep their size good yet – and may be a dozen or two more before the end is reached. What these lower ones can be is more than I can tell as they look almost exactly like the others – only the neural spines being short and thin

A section on the right and middle of the diagram shows a cross break of a block – the block that was removed from this containing as I now think the base of a large lower jaw. I have so marked the cross fracture on diagram

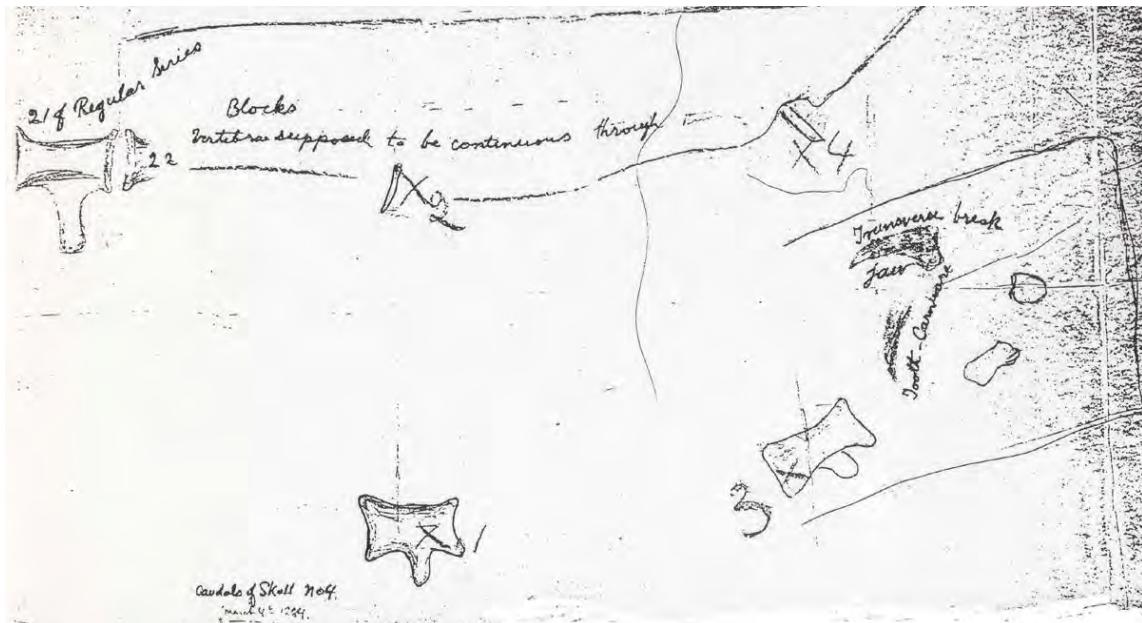
Under this was found a large strong tooth – carnivorous – and I am afraid it may belong to the other Allosaurus but I hope not – for if it is in the quarry I want it all together. I have found some other small bones mixed in here some of which I will send by mail with the tooth. Work here will have to go slow and careful – as every stray fragment has to have its place and taken care of in the event a skull should be found scattered like No. 2

From 22 on the vertebrae I think I can return all so far as found with every particle

Under 22 on the block containing it is the lower end of one of the most singular limbs found yet.

From this point it runs back to the left – have not got it uncovered enough to get a good outline – midway under the limb is what appears to be quite a large cervical like those of the long series – and in fact there is no end of bones in any direction.

Respectfully Yours
M. P. Felch



21 of regular series
Blocks
Vertebrae supposed to be continuous through
caudal of Skull No 4
transverse break
jaw
tooth - carnivore

Marsh writes to Felch asking for information on the feet of Allosaurus. He wants any additional fragments of this specimen mailed to him. He also asks Felch to write more slowly as to have letters more legible.

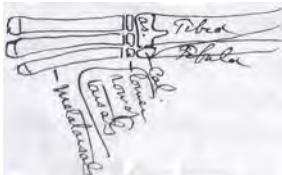
Department of the Interior, United States Geological Survey
Washington, New Haven

March 5th, 1884

Dear Mr. Felch,

Your letters of Feb 22nd and 26th were duly rec'd. Also one box by registered mail. Did you send two?

In trying to make out the hind legs of the Allosaurus, I find both legs down to the feet, but no trace in either of the second row of tarsals. I mean the small row just below the astragalus and calcaneum. Now it is important to know whether you overlooked these and left them or whether there was no second row of tarsals in the foot. I think the former more probable, but I cannot give a figure of the hind leg till I know how this is. These bones would probably be very thin and three in number, one over the upper end of each of the three long metatarsals.



Again – I find only two claws with both hind feet. One you show on your diagram of the hind foot, but not the other. Now it is important to know on what two toes these two claws go. If one toe is without a claw, is it the outer or the inner?

Some feet bones are very small and it is important not to over-look them. The best way when possible is to take up the whole foot in one block. If not, leave as many together as possible, and especially leave the rock on them so that they can be put back in their original position. This makes the thing sure. Better send 50 lbs of rock than lose one toe bone.

As soon as the weather will allow you to work without risking injury to the specimens, I wish you would get out and send by Express every fragment however small of the Allosaurus skeleton. Also the same for Skull No 4 skeleton, but keep them in separate boxes, well labeled.

One word about your letters. You write very plainly when you write slow. Now as we have to read your letters over often a dozen times, and in the future may have to do so many times more, you will do us all a favor if you will make them a little plainer.

Yours very truly
O. C. Marsh

Felch writes to Marsh that he is working on the tail of Skull No. 4 and wants to get Smith to spend a few days going over the dump. He outlines a plan of digging that will allow more 'elbow' room as they proceed and, in addition, will allow better recovery of specimens though if Marsh wishes them to begin on the Allosaurus, they will. He has enclosed a diagram to show the two possible methods of proceeding. Again, he regrets that Marsh did not give more explicit instructions early on, as mistakes could have been prevented but with the details of the letter of March 1st, things should now be better.

Canon City, Colo.
Mar. 7th, 1884

Prof. Marsh
Dear Sir

Yours of the 28th Feb. & Mar. 1st is rec'd

I am still at work in getting out the remainder of the tail of Sk. 4 – removed one block since my last with 4 vertebrae – continued in regular order from the one marked 4 on last diagram sent. The break here showed them all plainly – and though they do not seem to be much shorter – I believe they begin to flatten more – and the spines to be almost wanting. I still hope to find it all complete. The two shown on the diagram below the regular series must be strays. I will send them however with the rest – marking so you can place them.

I have also found a block in which I hope you will find a portion of one and perhaps more from the back.

This block I know came forward of the sacrum and ought to contain some fragments of ribs.

I have also found several more pieces with portions of the skeleton and others that I am uncertain of = such I will pack by themselves and mark doubtful.

Sunday I will go and see if I cannot get Smith to come, if only for a few days to take charge of hunting over the dump – while I get what I can ready to send.

I would like to finish up on this before doing more on the Allosaurus – and then commence all hands systematically on that – or rather the way this portion of the quarry should be worked can be better shown by the little diagram enclosed to work to the best advantage – not only in removing the rock but in getting out the specimens in good condition we should commence at A and work it with the natural seams – and take out all clean to the marl bed as we go along. Suppose we want to get out the Allosaurus marked next – we have got to chisel out the black section on the line B as far in as we want to work and then work to the right from that point – and each successive layer breaks of a little shorter than the last – and a cut on B six feet long would soon in this way run us out of working ground. Again – while if we begin at A. we have the advantage of elbow room in the start and can keep the work square along on the backside much easier

Had we adopted this plan last season instead of gouging in as we did over the Allosaur, I think we would have done much better. Another advantage in working from A. would be we could carry along a wider strip and if we struck on to a skeleton that was continuous – and found to be so we could make sure work of it with less trouble. I am satisfied that in starting in at A we could carry a strip through to the East End – say from 10 to 15 feet wide in half the time we could by working the whole front as we have been doing – and save the specimens in better shape

I knew this last fall, but was in a hurry to get at that particular skeleton and so kept on in the old way.

This plan would of course delay the work on the Allosaurus somewhat and if you think best we will begin there (at B) and do the best we can but at more risk of injuring other specimens which may prove of equal value – as I believe somewhere between A. & B. we shall find more of the skeleton belonging with jaw E.

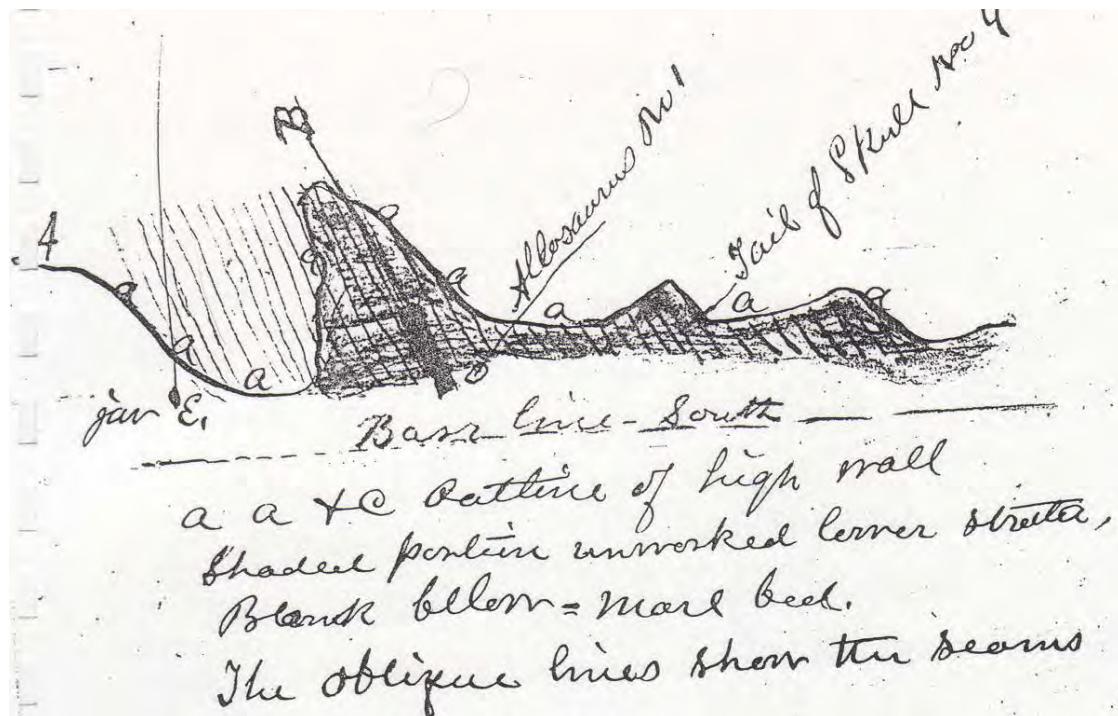
We have still good ground for one to work toward the East End, but I would favor putting on all the rest of the help from the point A.

I wish you would advise me fully on these points.

Had your instructions to me been as full and explicit in the beginning as in your letter of Mar. 1st many of the mishaps that have taken place would not have occurred. No one deplores the mistakes made more than myself and I have felt a good deal lately like giving up the work entirely.

Now that I begin to comprehend better what is required I may do better

Very Respectfully
M. P. Felch



jaw E

Allosaurus No 1

tail of Skull No 4

Base line south

a a & c outline of high wall

Shaded portion unworked lower strata,

Blank below = marl bed

The oblique lines show the seams

Marsh writes to Felch requesting information on the neural spines of Sk. No. 4. He is very concerned about not having them as he cannot figure any more than the skull without them. He asks Felch to go through the dump.

Department of the Interior, United States Geological Survey,
Washington,

March 8th, 1884

Dear Mr. Felch

Yours of the 2nd is at hand.

We are still at work on Skull No. 4. and find the underside better than the top.

We want very much the neural spines of the 4 and 5th caudals. I mean those in the block just back of the sacrum with the long chevrons. I can't figure them as the spines are gone. Can you send a tracing to show how high and wide these neural spines were. It is of the greatest importance to secure some or all of the dorsal vertebrae of Sk. No. 4. When I found that you had not saved this important part, I was ill for two days. These vertebrae would have been worth more to me than all the large limb bones you collected last season. Nobody knows what they are like while the large bones, however good, teach us nothing new they were of course worth saving, but nothing like the value to science of even the smallest bones of Allosaurus or Sk. No. 4.

As soon as you can work to any advantage, try to rescue all you can from these two skeletons. Better leave all other work until every fragment is secured from the dump or rock. I would rather you would get me the rest of these two skeletons even in small pieces than to get 20 tons of big bones that I already know.

I shall only figure the skull in my first paper, and wait for more pieces before attempting a restoration of the limbs, etc.

Nothing can go into this paper unless it is here by March 20th at latest.

Yours Truly
O. C. Marsh

Marsh writes to Felch that he has found a block, which will help in figuring Sk. 4. He mentions that he has telegraphed to have other specific material of this skeleton sent by express. He asks that Felch supervise all that is thrown into the dump and specifies the things he needs from the work of sorting through it.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven

March 11th, 1884

Dear Mr. Felch,

We have got together a piece of rock containing 4 or 5 vertebrae of Skull No 4. This block is somewhat behind the 7 cervicals sent with the Skull and belonging next to it. It is also somewhat in front of the sacrum but fits on neither to this or the cervical block.

This piece helps ~~up~~ us out considerably, as it shows something of what the dorsals are like.

I telegraphed you yesterday to send by express at once all you have between the skull No 4 and the sacrum. This is the important part just now since we have the skull in good shape.

I also added in the telegram to send the same portion of the Allosaurus that is the dorsal (or back) vertebrae. If you send something characteristic of each we can compare the two. Both now appear to be Allosaurus, but the species distinct, the better one (Sk 4) being new.

Please don't let your new men throw anything at all over the dump unless you have yourself examined it, and know positively it is on no value. The main thing for the first part of the season at least is to rescue all you possibly can of the three Carnivores, viz:

1st Skull and Skeleton No 4-

2nd Allosaurus

3rd Labrosaurus, or the jaw in rock from the West end and all that goes with it.

To get these three animals out with all the bones they left, will be quite a job. If the other two are as good as Sk 4, this would be a vastly better season's work than last year, even if you do not get over 1/4 the amount of ground.

Yours in haste

OCM

Felch writes to Marsh that he will send what he has as soon as lumber can be bought and crates made. He gives requested information on some bones, which are mostly foot, and encloses a diagram. Smith is coming and will help with some needed information on Allosaurus and No. 4 and includes dates and numbers of boxes that he has sent recently.

Canon City, Colo.
Mar. (11th 1884)

Prof. Marsh
Dear Sir

Rec'd telegram to-day - also letter of 5th

I will send what I have ready as soon as I can get lumber - make and pack the boxes. There is but one block that I know positively came front of the sacrum on No. 4.

I found another today with some ribs - but whether of the first Allosaurus or not I cannot say.

With this I send a diagram as near as I can remember - of the position of the foot bones referred to in your letter. There was quite a space between the astragalus and metatarsals but I knew there was not a particle of anything like bone there, only as shown on the diagrams sent.

I done the work myself on that - and could do no better toward finding all there was of the foot if I had it to do again

The long metatarsals and the next row below with one claw (A) were nearly on the same level - but the remainder of foot lay partly under and sloped away = the three last small bones - and one that I called the calcaneum = not larger than an English walnut = being eight inches at least lower than the level where the long ones lay

The larger of the two claws was A. the smaller B which lay very near the position shown.

More than this I cannot say - if there was more - it was overlooked - though all the rock near this was worked down to the marl bed - and carefully looked after.

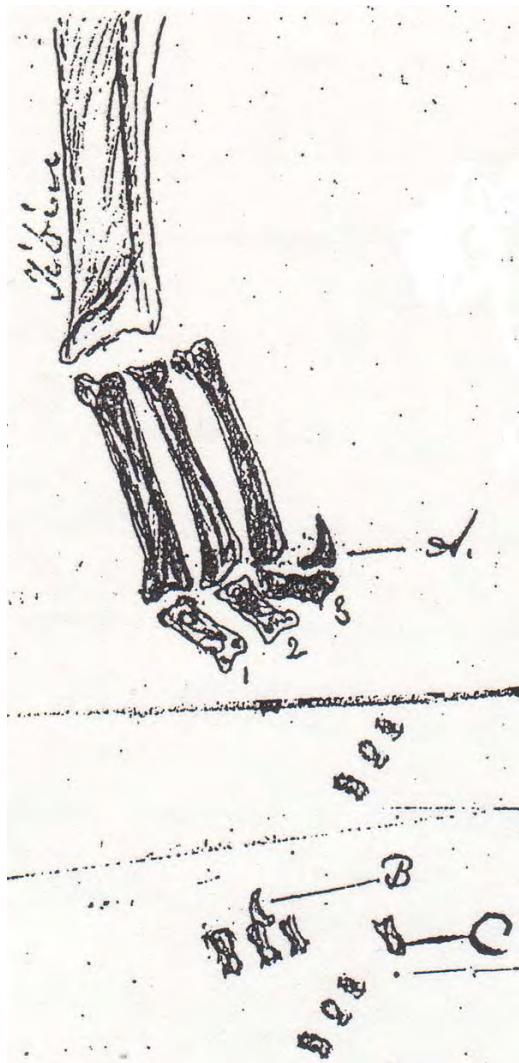
Smith will be here to-morrow and help us straighten out matters on the Allosaurus and No. 4.

Of the Allosaurus we have but few fragments out - as we did not get down last fall in season to get out the remainder before quitting time - and for reasons mentioned in my last letter I did not wish to start in at that point - but as the case seems urgent I will start in there and do the best possible - but at a risk of injuring good specimens and of keeping things mixed.

There were two boxes sent by mail on Feb. 26 - with blocks B. C. D & E and a spine from the 14" vertebrae - one sent on Mar 1" with portions of the 12nd and 13 vertebrae = the last one sent Mar. 5 with some fragments of chevrons of Series No. 2 E. E. and other small bones

Respectfully -

M. P. Felch



Lay the upper half flat on the edge of a table and turn the lower half down at an angle of 45 degrees [letter folds at the two lines to reconstruct the foot.]

Open space between astragalus and metatarsals 4 or 5 inches but note a fragment of bone between

Claw A. on same level as 1-2-3

Claw B. nearly under No 2 and bone 2 inches below it

C. calcaneum The claw B turned backward

Felch writes to Marsh that some material being sent cannot be accurately placed as it was found in the dump. Hunting through the pile is slow work with over one hundred tons having been added to it. His crew is set for the new work and he is trying to organize misplaced specimens from the previous season.

Canon City Mar 12th, 1884

Prof Marsh
Dear Sir

I shall send tomorrow one box pr Express.

This will contain all we have found forward of the sacrum of No. 4.

Some portions ~~we~~ we cannot accurately place – one slab with the ends of some ribs in it, was found in the dump – which from the appearance of the rock I am satisfied belongs with No. 4.

One or two other pieces were also found on the dump and so marked.

No part of Allosaurus is in the box. I put in, to help fill up = a fragment that I found which may belong with Skull No. 2.

Also you will find a small package with a claw and foot bone. These were found between the tail and the limb that lay under the tail • – I think there are more in the rock of these toe bones, and as those in the box were not quite as accurately placed as they should be for future reference it might be well enough to mark those in unpacking "Foot bones near limb A. 1884," and if there are more of them found I will mark the remainder to correspond.

I have all hands at work – though Smith can only stay for a few days – but will try and be on hand by the first of April

Hunting the dump is slow work as all the stripping done over the Allosaur – the rock some 100 tons at least was thrown over partly covering the dump lower down the gulch where the rock from No. 4 was dumped over

I hope to have the rest of the tail out in a few days and then I will forward that – and then commence on the Allosaur

This is going to be a slow and difficult job – and one that I wished to put Smith on alone or have him assist me – for I don't want to put a new hand near it if I can help it – but I will go on with it alone for a while

In the winter I undertook to uncover them- the vertebrae- but the rock was frozen then and all crumbled up – and I gave it up – now it will work better though the eight that were uncovered are badly broken. The remainder of the eight with ribs attached show well and with all the fragments which have been saved may be mostly restored yet

Respectfully Yours
M. P. Felch

P.S.

In looking over your letter last night – of Feb. 28 - Smith called my attention to what you said of only finding one block of cervicals from behind the skull of No. 4 – with 5 vertebrae.

I knew there were two sent, packed in Box No. 4 (Express) and both Smith and Tyler who is here now are as sure of it as I am.

In taking the two slabs out I was part of two days at work on them – it being about the first experiment with the water glass and glue – and after the top side had been filled and pasted over with cloth and dried overnight I then worked under - turned them over and finished up the other side and dried by a fire – as the day was cloudy and damp

If I remember right these slabs were sewed up in gunny sack cloth and marked with the brush respectively – "Slab No. 1 – and Slab No. 2 – Cervicals with Skull No.4."

My record of Express Boxes also identifies the two slabs.

If there are any of the vertebrae that will never turn up again the missing portions will be between where the scapula lay and the block packed to-day

Tyler sold out his chance and came back for a job – but having engaged the others I could not well give him a place on the fossils.

I have however set him to work on my ranch for a month or two. He is so good a worker that I will keep him along and if anything turns up by which any of the others leave I will give him a chance.

Marsh writes to Felch giving specific information about bones sent, and asks to have a few points clarified. He again asks Felch to rescue every fragment from Sk. 4 and the Allosaurus, and asks him to begin by searching the dump. It is more important to do this than find something new.

Yale College Museum, New Haven, Conn.

March 12th, 1884

Dear Mr. Felch,

Enclosed find check for \$82.25 as per account sent.

In your letter of Feb 29 you speak of "something singular about the fragments top of the neural spines that I thought at first might be toe bones"

These caps on the neural spines are cartilage partially ossified. They are on the cervicals you sent, and are very important. Did they occur all the way down the back? Save all you can.

In your letter of March 2nd you advise working the quarry from A. I leave this entirely to your judgement, and am willing to wait for the Allosaurus, if you can only get it out in better shape.

The important thing however, is to rescue every fragment already out of Sk. 4. and of the Allosaurus. This is vastly more important than to find new things. We know Sk 4 and the Allosaurus are good, and every chip is of value. You may, or may not find anything half as good this season. Save what you have already found, and we will do our best here to get it together.

You can tell these Carnivore bones from all others, and even if you get some from Sk 4 and the Allosaurus mixed, we can probably separate them here, as the latter is about twice as large as the former.

I shall have my figures of Sk 4 out in a few days and the article will be in the April No of the Am. journal of Science. The skull is improving every day, under very careful treatment, and the under (left) side is much the best.

A lot of pieces are missing from the lower end of the pubis of Sk. 4. You may find them in the dump. That seems to be the place to work now, first of all. Please look out there also for those supposed "sternal bones" and in fact for anything good.

Yours Very Truly
O. C. Marsh

Felch has gone to town to mail a box and received a letter which he answers immediately. Marsh has questions about portions forward of the sacrum which Felch will try to mail in the next day or two. He will try to find more of the Allosaur.

Canon City, 13th, March 1884.

Prof. Marsh

I came in to ship the box this morning and find your letter of the 7th. I think you will find the width and height of those spines (4 & 5th Sk No 4.) from the diagrams sent and the blocks B. C. D. & E. sent by mail. From the 3 or 4th I think which up to that point had been wide they changed quite suddenly to narrower ones. The last one of these wide ones shows a peculiar

notching  on the back side I think.

As your telegram told me to send that portion forward of sacrum – I thought I would wait till all behind was taken out before sending but if I can get hence in season to box and pack what I have out I will send on by tomorrow or next day and you will see then just how they are.

On the Allosaurus I know we can yet find enough of the dorsals to help that out – although they will be somewhat in pieces –

Respectfully Yours
M. P. Felch

Felch writes to Marsh that they have reached the end of the tail of No. 4. He will be shipping some bones tomorrow. He tells Marsh how to match the blocks together with some previously sent, and refers him to a diagram. He will wait for Smith to begin work with him on the Allosaur, and meanwhile, he will continue going over the dump, finish the building and move the blacksmith outfit to the quarry. He encloses a sketch of the Allosaurus dorsals.

Canon City, Colo.
Mar. 14th, 1884

Prof Marsh
Dear Sir

We have at last got at the end of the tail of No. 4 – and I think it is complete. This final end we got out to-day – and all from behind the sacrum - with the exception of the blocks **B. C. D & E** - sent on by mail - are packed in **Box No. 2** and will be shipped tomorrow.

If those blocks that were sent by mail have not been worked out you can match them exactly on to those sent in **Box No. 2**. The diagram enclosed will aid in placing them where they belong – and you will also see whether my measurement of the spines recently sent with diagrams is not correct. From **Block H** to and around the turn it is possible some may be gone – as that portion was badly broken in uncovering last fall – and was exposed to the action of frost all winter – but from where I began recently on No. 20 I think you will find all complete to the end

I have mislaid my measure of the different lengths – head sacrum etc – but I gave it to you correctly not long since to a certain number, (22 I think) from this point I have not taken any measures – but whatever is found – from and with 22 to the end – added to what was accurately measured before will give the whole

Within the circle you will see on the diagram **Block X** – Here was found two stray vertebrae which have the same general appearance as the others. I should have sent them on but could not possibly get them in the box. Should they be wanted here after in connection with No. 4 they can be referred to as “**Block X Diagram of Mar. 14” 1884**”

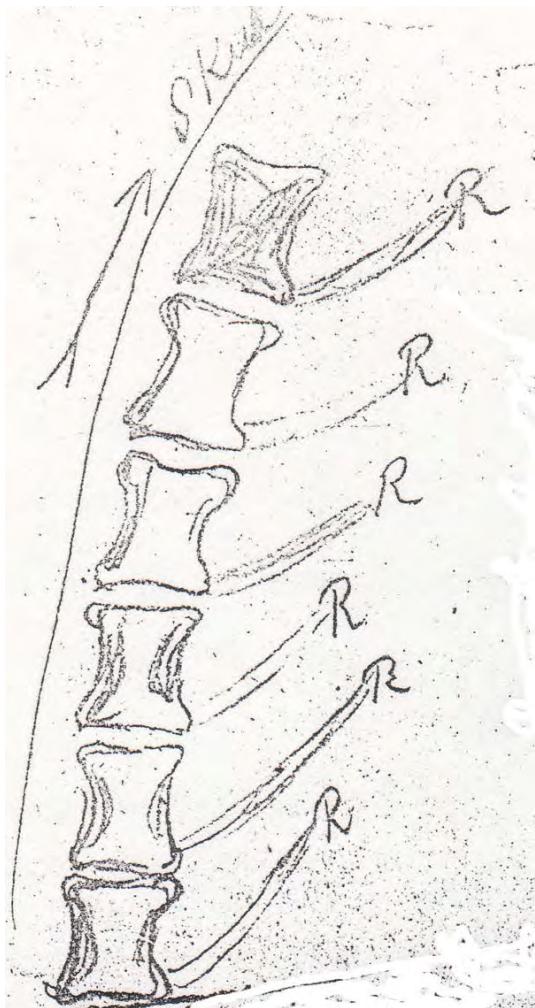
I shall not attempt any work on the Allosaur till Smith can go at it with me – but shall put in the time in hunting over the dump – completing the building and in moving the blacksmith outfit over to the quarry.

Tyler will help on the dump – as he knows the rock – and I shall put one of the other men to work in his place on the ranch for a while.

I suppose the arrangement will be satisfactory to you and it will make no special difference to me

I also send a small sketch of the dorsals of Allosaurus as they now look – though the top part of all of them is in fragments. The ribs get larger as they get toward the neck – All of them seem to point forward instead of backward

M. P. Felch



Dorsals of Allosaurus No 1934

March 14th, 1884

Sacrum blocks joined here

Appearance of the dorsals in rock of Allosaurus.

ꝝ. ribs which seem to run in the wrong direction

Marsh writes to Felch requesting information on a toe bone and thanks him for the diagram of the Allosaurus foot as it was very useful. He requests information on the pubis and ischia of Sk. 4.

Department of the Interior, United States Geological Survey,
Washington,

March 14th, 1884

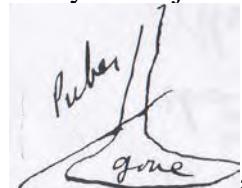
The two vertebrae (Block 4) March 14th of the tail of No. 4. are important, as the break in the tail shows that they have probably been displaced. This is much more probable than that two odd vertebrae of the same kind should get so near.

I telegraphed you about toe bones of No 4. We have here not a trace of them.

You spoke in one of your letters about some toe bones between the tail and limb. Did you mean this skeleton? Or Allosaurus? I could not make out.

Your diagram about the foot of Allosaurus helped me out. I shall try to put one hind leg of this beast together for my article. Without your last diagram I could not attempt it, and I am still in doubt about one or two important points.

Can you tell just where the pubis and ischia of Sk 4 lay? The lower end of the pubis is gone.



also a piece of the ischia



We need both very much, to

make our figures complete.

I hope today to get your first express box, No 1. with the slabs in front of the sacrum of No 4.

Box No 2. (caudals) may come tomorrow. Continue numbers of boxes 3 _ 4, etc, for the rest of year

Yours Truly
O. C. Marsh

Felch writes to Marsh saying he has received two letters and two telegrams and in telling how his telegrams are delivered, specifies how he can get one to him quickly if needed. He gives requested information on the toe bones recently sent. Felch reassures Marsh that now that he knows more about the business, nothing will get away from him. They will hunt for the missing portions of No. 4 and thanks Marsh for the glue and water glass method as this has saved fossils in poor rock.

Canon City, Colo.
Mar. 17th, 1884

Prof. Marsh
Dear Sir

Yours of the 11th and 12th also telegrams of the 15th and today I received this evening

In regard to your telegrams, I have them sent to the P.O. where I have a box – as in case they should send a messenger it would cost me three or four dollars. It is rarely except in very bad weather or a busy season that my mail lays over more than two days.

If you should wish to send a message which required an immediate answer or attention - you can close the message with forward and I will instruct the operator to forward such to me by messenger.

All the foot bones that have been found so near No. 4 are those referred to in my last as coming



between limb A (1884) and the tail. These – a claw and small bone were sent in Box No 1 last Thursday (13) and were found at the Q on the outside of the bend in the tail and alongside the limb.

The place where the claw and toe bone sent – shows as if there were more still in the rock – but as the limb might be injured in taking them out first I pasted the spot over with cloth and covered the whole to make safe while getting out the tail. If those sent should be found to belong with No. 4 I can easily find if there are more of them

I think you will find those little bones top of the neural spines extend as far back as No. 22 if not farther.

Portions of these are in some of the blocks sent by mail – and the remaining portion of the same in the corresponding blocks sent in Box 2.

As I said in my last the two lots can be put together so as to show where the cleavage was

I tried my best to save all those fragments for I thought them something new and of importance

You can rest assured of one thing now that I know what is wanted, there is not anything going to get away from me.

We shall for the present devote all our time in hunting for the missing portions of No. 4 – and in hunting for this will be liable to find perhaps more of Allosaurus but of the latter I think there is but little missing excepting the tail. This was found in bad shape – broken and scattered hardly more than two or three in a place till near the sacrum and no attempt was made to save them. The lower end of the pubis of Allosaurus is still in rock and directly under it one caudal – with probably more beyond

This tail was twisted under himself – worse than No. 4

Those missing fragments of the lower end of pubis No. 4 I think I can replace soon if not too heavy to mail

I am glad the skull is coming out so well – and hope and shall try to recover enough yet of the rest to get a good restoration.

We are glad also that the Slab No. 2 of cervicals has been found – for we were all positive it had been sent.

The saving of those two slabs - was due wholly to your suggestions in regard to using the water glass and glue – and was merely an experiment on my part to try what could be done in saving specimens found in rotten rock and shale.

Had the idea came a week later you would probably never have seen them.

Now that we can feel as though we are not limited as to time on the Allosaur – we feel pretty sure of good success

Very Respectfully
M. P. Felch

Canon City, Colo.
Mar. 17th, 1884

\$82.^{25/100}

Rec'd of Prof. O. C. Marsh Eighty two ^{25/100} dollars – for work and expenses on fossils for the
month of Feb. 1884

M. P. Felch

Marsh writes to Felch that Box 1 has arrived and is of great value. A piece of the forefoot was sent from the dump and Marsh states it is one of the most valuable specimens from the quarry to date. He tells Felch to keep looking in the dump as long as there is a chance of finding more of Sk. 4 or Allosaurus.

Department of the Interior, United States Geological Survey,
Washington, New Haven,

March 19th, 1884

Dear Mr. Felch,

Box No 1 came in today, and its contents made us all happy.

The slab of vertebrae fitted on directly to the front of the sacrum. Another slab (in two pieces) went on in front of the last. This leaves only 4 inches missing according to your measurement between skull and sacrum, but neither part fits the two left, so half a vertebrae must be gone at each gap.

What box No 1 had of most value was a forefoot, or the greater part of one, which you found in the dump. This small piece is next to the skull (4) the most valuable specimen from the quarry. That it was thrown over the dump grieved us all, but that it was finally found caused rejoicing in our museum in 4 or 5 different languages.

Keep at the dump so long as there is any chance of getting a single fragment of No 4 or Allosaurus

Yours Truly
O. C. Marsh

Marsh writes to Felch that he will call Sk. No. 4 Ceratosaurus, which is a specimen of great importance. He is sending some notebooks for Felch to use for notes so measurements and notes cannot get lost. He asks him to take great care with Allosaurus and to continue searching for missing pieces in the dump.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven

March 19th, 1884

Dear Mr. Felch,

Yours of the 4th is at hand, with diagrams of the tail of No 4. etc.

You have worked out this end part just right. Now we can put the slabs together here, cut away the rock with our fine delicate tools and save every piece as large as a grain of wheat, by gluing it on at once, where loose.

Sk 4. which I shall call Ceratosaurus, (Horn lizard) is proving more and more important every hour, as we work on it. It is worth all the rest of the quarry including Allosaurus, so far as you have got.

Don't let up on the dump, till every piece is recovered that can possibly be saved. If you are in doubt about any pieces that may be Ceratosaurus, send them. If you are in doubt between this and Allosaurus mark the specimens but save them.

The second "slab" in front of the sacrum we found all right, or rather all wrong, as it was broken up, but we found it, and it helped us out very much. It did not fit either the block with the cervicals just back of the skull (which by the way came in good condition as it was in the rock), or the sacrum.

I am sorry you mislaid your measurements. I will send you today some note books, and you better write all notes in them. I have the measurements you sent, but we both better keep them for comparison or ready reference.

The arrangement about Tyler will do for a few days, but not for long. I am sorry he is not on the Quarry, as experience is a great thing. If he is just what you want for your quarry work, you better keep him at it, but I will leave this to you. A new man has to learn a good deal before he can handle delicate bones, but some men never learn it.

In your diagrams of dorsals of Allosaurus, the vertebrae look like caudals. Take great pains with this specimen as the skull may be very different from No 4. No hurry about it. Better measure all portions.

Yours Truly
O. C. Marsh

Felch writes to Marsh in response to a telegram. Marsh has found toe bones in a rock sent from the dump and Felch writes about possibly related blocks which are from the same strata, some of which may be in the dump. He asks Marsh whether the little flat ribs in Box 6 have any connection with the jaw E in West End.

Canon City, Colo.
Mar. 20th, 1884

Prof. O. C. Marsh
Dear Sir

I received your telegram of yesterday (19th) this evening

I understand from it that some foot bones have been found among the fragments recovered from the dump – that have no reference to those sent in the same box – marked & described as near limb **A**.

I hope this is so – for more may be found among the larger blocks of the same strata – which we shall carefully examine as we find them – whether they show bones or not.

One block we are now expecting to find is the one that came from off the top of the larger block sent in Box No. 1 and which contains the remainder of the vertebrae which partly showed in the large block sent

Tyler says he remember the piece well – that it was thrown over the dump with another piece of rock that had a piece of small limb in it – that he went down and got the piece with the limb – and did not look much for the other piece – is sure that he will know it if found and that it will match on the large block mentioned above.

We found today a large block of some 200 lbs. or more – which belongs in the same strata – and though very dirty and muddy – I think it will bring out something of No. 4.

I shall wash and clean up and can tell better by the time I write again what there is shown on the surface of it.

In your letter of the 12" you said you would have liked one of the dorsals of the dorsals of the Allosaur to compare it with those of No. 4.

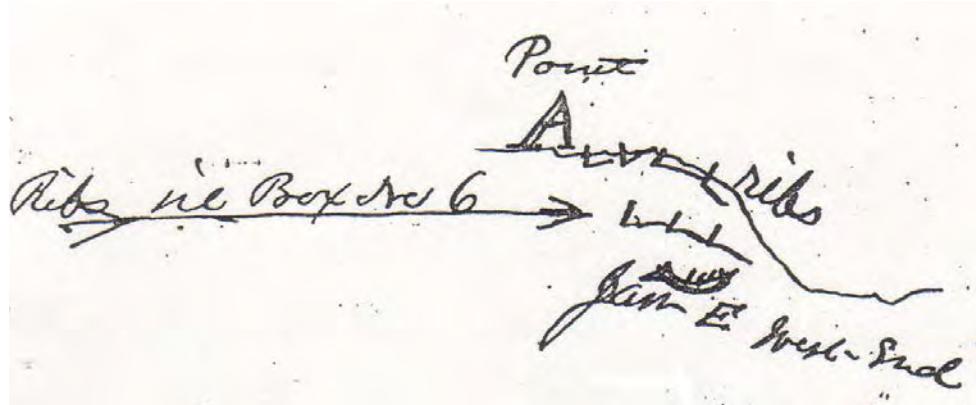
From the little diagram recently sent showing several of the dorsals of Allosaurus - with ribs – you will see that all of those should go together – and in one box if possible as the top portion of all have been removed more or less – and I have I think all the fragments saved and not mixed with anything else that does not belong with them – and it will be easier to reconstruct them – if all go together than to separate them.

There is one point it would be some satisfaction to know before starting in at **A** – whether the little flat ribs with a sharp elbow sent in Box No. 6 – are supposed to have any connection with Jaw E West End.

More of these ribs still stick out from under the wall at **A** – among which one of the long sharp grooved claws was found.

Very Respectfully
M. P. Felch

Have rec'd the "dividers" they are just what I have wanted – and will be useful in many places.
My Official Envelopes are running low
M.P.F.



Point **A**
Ribs in Box No 6
Jaw E West End

Marsh writes to Felch that the marks to be used in putting blocks together have come off in shipping, and asks Felch to use ink or pencil which should stand the rubbing. Because of the missing marks he is having some difficulty in reconstructing the tail. He again mentions that the dump specimens are of great value as another has produced a forefoot.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven

March 21st, 1884

Dear Mr. Felch,

The box with caudals (No 2) came in Friday in good order. I have tried hard to get that tail together, but failed so far, hence I don't know its length. The blocks were more or less rubbed in coming, and most of your marks were gone, so far that we could not use them. Hence our difficulty. If you mark with ink on the light paper, this will remain. Also a hard pencil, or an indelible one such as Brown used will stand the journey.

We may in time get the tail together, but not in time for my article which will be out this week.

The dump specimens proved of great value, especially one lump as big as my two fists, which had in it nearly all of a fore foot. The claws had evidently been in place, but were broken off, and only a fragment of one was still there.

This specimen was worth all the large bones in the quarry, as it enabled me to make a restoration of the fore-leg. I had the other bones before but lacked just this part.

I will follow your suggestion about telegrams. I have sent one or two messages to save time by mail.

The water glass is working well. Gum Arabic also is excellent for soft bones. After the surface is dry, it will usually take ink well.

I am much interested about these lumps on top of the neural spines. I saw none with the caudals in Box 2.

The end of the tail is not yet. Block I had the last of the series in place. I ~~had~~ uncovered them ~~clear~~ myself, but found that the last had zygapophyses. This means that several (perhaps a dozen) still smaller ones have fallen off.

Yours Truly
O. C. Marsh

Felch writes to Marsh that they are happy he is so pleased with Box No. 1. Work is slow due to frequent bad weather. The crew continues to try to find missing parts of No. 4. He shows with a small drawing how he is measuring bones and asks Marsh if this is the correct method. Felch has received the notebooks and will use in accordance with the suggestions Marsh has given.

Canon City, Colo.
Mar. 26th, 1884

Prof. Marsh
Dear Sir,

I received your two letters of the 19th today.

We are glad the box (No 1) got there safe and that its contents pleased you so well – and hope No. 2 with caudals may be of equal value – though from the sacrum to where I began to work out this spring many fragments may be lost.

From No. 20 to the extremity I believe you will find everything that belongs with them.

The weather is bad a good deal of the time and work is a little slow on that account still we are doing something.

We found one block which on splitting open shows a rather singular bone – I cannot yet give any drawing of it – as the bone split open lengthwise nearly in halves and I glued and pasted down all the fragments – so as to get it ready to cut from the block. The bone is short – some 10 or 12 inches long – and has some the shape of a radius. I will try soon and make a diagram of it as well as I can – and send on as it may belong with No. 4.

We have also found some other fragments that probably belong with No. 4

You wish to "know where the pubis and ischia of No. 4 lay" I do not remember their exact position – only – that all – were in a bunch together – that is – the pubis – ischia – limb bones right and left illium – with sacrum between did not occupy a space of but little if any of more than a yard square. Smith done the work on that section – and worked by a diagram I am sure – and it should be with those sent in Box 39 – that if found will show their relative position. I have some fragments that I think belong with the missing portion of the pubis – should have tried to have sent them on by mail but thought I would wait till Smith came down to stay and see if he cannot place them accurately.

When we find the rock I spoke of in my last that matches on to the large block sent in No. 1 – and contains a half of a vertebrae that will fill one of the gaps – I think we may also find the missing part of the ischia also.

In regard to measurements – I think those last sent will be found as accurately as they could be got at the time and in the position they lay – after working out and replacing, the measures may vary a little in places but can't much.

With my compass I can now measure in sections and get nearer exact on small bones.

My method of measuring the length of bones – limbs for instance is to draw a straight

line length wise and square by the line to the longest point on the bone  The straight line shows the length instead of the curve. Is this the correct way?

I have received the note books – and will use them as you suggest. When I get so that I can keep all my notes and papers at the quarry – I will have less confusion and keep things more snug that at home where things are apt to get misplaced.

Respectfully
M. P. Felch

Marsh writes to Felch that he will send some of his Ceratosaurus pamphlets to show him the results of their work. Marsh hopes that Felch has most of the Ceratosaurus, Sk. 4, out of the dump. He asks Felch to continue on only this specimen until all pieces possible have been found.

Yale College Museum, New Haven, Conn.

March 31st, 1884

Dear Mr. Felch,

I will send you some pamphlets on Ceratosaurus tomorrow or next day. You will then see the results of all our work.

We could not make out the length, as your measurements from the head and ours from the end of the tail could not meet at any known point. We have the length up to the break in the tail but from there to the sacrum we cannot get the pieces together.

The jaw in west end (in rock) you will see I have called Labrosaurus. The ribs you mention probably belong to the same skeleton. Also the large claw. Please keep every fragment of this, and note the locality and position of each bone.

The Allosaurus is equally important, so save every chip when you get to work on it. Especially do not let any pieces of the two get together, or in the same box, even, if you can avoid it.

I hope you have already got a good lot of Ceratosaurus (Sk.4) out of the dump. This is much more important than to begin on the other two. Better finish up Sk. 4 skeleton entirely before getting at work anywhere else.

Will write again soon.

Yours in haste
OCM

Felch writes to Marsh that he will explain more fully about the block with the caudals of No. 4. They continue to check the dump for bones and rock to fill any gaps between blocks.

Canon City, Colo.

~~Mar.~~ Apr. 2nd, 1884

Prof. Marsh

Dear Sir

Yours of Mar. 21st I received a few days since but have had no chance to send a reply sooner

It seems I did not explain fully about the blocks containing the caudals of No. 4 – which may be the reason you could not get them together.

The blocks from A. to I or J ought to go in place all right by the diagram – from there on was a section badly broken – some were gone – some in fragments and pieces – marked “from 8 to 14” – and one the 11th from the sacrum was sent with the skeleton.

Beyond the break – or beginning with a block with a vertebrae marked 22 the slabs to the end one T – were all cut from large blocks weighing from 150 to 200 lbs each – and as the slabs taken out were continuous and all in regular order no effort was made to mark them to match

The large blocks were taken out one at a time, and where the break came across the vertebrae – this exposed part of the bone was first hardened and then pasted over with cloth – so as to hold firmly while cutting around and splitting off the slab – and any fragments found at the breaks were marked to go with the slab they belonged to.

It seems as though if the blocks were kept in their order by letter there should be little difficulty in placing them right

The break between the two sections mentioned – from I to J or K I think (and by break here I mean that portion between those blocks which though all right and in place when first uncovered but was wasted more or less afterwards) will have to be restored from fragments sent and from those we hope to find in the dump. A portion from that part of the tail was found yesterday and other small pieces which we think belong there also

I think you will find more of those lumps on top of the neural spines when you work them all out for I am certain that I saw them in one or two places besides in those blocks sent by mail – and that was what made me observe them more closely – and know they were not toe bones.

I have all the material saved and will go over it again to see if more of them can be found and also the balance of the tail.

Will see to that as soon as we get through the dump in the gulch

I send a diagram of a piece of rock found in dump which I hope is the piece from off the top of the large block in Box 1 – and will fill that gap

Another diagram shows the bone mentioned in my last – and which I thought might be the radius. I can make but little out of it though and think you will have hard work to get any correct idea of it from the sketch.

We have also found a toe bone from Allosaurus – one from the next row below the long ones in the hind foot – a small piece of jaw belonging with Skl. No 2 and some other interesting specimens.

In working the dump we go to the bottom – keep clean working ground between the refuse material behind and the dump in front – and cut into small pieces all the rock where bones are found.

Very Respectfully
M. P. Felch

Apr. 2nd, 1884

I send with this a statement for March – with items of purchases.
I have made no charges this month for any team work.

Smith worked three days but made no charges.
He came down yesterday and will work from this on all the time.

Tyler has not done anything in the quarry – as I worked myself with the new hands on the dump – where I am trying to do thorough work – and not have to go over it again.

About putting him on I do not think it will pay at present as three or four are all that can work to good advantage – later on by the first of May or June if he stays and there is room and you think best to increase the force I will put him on

Respectfully Yours
M. P. Felch

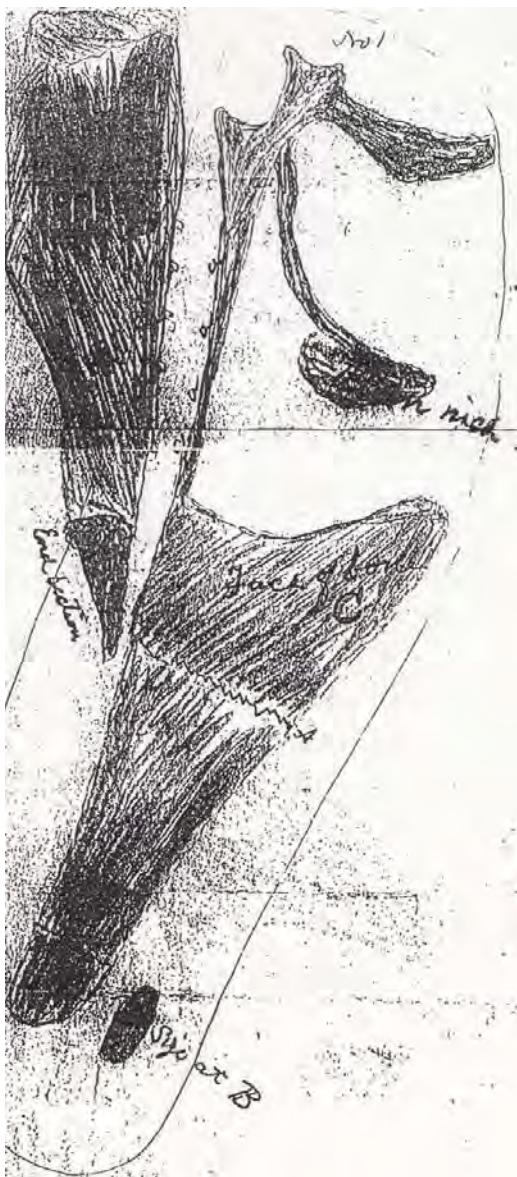
Canon City, Colo.
Apr. 2nd, 1884

Prof. O. C. Marsh
To M. P. Felch Dr.

To work for self – Mar. 1884	\$75.00
" " E. Hammond	60.00
" Ned Weld 15 days	30.00
" Beecher & Co s Bill	2.40
" W. B. McGee's "	2.85
" Henry Earle & Co"	4.55
" Alling & Co "	6.91
" L. F. Joel "	<u>6.60</u>
	\$188.31

Rec'd check for above amount Apr. 15th, 1884

M. P. Felch



No 2 Exact Size
 No 1

? nich lower than C

Face of bone C

End section

Size at B

Diagram of bone found in dump among rocks that lay near sacrum of Skull No. 4. Shaded portion bone – light rock Portion above A split open nearly in halves
Portion No. 2 shows something of the shape and thickness of the part above A turned up edge nos – the lines a a a & c being the same [un-readable at bottom of page]

Felch writes to Marsh that he has found two jaws and that he will send when he has a box full. He says working the dump is more of a job than expected and that in places, the gully is 12 to 15 feet deep with rock from the quarry.

Canon City Colo.
Apr. 4th, 1884

Prof. Marsh
Dear Sir

I rec'd the vouchers by last night's mail and also the envelopes.

We are getting along well – find something most every day that belongs with one or the other of the skeletons – besides other specimens of interest.

We found two jaws to day – one about 6 inch long and the other is one of the small ones – an inch or so in length – this last I will send on by mail as soon as we can get enough interesting specimens of this kind to fill a box.

Working this dump over is more of a job than I expected. All the rock and earth from above was thrown over into the narrow bottom of the gulch – filling it in places 12 to 15 feet deep several rods long – and we are cramped for room to work.

Respectfully Yours
M. P. Felch

Marsh sends Felch his payment and continues to praise the finds from the dump.

Yale College Museum, New Haven, Conn.

Apr 9th, 1884

Dear Mr. Felch,

Enclosed find check for \$188.31 as per bill enclosed, which please return receipted.

I am glad you are finding so much of value in the dump. I knew there must be very important specimens there, and we need them here very much.

We are now working on Skull No. 2. and any pieces will be very acceptable.

Send on the little jaw by mail soon.

About Tyler, - My only idea was that one seasons work would give much experience, and hence he would be better than a new man. If the new men are careful, and Tyler was not of course a change was desirable. You have as many men (4) now as I care for at present. I leave all the selection of the men to you entirely.

Yours Truly
O. C. Marsh

Felch writes that they are finished going through the dump and have the items mostly sorted, giving information concerning a little found for certain of No. 4 and other vertebrae impressions. They did find many blocks with Allosaurus vertebrae fragments or impressions. He has received the pamphlets on Ceratosaurus and will look for missing portions of it.

Canon City, Colo.
Apr. 11th, 1884

Prof. Marsh
Dear Sir

We have at last got through the dump - and have the material found mostly sorted.

Of No. 4 we have found but little that we are sure of. Among the lot however are several blocks with the impressions of caudals which came in between the large block with long chevrons and the bend near 14. All of these impressions contain more or less bone and one block has one nearly whole vertebrae and a part of the two connecting ones at either end.

These blocks with other fragments may possibly be enough to restore that portion of the tail

Among other parts which we think we can place - is a short piece of the shaft of the pubis or ischia - a block with the ends of the radius and ulna lying together in position - We may be mistaken in regard to these limbs - but you will see that they come in the same kind of rock as the hand sent in Box 1. - and the block also shows the end of one of those cervical ribs - showing that the fore limbs and feet lay higher in the strata than the rest of the skeleton I think now that Tyler when working around limb Y+ must have worked these out and overlooked them - some little time before the rest of skeleton was found

Another specimen found which we placed with No. 4 - is more of the hand sent, or its mate. This I will send by mail with one small - jaw tomorrow.

The above comprises about all we recognize of No. 4 but in the "Doubtful Class" you may be able to find more - the remainder of the pubis - and the half of vertebrae to fill the last gap forward of sacrum.

Of the Allosaurus we have a good many blocks with vertebrae - or rather fragments and impressions of the vertebrae - and a lot of foot bones pieces of ribs etc.

We have also found more or less jaw material - among which is something that looks something like the structure of jaw E. (Brown) two small jaws - and more or less of several others.

We have also sorted out enough to fill quite a box - of small bones of all kinds - many new - to us - and interesting specimens.

In sorting we put in Class **A** all which we are sure were of Allosaurus.

Another class that we knew goes with No 4 – we simply mark all as No. 4

Another Class we mark “Doubtful” Some of either No. 4 or Allosaurus may be found in this class

The lot with small bones may have something in them also of Allosaurus or No.4.

Besides these we have other lots piled all along on the side of the gulch for future research though there is probably nothing that will ever be wanted – unless it may be the skeleton sent with freight in December – marked “Laosaurus.” This I am sure we have got every portion that was taken out of the rocks – as it was very easy to recognize.

I see I have forgotten to mention one interesting specimen – found – a diagram of which I enclose with this – a bunch of metatarsals grown together – have been looking for one ever since I got off wrong on the big vertebrae – and have found it now sure.

Now how shall we dispose of the different lots?

It will cost a big bill to ship all by Express – for there is a good deal more of Allosaurus and No 4 than was shipped in the lot with the Skull No 4 in Oct. and that weighed over 700 #

If it would get there in season by freight – all could be sent at once – and I think that Class **A** – No. 4 – and **Doubtful** should go at the same time, and perhaps the lot of small bones also.

I shall pack and box up what there is – and by the time you receive this if the weather is good can have that done – and if you wish to have it sent on at once you can send a telegram whether to send all or part (by class) and by freight or express

I received the pamphlets on Ceratosaurus

We all think it is the grandest specimen yet – and will do our best toward finding missing portions of it – though I have but little hopes of finding any more of the fore limbs or feet than we have already got.

The wonder is in regard to our dump that we have been able to find and restore the half we have found – and if you should ever visit this quarry you will think so too. Had the earth and rock removed in stripping been only thrown behind us it would have been comparatively easy to what it was – but for all the material to be dumped over a cliff the first fall of which is 40 or 50 feet and then down again still farther to the bottom of a narrow gulch was a different matter. Nothing but an interest in the work on this particular skeleton and a feeling that I was in a measure responsible for its loss would have induced me to have undertaken it.

The work has been gone through with however and has been done thorough.

We began below where any rocks could fall – worked to the bottom – broke up all the rocks with hammers that could hold a bone – worked clear up through where Brown dumped from the West End and went through some of his big blocks – in one of which was found some fragments of jaws – and the pieces mentioned as resembling the jaw in rock which he found there.

Respectfully Yours
M. P. Felch

P.S. I see that there is another class still "Jaw Material" which will make some two or 300 lbs – as it is mostly in rock – M. P. F.



This end lost
Co ossified Metatarsals found among dump fragments of Quarry No. 1 by M. P. Felch
April 1884
Rounded oval face
B. in No 2 an opening
C C C hollowed out
This lower end in rock complete



Apr 2nd, 1884

A Turn the portion above A to make an angle of 60° nearly

Smooth impression

Oval or rounded

Rough or faint impression

Smooth

Thick

Diagram of fragment found in dump supposed to belong with the large block in Box No. 1 of
Skull 4. Shaded part bone – light impression

Turn face down on block to match

M. P. Felch

Felch writes to say he has received the March payment and that he will send all the material found in the dump. He discusses material to be shipped and encloses a diagram showing what he thinks happened to the feet belonging to Skull No. 4 which were likely broken in softer rock in the dump.

Canon City, Colo.
Apr. 15th, 1884

Prof. Marsh
Dear Sir

Yours of the 9th, ins't with check for March payments I received last night – for which please accept our thanks

I shall have all found in dump ready to send by the last of the week if you need it then.

It is quite bulky and may comprise much of no particular value – but it has been a difficult lot to sort over and I rather send it as it is than run the risk of leaving out what was wanted.

Some blocks contain little besides impressions – but where they were good I thought it might aid in restoring and so put them in

The small jaws = one was sent by mail last week the other we could not work down without risk and we left it to be sent with the boxes

We shall have a full box of jaw material – some in large blocks that we did not work down but little – for knowing the broken and scattered condition of Skull No. 2 if any of these should possibly belong to that or Labrosaurus we might lose portions of value.

Box No. 3 of this lot will contain among other specimens the back part of jaw No. 2 – Skl. 2 that we knew of – also quite a lot of pieces from around the ilium and pubis of No 4. It will also contain the Block X – diagram of Mar. 14 with two vertebrae similar to No. 4 and one more we found yesterday nearly like them with a long chevron attached

This we found in working over the rocks around the tail for more of those ossious fragments around the top of the neural spines – that we did not find however.

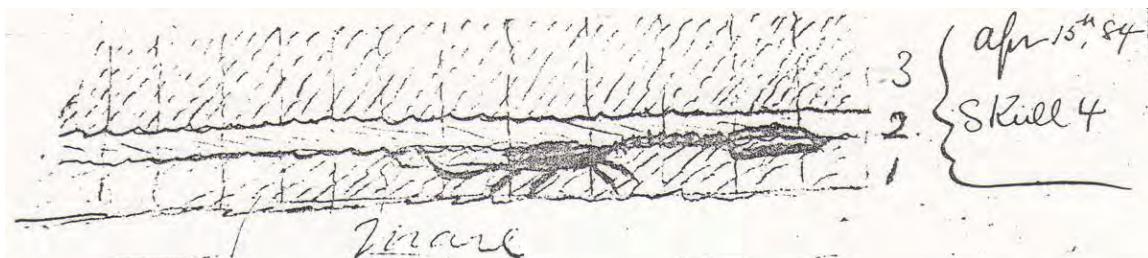
I think the finding of these three strays would indicate more or less of another similar skeleton not far away

More of No. 4 than what we have now got I fear we shall never find. A diagram enclosed of the strata where No. 4 lay will explain how the loss of the fore feet and limbs ~~were lost~~ took place.

It could not have occurred any other way and must have been done by Bershier in Aug. when he was stripping off in that section and Smith and I were at work near where Skulls 2 and 3 lay.

Hammond and Weld began stripping off the new ground yesterday and are making good headway – two or three weeks I hope to get at work where the Labrosaur ought to be if he is in the quarry.

Very Respectfully
M. P. Felch



Marl April 15th, 1884
Skull 4

From a little forward of Sacrum most of the vertebrae and top or right side of skull lay in soft shelly rock (1) = a thin strata between the hard rock of the lower strata (2) and more compact sandstone above (3)

The top on one illium also lay in the soft strata – all the body – and tail was in the hard strata below

In stripping, sometimes a portion of this thin soft strata is left on hard rock and sometimes it comes off with the strata above (3)

I think now that the fore limbs and feet were in this thin soft strata – were rolled over the dump in the large blocks of 3 – broken and detached in dumping over – as all that have been found in the dump, of these feet came from the thin strata. This is the reason that we overlooked them I think.

Felch writes to Marsh that the weather has been about the worst ever known for this time of year. They are stripping down and he explains the method. Smith has had to quit due a personal problem and he will be sorely missed. Felch will not replace him for a bit in case he can arrange to come back.

Canon City, Colo.
Apr. 28th, 1884

Prof. Marsh
Dear Sir

Since my last the weather for the greater part of the time has been bad, in fact about the worst ever known for the time of year – and had our work been anything else than stripping off we could scarcely have done anything – as it is we are getting along very well.

We are taking in some more new ground than I at first intended – for I want to make sure of getting the outside limits of any skeleton that may be in the vicinity of where Brown found the jaw of the Labrosaur

This new ground will take in that portions just back of where the large foot bones (West End) and the small bone of which you recently sent a full sized drawing of.

We strip down to the regular bone strata = which we leave untouched 'till we reach the ground in the vicinity of the Allosaur – this will give us good working room – and plenty of it for a long while

I am afraid we shall have to do without Smith in the future as he has been compelled for the present at least to quit

Smith is a Swede by birth worked at his trade in Worcester Mass for several years before coming here four years ago – is unmarried but has a brother younger who came with him that had a wife when they came. Last week for some cause unknown this brother's wife took poison and died within an hour – leaving three small children, the eldest hardly four years of age.

Being alone without other friends or relatives Smith feels it his duty to stay with and help his brother and the children.

To lose him in this seasons work has upset me a good deal as his place cannot be filled very easily – for besides being a good workman at any kind of stone work – he could make any kind of a tool from steel or iron that we needed – and in sharpening tools he saved us what any blacksmith here would charge us every month, nearly the amount of his wages.

I still hope that Smith may make his arrangements so as to come back and shall not for a while try to put any one in his place.

Very Respectfully,

Transcribed at the Garden Park Paleontology Society's Dinosaur Depot Museum, Cañon City, Colorado.
Original material housed at the Marriott Library, Special Collections Division; University of Utah, Salt Lake City.

M. P. Felch

Felch writes to Marsh that in December he asked him for a man to come out to take charge. Felch states that, especially with the loss of Smith, if he does remain in charge he will need more pay and gives details. If Smith cannot return he will try for a man who worked for Lucas.

Canon City, Colo.
May 4th, 1884

Prof. O. C. Marsh
Dear Sir

Enclosed is my monthly statement for April which includes all expenses and purchases for the month with the exception of a small bill for cloth, battin, coal etc in all not to exceed four or five dollars – which can be carried over another month.

I wrote in December I think that after Apr. 1st it would suit me as well if you could send on a man to take the charge of the work – and let me work under him – and if I did continue the charge myself I should have to ask more pay.

Now that Smith has gone I feel more than ever as though it would suit me to make such an arrangement for it is going to be harder on me to carry it on than before and do good work

I do not wish you to think I am taking any advantage of the situation to get more pay – but you will easily see there is not much left out of 75 dollars – when I have to pay a man on the ranch 30 dollars and board – who is liable as was the case last year to neglect and waste the amount of his wages

I put in my time as usual for April a \$75.⁰⁰ for we had much bad weather and work went slower than I expected but after the 1st of June I thought if you could pay me \$100.⁰⁰ pr. month I would continue the work, do the best I could and have that include all expenses for purchases and team work – all expenses save lumber of which we need some more to make a shed over the forge and make a shed alongside the cabin to store boxes after packing and before shipping also the lumber for the boxes.

If Smith does not come back by the 1st of June I can get a young man who has been working for Lucas for a year or two past and has had considerable experience in getting out fossils – who will work for the same price that Hammond and Weld work if we need him.

We had two days of rain and snow last week but have got along so that I think this week's work will finish stripping for a while – and enable us to begin the work in the bone strata again – when I hope to have something of more interest to write of.

Respectfully Yours
M. P. Felch

Felch writes to Marsh that he is now working in the west end and has found a lot of small round bones of nearly uniform size and shape. He has a large vertebrae and quarry work is going well with plenty of work room.

Canon City, Colo.
May 11th, 1884

Prof. Marsh
Dear Sir

We have at last got at work among the bones.

We started in yesterday well back in the West End just back of where the large foot bones were found and near where the bone was found of which you sent a sketch.

We removed enough of the lower strata to find bones enough, though somewhat broken and water worn – and among them we find something singular – a lot of small round bones, all of nearly uniform size and shape.

If one or two of these had been found alone we should have only thought them to be fragments of bones worn down round by water but there are so many of them and they seem to occur in a nearly regular order for several feet that it seems to me they hardly got there by chance

In the short time we worked yesterday I may not have got as good an idea of them as a day or two more of work will furnish – but I will work on a while and if we find any more bones that seem to have any connections with these will send on a box of the small ones by mail for you to examine.

Last week in stripping off just back and a little west of where Skull No. 2 lay – we found a large vertebrae, cervical I think – which may belong with that skeleton.

This vertebrae came out – much of it in a large block and we shall be able to get it in good shape. From the appearance I think there are some more of the series close by this one taken out.

The quarry is going to work much better in the way we have begun than it did last year and if we find the bones as plenty can I hope take them out in better condition and be able to save more in proportion to what we find than formerly.

I have the five boxes packed and ready to send – but if you do not wish them sent on now I will I remove them from where they were packed in the gulch to my house and store them safe as to leave them where they are much longer is a little risky.

Respectfully Yours
M. P. Felch

Marsh writes to Felch that he has been in Washington and too busy to write. He tells Felch to do the best he can until he comes out himself.

Yale College Museum, New Haven, Conn.

May 14th, 1884

Dear Mr. Felch,

Enclosed find check for \$256.77 as per account sent.

I have been absent in Washington, and over worked here of late and hence could not write.

Do the best you can till I come out, and I will then make all right.

Yours Truly
O. C. Marsh

Felch writes to Marsh that he has received the April check. He tells Marsh he is coming out and to let him know when and gives information about current work.

Canon City, Colo.
May 20th, 1884

Prof Marsh
Dear Sir

Yours of the 14th, I received to-day with check for April payments, \$256.77.

I am glad you are coming out to look over the work – as you will then be better able to know what we are doing from one good look through the quarry than from all I can write

If I knew just when to expect you here I could meet you at the train or send in my team.

Our work since my last has been continued in the same direction as from the start – but we have as yet found nothing of much importance most of the bones found being broken and water worn.

The little round bones that seemed to occur in something of a regular order being bone pebbles, worn and deposited on the riffles or bar of the marl bed

I have been at work on a large cervical vertebrae which I think is a good specimen and will, = if I have as good luck in getting under the bottom as I have with the rest of it, = come out quite perfect – and in very few sections.

I think that I have the trade learned on these difficult specimens now so that with any kind of a show I can do fair work.

Respectfully Yours
M. P. Felch

Canon City, Colo.
May 20th, 1884

\$256.77/100
Rec'd of O. C. Marsh the sum of two hundred fifty six 77/100 dollars for work on fossils, for self, team and outfit for the month of April 1884
M. P. Felch

Marsh writes to Felch that he has been gone and has not written. He is working on forefeet and hopes more material has been rescued from the dump. He gives specific instructions on how to ship immediately, from Pueblo, all material reclaimed so far of the previous years' work from the dump and the quarry. He adds a P.S. stating that the D&RG did a 'mean thing' and he is 'not through with them yet'.

Yale College Museum, New Haven, Conn.

May 29th, 1884

Dear Mr. Felch,

I have been absent of late, and hence could not write.

We are now working out the foot bones you sent in, and find some of much interest, but many pieces wanting.

Foot B+ is a fore foot

" A+ is a fore foot also, and quite distinct. There are also others. I hope devoutly that you got the pieces of these out of the dump, and have them in those boxes not yet sent.

I think you better send on all that belongs to last year soon. I mean the dump pieces and the others that you recovered before you began work regularly this season.

I think the best way is to send these boxes to Pueblo, paying the freight to that point, and then having them come East via Atchinson, Santa Fe, and Topeka. R R. from Pueblo direct, as freight unpaid. If necessary you might go to Pueblo with the boxes and see them started right from there.

I enclose check for \$ \$ 35. which will I think pay the freight as far as Pueblo. The sooner you send them on the better, if you can leave your quarry safely.

Yours Truly
O. C. Marsh

(over)

P.S. You better get written statement of rate from Pueblo to N. York, and mark boxes ~~via~~ A. S. Fe and T. R.R. ~~in~~ New York New Haven, Conn.

I want to make no mistake this time. The Denver and R G R.R. did a mean thing about the other boxes and I am not through with them yet.

Marsh writes to Felch giving specific information about the designation of foot bones sent. It is best to leave feet or foot bones in the rock and send any pieces which come loose marked so they can be matched with the proper impressions left in the rock. He needs to know which foot bones go with which skull and any other information about them and keep getting more pieces from the dump.

Yale College Museum, New Haven, Conn.

May 30th 1884

Dear Mr. Felch,

The feet bones I wrote about yesterday are as follows:

Boxes 22 and 23 Large left fore foot, near limb M+. (Locality somewhat uncertain)

Box 17. Bones B+ (radius and ulna) and fore foot, B+. (East End.)

Box 30 Foot bones near D and E.

Box 8. Footbones marked "+ East End"

Box 19. Small foot in rock with limbbone A+. (radius ulna).

All these feet are very important, if we can get the pieces split off from them and know with what skeletons they go. The pieces are probably in the dump fragments.

Fortunately some of the above bones are still in the rock.

Let me know all you can about the above.

In future leave all feet bones (whole feet if possible) in the rock. If any bones come loose, leave the impressions in the rock and mark them so that we can replace them. Especially leave the wrist and ankle bones with the feet.

Next to the skull, the feet bones are most important. I want especially to know what feet bones go with Skull No 1, Skull No 2 and Sk No. 3. Anything that throws any light on these points will help us very much.

Yours Very Truly
O. C. Marsh

Felch writes to Marsh that he has not written hoping Marsh would be out. It has been raining daily. He is working in the area of the Labrosaurus and talks about the cervical vertebrae, which are Brontosaurus and feels that Skull No. 2 may belong with it.

Canon City, Colo.
June 5th, 1884

Prof. Marsh
Dear Sir

I did not write last week, thinking you might be out – besides there was nothing of special interest in the work done.

We have had nothing but rain, rain every day and it still continues – making the work slow and discouraging.

The weather was so bad that I let Hammond off entirely on May 25th and Weld from the 20th but he has gone to work again.

Enclosed is the time for May – but none of the expense account as I have not had time yet to go in and get the accounts.

I will let the accounts for that expenses run over till you come or another month

We have just got into where the supposed Labrosaurus lay and are finding some bones – tho, they do not lay in any regular order like No 4 or the Allosaurus.

I am at work now on the foot bones which are mixed in with broken ribs and vertebrae

These foot bones indicate a larger animal than Allosaurus – but a small limb – probably the humerus found near these foot bones is not more than 15 inches long.

I shall save every fragment of this and map the pieces as near as possible where found.

The cervical vertebrae mentioned in my last are Brontosaurus, as you have figured them – and from their position – Skull No 2 must have belonged with them.

Respectfully Yours
M. P. Felch

Felch writes to Marsh in reply to specific questions on bone location in the quarry and boxes. He is finding more of a new carnivore and explains a new quarrying method. He would like to send a block on by express even if he has to pay the difference to see if the method will suit Marsh.

Canon City, Colo.
June 7th, 1884

Prof Marsh
Dear Sir

Yours of the 29th & 30th May rec'd yesterday.

Foot bones M+ were located between Skull No. 3 and the Allosaurus, and lay partly in among the broken foot bones of that skeleton.

The next nearest large limbs were II + and the humerus II = (Box 20) most of the large limbs on the West Side of Cen. Div'n. the large cervical vertebrae, recently found, all the large foot bones and Skull No. 2 must have been from the same animal.

The cervical vertebrae are certainly Brontosaurus.

The foot bones B + A + D & E were closely connected with the limbs as marked and mostly shown on the map as coming so

The bones in Box 8 "X East End" lay exactly at the foot of the ~~radius~~ tibia and fibula M

These two limbs both marked with one letter (M) I can find no record of but think they were packed in either Box 7 or 9

Box 7 did contain some small limbs not shown on the map that lay just below (South) femur N where Skull No. 1 was found = and they might have had something to do with that Skull but we have always thought the Skull belonged to A +

In the boxes packed it is possible some missing portions may yet be found of those removed after about Aug. 10 at which time the gulch was cleaned to bed rock from a flood in the hills.

All of the dump material with the exception of some large blocks from West End were cleaned out at the time mentioned

In one of the boxes to be sent will be found one interesting foot bone a diagram of which I sent at the time we worked the dump – which from the place it was dumped over and the rock around it came from among the large limbs near Skull No 2

I have written to the Gen'l Agt. at Pueblo for rates over the A. T. & S. F. Ry. and as soon as I get an answer will ship the boxes – but unless I can send them to someone there to reship – will have

to go down myself as these people would send over their own route, even if a request or orders were given to the contrary, since the U. S. Supreme court have decided they can do so.

I am finding more of new Carnivore – though not in the regular order or as well preserved as No. 4 was.

It is badly mixed up. Vertebrae foot bones ribs flat bones chevrons massed together and yesterday I concluded to try and adopt a new plan in getting them out.

In the place I am now working, the bones lay close down almost on the marl – I work down as near as I can safely over a section of bones and then take the mass up in slabs with everything in.

These slabs when taken up one at a time I lay on a large paper, mark its form – number by letter and other devices – take up another that adjoins, place it where it belongs on diagram and so on through.

These I will use all the care possible to map out so as to go readily in place and I am certain that in this way you can get every fragment, while if I undertake to work the bones out separately I shall lose many and perhaps valuable pieces

If I can get out enough to fill one box before I go down – I want to send it on by Express for you to see if the method will suit, for I had rather pay the difference myself between freight and express and know that I am doing right in this, than to work them out so and not have it suit.

One thing is certain I can get out more in this way where they are all jammed in together so in one day than I could work out separately in a week

Respectfully Yours
M. P. Felch

Felch writes to Marsh that he is still having problems with the railroad wanting prepayment and will go to Pueblo to send a shipment. He has labeled a new skeleton No. 5 and is sending a sketch showing position [sketch not with the letter] and other new finds.

Canon City, Colo.
June 8th, 1884

Prof. Marsh
Dear Sir

I shall take in the boxes tomorrow and try and get them started – though I have not heard from my letter to the Freight Agt. in Pueblo.

By working to-day we have got another box ready of the new skeleton which for convenience and to distinguish from the others I will call "Skeleton No 5." as we hope and expect to find more of it perhaps enough to describe if not already known

I send a little sketch which will show nearly where it lays (No 3) just above where Brown found the Labrosaurus jaw

The line A. A. is where we began work, to work East as I have before explained to work the ground to advantage.

But little was found that we could save – most of the bones being water worn and in fragments – hardly a vertebrae but what all the processes were worn off to the body, and the limbs in as bad condition.

We found some however that may be good – one pubis (No.8) I think, a sketch of which is sent that came but a short distance from where the bone came from of which you sent a drawing in March.

Most all of the rock removed from this portion (Sec 2) that contained bones and where they have not been worked out we have piled up in our rear on the dump for you to look over when you come.

It was during the last week that I found the first indications of the new skeleton in a few pieces of ribs – that were continuous from where Brown worked out his last year.

The bones here lying almost in the bottom of the lower strata I worked down the top to the bones, over a few feet square with the intention of working them out separately and commenced on a foot bone first and uncovered the top when another was exposed and also two small round flat bones and in fact I found all the rock was but one solid mass of bones.

Thinking to remove the flat bones first to get more room I worked carefully around and under them – and when I took them out found them the upper faces of vertebrae.

Finding this kind of work was not going to do, I concluded to try and get the whole out in blocks – and think I have made a fair success of the job. The blocks run by letter from A to J, and all contain bones – among which I think are most of the bones of one foot –, three vertebrae, one of which I think is lumbar, and one dorsal and perhaps others.

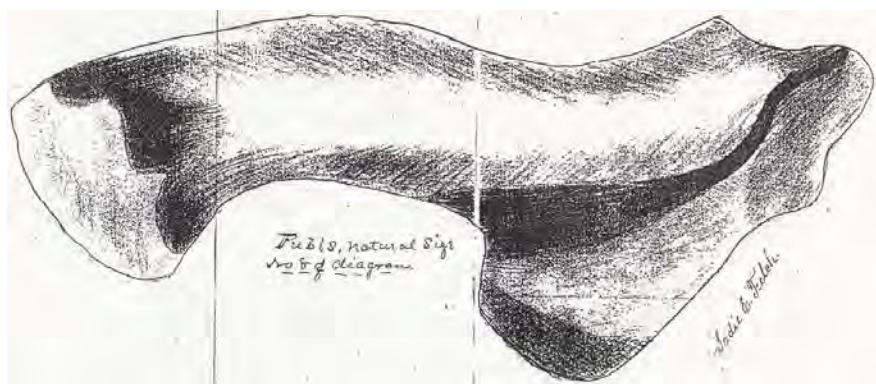
This group of blocks are separate and independent as you will find by looking on the outside of the last block taken out (Block J) through in front (calling the West Side the front) were found the ends of some ribs, one claw – a chevron – and a small limb marked B, all of which are packed in Box No 8 with the blocks, and which I will express from Pueblo, if the rates are not too high.

If I do send this on – when it arrives – considerable care should be had in taking out the large block G at the bottom of the box – and in removing the wrappings so as not to knock off the sharp corners, as that block is a Key to match on all the rest.

Below this group taken out, more bones are showing up, one of which is a femur – hollow and larger than Allosaurus

At No. 4 on diagram, Weld has just got on to some good bones of an animal entirely different from No 5. or any of the rest. What there is of this new skeleton I think now I shall be able to get every fragment of.

Respectfully Yours
M. P. Felch



Pubis, natural size
No 8 of diagram

Sadie E. Felch

Marsh writes to Felch that the idea of taking up the bone in slabs, when bones are crowded, is good. Marsh is too busy to go to the quarry to see Felch this month.

Department of the Interior, United States Geological Survey.
~~Washington D. C.~~, New Haven

June 10th, 1884

Dear Mr. Felch,

Enclosed please find check for \$165. as per account sent.

Yours of 7th inst is also at hand. I am glad you are finding more of that Labrosaurus, as it will probably turn out a stranger beast than No. 4. I think the method you mention of taking up the bone in slabs a good one, when the bones are crowded. We can work out such blocks here just as we want them. Look out for the skull of Labrosaurus.

I cannot say just when I can come out but certainly not this month, as I am overwhelmed with work. I can hardly get the time to write a letter.

Yours Truly
O. C. Marsh

Felch writes to Marsh that he has shipped the boxes and tells of the ordeal of getting the shipment on its way and details plans for future shipments. He discusses the femur of Skeleton No. 5 and associated foot bones and says he can only remove the skeleton by the block method. A receipt for May and sketches are included.

Canon City, Colo.
June 15th, 1884

Prof. Marsh
Dear Sir

Monday last, (June 9th) I took the boxes into Canon, shipped to Pueblo, and followed on the evening train

Tuesday I saw the Agt. of the Atchinson Ry. and found they would not ship the goods without prepayment, or a guarantee that the charges would be paid – and not being acquainted with any reliable business parties to endorse my guarantee – and not having money enough to pay charges I sent a telegram back for money, by check, which was sent me, but which I did not receive up to train time home on Wednesday

Leaving the boxes with the Agt. with the understanding that as soon as I could return and send money, he would immediately ship and return bill and receipt to me I came back – and concluded not to draw any more money till I found if the letter which had been sent me with the check was lost or not – and sent a request by letter to the P.M. at South Pueblo to return my mail to Canon should any come to his office for me.

Yesterday – Saturday I went to town, found my letter and check all safe – and sent by P.O. order the money to the Agt. to prepay freight and will expect return bills and receipt to-morrow or next day.

The rates through to New Haven are \$2.32 pr 100 ^{lbs} – and the weight was 1820 [#] - making the freight \$42.25.

From Canon to Pueblo 33 ^{cts} – weight 1840 – Amt. \$6.07 = total \$48.32

When I get the bills I will send them on with full expenses of trip etc with the June statement.

I done the best I could under the circumstances though contrary to your instructions in the matter of prepayment.

In future shipments I can now get good parties here to guarantee with me if necessary – though the charges will be one rate higher – charging as 3^d rate while by prepayment the rates are classed as 4" or lowest.

The box No 8 that I thought of sending in advance by Express I left with the others and all will go on together.

The trip caused me a good deal of worry and annoyance – but if the boxes get through all safe I shall not mind it.

Will write up a list of contents and send on soon

Respectfully Yours
M. P. Felch

I send a sketch of one vertebrae from the place where Weld is at work – shown on diagram on map (June 8th). More of the same have been taken out but this is the most perfect one.

Smith was down to-day and thinks you have it already figured in Stegosaurus but I can hardly make it out that way. I think it a good specimen and will be nearly perfect.

More bones and some very singular ones of a larger skeleton are closely mixed in with these.

I have taken up the femur with skeleton No. 5 and find it more bulky and massive – though of about the same length as Allosaurus.

Have also found one of the long foot bones – perfect and almost exactly like the long ones in Allosaurus. The skeleton is scattered badly but I hope to find it all yet.

M. P. F.

I also send sketch of limb B which should have been packed in Box 8 with the other diagrams but was overlooked.

I called this a humerus but am in doubt about it – also whether it goes with No 5 – though it came close in by the group of foot bones and vertebrae sent in Box 8.

M. P. F.

Tuesday Eve.

I sent my boy for mail this morning – and by mistake he did not take in my letter of Sunday – will try and get this in tomorrow. He got your letter with check for 165 dollars and papers, pamphlets etc for which I am obliged

Welds work has developed a sacrum – jammed in with other pelvic bones •, limbs etc. The dorsal (Sketch of 15th) lay on top of the sacrum and is of the same skeleton.

The only way that I can do anything on the Carnivore (No 5) is by the block method. I think I can diagram and map so you will find how they go together – In removing a big block today, I uncovered the end of a scapula – limb – and a whole nest of foot bones – and though somewhat crushed in one or two places will get them in shape without material loss.

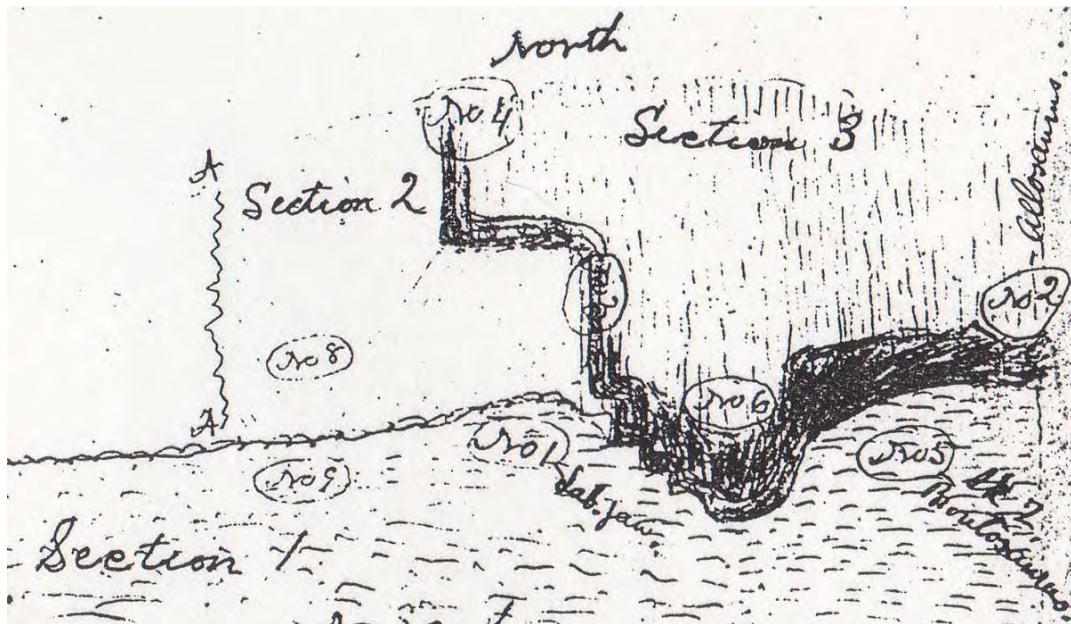
M. P. Felch

Canon City, Colo.
June 17th, 1884

\$165.⁰⁰

Rec'd of Prof. O. C. Marsh the sum of \$165.⁰⁰ on account for work for self and team on fossils for May 1884

M. P. Felch



A.A Point where seasons work begins

No 8 Pubis sketch enclosed

No 9 Bone of which drawing was sent in March

West End quarry No. 1

Section 1 Old ground

Section 2 New ground worked this season

Sec 3 ground stripped for working

No 1 Labrosaurus jaw and ribs 1883

No 2 Allosaurus

No 3 Contents of Box No 8 Skeleton No 5

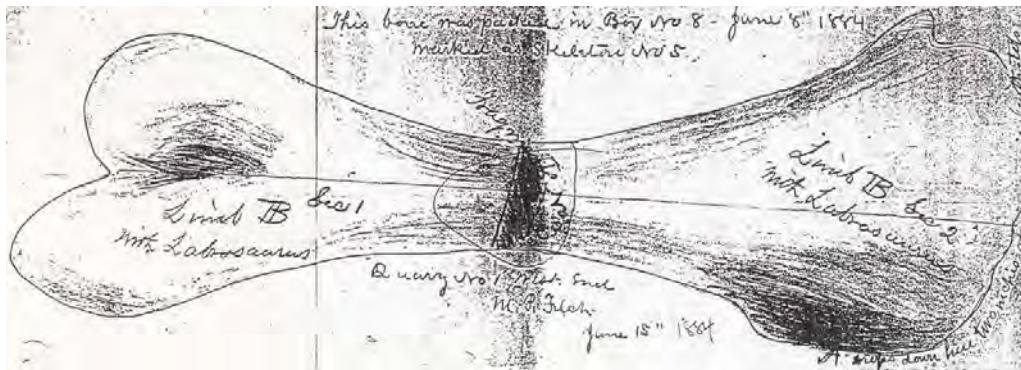
No 4 Large limb, vertebrae and other bones just found by Weld

No 5 Skull No 2

No 6 Large cervicals recently found of Brontosaurus

No 1 also shows the point A of a former diagram

June 8th, 1884 M.P. Felch

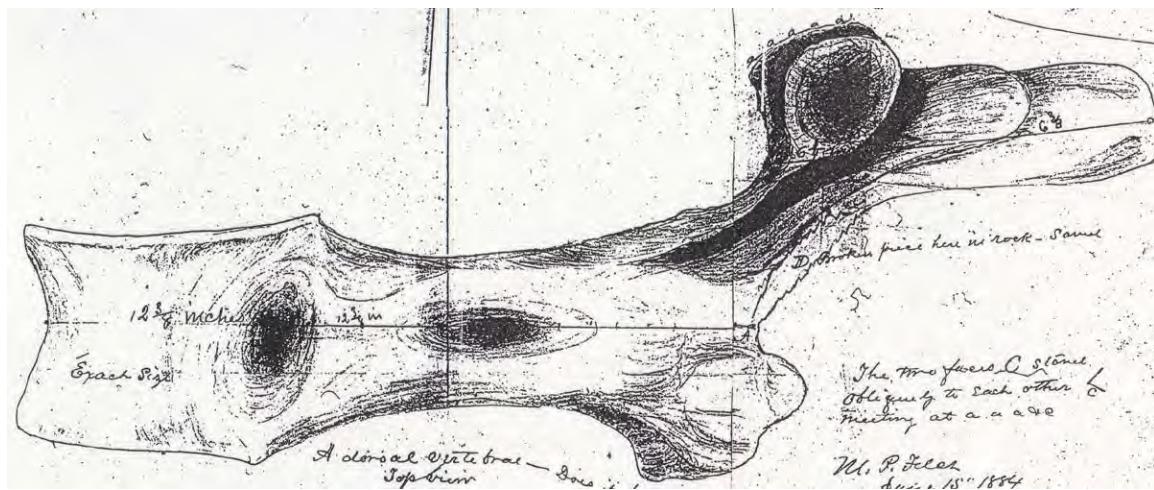


The cut opposite [below] shows one of the long metatarsals uniting with the astragalus – without the second rim of tarsals. That is – I think the upper one is the astragalus and in its natural position in relation to the metatarsal. I will send the block so that it can be seen as found. I can see no difference between these metatarsals (No 5) and of Allosaurus – except the former may be a little larger

M.P.F. (June 15th – 1884)



Cut No 3



Exact size 12 3/8 inches 12 3/8 in
D Broken piece here in rock – saved
The two faces C stand obliquely to each other c< meeting at a a a & c
M. P. Felch June 15" 1884

A dorsal vertebrae – Does it belong to the Stegosaurus? Top view

Quarry No 1 West End
Faces of centra slightly concave
B B slightly depressed.
C Articular face a little concave
A line drawn with the perpendicular diameter of the centrum strikes at a a a & c,
face corresponding to C and other processes opposite.

Felch writes to Marsh about billing for the quarter. He then details work in the quarry, giving information on bones found.

Canon City, Colo.
June 23rd, 1884

Prof. Marsh
Dear Sir

I send shipping bills to-day – and will have the monthly statement in soon – also contents of boxes shipped

Should you wish to send vouchers on before getting the statement I will sign them

For the qr. ending June 30th the amt. will not be far from 225 pr. month, 675 dollars for the quarter.

This will include time prepaying freight and other expenses – and expense account for May, which was not included in last statement.

We are making fair progress now with work

I have completed the group of slabs mentioned in my last, which contain among other bones a femur, several vertebrae, - what appears to be an illium and other bones.

Outside of this group have struck on to another limb – three metatarsals = calcaneum, astragalus (I think) and perhaps more foot bones in a large block that these were found in and which will be sent along with the rest. Today also uncovered what appears to be a pubis from the end exposed

Weld is still at work on the sacrum which I fear may prove Stegosaurus and of no great value

There is a mass of legs, ribs – an illium, vertebrae like the one I sent a sketch of all around it – and three of the transverse processes were broken from the sacrum and lay complete two feet away

The sacrum has five vertebrae with an extension on behind the last of some kind

On the whole side of the sacrum we could find no line of separation between it and the illium – but we might not have looked closely enough

The fine grained structure of all the bones of this Skeleton – and the smooth clean way in which the hard rock cleaves from some of the bones would seem to indicate a carnivorous animal – but the limbs are too long and slender I suppose for one

The work around this is slow – as the rock is of the hardest and each bone has to be chiseled out separately – besides it was found clear back under the edge of the wall – where work is done to a disadvantage.

I will try to get a sketch of some of the group next Sunday

Respectfully Yours

M. P. Felch

Marsh writes to Felch that the big vertebrae is Stegosaurus, and tells him to watch for spines and plates. He is pleased that he can tell by the marks, which side of a block was up in the quarry and this is helpful. He tells Felch that he has seen the sketch of the united metatarsals from the dump, sent April 11, and they are the most important thing he has yet found. He is amazed at the good things that came from the quarry last season, but with Felch now knowing what is wanted, this season should be equal.

Yale College Museum, New Haven, Conn.

June 23rd, 1884

Dear Mr. Felch,

Yours of 15th has just come. I am glad you have sent the boxes, and that all is right.

The big vertebrae you figure is a dorsal of Stegosaurus, but very large. You ought to find some plates and spines near it.

The ilium "Pubis" you sent a sketch of in yours of 8th inst. is I fear part of a very big rib.

I am glad No. 5 is turning out so well. We can work out the blocks here better than you can in the quarry. Only mark them so that we can easily place them as they lay in the quarry.

By the way, we can generally tell by your marks, sketches etc. which side up a bone lays, and this may be worthwhile to make sure always especially in limb bones near feet.

I notice you say "limb", where we say limb bone. We call a limb a leg (fore or hind), and any of the long bones (humerus, femur tibia etc.) a limb bone.

The sketch you sent Apr 11th came during my absence, and I did not examine it till lately. I mean the united metatarsals, from the dump. If there is no mistake about these they must belong to Ceratosaurus, and are the most important thing you have yet found. I should have telegraphed to have them sent by express, had I seen the sketch in time. I hope they are well packed and in some of the boxes sent.

We are working out those feet bones still and I never cease to wonder at the good things you struck last season. You cannot expect half as good luck this year, but I know you now understand just what I want, and I trust the results will be equal at least. We want a Stegosaurus skull very much. Also that Labrosaurus skull, and a Laosaurus skull, then we shall be happy.

Will write about finances very soon.

Yours Truly
O. C. Marsh

Felch writes to Marsh, enclosing the contents of recently shipped boxes and the June statements and tells of a possible partial skull and foot bones. Weather is fair in the quarry but unusual floods are in the area and no train has been into Cañon City for a week.

Canon City, Colo.
June 30th, 1884

Prof Marsh
Dear Sir

Enclosed you will find.

Contents of boxes 3 to 8 inclusive recently shipped –

Statement of expenses to June 30th and
Diagram of a bone found in working out "Group No 3" of Skeleton 5

What this bone is I cannot make out – unless it be the top and back part of the head = front and lower part missing. You may be able to tell from the diagram whether it is part of the skull – a portion, or the whole of a vertebrae.

Whatever it is, I have all found, complete.

Another bone – top part uncovered, back and on one side of this bone is I think a cervical belonging near the head – perhaps the axis – though I may be mistaken as it is not easy to tell – while so much is in the rock.

Fearing it might be a Skull (the first described) I have carefully looked over all the blocks taken from the vicinity – but find nothing in sight showing any part of skull, teeth, or jaws

I shall map out its position in this group – also the relation of other groups adjoining so that if I do not find it you may know where to look for it, or the remainder of it – should it prove to be a skull.

Even with the block or slab method, progress is slow but I am sure of getting and saving all there is.

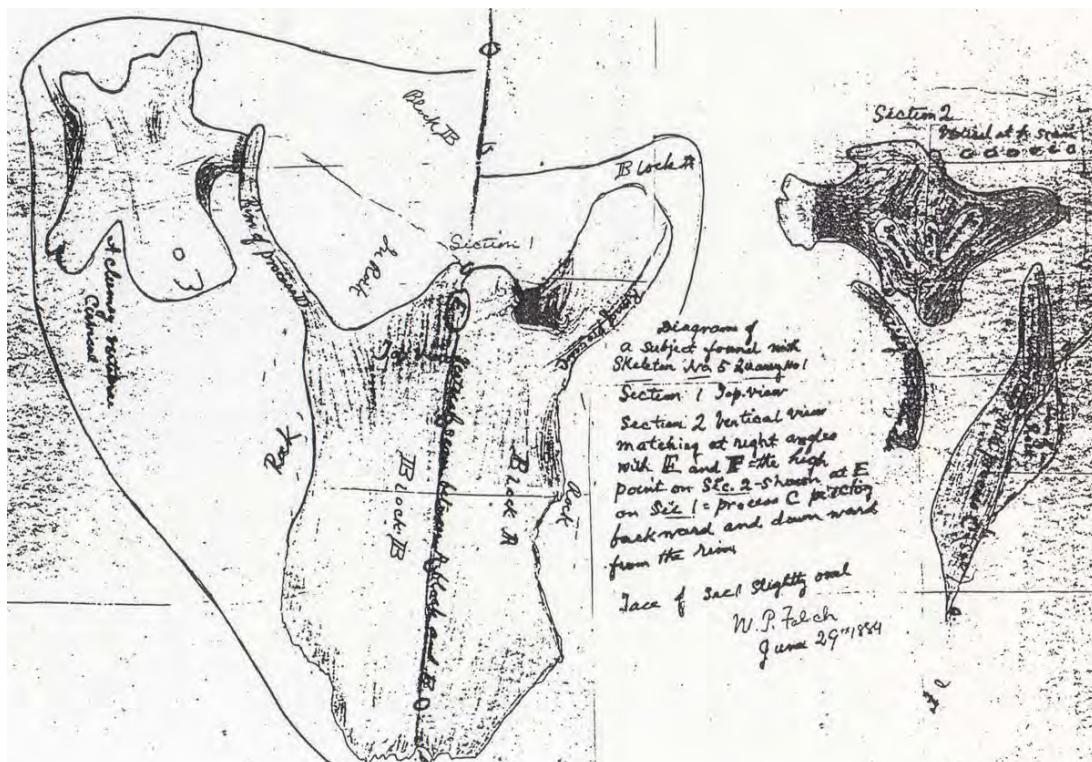
If I keep on finding foot bones as I have, will get a better collection than last year = found yesterday two small ones but little more than an inch long that must belong to the fore foot – also two more very stout and clumsy ones of a different animal

The work on the sacrum – or around it, develops more single vertebrae – running, I think from the short stout ribs, into the cervicals

I think this will prove Stegosaurus – and if we can get once on track of which way it lays – will go for its head so as to get something for the work done on the rest of it.

We are having fair weather now – though all around us it is a time of most unusual floods – hasn't been a train into Canon for nearly a week.

Respectfully Yours
M. P. Felch



Face of Sec 1 slightly oval
M. P. Felch June 29th, 1884

Block B Section 1
a clumsy vertebrae clavical
Rim of Process D
E vertical seam between A block and B 0
Block A Rim of Process C
Section 2 Vertical at the seam

Diagram of a subject found with Skeleton No 5 Quarry No 1
Section 1 top – view
Section 2 vertical view matching at right angles with E and F = the high point on Sec. 2 – shown at E on Sec 1 = process C projecting backward and down ward from the rim
Canon City, Colo.

M.P. Felch June 30th, 1884

Prof. O. C. Marsh

To M. P. Felch

	Dr.
To work for self June	\$75.00
" " " Weld "	60.00
" Beechers Bill May & June	6.07
" Alling & Cos " " "	18.33
" Hyde's " " - "	5.25
" Englemans " " "	6.98
" L. F. Joels " " "	8.92
" Paid J. A. Smith, Blacksmithing	2.00
" " Weld = team carting boxes	2.50
 Ex Pueblo trip	
Fare both ways	7.80
Hotel and incidental Ex.	6.00
Freight – Canon to Pueblo	6.07
Transfer at Pueblo	1.00
Freight to New Haven	<u>42.25</u>
Total	248.17
Cr by Check	<u>35.00</u>
Due	\$213.17

On the other side will be found a full and complete account of all expenses and time to June 30th
The accounts have all been paid in full with the exception of Weld's for June as the receipts will
show

I hired Smith one day on repairing and sharpening tools, for though I can do a fair job on that kind
of work = he can do it much quicker and better – and I think it economy to get him a day
occasionally to help when tools get in bad shape – than to take my time or send to the shop, as I
have had to do on some work that I could not do.

I have now a pretty full supply of things most needed to last sometime.

\$213.17/100

Received of Prof. O. C. Marsh the sum of two hundred thirteen 17/100 Dollars to square all
accounts for work and other expenses on fossils up to July 1st, 1884.

M. P. Felch
Canon City, Colo. July 18th, 1884

Marsh writes to Felch and asks about number of boxes sent. He still wants a *Stegosaurus* skull.

Yale College Museum, New Haven, Conn.

July 1st, 1884

Dear Mr. Felch,

I think I told you that we want a *Stegosaurus* skull very much. Just now we need a hind foot of the same exceedingly. Please look out for both if that skeleton holds out.

The R.R. receipt calls for 6 boxes, while you mention 8. Did you send 2 by Express? or repack in 6. boxes?

I will write again more fully soon.

Yours in haste
O. C. Marsh

Felch writes to Marsh that flooding has caused railway bridges and track destruction and arrangements have been made to get in from Pueblo by coach. Work is ongoing at the quarry and he details new finds, which he believes may belong with skeletons 4 and 5. He believes they ought to be able to find at least one Stegosaurus skull.

Canon City, Colo.
July 5th, 1884

Prof. Marsh

Yours of June 23rd is received though some time on the way

We have been cut off from the outside world for two weeks or more – by reason of floods “washouts” etc – but now arrangements are made to get our mail from Pueblo by coach, till the Ry. bridges and track can be restored.

The work has gone on about as usual this week – nothing further seen of the bone I sent a sketch of last Sunday – though no ground has been worked near where that lay.

The little map or diagram sent two or three weeks since shows the manner of working which I suppose you understand – I take a strip at a time, with the seams – starting each strip from the outer edge (South Side) and working back as far as I think any bones of No. 5 are liable to be found which makes the breast of my strip now nearly 20 feet wide – leaving the remainder of the ground stripped for Weld to follow on behind me to work in the same manner

To carry one strip across, averages a hard week's work sometimes more – where the bones are badly crowded – and I sometimes think our Allosaurus which is now about twenty feet away – to be a thousand miles off

I have thought you might get impatient in waiting so long for it – but I think if you were here to see the “lay of the land” – and how careful I have to go in order not to lose or injure what might be valuable material you would see that I am doing my best.

In starting in on my last two strips I got on to a different skeleton I think – as the bones seem to be of a much larger animal.

Of this skeleton there is a pubis, one limb – and several foot bones – all of which got badly crushed together in removing two heavy blocks – but I have got them separated so that all can be easily restored but the pubis which is a bad job – though that can be fairly well outlined again

The foot bones with this are quite different from any before found – one of which is perfect, and will actually measure more lengthwise on the top - where it joins the next one above, more than it will measure its length from end to end something thus



. I have thought it quite possible these may belong to Brontosaurus as they lay not far from where the large cervicals of that skeleton lay.

I took up to day and finished up at the North End of my strip a fine specimen of a femur or tibia of No 5 This I took up a whole and it will figure well without much more being done with it

Next week will start in new again from the outside and see if more of that head can be found, if it is a head.

I helped Weld take down a part of the sacrum of Stegosaurus to-day with about half the left illium attached.

It seems to me that the bones in the pelvis are the strongest and most massive than any we have seen in proportion to the size of the centrum in the sacrum.

We had ought to find the skull of one Stegosaur here for there must be two or more skeletons of that species already found in the quarry.

In regard to the "united metatarsals" – I think there is no mistake about them – and am pretty well satisfied they belong with No 4

Respectfully Yours
M. P. Felch

P.S. If you find the 'united metatarsals' as I have represented them – I will write up = if you would like = a brief account of how they were found and what, in part led to their discovery.

M.P.F.

Marsh writes to Felch that he fears letters have been lost and explains. Felch is to telegraph if vouchers have not been received. In more detail than his previous note, he mentions the need for a Stegosaurus skull and hind foot bones, and asks about boxes shipped. He thanks Felch's daughter for her sketches.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven

July 11th, 1884

Dear Mr. Felch,

Yours of July 4th came today. Your last letter before this was dated June 23rd. I fear some of your letters have been lost, and also mine, as I have sent several, to which you have not referred. One contained vouchers, which it is important to have signed soon. If you have not rec^d them telegraph on receipt of this.

I hope you will get not only the skull of Stegosaurus, but the hind feet. We want both very much, more so than anything else just now.

Did you send only 6 boxes? You spoke of 8, in some letters, and box No 8, in others. We are expecting the boxes soon. Any notes about contents will be acceptable, metatarsals especially.

I don't understand the last foot bones you sketch, and call Brontosaurus.

Hoping soon to get a lot of your letters now delayed, and on the way.

I remain, Yours Truly
O. C. Marsh

P.S. Please thank your daughter very much from me for the sketches she made.

Marsh writes to Felch that he is sending a check and inquires about unreturned vouchers. He says to take good care of the specimen sketched, which may be part of a skull. He needs a duplicate receipt from the Cañon City Railroad with the rate marked.

Yale College Museum, New Haven, Conn.

July 11th, 1884

Dear Mr. Felch,

Enclosed find check for \$213.17 as per account sent, June 30th which came today.

I sent vouchers some time since, but they have not been returned.

The sketch you enclose appears to be part of a skull, but I am not sure. Take good care of it.

Can you get from Dv. Agt. At Cañon a duplicate RR. receipt for those 39 boxes, (7110 lbs) with the rate to New York (\$253 per 100 lbs) marked on it any way. This would help at this end.

Yours Truly
O.C. Marsh

Felch writes to Marsh that his son, almost fourteen, has died of peritonitis caused by an injury. He will take a short time off to regain his strength and regroup. He adds a postscript with needed information on box numbers that Marsh has just written for.

Canon City, Colo.
July 15th, 1884

Prof. Marsh
Dear Sir

One week ago this morning, my youngest boy = almost fourteen = was taken sick, and after great suffering – died on Saturday evening

His trouble - was an injury causing peritonitis.

All that we could do – and with the best medical attendance to be had, it was of no avail.

He was a keen bright active boy – a general favorite with all whom he met – and his loss has completely prostrated us.

The anxiety and care during his sickness together with the terrible heat of the past ten days has so unnerved and upset me that I am almost down myself.

As soon as I get a little rest and strength I will go on with the work – and in that try and overcome as much as I can something of our great trouble.

Respectfully Yours
M. P. Felch

P.S. I rec'd the vouchers – signed and returned them while my boy was sick.
I suppose they have reached you ere this

Weld is now sick – overcome with the heat – nothing now serious – will be able to work again soon I think.

M. P. F.

P.S. 2nd since writing the foregoing I have rec'd yours of the 11"

There were but 6 boxes sent in the last lot, Nos 3 to 8, series of 1884.

You will remember Nos 1 & 2 were sent in Mar. by express – and also that my instructions were to No. the boxes in regular order from 1 up – for the year – whether by Express or freight and not make any distinction by giving the Express or freight or Express boxes separate Nos.

If you would like each separate lot numbered and refer to the number by lot and number I can do so.

About those foot bones that I called Brontosaurus – I will look them over again and see if I can sketch them so as to give a better idea

M. P. Felch

Felch writes to Marsh that he is still not well but is doing what he can at the quarry. He describes and sends drawings of an unusual bone that he does not recognize or know what specimen it goes with. He says he will try to get freight information when in town but the railroad is a wreck and has passed into receivership.

Canon City, Colo.
July 21st, 1884

Prof. Marsh
Dear Sir

Yours with check came in due season. I am not well yet but am doing what I can at the quarry – have been looking over the foot bones of what I thought might be Brontosaurus to see if any could be sent by mail but the only one that might be so sent, is connected with some other bones in a group that to separate it from the others might create confusion in getting the group together again.

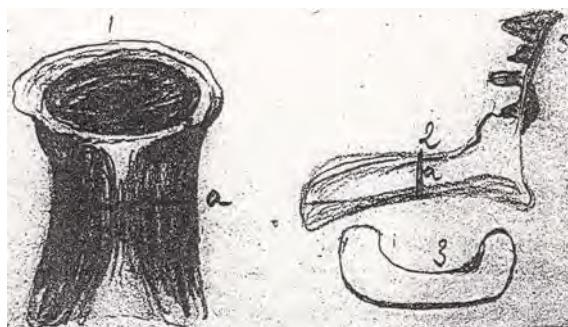
We have made a special hunt for foot bones ~~since~~ around the Stegosaurus Skeleton – since finding the first vertebrae and sacrum of that animal but none have yet turned up – but near the left ilium was found a bone that I cannot tell where it belongs – have tried to sketch it several times but fail to make anything like a good showing of it.

The bone is about a foot in length, has a well-defined cup like a vertebrae on one end with a tubercle in the center – and – this is as far as I can describe it – the little sketch of it on the slip of paper enclosed will show my difficulty. No 1 is view of cup and oval side. No 2 is a side view and 3 a sectional view as it would appear cut apart at "a a" I believe the bone is whole, or nearly so but what it can be I have not the slightest idea.

I have the bone that that resembles the top and back of the skull well cared for and if I do not find more of it soon will box up by itself.

When I go to town I will see about the freight matters referred to in your last – but have little hope to get anything satisfactory from them. The road is a total wreck in every respect and has passed into a receivers hands.

Respectfully Yours
M. P. Felch



Marsh writes to Felch that he is very grieved to hear of his son's death. He plans to come out sometime this season. The missing boxes and vouchers have arrived.

Yale College Museum, New Haven, Conn.

July 22nd, 1884

Dear Mr. Felch,

I am very much grieved to learn of your son's death. I remember him as a very bright boy, and was hoping to see him again when I came out. How soon I can come, I cannot now say but I shall certainly come this season.

The boxes arrived yesterday all right. The numbering was correct. We have unpacked box No 3. and the united metatarsals are of great interest. They are of Ceratosaurus, sure, and I shall figure them at once, and will send you my short paper about them. The other fragments in the box are all precious.

Yours Truly
O. C. Marsh

P.S. The vouchers arrived all right.

Felch writes to Marsh that he has received the paper on metatarsals. The weather has been very hot and a shade had to be put over the work area. A cooling trend has now set in so he hopes to accomplish more. He continues to work at getting the metatarsals out but will have to more back wall down to get them safely. Smith may come back in a month if it can be arranged, and Felch thinks that this would nearly double the amount of work done.

Canon City, Colo.
July 29th, 1884

Prof Marsh
Dear Sir

Yours of the 23rd, also the paper on the metatarsals came today.

I am glad the boxes all got through safe – and that you found that foot as I had tried to describe it.

When you come out I may be able to give some points of interest in regard to finding it

Since my last it has been utterly impossible to accomplish much on account of the extreme hot weather.

We fixed up a shade over a portion of the quarry where we worked but it done little good as the heat anywhere was like a hot oven. Yesterday a change began, to-day has been cool, and we hope the worst of the hot season has passed.

Two metatarsals have turned up laying side by side – of the Stegosaurus – and more may be close by under the wall.

They are closely crowded in with other bones and we shall have to take down some more of the back wall to make it safe to get those in sight – and to find the rest of the foot if it is there.

The two exposed are not as long as in Allosaurus – and are more slender, though the ends I think are more expanded as in the foot bones with D + & E + which you referred to recently.

I will try by next Sunday to get a correct measure and outline of them; hope they will prove what you want and lack in Stegoaurus

Smith was with me to-day helping repair the tools – and thinks he may come back in the course of a month or so – if there is a possibility of work for the remainder of the season.

I hope he can come for we can then accomplish nearly double the work – and make my part much easier than now

Transcribed at the Garden Park Paleontology Society's Dinosaur Depot Museum, Cañon City, Colorado.

Original material housed at the Marriott Library, Special Collections Division; University of Utah, Salt Lake City.

We are somewhat anxious to know the result of your examination of the contents of Box No 8 = whether it is what you expect or not – in Skeleton No 5

I hope now as the weather is more favorable and we are feeling so much better to find more of interest to write about than I have of late

Respectfully Yours
M. P. Felch

Felch writes to Marsh that he will not bill him for a full month as neither he nor Weld have put in that much time. He outlines account information, discusses foot bones found and sends a sketch.

Canon City, Colo.
July 31st, 1884

Prof. Marsh
Dear Sir

I don't like to make out a monthly statement for a full months work this month as neither Weld nor myself have not put in more than half the time.

The purchases have not been much.

I hired a man to bring me seven sacks of sawdust from a mill 20 miles distant for which I paid three dollars – and Smith I paid two dollars for ~~two~~ one day's work sharpening tools.

If one hundred dollars is not too much for all I will be satisfied and with that square up all accounts to date

I send a sketch – showing how the Stegosaurus foot bones lay.

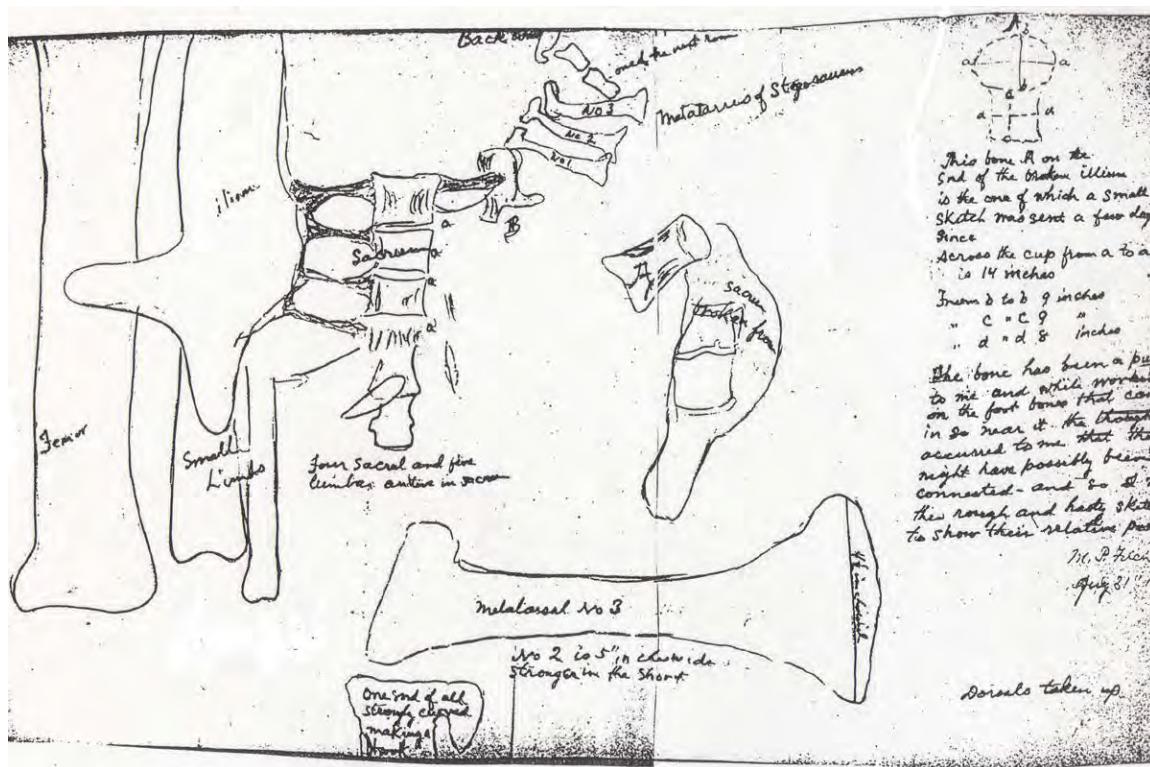
I hope they belong to the hind foot. I cannot tell the tarsal from the carpal bones unless they come in regular order and position with the limbs

In my letter sent yesterday I mentioned two-to-day I found another long one (No 3 in Sketch) and others back of it, shorter ones, all of which belong with the feet I think though they are not uncovered enough to show them plain.

The sacrum of this Skeleton is bottom side up I think – legs and feet underneath, and the dorsals top of all = badly mixed up.

Unless the larger bone **A** is a large caudal coming near the sacrum – it must be an interloper or the astragalus of Stegosaurus – though the bone **B** would seem to come nearer to that – than **A**. Will write oftener now

Respectfully Yours
M. P. Felch



Four Sacral and five lumbar entire in sacrum
One end of all strongly curved making a hook

Back Wall

one of the next row

Metatarsals of Stegosaurus

sacrum broken from

Metatarsal No 3

No 2 is 5" inches wide

stronger in the short

Dorsals taken up

This bone A on the end of the broken illium is the one of which a small sketch was sent a few days since

Across the cup from a to a is 14 inches

From b to b 9 inches

" c " c 9 "

" d " d 8 "

The bone has been a puzzle to me and while working on the foot bones that came in so near it the thought occurred to me that they might have possibly been connected – and so I made this rough and hasty sketch to show their relative position

M. P. Felch July 31st, 1884

Marsh writes to Felch asking for him to watch for the position of the Stegosaurus dermal plates and spines, as this is as yet, unknown. The method Felch is using for marking block position is good. Williston has gone west for health reasons and is collecting in the Kansas Tertiary. Marsh will go to Montreal for meetings and then contact Felch and head out west to see him.

Department of the Interior, United States Geological Survey,
Washington, New Haven

Aug. 6th, 1844

Dear Mr. Felch,

Enclosed find check for \$100. as requested.

Am glad that Stegosaurus is turning out so well. Look out particularly for the position of dermal plates and spines. We don't yet know how they were situated on the back, and you may help us out there as well as on the skull and feet. This is very important.

The blocks of No 5 sent in Box 8. went together without difficulty. Your method is a good one, so you better keep it up.

Williston has gone west for his health, and is now in Kansas, near Nebraska line. Collecting in the Tertiary. He will hardly get your way this season.

I expect now to go to Montreal to attend the British Association Meetings, the last of the month, and to start west directly after. Will let you know in time when I can visit your region.

Yours Truly
O. C. Marsh

Felch writes to Marsh that what he has been referring to as metatarsals are now found to be neural spines of caudals and he is very disappointed.

Canon City, Colo.
Aug 7th, 1844

Prof Marsh
Dear sir

I have been for the past few days so thoroughly and utterly disappointed and disgusted with the result of more than a week's hard work on those metatarsals that I did not feel like writing about them 'till today

They are nothing but neural spines of caudals coming near the sacrum but until almost the last work done on them previous to taking up – I thought sure they were foot bones – as there were five – and lay in as natural a position as any foot bones found yet. I shall send them as I have got them out and I think you will see how easy I made the mistake.

I do not despair however of finding the foot bones farther in as what I take to be the proximal end of a femur is exposed, toward us, the distal end running back under the wall which if it proves to be so we may find the feet in that direction – as I think now most of all of the forward part of the Skeleton is in the same direction.

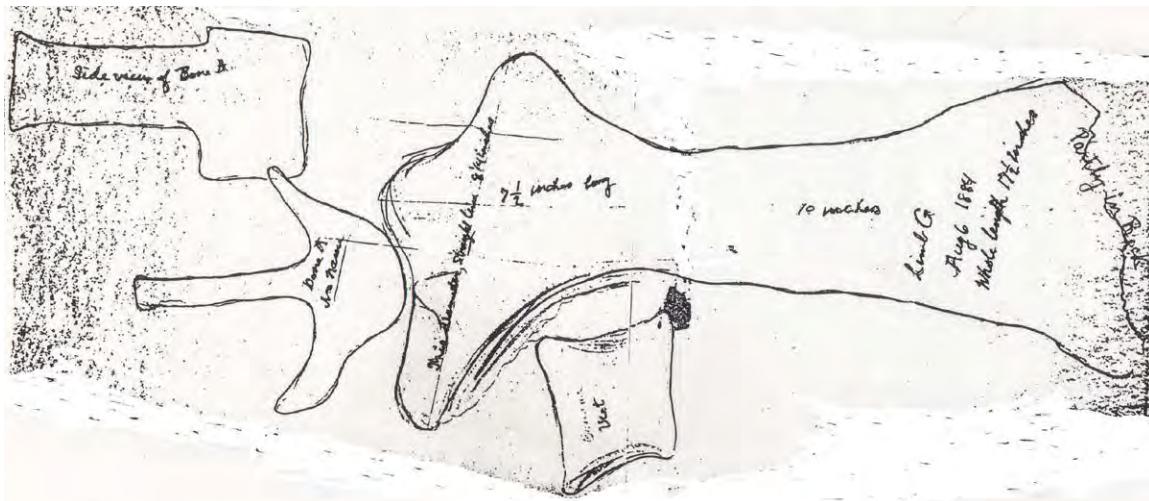
The tail is pointing east – from the sacrum and several caudals have been taken out. So far – not a single plate (dermal) or spine has shown itself though we have carefully looked for them.

All the dermal plates found so far were along with the Skeleton of Brontosaurus and two more of them at least are in sight – not where any Stegosaurus bones have been found that come near the head – and their position indicates to me more than ever that Skull No. 2 belonged with this Skeleton

In Box No 8 there was a small bone that I think I called a humerus – structure fine grained – smooth – black and hollow. A few more bones of the same Skeleton have been found together with some foot bones belonging to them I think

Another bone of which a sketch is sent has been found that differs somewhat from any others – and which has some connection I believe with those foot bones I called Brontosaurus some time since. Some singular dorsal vertebrae have been found with this last skeleton – and one caudal = shown on sketch = the chevrons of which though detached lay quite near.

Respectfully Yours
M. P. Felch



Side view of Bone A

Bone A no name

This diameter straight line 8 $\frac{1}{4}$ inches

7 $\frac{1}{2}$ inches long

Vert

10 inches

Limb G

Aug 6 1884

Whole length 17 $\frac{1}{2}$ inches

Partly in rock

Marsh writes to Felch that the sketched vertebrae is Brontosaurus or some Sauropod. The sketched metatarsals are not Stegosaurus and Marsh wants to know if they could go with the Labrosaurus. He asks Felch to watch for missing pieces of the united metatarsal.

Yale College Museum, New Haven, Conn.

Aug. 7th, 1884

Dear Mr. Felch,

The vertebrae you sketched in yours of July 21st, was a dorsal of Brontosaurus or some Sauropod. All such are hollow, in a similar way.

The "metatarsals" figured in your of July 31st, are not those of Stegosaurus, as we know the genus. They are too long and slender, and resemble those of a Carnivore. Can they belong to Skeleton 5? That is Labrosaurus? They are very interesting whatever they are.

The astragalus of Stegosaurus is very small, and always fast to the end of the tibia (ossified) even in young animals.

Please look out for the missing pieces of that united Metatarsal. I enclose a couple of copies to show you just what is wanting.

Yours Very Truly
O.C.M.

Felch writes to Marsh that they have found a jaw in among the Labrosaurus bones about which he gives details and is sending diagrams. He is also working on the Stegosaurus which is difficult as it shatters badly from underneath. Mentions that Marsh has decided on a time to come visit the quarry.

Canon City, Colo.
Aug 12th, 1884

Prof. Marsh
Dear Sir

The diagram enclosed shows what we found yesterday in among the Labroasurus bones. Sec 1 is a portion of a very large strong jaw – large flat carnivorous teeth. Some 2 or 3 inches. in rock, broken from where the teeth show is all that has been found – besides what is shown

Sec 2 runs under Sec. 1 – is quite thin – and deeply depressed at C At A (red letter) where the short line crosses it – is an inch deep – from there to the end of the process nearly round At b b b it is incomplete

Sec 3 shows the end of a bone, separated from the block with the jaw, and B shows the size and shape of Sec 3 where it is broken at a a a & c and runs under the jaw.

There are many other small fragmentary or perhaps croppings of larger bones exposed within the limits of the diagram of which nothing definite can be made out as we have only done what was necessary to get the outside limits of the mass to find a place to cut it safely out of the block

Sec 3 was struck first then a chip which exposed the jaw – and in getting the limits of that the rest were developed

I think a portion of skull is in this mass – but in bad condition – and also that it may belong to that portion found a month or more since a few feet farther back. We will do the best we can with it – only using the chisel to find boundaries to cut it away from the block which weighs a ton at least

I commenced taking down the sacrum and other bones of Stegoasurus to-day and find it a most difficult job as it shatters up badly from the under side

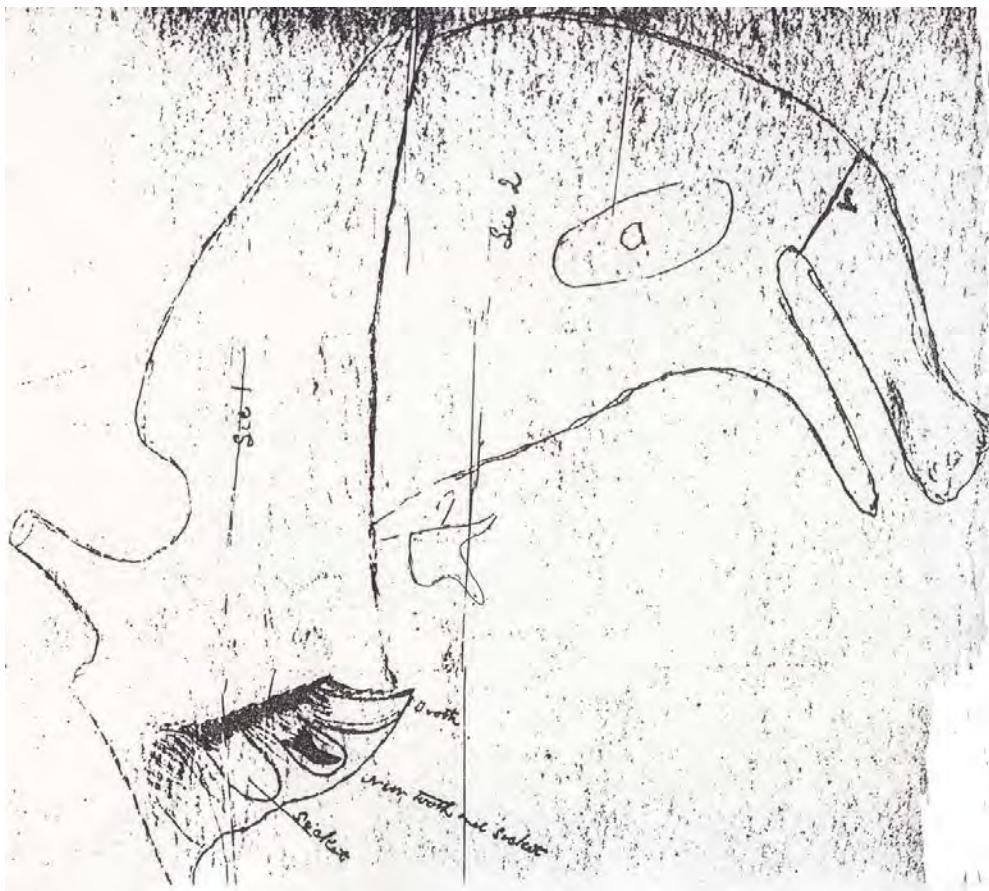
I can tell when this is out of the way – if more of the skeleton is back farther in under the wall not stripped down – and if I find them still going on will go in that direction awhile for the skull and hind feet

I am glad that you have decided on a time to come out – and hope nothing will turn up to prevent a safe journey.

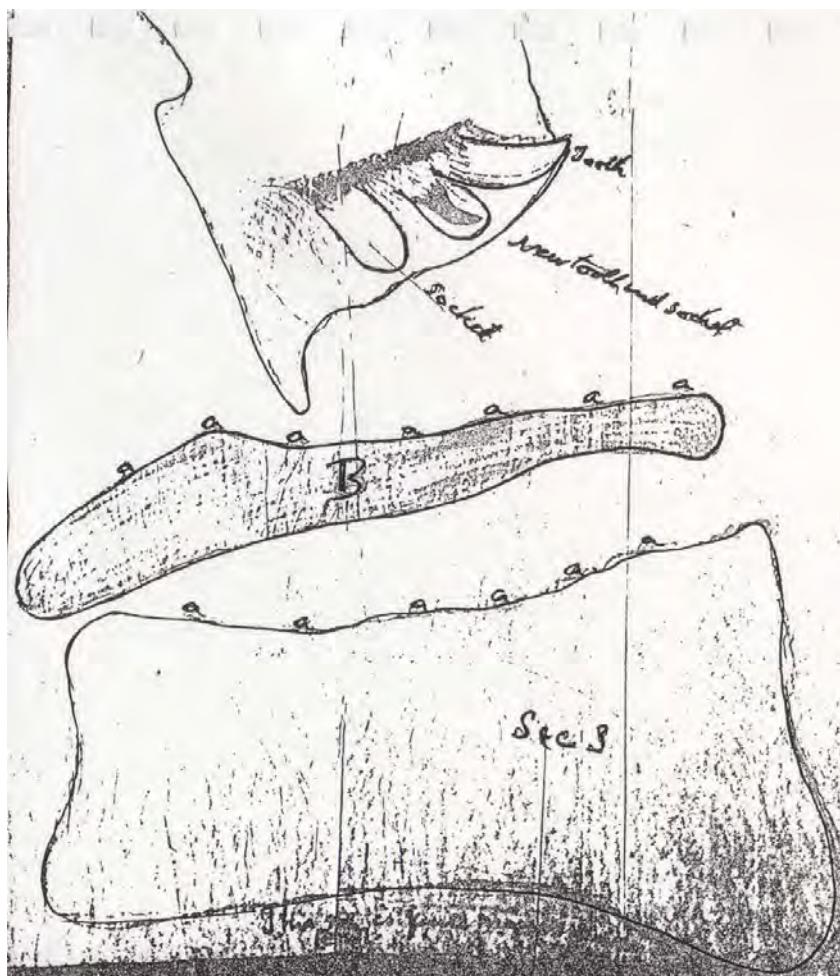
Respectfully Yours
M. P. Felch

P.S. We solved the riddle of the bone that puzzled us – in work on a Brontosaurus vertebrae – which is quite similar to it.

M. P. F.



A
Sec 2
Sec 1
Tooth
New tooth and socket
socket



Tooth

New tooth and socket

socket

a a a a a a a

B

a a a a a a a

Sec 3

Canon City, Colo.

Aug. 12th, 1884

\$100.

Rec'd of Prof. O. C. Marsh the sum of one hundred dollars for work for self and help for July
1884

M. P. Felch

Felch writes to Marsh that they are finished removing the Stegosaurus currently exposed, the remainder of which must be farther in the hill to the north. He will at present be working toward the Allosaurus instead. They are finding scattered bones of other skeletons including some large bones and that bones found in the 1884 season are more scattered than those from the 1883 season. He expects bone condition to improve as they work east. He mentions the dermal plates or spines of the Stegosaurus and gives details. A sketch by Sadie E. Felch is enclosed.

Canon City, Colo.
Aug. 20th, 1844

Prof. Marsh
Dear Sir

Since my last we have removed all the bones of the Stegoasurus – consisting of Sacrum both the illiums – femur, tibia and fibula – and worked East along under the foot of the wall some 12 feet more and with the exception of several caudals and humerus have found no more bones of that skeleton.

The humerus was found alone, some ten feet from the sacrum.

The remainder of the skeleton must be farther in the hill to the North and we shall leave that portion of the quarry awhile and work on toward the Allosaurus

In carrying all the work along – we have found many other bones, limbs some foot bones and also a bone like the one shown under the jaw in the last diagram sent – I mean the one shown running from under the back part of the jaw

We also have struck on to the ~~skeleton~~ bones of another large skeleton.

This lays east from the Stegosaurus Sacrum and well back under the wall some 8 or 10 feet from the sacrum

We thought at first it might be the remaining femur and other leg bones of Stegosaurus but on working out find them much larger and quite different from any others yet discovered. One caudal also found with these and which must come pretty well down in the tail is as large as the lumbar of the former – very massive and solid.

A very large and massive foot bone which lay some three feet below the femur probably belongs with this new Skeleton

I think we have passed most of Skeleton No 5 as we have found nothing of late resembling the rest found

In all the ground worked over this season the bones are much more scattered than in the ground worked last season – but as we work East we expect to find them in better condition – as in Allosaurus and No. 4

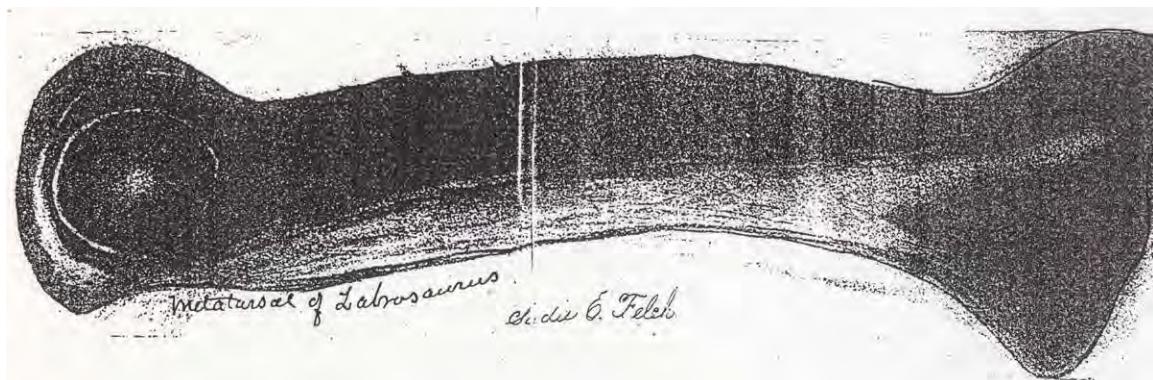
In regard to dermal plates and spines of Stegosaurus – I have followed up numerus fragments of ribs and other similar bones to get something as the spines are figured – but have failed so far unless there was one which seemed to have been attached to the humerus near the radial crest – but of plates – they were numerous along the tail I think from the number of small plates found with the caudals

I believe we have the sternal bones also of Stegosaurus which were found quite near a broken scapula below the sacrum

In my next I will try and send a sketch of some of the bones of the new skeleton.

I send a sketch of one of the metatarsals of No. 5 the smallest of the three found – these with other foot bones of the same skeleton and those sent in box 8 ought to restore one hind foot at least.

Respectfully Yours
M. P. Felch



Metatarsal of Labrosaurus

Sadie E. Felch

Felch writes to Marsh detailing bones found in the new skeleton. He mentions a small jaw that may be a mammal if not a small carnivorous dinosaur. He has also found large foot bones and a pre-maxillary, of which he encloses a sketch. He has also found some dermal plates.

Canon City, Colo.
Aug 31st, 1884

Prof Marsh
Dear Sir

Of the new skeleton mentioned in my last, we have found the humerus, ulna, radius – part of one scapula and several dermal plates belonging to the same animal.

No further signs of Stegosaurus appear in this direction with the exception of a few scattering caudals

The limb bones of the new Skeleton are solid, very massive and robust – and the humerus is similar to the one powder burnt last year, of the Brontosaurus.

One caudal found with these bones is as solid as those of Stegosaurus – but without the long neural spines of that species

In removing what was found of the scapula, we found more fragmentary skull material with part of the jaw attached, showing the short - stout and round teeth of some carnivore – and also another small jaw that I am uncertain whether it be a mammal or another of the small carnivorous Dinosaurs.

On the lower (South) side of the quarry we struck into an interesting group of large foot bones – and some leg bones that may possibly belong with Labrosaurus.

The foot bones are large and evidently belong with the same lot as mentioned not long since = found in the same vicinity = and which I called those of Brontosaurus

Close by this group was found the specimen, a sketch of which is enclosed.

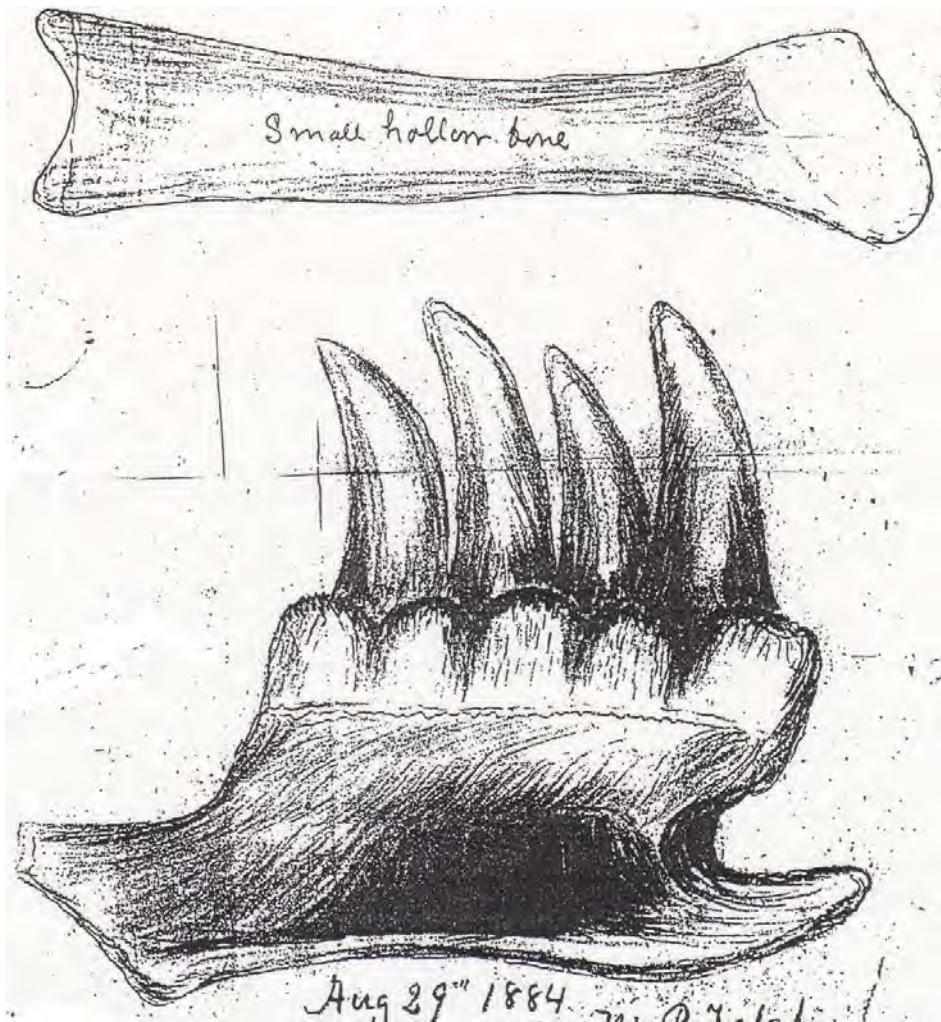
This specimen is a fine one – and is I suppose one of the pre-maxillaries of some very large carnivore – too large to go with the jaw found by Brown but may belong with the one I recently sent a sketch of – which was in rock with other supposed skull material.

We shall search carefully in this direction for anything likely to belong with the parts already recovered, in hopes to find something new, and as rare as Ceratosaurus.

The sketch of the specimen is as exact as to size and appearance as I could make it – though the teeth shown in the copy may be a trifle long.

On the whole I think our success for the week has been fair.

Respectfully Yours
M. P. Felch



Small hollow bone

Megalosaurus - perhaps
Aug 29" 1884 M. P. Felch

Felch writes to Marsh detailing new finds including a new type of leg bone. He now has a whole lower jaw of Diplodocus and many more unassociated bones. A few more weeks of good weather will bring them to the Allosaurus.

Canon City, Colo.
Sept. 7th, 1884

Prof. Marsh
Dear Sir

I enclose statement for work only for Aug. have not had time to look up bills for purchases – which however have been small for the month

We have continued work during the past week on the South Side of the quarry – where we have taken out quite a lot of bones – among which is one femur – short – stout and clumsy – and as it is hollow, think it must belong to some of the Carnivorous Species. With this was found the pubis, coracoid and one caudal vertebrae – and a mass of small leg and other bones.

We also found several other leg bones = five in all near the femur with a few foot bones.

Still another leg was found which looks so entirely different from any others found in the quarry that I send a sketch of it.

This we took up yesterday – and hope to find some foot bones on working further in – as two show in sight where the last block was taken out which appear to be the astragalus and calcaneum – one on either side of the end of the leg bone.

In another place we found in the top layer of bones (- are getting in now where there are two separate layers of bones the same as we found most all the way through the "Cen. Division" last year) we found the whole of a lower jaw of Diplodocus.

Some slender cervical ribs that lay with this jaw were taken up with this group and these, with other bones may help out a little on the Diplodocus.

We have found nothing further to go with the section of carnivorous jaw sketched and sent in my last – in which we are somewhat disappointed

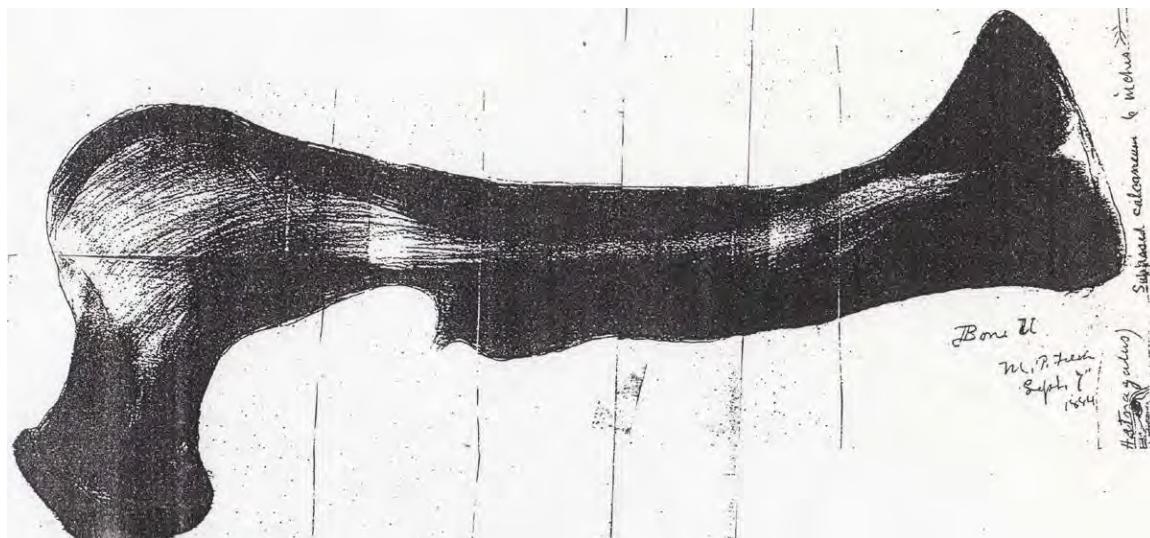
Two or three weeks more of good weather, and if the ground to be worked is not too full of bones will bring us up to the Allosaurus – which we want to approach with care – so that if the head has gone to pieces we can be sure of getting it all – I hope however to find it whole.

Respectfully Yours
M. P. Felch

Canon City, Colo.
Sept. 6th, 1884

Prof. O. C. Marsh
to M. P. Felch Dr.

To work for self and Weld for Aug. 1884 \$135.⁰⁰



Bone U

M. P. Felch
Sept. 7th, 1884

Astragalus
Supposed calcaneum 6 inches ♂

Marsh writes that he will go to Wyoming and then be at Cañon City about Sept 20 to 24.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven

Sept. 8th, 1884

Dear Mr. Felch

I start West tomorrow, and go first to Wyoming, Shall be with you about Sept. 20th to 24th.

Will write or telegraph from Denver.

Yours Truly
O. C. Marsh

Marsh writes to Felch that he is on his way out to see him.

Yale College Museum, New Haven, Conn.

Sept. 9th, 1884

Dear Mr. Felch,

I started today West, but as you may need some funds before I see you, I enclose check for \$100.

You may send receipt here, as usual.

Yours Truly
O.C. Marsh

Felch writes to Marsh that this critical letter is being handled by Brown for security reasons. He has a skull that he is sure belongs to Brontosaurus. As Marsh is planning a trip to the quarry, Felch wants him to come before any more rock is removed.

Canon City, Colo.
Sept. 13th, 1884

Prof. Marsh
Dear Sir

You must pardon me for writing thus – and I should not take the liberty to do it, only that the letter will go through safe hands I think, (Brown's) and also that the matter deserves immediate attention. Our last Skull No 6, nearly or quite complete, is identical with No 3 – and I am positive belongs with Brontosaurus. If you could be here before any more rock is removed from position you can satisfy yourself of the truth of what I write. No. 3 I think I can show you also, is of the same type – though of a smaller animal.

If this reaches you will you please send word – whether to suspend work in this direction 'till you arrive here, - or keep on. We are almost on to Allosaurus.

Respectfully
M. P. Felch
Over

We have this week found some very interesting specimens – among which I think you will find a new vertebrae to describe.

M.P.F.

Receipt only.

Canon City, Colo.
Sept. 19th, 1884

\$100.
Rec'd Sept. 15th 1884 of Prof O. C. Marsh One hundred dollars on act. for work in Aug.

M. P. Felch

Marsh has come and gone! Felch writes giving information on boxes to be sent. He will get more lumber and send bills that he did not have when Marsh was here. Smith is back and they are constructing a building 20 x 14 south of the cabin to use as a store and work room.

Canon City, Colo.
Sept. 28th, 1884

Prof. Marsh
Dear Sir.

We are packing up the Skulls to day – will weigh them out so as to know about what Express charges will be on them if you decide to send them that way.

In boxing up I find that I am short of “Card labels” to put under covers – and as we want to pack up all there is on hand, would like some more sent right on.

Wednesday I shall send in for more lumber and will send bills complete that I could not get when you were here – and more particulars as to how the skulls pack etc.

Respectfully Yours
M. P. Felch

We have packed up several boxes one with Skull No. 5 weight 275# and two boxes including Skull 6 with separate Diplodocus jaw the weight of which is 450# - total weight of both Skulls boxed 725.#

If these are not wanted now I can house them safely till the whole lot goes

We are cleaning up the quarry as fast as we can - and packing from our overcrowded shelf room in the cabin, and also building a shed on the grade adjoining the cabin on the South 20 x 14 which will give us plenty of store room and a place to work in bad weather

It will take us all a week or more to get this work done before we do much on the bones. Smith came on Oct. 1st and things go on nice again.

Respectfully Yours
M. P. Felch

Marsh writes to Felch that he is back home, has made arrangements for water glass, etc., and wants the two skulls sent soon by freight.

Yale College Museum, New Haven, Conn.

Oct. 1st, 1884

Dear Mr. Felch,

I reached home yesterday all right.

When in Denver, I looked up water glass matter and made arrangements to have them send you what you want of it at low rates. Also gum Arabic and Glue as per card enclosed.

I think you better send on soon the two skulls as freight.- perhaps paying charges to Pueblo.

All the rest you can box, and keep for the lot at the end of the season.

Yours in haste

O.C. Marsh

Felch writes to Marsh sending the accounts for the third quarter.

Canon City Colo.
Oct. 6th, 1884

Prof. Marsh
Dear Sir

I enclose the bills for Aug. and Sept. with full statement to the end of the quarter ending Sept. 30th and find you overpaid me four 38/100 dollars (\$4.38) to that date, which will be deducted from the October Statement.

M. P. Felch

Canon City Colo.
Oct. 1st, 1884

Prof. O. C. Marsh
To M. P. Felch

	Dr.
To work act. for Aug. 1884	\$135.00
" " " Sept. "	125.00
" Alling & Co's Bill	8.00
" Paid Smith	4.00
" McGee's Bill of Sept. 26" "	13.47
" L. F. Joels Bill " 15	11.30
" Beechers " "	1.85
" Paid for Coal	<u>2.00</u>
	300.62

9" \$	
Cr. By Check Sept. ^ 10 "	100.00
" " " 25	100.00
" " " Due Oct. 20"	<u>105.00</u>
	305.00

Due Prof. O. C. Marsh to date

\$4.38

M. P. Felch

Felch writes to Marsh that there are problems with the shipping suggestions he made. Felch then suggests that if skulls are not needed now, that in four weeks they can ship all, he needs funds to prepay the shipping. Next they will start on the large Sauropod seen in the Central Division and East End.

Canon City Colo.
Oct. 11th, 1884

Prof. Marsh
Dear Sir

Yours of the 3rd is rec'd – were glad to learn of your safe trip home.

In regard to shipping the Skull material in the way you suggest – it is open to some objections.

I will have to get some parties in Pueblo to receive, turn over, and guarantee on freight charges or they will not handle the boxes.

If I send them on without some such an arrangement they are liable to be delayed or lost – and I don't like to take the chances

I might suggest that if we have good luck shall have everything packed and cleaned up – and all of the West End including the Allosaurus, taken out that we will do be likely to do this year; within the next four weeks – and if the Skulls are not immediately wanted we could by that time ship the whole lot – and there take a new start on the large Sauropod bones in sight toward the Central Div and East End.

During this time I might see what arrangements can be made in Pueblo – or you perhaps could write to *U. Bradley Gen'l Freight Agt. A.T. & S. F. Ry.* at Pueblo to see if he would receive and forward the boxes on their arrival there – or I could then go down myself with them – and take letters from here to parties in Pueblo to guarantee the freight.

I was bothered so much about getting off the boxes in June that I don't want to start any more unless I have money to prepay through or make some definite arrangements before starting.

We are getting along splendid – working packing up building on our addition and some on the quarry. Smith and myself will be able to put in all of our time on the bones after this week.

In packing up we find I think many more foot bones than were sent last year most of which are in groups in rock and will come out in better shape.

Respectfully Yours M. P. Felch

Felch writes to Marsh that he has good and bad news. Good, the missing Stegosaurus hind foot has been found. Bad, a portion of a Stegosaurus skull is found, showing the frontal portion with orbits and occipital condyle. In looking over the related blocks, and the gulch, he finds only two possible cervicals. He feels that the missing portion may have been in

material thrown into the dump by Hammond when Felch was not at the quarry, for which he was discharged. Felch knew of the loss of a partial vertebrae but did not suspect the loss of skull portions at that time.

Canon City, Colo.
Oct. 20th, 1884

Prof. Marsh
Dear Sir

During the past week we have got some points of interest – and have also made a not very agreeable discovery

First – in reducing the mass of bones in which the sacrum and leg bones of Stegosaurus were found – the missing hind foot turns up, under and along with the tibia.

I suppose you remember how the leg bones lay under the sacrum – with the distal end of the femur – and proximal ends of tibia & fibula close together – the latter having been doubled back on the femur

It was close around the distal end of the tibia – the foot bones show and though in reducing the mass only one or two breaks were made there = six (6) foot bones appear – and I am now satisfied all will be found perfect - well preserved in good firm rock – without a fragment missing when all the blocks are worked out.

Second.
In this comes in the disagreeable portion.

We found in working over some of the blocks taken out first in the season a portion of the Skull of Stegosaurus the top or frontal bone I suppose, as both eye orbits show – and the back of the skull showing the occipital condyle. This appears to be all – not any part of the lower jaws or maxillaries being connected with the rest.

When we first began work in the Spring, after the stripping off was done, for the first ten feet or more, and the width of the working ground – nothing was found but smooth water worn fragments – there began to come in some larger pieces – mostly fragments however – and the blocks containing these were laid aside in regular order as taken from the quarry – marked to match for future work if anything should be found – and this lot still remained untouched on the bank at the extreme West End 'till now.

Having got all the rest cleared up in good shape I thought it might pay to look over the lot, for stray foot bones etc - and the very first block broken open showed the skull.

We examined all the rest thorough, and hunted in the gulch for two days for more but could find nothing but what may be two small cervicals It was in some of the blocks that I told you Hammond threw over one day when I was absent that must have come on with this Skull portion,

Transcribed at the Garden Park Paleontology Society's Dinosaur Depot Museum, Cañon City, Colorado.

Original material housed at the Marriott Library, Special Collections Division; University of Utah, Salt Lake City.

and for which I discharged him – though at the time I did not mistrust there had been a Skull tampered with – though I did know that half of a vertebrae had been destroyed.

We are now all ready to go to work on the Allosaurus – as soon as our water glass comes – in the meantime shall work over rock for small bones and jaws and do some stripping

Respectfully Yours

M. P. Felch

Marsh writes to Felch that he hopes the skulls are mailed and gives instructions if not.

Department of the Interior, United States Geological Survey,
~~Washington~~, New Haven, Conn.

Oct 25th, 1884

Dear Mr. Felch,

I am anxious to have those skulls as soon as possible, and hope you have already sent them as freight. One way would be to send them from Cañon City, after inquiring the freight on the same to Pueblo only. This would enable me to make out accounts for each part of the journey.

Better do this than go to Pueblo, yourself or delay longer in sending them.

I have been absent for ten days, but shall now be at home for the present.

Hoping you are all well, I remain

Yours Very Truly
O.C. Marsh

Felch writes to Marsh about continued shipping problems. They will be ready to ship all soon including Allosaurus (No. 7). They still are working on final parts of it.

Canon City, Colo.
Oct. 28th, 1884

Prof. Marsh
Dear Sir

I was in hopes to have received a letter from you in answer to mine of two weeks since in regard to shipping the boxes.

I wrote to Pueblo to see what rates would be – also to know if they would receive the freight from the D. & R. G. road, if prepayment was made to Pueblo – and if a guarantee from parties here at Canon that charges would be paid, would be sufficient to ensure them to forward from there to New Haven.

To this I have not yet received an answer.

If they insist on prepayment – and will not take a guarantee the freight will have to be prepaid.

By the last of next week if we have good luck all can be shipped including No. 7 (Allosaurus) as we have it most all removed from its bed and part of the blocks dressed ready to group.

This has been the most difficult piece of work yet attempted – as a portion was so badly weathered from exposure last winter to frost that a good deal crumbled down in taking out – but by great care we shall be able to get the blocks to match well – and all of the fragments saved and marked so as to locate without difficulty.

When we get it all in shape I will write up a full account - what we found as far as the breaks show etc – but we knew there will be found several perfect dorsals – ribs – one whole fore foot – all the cervicals in splendid condition – and some of the skull – how much we cannot tell as only a portion is exposed in a large block

Respectfully Yours
M. P. Felch

Felch writes to Marsh enclosing the October statement with explanation.

Canon City, Colo.
Nov. 2nd, 1884

Prof. Marsh
Dear Sir

Enclosed find the statement for Oct.

The bill seems large but all the items are correct – and the articles ~~used~~ purchased were used in the work.

The lumber bill was for our new building 14 + 20, and for boxes – and was bought for \$6. less Pr. M. than what I have usually paid. I have nearly enough now on hand to complete the building – and shall not need more than 2 or 3 hundred feet this Fall, unless we put up a shed and fire place on the quarry for the winters work.

I have charged you six dollars for team work, as I had to send my man from the ranch to do it.

The item for tar paper was for roof covering

I found that the roof was so flat, that it would not shed rain – and used the paper instead of shingles, and the cost was hardly half what shingles would be. This may need a coat of tar or mineral paint and then it will last for years

The water glass only cost me \$11, pr. 100[#] = cheaper than the Denver price – and is a better article than I have had before.

The Burlap cloth I find I can buy from the Furniture dealers – and at 5 cents pr. yd – will cost only about half as much as sacks. Of this we use a good deal – having already cut up nearly or quite 150 sack in packing, since you were here

* P.S. If you wish – you can return these bills when you send check - I will pay them, (those not paid) and I will immediately return them receipted.

M.P.F.

Canon City, Colo.

Oct. 31st, 1884

Prof. O. C. Marsh
To M. P. Felch Dr.

To work for self Oct. 1884	75.00
" " " J.A. Smith	70.00
" " " E.L. Weld	60 00
" Allings Bill	9.07
" L.F. Joels	35.80
" Dewey & Rockwell	3.27
" Beecher & Co	20 93
" W.B. McGee's	3.45
" Pauls & Penney	1.00
" Paid for Roof Paper 120 # 5 1/2 C =	6.60
" Hauling Lumber	<u>6.00</u>
	\$ 291.12

Cr	
By over pay on Sept. Act	<u>4.38</u>
Due	\$ 286.74

Recd pay-ment by check, in full for above account, on Nov. 25" 1884.
M. P. Felch

Felch writes to Marsh about again having difficulties with the railroad. He is through in the West End, so would like to ship all he has now and begin in the Central Division where he feels there may be large sauropods. He is however leary of going ahead on the shipping with things so unsettled with the railroad staff.

Canon City, Colo.
Nov. 2nd, 1884

Prof. Marsh
Dear Sir

I was in town on Friday last for supplies – and received your letter of Oct. 25th, in regard to forwarding the boxes with the Skulls. I wrote from there how the matter was – and that I would wait six days longer, thinking you might decide to have all sent at one time – but since coming home I have concluded to take the skull boxes in on Tuesday when I go in to Election and start them off – and so shall send in a telegram to-night to that effect

I don't want you to think that I want my way in the matter – my only anxiety is that unless very specific arrangements were made and a thorough understanding arrived at, with the Ry officials before shipping that delays and loss would be most likely to occur – and this was why I had not sent them on before.

I wrote to Bradley the Genl Freight Agt. of the Atchinson road more than a week ago to know what he would do – sent an envelope paid with my address back to Canon, and have not yet rec'd an answer.

I find it is no easy matter to get these rail-road people to say what they will do – or stick to agreements when made.

One reason why I thought it best to send all now was – that we have all the work caught up – nothing more in the West End to do now that we have found all that belongs with the Stegosaurus – and with this off our hands – we could begin again new in the Cen. Div. where we are likely to find more of the large Sauropods.

Another reason was that more or less skull material is scattered through the whole lot – and we now think that if all the Skull of the Allosaurus is not found with the remainder of the skeleton = other parts taken out long ago – as the jaw with the four teeth = and another portion called Skull 9 may belong with it.

Still another and last reason was that the hauling in to town can be done much cheaper while the roads are good and before the fords freeze over than it can then – and this I shall have to hire done as I have sold one of my horses and have but one fit to work. A team can haul from 1/3 to 1/2 more now than two months hence in to town

In delaying sending the boxes – I acted as I thought for the best interests of all concerned, and so that hereafter there should be no mistake to rectify when too late to do so

We have out all of the Allosaurus that we can find, have the blocks all dressed down as close as we dare too – have all mapped – and diagrams made – most all wrapped up – and ready to box up.

To make the boxes – pack and get ready to ship will only take some three days more.

You are going to get in the anterior dorsals and cervicals some splendid specimens if they can be worked out of the rock –

Respectfully Yours
M. P. Felch

Felch's problems with the railroad continue and he writes to Marsh for help. He gives information on what he is trying to ship and encloses the agents' letter.

Canon City, Colo.
Nov. 4th, 1884

Dear Sir

Enclosed find Bradley's letter in regard to freights which I rec'd to day.

I brought in three boxes with the Skulls No. 5 and 6 but they would not receive them and the D. & R. G. Station in Canon without prepayment, and will not send even with a guarantee here.

I didn't know what to do – for to prepay on the whole will come to over three hundred dollars at the rates charged.

I think if they can be turned over to the Qr. Master in Denver it would be the best way. Rates from here to Denver are 41 cts pr. hundred.

Respectfully Yours
M. P. Felch

This letter is from Bradley, the Stationmaster in Pueblo. Felch encloses the copy to Marsh with his letter of Nov. 4th.

ATCHISON, TOPEKA & SANTA FE RAILROAD CO
Pueblo Station, Oct. 21st, 1884

M. Felch Esq
Canon City

Dear Sir

Yours of 28th at hand Mineral Specimens such as you mention Box to New Haven Conn are three dollars Eleven Cents per hundred the Minimum Charge for any Shipment Thro is Three dollars sixty one cents – rules of rail road Cos both east & west of MoRiver require that Mineral Specimens must be boxed at owners risk prepaid thro
Could not accept them on guarantee

Yours etc
UBradley
Agent

[Note at bottom]

In my letter to Bradley I freely described the nature of the freight- boxes- condition etc.
M.P.F.

Marsh writes to Felch with shipping instructions.

Department of the Interior, United States Geological Survey,
Washington D.C.

Nov. 19th, 1884

Dear Mr. Felch

Enclosed find check for \$286.74 as per account sent.

I enclose also blanks to fill out and send to Major J.H. Belcher U.S.A Quarter Master, Denver, and he will take charge of all your boxes at Cañon City and forward them to New Haven. This will be by far the best way out of it.

Get them off as soon as you can, and do it well.

Pack with great care and send me full lists of contents.

Yours in haste
O.C. Marsh

Felch writes to Marsh that he is waiting for a letter he feels Marsh may have sent but he has not received. He needs instructions to ship the 41 boxes which he has ready. He then describes continued work toward the back wall of the quarry and the things they can see in the wall that will have to await more removal of overburden. A footnote is included relevant to the use of a keg of Marsh's powder to celebrate the election of Cleveland.

Canon City, Colo.
Nov. 20th, 1884

Prof. Marsh
Dear Sir

I have been anxiously waiting for some time for a letter from you to know what to do about shipping the boxes – and as I have received no letter did not know but what you might have sent a letter that has failed to reach me.

We have in all now ready to ship – forty one (41) boxes all well-made and packed, and well hooped in good shape to handle safely.

Since my last we continued work along in the same direction – and found one or two more cervical vertebrae, some portions of lower jaws, and possibly some more of the skull - of No. 7. The work was carried close up under the high wall to take out the group containing these portions of the skeleton found last - one bone – a small one apparently connected with a jaw – is still in sight in the rock beyond - but this cannot be got at 'till considerable stripping overhead is done – and a part of the large skeleton is removed which has overlaid No. 7 all the way along.

This large skeleton is the one we have always called Brontosaurus – some of the large leg bones, and scapula of which were sent on in the last year's lot.

As far as we have been, there are no signs of any other skeleton but this = nothing to show more of skull No. 6, (Diplodocus 2") with the exception of finding several herbivorous teeth = near together but not connected = which appear to belong to some animal midway between Diplodocus & Brontosaurus

Whenever we have found float teeth coming in as these do – we most always find a jaw or skull nearby, and we are carefully on the lookout for one here.

The work on this top skeleton is very difficult - for to about four to six inches in thickness at the bottom of the strata in which it lays – is all rotten and shaley and when a block from the top is removed – even with the utmost care – a part of this rotten mass will come off with the portion removed and a part will be left on the more solid rock underneath.

It may work better as we go in farther – but if we find any very important bones where we are in this – I will do the best to save them so as to be restored.

Hoping to hear from you soon

I am
Respectfully Yours
M. P. Felch

P.S. This record will hardly be complete if I fail to state that we have used nearly a keg of your powder in honor of Cleveland's Election and Burchard's speech that elected him.

M.P.F.

Felch writes to Marsh that he has received the telegram but he needs another horse to begin the week of work to get the loads of boxes to town for shipment. (His children are using his only fit horse to get to school.) He encloses a sketch of a specimen found by someone else found near Cañon City. He thinks it may be a birds but Felch feels it does not match the illustration he has. [The specimen is actually a Cretaceous fish which resides in the NMNH-SI collections.]

Canon City, Colo.
Nov. 23rd, 1884

Prof. Marsh
Dear Sir

I received your telegram of the 20th yesterday.

I had made arrangements with a neighbor to take in the boxes as soon as I heard from you – as I had but one horse - fit to work = and my children were using that one to go to their school with = but on going to see him this morning, find he could not help me this coming week at least, so I may be delayed a few days – but will try and find someone else to-morrow = and if I cannot will procure another horse and put with mine and get them in as soon as possible. I will have six or seven good loads for a team and it will take a week at least to get them to Canon City after starting the first ones.

I enclose a sketch, natural size – of specimen found near Canon City by a gentleman there a few days since

He thinks it a birds jaw – but I have studied it some, and compared it with the figures on Odontonithes – and cannot find much resemblance, only in the teeth.

I could not get a first rate good idea of it as a portion of the base is still in the rock – and I did not wish to risk an injury to it by trying to work it out.

The specimen, from his description comes in the Jurassic rocks – and if belonging to a bird may be of importance.

If you think best I will try and get the specimen for you to examine = and visit the place from where it was taken to see if more can be found. Some of the teeth evidently are gone as those in view seem to come in groups of three. At a a a & C the rock covers that portion.

Respectfully,
M. P. Felch



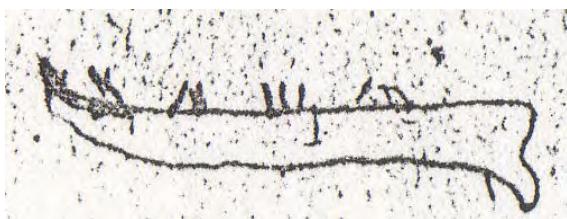
Found near Canon City, Col.

Jurassic?

a a a a

x x x & c grooved

Teeth apparently in a groove



Nov. 23rd, 1884 in letter from M.P. Felch

Felch writes to Marsh stating he received a check and has begun moving the loads to Cañon City, but is delayed due to weather. Smith has again left for the season but Weld will stay on through the winter if he will be kept on the next summer.

Canon City, Colo.
Nov. 29th, 1884

Prof Marsh
Dear Sir

Yours of the 20th inst. I received in due season – with check enclosed for which you will find a receipt enclosed, also receipted bills for last month expenses.

I have been delayed some in getting the boxes off – as the weather has been bad some of the time and I could not get teams to do the hauling.

I sent in however three loads this week and have made arrangements to have four more taken in this week – a load a day 'till all are in = think four more loads will take all – and then will ship to Denver as directed.

Smith has quit again for the season at least – and thinks he may not be able to come on again another year unless he can make some arrangements to have his farm taken care of.

About trying to do much work through the winter months – I hardly know what to do.

For a good part of the time – work may be done to advantage for several hours a day – on the bones = and the heavy work like stripping off – blasting and drilling and removing rock – almost as much can be done as during the extreme heat of the summer months. I can get a good man at this work till Apr. 1" for 50 dollars pr. month which is about ranch pay for good hands, (30 pr. month and board)

I have also told Weld that I cannot pay quite so much through the winter – and he says he will work for less if he can have work another year. I think it best to keep him for he has got so as to do good work and is careful and willing.

Respectfully,
M. P. Felch over

P.S. I have but two official envelopes left – will need more soon
M.P.F.

Felch sends the November billing. He is waiting for the bills of lading to ship.

Cañon City, Colo.
Dec. 5th, 1884

Prof. O. C. Marsh
Dear Sir

I have just got in the last of the freight almost 11,000 pounds in all and have sent to Denver for bills of lading. Will ship as soon as they are returned to me.

Enclosed find statement of Nov. (\$244.)

If convenient please send the money so that I can get it by Christmas.

I have included the hauling the boxes in in the Nov. act. as I have to pay it now, three dollars and a half a load for seven loads

Respectfully
M. P. Felch

Canon City, Colo.
Dec. 5th, 1884

Prof. O. C. Marsh
to M. P. Felch

	Dr.
to work for self. Nov.	\$75.00
" " Smith	70.00
" " Weld	60 00
Allings bill	8 30
Biggs "	6 20
To carting boxes	<u>24.50</u>
	\$244.00

Rec'd payment by check on above account

Dec. 20" 1884
M. P. Felch

Marsh writes to Felch giving more shipping instructions. He tells of his disappointment at the careless loss of a Stegosaur skull by a careless worker. Felch should close the quarry at the end of December and Smith should plan to start again April 1st. He cautions Felch about inexperienced workers and sets his stipend for the winter months.

University Club—Madison Square

New Haven

Dec. 6th, 1884

Dear Mr. Felch,

Yours in regard to shipping fossils etc. rec'd today.

I hope you duly rec'd the blanks for shipping the fossils. What you have to do is sign one of these blanks, properly filled out, and send it to Major Belcher, at Denver. He will then take charge of the fossils at Cañon City Depot, and ship them to New Haven, either via Denver, or any other way he may choose.

You do not ship fossils at all. Only deliver them at Cañon City, and inform Major Belcher (as per blank) that you have done so.

What was done with a large lot of fossils in Kansas this year, was to take them to the Depot, and leave them in charge of the agent till Major Belcher ordered them shipped. They were in fact put in freight cars and nailed up by the agents order till Major B took charge of them.

Write me fully about the shipment, especially giving the number of boxes and contents of each.

Yours Very Truly
O.C. Marsh

I cannot tell you how disappointed I was to find that all after our efforts, that Stegosaurus skull was lost by the stupidity of a man who ought never to have touched a bone. That skull was worth more to me than all the other fossils secured this year twice over, because it was the one thing I especially wanted now. I fear we may never get another from that quarry, and only there did I expect to find a perfect one.

I think you better close up work at the end of December, for the winter.

Tell Smith I want him April 1st, sure, for next season. I will allow you the same during the three winter months as last year, viz. \$75. per month. I expect you to do what you can during that time, to aid the work. You may use the time as you... [The copy is cut off here.]

Next season, I wish you would go very slowly, and if you only get one quarter as many fossils as this year, have them in so much better order. One perfect skull is worth a car full of ordinary

fossils. Above all, throw away nothing, and allow no one except yourself and Smith to take out specimens, and no one not experienced to work anywhere near fossils.

One of my parties sends in this 119 boxes weighing nearly 8 tons of Pliocene fossils, $\frac{3}{4}$ of them were badly collected. $\frac{1}{4}$ well collected was worth twice as much as the $\frac{3}{4}$. All were equally good in the quarry. The same rule holds good in all cases.

Hoping soon to hear of the shipment of all the boxes.

I remain

Yours Very Truly

O.C. Marsh

Felch writes to Marsh that he has been ill from extra work getting the shipment off. He says he will be sending a complete shipping list and maps very soon. In completing the work of mapping the bones he, he now sees No. 5 as two skeletons.

Canon City, Colo.
Dec. 12th, 1884

Prof. O. C. Marsh
Dear Sir

I have been quite ill for a number of days and unable to be out – but am feeling somewhat better to-day

After getting the boxes all in and before shipping I found that I had got to weigh them all, to get the weights for the Qr. Master before he could send on the blank shipping bills

In doing this I got quite warm and coming home late in the evening took a cold that settled on my lungs and have been confined to the house since

We are having very cold weather, with deep snow on the ground also. On Sunday last received the blanks from Denver and Monday sent in Weld – who saw and helped load all the boxes safely.

They go by D. & R. G. – A. T. & S. F., & Mo. P. Railways
41 boxes total weight 10,976 pounds

I have list of contents nearly complete to send on – also a map of the seasons work.

You will see by the map that there are two, or parts of two separate skeletons – that we have been calling No. 5 all the time.

The bones in the different groups will also, I think show them to belong to separate skeletons

As soon as the weather moderates and the snow melts away we can be doing some of the rough work – if we don't work on the bones.

Respectfully Yours
M. P. Felch

Marsh writes to Felch that he is sending the check and Merry Christmas.

Department of the Interior,
United States Geological Survey,

Washington, New Haven Dec. 15th, 1884

Dear Mr. Felch,

Enclosed find check for \$244. as per account sent.

Hoping it will reach you, as you request before the 25th, and wishing you all a Merry Christmas.

I remain
Yours Truly
O. C. Marsh

Felch writes to Marsh that the shipment has gone off and he has mailed the list of shipment contents and map. The lumber he used for boxes was not well seasoned and he outlines plans to procure, with Marsh's permission, lumber ahead of time to season for next year. He will also estimate cost for other items needed for the next season, including a new bellows. He has also sent a specimen (found by his children) in a tin can to be identified and asks for a complete set of pamphlets issued by Marsh which he will put in book form to save and study.

Canon City, Colo.
Dec. 19th, 1884 [K.C. note - Fri]

Prof. Marsh
Dear Sir

Yours of Dec. 6th I rec'd only a few days since – and have since mailed to you a full list of contents of boxes and a map showing the present seasons work

Your suggestions and directions in regard to shipping had been fully complied with – and the boxes were on their way when you wrote your letter of the 6th.

I hope the fossils will go through all right without breaking or loss.

The boxes averaged heavier than I intended in weight – did not mean to have them run over #200 each but many went over #300.

The boxes were all made of the best Colo. lumber – well nailed and hooped – but there was one fault – the lumber was not fully seasoned and I noticed when shipping that some had shrunk so that the hoops were not quite tight – somewhat kinked.

In the future will have the lumber on hand in time to fully season

I have been doing some stripping but have not taken down the rock far enough to injure the bone strata by frost

During the warm and pleasant spells I want to work on some ground that was stripped off last year toward the "East End" - and not have it lay exposed another year. Some of it is in bad shape already and I had rather for a choice take the job alone than to have any one with me

We have also been doing some clearing up over in quarry No. 2 where Brown left off.

There are I believe some good bones there, and the parts that have been removed I am going to box up safely, mark and put away, so if ever the quarry is worked they can be found if wanted

The weather which was stormy and cold when I wrote last is now warm enough to do out door work to advantage.

Cold spells do not usually last long with us

I am sorry about the Stegosaurus Skull – but fully believe one will yet be found toward the East End where bones come in better condition*

Before writing again will get me some larger paper – was all out and had to use this.

If you will let your Secretary mail me some more pamphlets – all you have issued, I will put them in book form and try and take good care of them. I shall have a little more time now to study up some points than in the busier season.

Respectfully Yours
M. P. Felch

P.S.

I also send in a tin can a specimen that the children found that I would like to have you tell us what it is. Several that have seen it call it the remains of some animal – I think it belongs to the Vegetable Kingdom – or did once before it petrified.

M.P.F.

I have been thinking that before Apr. 1" I shall want a new bellows as the old one is nearly useless – and also that I had better get my lumber for another year for the following reasons.

- (1) I can have it sawed in such widths and lengths to work to the best advantage – something I cannot always do when in a hurry for it
- (2) I can be getting it home at less expense during the winter months.
- (3) Thoroughly seasoned lumber makes stronger work, and the saving on freight alone between well dried and green or partly dried lumber would make nearly half the difference in the original price of the lumber.

If you think best you might include this estimate in the next vouchers so as to not lay out of the money so long.

To include all for the yr. – work – expenses and lumber the average would be very near 265 dollars pr. month up to Dec. 31st – without the bellows & lumber 240 dollars pr. month will cover all to that date.

I will sign the voucher for either amount as you deem best.

Respectfully
M. P. Felch

Felch has received the remittance.

Canon City
Dec. 21st, 1884 [K.C. note – Sun.]

Prof. Marsh
Dear Sir

Your remittance came in due season and we all wish you many thanks and a "Merry Christmas"

Respectfully Yours
M. P. Felch

over

Canon City, Colo.
Dec. 21st, 1884

\$244.00
Rec'd by check of Prof. O. C. Marsh two hundred and forty dollars, for work and expenses for
Nov. 1884.

M. P. Felch

Felch writes to Marsh that he is sending the specimen discussed earlier and that it is probably from the hog backs. He feels it may be a bird. [The specimen is actually a Cretaceous fish which resides in the NMNH-SI collections.]

Canon City, Colo.
Dec. 30th, 1884

Prof. Marsh
Dear Sir

I will send with this by Reg. mail the specimen of which I wrote you about some time since. The specimen was found by Mr. Seth I. Silsby of Denver, Colo. somewhere near Canon City.

I tried at the time he found it to get his permission to send to you for examination – but he did not wish to let it go then – but a day or two since I received a letter from him saying that he would exchange it for some other specimens I had – and also would describe the locality it came from so that I could find it if I wished to look for more of the same skeleton. He also says that in the same place the jaw came from he found some very fine specimens of sharks teeth.

I think the locality is just back of the “hog backs” on the ridge West by North of Canon – for I have known that for several years past curiosity hunters have obtained the so called sharks teeth in that vicinity.

If the specimen should prove to belong to a bird it may be worth looking up – as most all of the ridge there back of the “hog backs” is like our formation here – Jurassic

Respectfully Yours
M. P. Felch