



Sept 4th Monday

2. Shirts

1. Handker

Paid of Dr A 257 to
pay for Intelligence
paid out of \$1.36
March 31st 1860

10 00

3 25

6 75

July 18th

Paid Mrs Lysett for
reperusing cards for the
drawings A bras. fas. 11 75 c

List complimentary names

Genera Meekella, White St. John.

2 } Meekia, Gable

Species

1 Carex Meekii, Dwyer

2 Lycopodium Meekii, Her

3 Galicites Meekii, Newberry

4 Potamoeris Meekianus, Shuman

5 Forbesioeris Meeki, Hall

6 Meristallo Meeki, Hall

7 Archimedes Meeki, Hall

8 Conocardinum Meekianum Hall

9 Dentalium Meekianum, Ginty

10 Endymionia Meeki, Billings

11 Pecten Meekianus, Conrad

- 2
 12 *Dosimoopsis* Meeki, Comar
 13 *Cardium* Meekianum Gabb
 14 *Anacomyon* Meeki, Gabb.
 15 *Bellerophon* Meekianus, Swall.
 16 *Petzia* Meekiana, Stimp.
 17 *Actinocrinus* Meeki, Lyon
 18 *Spirifer* Meeki, Swallow
 19 *Gundlachia* Meeki, Stimp.
 20 *Pleurostomaria* Meekiana, Hall
 21 *Architectonica* Meekiana, Gabb.

Antiquarian paper —

Left at Room in Washington

3 bundles —

1 Lamp

1 pair Blankets

1 Umbrella

Left at Smithsonian

3 Leakes Boots

1 Portfolio with M.S.

Received pay from Warrent
 up to this date 23rd
 Nov. 1857

Recd pay from Department
 Jan'y 1st up to this date

Commenced work Sept. 1857

9 March 28th. 1868

Handbook of Geological
Terms. Geology & Physical
Geography - by David Page
F. R. S., F. G. S. &c 1865

Edinburgh & London
William Blackwood & Son

Mem - Geol. Brit. & Pol.
Our Panopaea (Morisma?) Cooper
is very nearly similar to the
Invasive species - *P. gibbosa*
Deer. Prodrôme p. 273. - Extra
-ia. Phillips Geol. Yorkshire
P. 121. pl. IX fig 6. not Sewerley.

Some freshwater Lower Tertiary
species fossils - Unions, Paludina
H. ~~Geol.~~ Jour. Geol. Soc. Lond.
Vol. XIV (No 55) p. 286.

Comp. our small striated
Natica from bot. with the
living *Toechus cutterianus*
as figured Annals and Mag-
nat. Hist. Vol. 3. (No 18) p.
496.

Inoceramus ventricosus
 This specific name
 was applied by Darwin & in the
 Gen. to *Ornatula ventricosa*
 which has since (1847) been
 placed by Desbigny in the Gen.
Inoceramus, making it necessary
 to give our sp. a new name -
ablata would be a good
 name.

Bulinus stercus preoccupied
 by Pfeiffer - our sp. must have
 a new name.

Belosantes densus
 Prof. Owen thinks this
 specific name was
 preoccupied

Uros Danai should be *Uros*

Cyrena - see if our *Cyrenas*
 with striated teeth are not
Leorbiculas or another allied B.

Pholadomya fibrosa - prob-
 not a true Phol. but more
 probably a *Pinna* or possibly
 an *Indusor. B.* of that form

Limnaea Haydeni - preoccupied
 by a recent species by Lea

Limnaea tenuicostata probably
 a distinct genus or subgenus
 same as that in which *Limnaea*
gracilis has been placed

8
~~Fusus consocius~~ Hall & Meek
may be a true ~~Fusus~~

List Illinois coal ill.
fossils —

Solenomya soleniformis Cox?
narrower and not so deeply furrowed
as Cox's sp. No 5. and at Danville

S. radiata M & M. No 5 Canton Ill

Cardiomya Missouriensis Shum
Coal No 5. Canton, Wp. C. Posey co. Ia
New Harmony Ia. Coal No 3. Steuben Co
Ill.

Schizodus curtus M. & M. Wp. C. Posey co. Ia
Grayville. Coal No 3. Ill. Coal No 4
Canton Ill.

Schizodus Ruficus Gein. agrees exactly
in size and form with his large figure
same locality and sp. as last

Avicula p. reticulata Cox?
Hall, ^{sometimes} no radiating costae on

posterior wing, and seems to be
exactly the same we found in the black
shale in Iowa. Agrees closely with *Av.*
subpapyracea Vern. Gerl. Puff. except
in having ^{sometimes} no rad. costae on post ear, which
is straighter behind. Coal. No 3. near
Bryant's station. I am inclined to believe
it the same.

Edmondia ~~retata~~ ^{As per wall} Meek & Meek Coal No,
5 Canton Ill. Seaville Coal. No 1

Chirospira ~~Wp. C.~~ Coal radiata H.
Posey co. Ia. High in Wp. Coal. No 4
Coal Canton Ill. smooth var. very
abundant. Also in Schuyler Co.

Sp. Comerat. Coal. No 6. Coal 3
Sp. Kent. Coal. No 6

S. lineata (perplexus Meek). small
Coal. No 5. Canton

Athy. subt. same loc. sp. as last
also Seaville, ^{Coal. No 1.} very abund.

Rhynch. osagensis Sw. (C. Canton
Ill. very ab.

Prod. muricat. Coal 4 Cant
Ill. common. this not found in up. C. ^{above}

Hemifer Crags. Coal No 6. Canton

Rhynch. Eutoniform. ~~M Co.~~ No 5
Canton^{Ill.} Grayville. W. pl. Coal M

Prod. Prattenanus No 5 & No 3.
Canton Ill.

P. punctatus, Seaville Fulton Co
Coal No. 1. ^{+ highest coal}

Prod. seminot. Seaville ^(No 1) and all thro.

Prod. Nebrasc. Coal No 5 Canton

Chonetes Smithi, Canton C. No 6

Ch. mesoloba. Coal No 6. Canton

Lacustrat. bovidens. Coal No 1.
^{to top}

Discina small (Missouriensis Sh.)
2 m. NW. Bryant's station Mid coal
also all through

Singula - like Coxes but not flat
- tened along the middle and with
beaks less obtuse (the same seen
at Neb. city) Roof = of Coal No
3. Fulton Co.

Pleur. Gravilleansis, No 5 Canton
Ill. and all thro.

Pleur. sphaerulata same
Osthecerus Cribrosus Gen
Coal No 5 - and all thro

Spirifer Plasei, Vern. There is
in the upper and middle coal -
m. of Ill. ^{also in Kans. & Neb.} a sp. agreeing exactly with
Vermont fig. of this. It is often sup.
to be the young of S. camerat. but seems
to be distinct. Hinge lines always much thicker
than shell. It is always smaller. Prob.
the same descr. by Prof. Swallow as
S. cam. var. preveraxus. It agrees
quite as well with some of David
son's fig. S. bisulcatus of Neb.

Bois de la, M & W.

Gibbons ~~in adult~~
al, nearly or quite equivalent, very
short
distinctly longer than the posterior,
backward, that of the right is
to left, and ~~apparently~~ slightly indented
close up ~~just~~ behind the leaf
margins; surface polished
times crossed by obscure traces of

Washington July 15 1868
Ticket to Chicago 22 50
Fronk to Depot 50
Toll and diff in street car 12
Fronk at Baltimore 50
Supper at Harrisburg 50
4 Breakfast 75
Lunch 20
Supper 75
Sleeping car & baggage 1 20
15 Breakfast 75
Dinner 75
Breakfast 75
Dinner 65
Expense Chicago to Springfield 8 00
Sleeping car 2 00
Lodger on car 25
Portage at Springfield 70
March 6th Expense on package from Chicago 90
7th ~~little package to A.H.~~
41 97

12
After the Express on book from Chicago 41 77
45

March 13. Express on package books fr. Washington 1.55

Apr. 6. Exp. on proof pl. fr. Chicago 25

" " 2 boxes specimens from St. Louis 1.90

45.92
425.00

7092

June 9th Exp. on box to Springfield 1.15

" Springfield Directory 3.00

" 10 Loaned Chas. Worthen to pay express on package 1 75

" 11 Package plates fr. Chicago 1 25

" 13 Exp. on pencils fr. Chicago 25

July 3. Package cuts fr. Chicago 65

" " Exp. Box specimens 75

" " Bill fr. freight on boxes 1 10

" 7 Exp. on Big Nauticus 3 90
13 80

amt brot on

13 80

July 8th 1 Box specimen express 1 25

" 10 Exp. on box 60

Aug 6. 3 Half exp. on Exp. papers on scorpion etc 59

Aug. 27 Exp. on box specimens 75

" " Postage in road cut to Baker 10

" 28 Exp. on the Brown 1/4 pt. plates 5 15

" 29 " " plates to Chicago 1 90

" 30 " box and package 1.10

25.22

Sept 9, exp. on book borrowed fr. Dr. Stimpson 40

" 12 exp. on cuts fr. Baker 25

" " postage on letters to Sumner 12

" 28 Book to Stimpson Express 50

Oct. 17 Express on small package 75

Oct 19. Exp. Springfield to Galveston 6 75

" " Dinner 75

" " Lodging & breakfast Galveston 1 20

9.497

9 97

Oct. 20. Ticket Galesh. to Burl. 1 80

~~Nov 3 Express on package of fossils (rimoids sent by Mr Dyer to Mr. Washburn for comparison 75~~

Nov 6. For full boxes for specimens 1 25

Burlington to Springfield 8 60

Paid for fish tooth for Mr. Worthen at Burling. 5 00

Nov. 10. Supper at Keokuk Station 50

~~Nov. 13. Express on package from N.Y. 1 00~~

Nov 19 Postage on paper (M.S.) to New H. Haven, & from there to Philad 48

1868 28 75

Dec. 7th Airt. on Sepulchral box 1 00

14 Postage on paper sent to Philad. Acad 54

~~23 Paid for Mr. Worthen 2 50~~

26 Exp. on boxes 2 65

4 99

Dec. 27 Express on boxes 4 19

Jan 30th Express on specimens to Mr Dyer 50

~~8 Telegram to Mr. Worthen from Warsaw 80~~

July 4 Exp. on specimens returned to Dr White with postage 40

15 Express on packages of borrowed specimens returned to Prof. Marcy & Marshall 1 10

Postage on proof to Philad, and stamp returned to Prof. Marcy 24

10 99

March 9 Postage on proof, Philad 18

10 " M.S. " 48

10 Express on package for Knickerbocker 30

Apr. 1. Paid for carrying up wood 50

7 Photographs of fossils 4 00

12 Freight on boxes specimens from Danville \$6. 91 1 45

amt Bort over 6.91

~~Apr 16th 1869 Express on
 extra papers from Philad. 1 15
 " 18 express on Blastoids
 amt back to Mr Wachsmonth 60
 " 24 Express on Specimens from
 Mr Wachsmonth 50
 " 26 1 proof plate fr. Chicago
 by Express 25
 Express on two bundles plates 2 80
 " 27 Package express fr. St Louis 50
 30 Load wood 5 00
 May Express on box specimens 1 25
 " 9 Postage on M.S. to Philad 63

 19.59~~

1869 June 9th Express on
 book fr. Cambridge 1 15
 June 16 bundle plates fr. Chicago 1.75
 " 19 German Translation 3 50
 " 29 Postage on proof Philad 15
 July 8 Gas bill 2.43

17

July 17th P. O. Box rent 1 15
 " 20 Exp. on book sent back
 to Cambridge 1.00
 " 29 Express on Specimens from
 Mr Wachsmonth 40
 Aug 9 Package from Mr Wachs. 75
 " Photogr. drawings 2 00
 " 13 4 quires cap paper 2 00
 " 16 Exp specimens from
 Wachsmonth 30
 " 20 postage on proof to
 Philad. Sent 15
 " 21 Express on book borrowed
 from Cambridge 1 55

 10 98
 20.20

In Knox Co. Ill. Mr Green found in the Lower ~~found in the lower~~ lower Coal Measures between No 3, and No 5 Coal, the following fossils

- Spirifer curvatus*, Morton.
- Sp. planocarpus*, Shumard
- Product. Longispinus*, var *muricatus*
- P. Praterianus*, Norwood.
- P. Nebrascensis*, Owen
- Chonetes mesoleba*, M.P.
- Avicul. sp. pellucida*, M.P.
- Avicul. (Pretin) carbonarius*, Stevens
- A. Occidentalis*, Shumard
- Avic. neglectus*, Girty (Perris?)
- Avic. longa*, Girty sp.
- Edmondia ovata* McK.
- Etolium aviculatum*, Swallow sp.
- Goldia Knoxensis*, M.C.
- Gold. hillstrata*, Stevens
- Alorisma Girtyi*, McK

Also from local No 2. Warren Co. Mr. Green.

- Avicul. aviculata* Sw.
- ~~*Spirifer*~~ between Knox co., Coal No 3 and 5 cont.
- Lima retifera*, Shum.
- Nucula parva* M.C. - *Byrrhich*
- Plent. Gravillensis* M.P.
- P. sphaerulata*, Leon.
- Macrochelys inhabilis?*
- Bellerophon ellipticus* M.C.
- B. montfortianus*, M.P.
- B. Meekianus*, Sw.
- B. percarinatus*, M.P.
- Polyphemopsis parvata*, M.P.
- P. inornata*, M.P.
- Pleurophorus Pallasii* Gin. not Vern.
- Orthoceras cribratum*, Gin.
- Euomph. rugosus*, Hall
- Hemipronites arenaria*, Phill.

Alvarez.

Fossils from Coal No 2 ~~Warren~~
County - Mr. Green

Orthis resupinoides Leys

Prod. semireticulatus

Sp. perplexus, M.C.

Sp. cameratus Mott.

Athyris subtilita Hall

Warren Co. Ill. Coal No 2

Mr. Green

Aviculop. aviculatus Swal.

Sp. perplexus, M.C.

Prod. Prattenans, N.

P. Nebrascensis D.

Chonetes Flemingii M.P.

Exomph. rugosus Hall.

Hemipronites crenistria

Coal No 1. Warren Co. Ill. Green
Prod. mucronatus

Sp. cameratus,

Sp. Kentuckensis

Chonetes mesoloba

Allorisma subcuneata

Rhynchonella Eatonaeformis M.C.

Solenomya radiata, M.M.

Athyris subtilita

Edmondia ovata Meek

Cardiomorpha Missouriensis Sh.

Avicula carbonaria Stearns

Sima retifera

Schizodus cuneatus Rossicus?

Streblospira tenuilimata

Pleuron. Grayvillensis

P. sphaerulata, var. *depressa*.

Belleroph. montfortianus

Hemipr. crenistria.

Prod. longispinus

P. semireticulatus, Swal.

Emisarinus? *tuberculatus*,

The specimen belongs to Mr. B. E. Rhodes, ^{of New Port Ia.} came from roof of four foot bed of coal (No 2) on Sand creek. Parke Co. Indiana.

The typical specimens from Sangamon Co. came from coal 7 or 8, (or of Ky. Sec. 11 or 12)

Bellerophon Stearnsianus M.C.

Comp. our smooth sp. from Reels, Ark. with this.

Bell. interlineatus Poell. as ident. by him. occurs in Lower Coal. M. of Ill. Grundy co. Saw sp. about the size of ~~Smith's~~ ^{Smith's} enlarged fig. It may be the same as *B. ellipticus*, M.C. but his figures look different.

Pseudomonotis —

Mr. Bradley found on Salt Cr. Vermillion Co. Ill. in a grayish limestone he thinks holding a position 50 feet above the Danville Coal. —

Pseudomonotis *Haini* (sp?)

Gervillia *longa*.

Murchia *ventricosa* (Hall)

Leda *bellistriata*

Schizodus

Myalina *Swallowi*.

Myalina *Subquadrata*

Ariculop. *occidentalis*

Bellerophon *Moulfortianus*

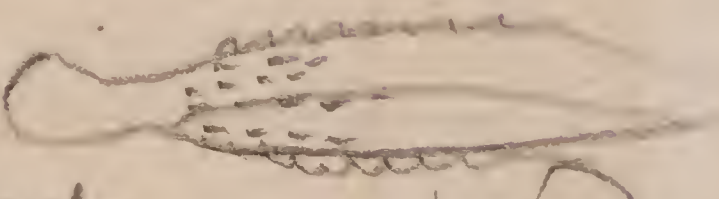
Ath. *sublittita*

Prod. *Nebrascensis*

Hemipronites *crispus*.

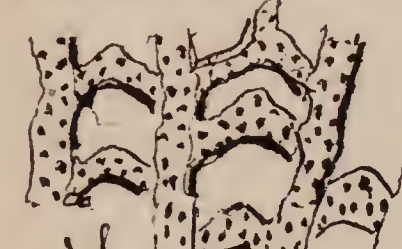
Pleuron. *Graywilleensis*

About twenty feet ~~high~~ below the above mentioned bed and at the same

Locality Mr. B. found a spine of an *Archaeocidaris* or *Eocidaris* like this  and agreeing exactly with one found by me on the Platte river, and figured for Hayden's report. He also found *Susulina apocialis*

Polyzora biarmica, Keys.
 Prout identifies this sp. from the sp. Arch. Li. at Chester Ill. although in Russia it is a Permian sp. See St. L. Acad. vol. 1 p. 450

Genus *Synocladia*

Mr. Worthen found a species undoubtedly this genus, and scarcely, if at all, distinct from *S. biserialis*, Swallow, in the St. Louis limestone of Jersey Co. Ill. It shows two rows of pores on each branch, with a slightly defined ^{nodular} angle between, there being generally about 4 pores on each side, opposite each fenestrate. There are also two ^{to three} rows (somewhat irregular) on each dissepiment or cross bar, and these cross bars are rather more distinctly deflected, or geniculated  than in the specimens of *S. biserialis* is. So it is not a Permian any more than a Carb. genus. The little nodes or projections on the mesial angle are arranged about one for each fenestrate. Sketch above - about 2 diam

On further comparison of the above, with the type of Prout's genus *Septopora* from the Chester Li. (St. Louis Acad. vol. 1, p. 448) I can see no specific difference. Prout's fig. is very poor, does not show geniculation of dissep. I can see no sp. dif. between the Chester fo. and those from the Coal. Ill.

Synochladia *lucida*



Turritella lucida, Eichwald 1860
Seth. Report, (Ancient
Period) p. 365. pl. xxix
He says he does not
place this in *Synochladia*
King, because there are
only 2 ranges of pores
in the longitudinal
branches, instead of 3 or 4.

He says there is no well defined mesial
angle on the branches between the pores.

The fact that it has pores
on the transverse bar shows an important
step toward *Synochladia*, that being the
most important character of that
genus. It only wants the transverse
bar to be arched, or angular, to be
a true *Synochladia*† to which genus
it should doubtless be referred.

† That is, if *S. biserialis* of Sw. is a *Synochl.*

Turritella? of Carboniferous
Eichwald has figured and described two
Carbonif. very small shells, from Carb.
Pepia, related to our *Turritella*?
Stemmsana. He first described them in
Bull. Soc. Nat. Mosc. p. 161 (1856?)
under the names *T. spirulum* and *T.*
acris. In *Sethaeo Rossica*, p. 1120 (1861)
he redescribes them, and figures them
in the Atlas of same (Ancient period)
pl. XLII fig. 483. The *acris* is about
0.14 inch long, with six or 7 vol.
The *T. spirulum*, 0.16 in long, more
slender with 10 or 11 vol., both have
revolving striae finest and most numerous
on the *acris*. Mouths of both somewhat
entire deep, mouth round.



*Fenestella eleganti-
-tissima*, Eichwald
Lithaea Rossica.
Pl. XXIII, fig. 4. b.
Sketch of his fig. full
breadth, but only about

one third its length (magnified as he has it)
He says non-poriferous side is striated
long. 4 to 5 striae on each branch. Porifer-
ous side with cells arranged in two rows
very approximate, and separate by
a little distinct carina. Fenestrules
or interspaces equal, along with
angles rounded, or even become oval
and are slightly wider than the branches

12 branches maybe counted in a
space of 3 lines. In some large
individuals he says there are only
6 branches in a space of three
lines.



Fenestella virgosa
Eichwald, Lith. Ross.
Vol. 1, p. 58, Atlas,
pl. XXIII, fig. 9.

He says the branches
are nearly parallel and
very little diverging, in conse-
quence of the rarity of the
bifurcations (two rare)

He says the fenestrules
or openings (meshes) are

very elongated, quadrangular and a little
wider than the branches. Cells cylind-
rical, and disposed in two ranges, longitu-
dinal, without any carina between. They
are alternating, very approximating, and a
little tapering and oblique within. The non-
poriferous side is smooth, and deprived
de striae longitudinalis, by which it
differs from *F. polebeja* etc. which has
the surface striated, and nodos.

But *F. virgosa* is a distinctly striated sp.
with oval fenestrules

Cav. Lith. Rossica (Lith. Rossica) of Eichwald

Lepidodendroides; My little Nebraska (Lyassic?) coral or Bryozoan with rhombic cells, is very like a group of minute Carboniferous Russian species referred by Eichwald to Vincularia, Defr. It is especially nearly like his V. ornata. (Bull. Soc. des Nat. de Moscou, 1855, No. IV, p. 455) as fig. in his Lithaea Rossica, Atlas pl. XXIV, fig. 4. and described vol. 1 p. 400. of which



The annexed is a rough sketch. He says the cells are oval, elongated, nearly rhomboidal, they range ascending, with the superior gemmiferous pores very distinct from its base size while the cells themselves are flat and little distinct. The two borders opposite of the cells are provided with 7 to 8, and some 9 or 10 little tubercles which form the two sides of the curved ranges.

It is certainly not a Vincularia but very probably belongs to the same genus as the little Nebraska coral, and is more specifically related.

Sima Lexingtonensis, Shumard? sp.
In Worthen's Collection I saw a Lima from the Coal M. at Grayville Ill. and from Jamestown, which I believe to be identical with a shell I saw in the Mr. Collection labeled Cardium politum, but which seems to agree better with Shumard's Cardium? Lexingtonensis, than with any other shell. I know of that he has referred to the genus Cardium ^{in his papers}. The Grayville shell has all the external characters of Sima. It is marked by fine radiating striae, every 4 or 5 of which on the posterior half of the shell, are separated by a smooth furrow wider than the others; farther forward the striae enlarge ^{to} moderately distinct, ^{irregular} costae. Very fine concentric striae mark the surface concentrically.

Broadhead - Effingham Co. Ill.
 Schizodus - same called s. Rapierus by Gem
 associated with the same new Edmondia
 we have from Aspenwall, Prod. Nabobensis,
Rhynchonella etc. Prod. summitica. Strept. crassa

Mr. Broadhead found in
 Shelby County along with the various
 Permian-carb. fossils, the base of an
 undoubted Agafizerimus.

Jayeth Co. Ill. Broadhead
 from Upper Coal. M. ^{are nearly}
Syncladia biserialis Sw. well preserved
Polyzona biserialis Gem. Not Sch.
Myalina subquadrata
Fistulifera large branches (Rock bluff)
 Little star sp. lepidodendroides. Mark.
Avicula sp. occidentalis
Strept. crassa
Cladopora solenoides, Gem.
 sp. general.
 Prod. Nabr.
Pseudom.
M. Swallowi, Mck
Sida arata Hall
 found the ¹⁵⁰ feet above this horizon he
 found the tooth of Diplodus

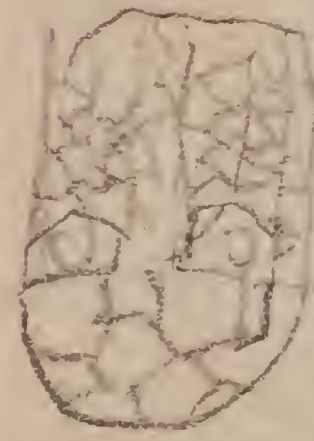
Erissocrinus M.M.

We now have two species of this genus from the Burlington li. at Bier. I have also seen two other new species from the Keokuk li. sent by Mr. Safford, found at White creek Springs, Tennessee. So we may regard it as a settled question that this is a Carb. genus. One of the White Cr. Sp. species is very closely allied to the typical *E. typus*.

Pleuronomaria - The smooth shouldered Pleurot. from Mr. Norton's shaft, and *Rula*, etc. occurs in the upper Coal M. of Ill. in Macouper Co.

Paterocrinus hemisphaericus, Shum.

Dr. White sent a good specimen of the Upper Coal Measure crinoid rudely sketched below ~~and~~ Shumard and he wrote back that it "is not *P. hemisphaericus*", but Dr. M. says he did not clean it so as to show the specific characters.



Lezathax onia prolifera Mele. This coral, I have ascertained from specimens found at Springfield, does not even belong to the Lezathax onidae, as it has distinct transverse tabulae, bending down towards the outer wall. It seems to belong to the Carb. Devonian genus Siphophyllum, C. M., though I have not seen the septal foramen subhorizontal.

1 Cladodus — Bron 9 sp. —
1 Devon, 6 Mt. Si, 2 coal.

2 Diploodus Bron. 2. Coal.

3 Petalodus Bron 8, all Mt Si

4 Perisporistes — 1 only Mt Si. England

5 Chomatodus Bron. 4 sp. Mt. Si

6 Xystroodus — 1. Mt. Si. Europe

of these 6 genera all are common in Europe to the last or not ascending to later rocks; while 4 of them are in Europe peculiar to the Mt. Si. and one (Cladodus) nearly so.

Murchison says (Siluria 1854 p. 417) "Fossil fishes have amongst whose fossils the most exact characters of the age of rocks".

Nebraska fish remains from

the so called Dyas
~~Alpoides mortifer~~
~~Diploodus compressus~~ Newb. & Worth

1 Mt. city — bed 6. S.W. Iowa, Man-
hattan Kansas —

nearst C. mirabilis Ag. Mt. Si.

2. Diploodus compressus N. & W.
Coal. Ohio, S. Indiana, Iowa

3 Petalodus destructor,
Bears striking resemblance to
P. acuminatus Ag. from Mt. Si
of Europe

4 Perisporistes semicircularis, N. & W.
sp. Only other species of the Gen
known, from the Mt. Si. of ~~Europe~~
England

5 Chomatodus acunatus St. I.
Marked resemblance to C. loriformis,
N. & W. from Keokuk.

6. Hystrodus? Occidentalis, Sp. I.

The genus Hystrodus was founded
by Ag. from reception of Cochliodius
striatus and 2 or more other sp. from
the Mt. Limestone of Europe

7 Deltodus? angulatus, N.W.
Wp. Coal M. Mts. Iowa and Ill.

This St. John says has a remark-
-able resemblance to Deltophychius acutus
Ag. M.S. the type of the genus Deltophy-
-chius (old Cochliodius acutus) from
the Mt. Li. of Ireland.

Phillipsia scitula.

Mr. Bradley found a specimen I cannot distinguish from the above at Perryville Casey Co Vermillion Co. Indiana, from below No 2 coal associated with, *Plent. carbonaria*, *Ath.* sub., *Lehonites mesoloba*, *Cyathax. prolifera* *Ariculop. Coxanus*, sp. *planocoxanus* *Discina nitida*, *Ariculop. rectilateraria* sp. *Kentucensis*, sp. *cameratus*, & *lineatus* *Fusulina cylindrica*, *Prod. Seminut.* *Naticopsis nodosa*, *Hemipronites crassus* *Rhynchonella Grayvillensis*, *Prod. longispinus* (= *Arababensis*)

Schizodus Schlotheimi Gaim.
Eichwald cites *Sch. obscurus*, says as a synonym of the above, and says that *S. Devonicus*, de Verw. from the Old Red is so very similar that he is brought to believe it only differs as figured, in consequence of the diff. ^{with Russ. 1001} of age. (I do not believe this, but it show that shells of this kind are sometimes so very much alike that from widely dif. horizons that it is unsafe to base important conclusions upon them)

Nautilus (Linn.) *digonus* M.W. from Kinderhook, Gr. This sp. is very like *N. carinatus*, Eichwald, from Lower Carb. Russia but has its siphon nearest the outer instead of inner side. Whorls not so broad as the Russian sp. See Letham Geog. Tab XLV fig. 4 a b c.



Pecten costatus,
Eichwald. Geog.
de Russie (En Lang
Russie). St. Petersburg.
1826, p. 425

The fig. is a tra-
cing of Eichwald.

fig. in *Sethaea Rossica*, Atlas pl. XXVII,
fig. 29. He describes it on p. 933 of
text, vol 1. This near. *P. Brodneri*
see p. 49. but it is described as having 15
rounded ribs. He says it is smooth or
only traversed by fine concentric striae

He thinks it may be the same as
P. undeterminatus, de Veron. Palaeont
Russ. p. 327, pl. XXI, fig. 4

Bakewellia antiqua, Eichwald says
is found in the Carboniferous rocks of Mal-
oyaroslavetz, gov. Medov. as well as in the
Gale. Magn. (Permian). See *Sethaea Rossica*
ancient period see. part p. 984. He also
even thinks it occurs in the old Red sandstone!

Strophomena analoga (depressa)
I saw a large specimen of this species
in Mr. Washburn's collection from the
lower Burlington bed. This is the
first example I have ever seen from
any local horizon in this country
above the oolitic beds under the
Burlington limestone

I afterwards learned from
Wether that he has it from the
Burlington beds

Schizodus Rossicus de Veron
Eichwald says in his *Sethaea Rossica*
1, p. 999, ¹⁸⁶⁰ that this species occurs in
the Carboniferous and Goniatite limestone
of Kasatschy-datchy; and in the Magn-
esian (Permian) limestone of ~~Orsk~~
Orsk and other localities
Mytilus Pallasii, de Veron. He says also occurs
at the same locality associated with the
above in the Carboniferous

Mr. Broadhead
found specimens of my shouldered mud
sp. of *Pleurotomaria* - some from Bullo
and Mr. Morton's shaft etc. He found it
in Montgomery Co. Ill. high in up. Coal. It
some would measure as much as 1 inch and 1/2
long. Along with great numbers of
P. sphaerculata Com. Also *Marcroch.*
primigenus Cov. & Nac. *Ventricosa* Hal
Leda bilobata, Stev. *Euomph.* rug-
Bull 70

The sketch below represents the hinge on
interior of apparently the left
valve of a pectinoid shell from
the coal measures at Danville
Ill. The hinge area is flat
and inclined a little backward.
It seems to be obscurely striated somewhat
like the area or hinge plate of *Pecten*
pecten, excepting that it has a distinct



Cryptacanthia compacta, and
Cyrtolites Bellii White & St. J. were found
by Mr. Bradley, associated with a few
Fusulina, and the same other fossils
associated in Iowa with the *Cryptacanth*
in. Mr. B. found these in ^{Combs}
Ill., in exactly such a bed as they
occur in, in Iowa

cartilage pit(s). This is not like the
pit under the hinge of the *Pecten*, but seems
to be oblique more as we see in *Tricardium*
daer. The muscular impressions appear to
be as sketched, while the ped. line extends
up from them behind, as seen at (L). I do not
know the outside of this shell though there are
some app. of warty scaly red. ext. terminating
at the margin of ant. ear and below.

Danville sp.

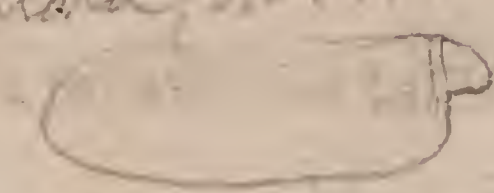
- Planorb. Beckwithiana
- Nautica ventricosa Hall
- Strophor. crassa M. W.
- Productus M. W.
- Prod. little thin sp. P. concinnus Gem.
- Prod. Wabashensis, N.P.
- Arculopecten reticulatus Cox
- Limna retifera Shum.
- Pecten Broadheadi, Swallow
- Arculopecten Coxanus M. W.
- Spurifer planicoarvixis, Shum.
- Dithyrocaris - (sp.)
- Dentalium Mackianum Gem.

"Turritella" Stevensana, M. W. This is probably the same as L. Swallowi. Gem. It agrees exactly in the number of spiral lines with T. Stevensana

Nauticus (Crypt.) Springeri, White & Sh.

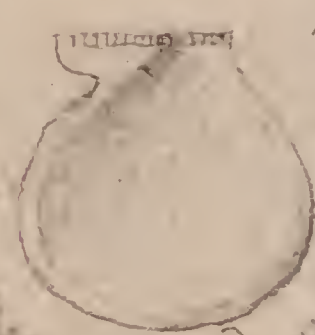
Myalina paratenuata M. W. was found in the Coal Shaft No. 1, Springfield in upper coal measures

I have seen from Danville Coal-M. Ill. the bed of the Corrida see. coal globe

- Gervillia longa Gem.
- Pecten aviculatus Swallow
- Myalina paratenuata M. W.
- My new genus  of elongated and notched bivalve
- Bellerophon Montfortianus
- B. Carbonaria Cox
- Macradon tenuistriata, M. W. (certain)
- Ostoceras criboosum Gem.
- Chonetes mesoloba N.P.
- P. glabra, Gem.
- Salenomya
- Rhynchonella nra, Marcus

A little smooth Pectenoid shell (with or without minute concent. str. on body, and radiating costae on both ends), which I can in no way distinguish from Pecten neoh. Gem. The hinge shows a distinct cardinal pit in the middle, and smaller pits, or crenulations on each side to the extremities of the hinge, exactly as *Bellerophon* is described by Winchell, and I must think it belongs to his genus, I am not sure whether these are true cardinal pits or crenulations, the shell being so small that it is difficult to determine. The crenated cardinal edge however, has some breadth, and inclines back a little as if the margin had been a little gaping, and the little pits were then deep. It is not a distinct area, but like one.

The Danville coal is about the



The Danville coal is about the

6th from below, of the corrected Ill. section, being between 200 and 300 ft below the top of the series. The coal is 5 to 6 ft. thick, and the highest workable bed. The blk shale containing the fossils comes immediately over the coal.

Gervillia longa, Gemtz. A specimen from Danville, shows the hinge to be as below:

(a) being the cardinal area, which inclines back so as to show that it must be gaping ~~as in~~ ~~area~~.



It is a little concave, or slightly arched with the beak, and longitudinally striated somewhat as in Myalina, and entirely without any cartilage ^{excepting a very small shallow one under the beak at (t)} ~~fit~~ ~~whatever~~. Just in advance of the beak (left valve) at (ant) a distinct, antero-posteriorly compressed cardinal tooth is seen arising from the inside of the valve under the cardinal margin but attached to, and projecting inward distinctly beyond its edge, so as to be seen from above. It is round

-ed in front, and concave behind, with a little pit or space just behind it apparently for the reception of a similar tooth in the other valve; while just back of this space there is another much smaller tooth, connected with the under side of the cardinal edge, beyond which it scarcely projects. Along ^{or attached to the} immediately under the cardinal plate behind, there is a long linear posterior tooth (p.) with a linear furrow above it ^{widely} for the reception of a similar tooth in the other valve.

From these characters, it is clear this shell is no Gervillia, and unless there is some difference in the muscular impression, ^{separating it from} Avicula, it must certainly belong to that genus. Possibly it may bear the same relations to Avicula, that Aviculoplecter does to Pecten, or Aviculites Tellinomya to Avicula, in wanting a cartilage fit. The specimen is covered into brilliant pyrites, and shows both

the outside and inside, so that there
 can be no doubt in regard to the species.
 It has the same little marginal ridge along the outside of hinge.
 The right valve is also seen perfect in
 so as to hide the inside of the left. At
 one place it ^{caps. edge} has cut through the left valve,
 and shows that it has the same kind of an area
 as hinge plate, inclined back, and just below
 it the same kind of a long linear posterior
 lateral tooth, or rather two of them, the upper
 one being formed by the ~~for~~ sharp ^{inner} edge of the
 hinge plate, and the other a little below it with
 a furrow between for the reception of the single
 tooth of the other valve. Of the presence of
 these two receiving teeth in the right valve there
 can be no doubt.

Pellerophon Mackianus Swallow.
 Occurs in the Upper Coal. M. at Spring-
 field Ill.

Genus *Thecidium*, recently discovered
 in Carb. Li. of England by Mr. Chas.
 Moore - See Geol. Mag. July 1868, 343

Pecten Hawyni = *P. Broadheadii*
 Mr. Broadhead sent me a specimen
 of the *P. Broadheadii* from the original
 locality, and it is certainly the same as
 the *P. Hawyni* of Girty. I made a tracing
 of Girty's figure, and sent it Dr. Stevens, to
 learn if it is not the same as his *P. car-*
boniferus, and he writes me that it is
 exactly the same. It occurs at Danville
 Ill. associated with the 5th coal, and at
 numerous other places & positions in the up-
 per coal.

This sp. is evidently closely related to
P. rotundus, see p. 40. from the Carb. Li.
 of Oural Russia.

Loyonema. A beautiful little regularly costated (costae becoming nearly obsolete on the body whorl) species of this genus from 0.25 to 0.3 inch long, from the roof of the Danville coal, (Ill.) in the Ill. collection, converted into brilliant pyrites, shows the extreme apex perfectly, and it is not reversed, as in Turbonilla. Its apex is polished.

Nucula tumida, Phillips, var. gileboi Fleming. Specimens of this shell, or at any rate so labeled, sent Mr. Davidson to Mr. Worthen from the Mt. Limestone at Carlisle Scotland, agree exactly in all external characters, with N. ventricosa, Hall. I have not seen the interior or hinge of N. tumida.

Myalina perattumala, occurs at Danville Ill.

~~Very~~
Avicula pinnaciformis so called fragments sent by Gen. Smith, to Mr. Worthen show that it has sometimes a few, distant, rather strong, interrupted elevated lines, or ridges parallel to the lines of growth, but they are not near so sharp, so regular, or so continuous as on A. Smithi N. B. sp. It is also a more convex shell, sections being thus

It shows the fibrous structure distinctly under a good pocket lens.



Michelinia tenuisepta, Phillips. There is a species of this genus in the up. coal M. at Springfield Ill. very like this but its wall pores are not arranged in ~~the~~ horizontal rows, but a single vertical row near each corner. vesicles granular, walls striated. Another palaeozoic genus in Eq. of N. B. D. W.

Ancella Hansmanni. A specimen, sent to
 Weather by Garity shows the cast of the foot
 between the beaks to be exactly as in My-
alina parvata, and that there is no an-
 terior ear; While the cast of its hinge
 shows that it is as in Myalina. There
 being, however, in the specimen examined
 not more than about 3 cartilage furrows
 - the hinge plate being narrow.

Myalina Swallowi. Casts from S. Ill.
 the same figured in Ill. Report, show
 no indication of a pit between the beaks
 ; but there is a narrow muscular impression
 just in front of the beaks this



There seem to be not more
 than about 2 or rarely 3 cartilage
 furrows. They are much longer than in
M. Hansmanni

Bellerophon - The same referred
 by Garity to C. interlineatus Post. at Danville

Nucula parva, M.C. I have seen good
 specimens of this from the original locality
 M.C.'s figures are very good. It is decided-
 ly distinct from N. ventricosa, Hall. which
 is larger, more elongate, with less prominent
 beaks, and a prominent instead of a truncated
 anterior ventral region.

M.C.'s species is very like N. Beyrichi^(H)
 as I find by direct comparison. The pro-
 portions of the two are as follows.

N. Beyrichi, from Garity sent to Ill. coll
 length 0.31 inch; height, 0.20 inch; convexity
 0.16 inch

N. parva, length 0.22^m/_N height, 0.16
 inch; convexity, 0.14 inch

This would make the latter a little
 more convex. I think it also slightly straighter
 on the posterior dorsal slope, and its beaks
 a little more prominent


It is well as from Springfield Ill

The genus Bellerophon occurs in the St. Caddian beds (B. parrivimus, Sanby), and of course may be considered as a Permian type also. as it is extremely improbable that a genus would have died out during the Carb. and been recreated during the Trias (or Eyas which ever it is)

The curious large Unio-like shell Hayden found in No. 1. at Big-Sioux, is very similar to a lower Tertiary species figured in Bull. Geol. Soc. Fr. Tome XII, pl. XXXIII, p. 1235. (2^d ser) and referred to the genus Unio, but acknowledged to be associated with marine forms only.

Pecten aviculatus Bradley found at Daville Ill. in upp. coal - N.

Aviculifactor occidentalis Shum.
is not A. occ. Winchell. Proc.
Acad. N. S. Jan. 1863.

Pecten Swarbyi, McCoy. See in McCoy's Brit. Pat. G. of. p. 478, that he mentions, that when the very thin superficial layer is removed, a number of small interrupted zigzag and divaricating scratch-like markings app^r.  This would make it still more like ~~Aviculifactor~~ P. aviculatus, Swallow, than I had supposed. He also speaks of very thick, divaricating internal ridges "diverging at an angle of 75 degrees. These are not costae I take it but merely two ridges as in P. aviculatus"
P. aviculatus Swall. occurs at Danville Ill.

Memorandum Coal Fos

Pecten valdaicus, M.V.R. pl. XXVII
fig. 9. Shows the same ^{zigzag} surface marking
seen on the inside *P. aviculatus*, Swall.
though, its form is different, and
they seem to be external markings

Broadhead sent me a specimen of
P. Broadheadi, from original local-
that I am nearly convinced is the
P. Hawne of ~~Swallow~~ Geinitz

I believe Conrad's *Priscoaia*, to be
the same shell figured by Geinitz as
S. Ropicus. A specimen apparently of the
same sp. as the Kansas form occurs
at Danville Ill. It shows the same
left elevated, and left ventricose beaks
than *S. curta*, M.W., seen in the
Nebraska so-called *S. Ropicus*, and may
be specifically distinct. If so Conrad's specif-
ic name *ventricosa* may have to stand
unless ~~it~~ his shell may after all be
the *S. curta*.

Memoranda Coal - Mfoss

Productus Wilburanus, M.C. This form
I had supposed only a variety, or
larger size, of *P. Nebraskaensis*, Owen.
Specimens in Worthen's collection showing
the dorsal valve, however, to have the
mesial ridge within, not bifid near
the hinge as in *P. Neb.* & *P. scobine*.
While its cardinal process, its distinctly
~~is~~ bifid at the end, exactly as in
P. symmetricus, M.C. from which
however, this form differs in having a
larger ^{erect} and a smaller appressed set of
spines. It occurs in Ill. in the Upper
beds of the Lower Coal - Measures

Loculoplecton Whitei. Rogers figures
this from the limestone layers and beds of calcare-
ous shale of the bituminous coal-fields of the western
countries of Pa. under the name *Abicula*. See
his report. Vol. II part II, pl. 833 Fig. 689, 1858
The figures same p. (fig. 691). *Plecton. tabulata*
under the name *Plectonotomana*.

Memoranda in regard to Coal
Measure fossils &c

Rhynchonella adamsi Swallow, occurs
in Upper Coal M. Ill.; Also

Campophyllum torquatum -

Orthoceras cribratum Grin.
Occurs at Grayville Ill. showing
the little pitting of the surface and
all other characters

Aviculopecten Whitei Meek
occurs, in Upper Coal M. of
Hamilton Co. Ill.

A species of *Cypruladia*, very
like *S. biserialis*, Swallow, but without
a distinct mesial ridge or little nodes
along the middle of the pinnations
side of branches, occurs in upper
Coal M. Marion Co. Ill. near Central
City, with various other upper Coal M.
fossils. It has but two rows of

(Memoranda coal - M. fossils)
forms. May be new sp.

Heteroceras simplex, Hall vol. 1, pl.
76, fig. 2 d. shows the anatomy incor-
rectly. Specimens from Cincinnati in Wash-
-ling coll. show that it has a well
developed anal piece, resting between
the upper sloping side, of ^{one} of the
larger first and second radials

When we speak of upper and lower
Coal Measures of the west, we merely
mean arbitrary divisions of the true coal-M.
and not by the term Lower Coal M.
the equivalent of the coal bearing strata
below the mountain limestone of England,
sometimes called Lower Coal M. by Eng-
-ish geologists

Aviculopecten Hawmi. Occurs in upper
Coal M. at Springfield Ill. Also same hori-
-zon Big Creek, Perry Co. La. ~~and~~

Described by me in the
Journal of the Geological
Survey of the U.S.

Productus parvifragilis, Murch. occurs in
the Upper Coal. M. Springfield Ill.

Camarophoria - There is a true
- *Camarophoria*, somewhat like *Camarophoria*
glabellina, in the upper coal M. at
Rock cr. Menard Co. Ill. It is the same
size as *Rhyssodonta osagensis* Swallow -
and may have been included by him. It
differs from the true *P. osagensis* -
Murch., of Masscon, in having no plications
on the side, and these two in the series,
are more rounded. The whole shell conse-
quently looks smoother and less angular.

A *Leptotholites* Gillii, W. H. D. occurs
at Rock Creek, Menard Co. Ill.

Aviculapecten reticulatus Cox,
as a very common shell sp. only differing in
having faint concentric undulations, in addition the
reticulatus - occurs in the nodules at
Stony Grady Co. Ill.

The Upper Coal Measures of Ill.
contains no bed of coal more than 2
feet thick. This whole upper series is
only about 200 feet thick in Ill.

D. White proposes (in M.S.) to
name the large *Avicula*, I thought
might *N. Illinoisensis* M.C., *N. ponder*
-osus, as stated in his letter to me
of July. 24th 1868

D. White writes me that Owen
had proposed in case the *Coral*
her referred doubtfully to *C. vernie*
-ulana, should be new to call it *Cyath*
-torquum

northern finds: *Avicula* *reticulatus*, *Dis-*
cina *nitida*, *Leptotholites* *Lincolna* *ultramarina*
and *Cardium* *fragilis*, Cox, and
Prod. *muricatus* M.P. characteristic
of the shale above coal. Mass. Lower Co.
in Ill.

Assoc. with bed No 6 (numbering from below) the upper bed of the lower coal M. of Ill. Worthen finds, Sp. canaliculata, Prod. costata, P. Prattenianus, P. scaberrima? - Chonetes mesoleob. C. granulifera, Alth. subtil. A. Royig. Prod. Punctatus, P. longispinus (splendens A.D.), Spines, Archæoc. fragment. Corals. Bellerophon nodocarinatus, Naticops. Altonensis? Sp. lineatus, Chaetetes milliporaceus, and on Dodge's creek, with numerous small unident.

Prof. Verrill writes that the coal-M. Coral figured as *Lyoth. verrilliana* & *C. gemmiferum*, are one sp. as I thought, and that they belong to the G. Campopshyllum.

The encrusting Strophomena Chaetetes-like coral in Dan and other upper Coal beds he says is a Fistulifera, and probably new sp. of Fistulifera. It is a Fistulifera the so-called Lyoth. Campopshyllum, is another carb. In

Vol 2, Cybele punctata

Is described p. 297, as having in the body 11 articulations, while fig 1.^a pl. 66 shows 12. In the caudal shield there are said to be 21 articulations in the middle lobe and 7 to 9 in each of the lateral lobes, while in the same fig above cited there are only 17 in the middle lobe - and in one of the lateral there are 10.

if the name of the same?

In fig 1.g. the middle lobe instead of having 21 segs. has 26. and in fig 1.^b the appear to be more

Vol. 2 Lealymene Altonensis descr. p. 298. as having 8 or 9 segs. in mid. lob. cand sh. while there are 10 figs

Mem. Pal. N.Y.

Vol 2. Homalonotus Delphinoccephalus - Described page 309 as having in middle lobe from 11 to 13 segments and from 7 to 9 in each of the lateral lobes, whereas in fig. 5. pl 68, there are 11 segments in each lateral lobe - & in fig. 7 pl. 66 there are 15 segments in each of the three lobes - being nearly double the number given for each lateral lobe.

Mem. Pal. N.Y. —

Vol 1. Page 47 Trinucleus concentricus is described as having in the thorax "six free articulations" while the enlarged figure; Pl. 67 - fig 1^b, given to illustrate the structure has only five articulations. The caudal shield is also described as having "seven segments" in each lateral lobe, whereas the same figure cited above has 12 on one side and 14 to 15 on the other.

Vol. 1. Pl. 40 fig 4^b is erroneously represented as if the valvulations are not embracing

Vol. 2. Pl. 4, fig 6, Atrypa plicata described as "marked by 12 sharp plications", has in the figure 16 plications.

Mem - Pal. N.Y. Contin-

Vol. 2 pl. 67 - *Phacops similis* is described page 304 as having in ^{each of} the lateral lobes of the caudal shield, eight articulations and ~~fifteen~~ in ~~the~~ central lobe, while in fig 7. pl. 67. there are 14 in one 15 in the other of the lateral lobes,

The central lobe of the caudal shield is described on same page as having fifteen articulations while in the same figure cited above there are 19 represented.

In fig 6. of the same plate which purports to represent a cast of the interior of the specimen from which fig 7 was drawn, shows on

side 14 segments, with an intercalated half segment on one side and 13. on the other side, while in the central lobe there are 18 represented

Fig 2. of same plate shows 6 in one and 7. in the other of the lateral lobes of the caudal shield

Vol. 2. *Spirifer Niagarensis* is described on page 264 as having from 20 to 30 plications, while in figure Pl. 54 - forty one may be counted. Either the ^{highest} number given in the description is too low or the figure is wrong

Vol 2. *Orthoceras nulliseplum* Pl. 4. ^{is} Septa described as being from "one sixth to one

seven the diameter" In fig. 8^a they are apparently count ^{the upper part of} but in fig 8^b there are 9 septa in a space equal to the diameter

Vol 2. *Gannapora junceiformis* is described as - "Connecting septa 10 in an inch" while in fig 1^b & 1^a pl 18. there are represented only from 6 to 7 in that space, generally only 6.

Vol 2. *Phaenopora explanata* is described as having 8 cellules in the space of one line in transverse direction, and while in the figs 6^a & 6^b pl. 18. there are 10 in that space. On same page there is said to be 10 to eleven cellules

in one line in the longitudinal direction, while in fig 6^a & 6^b there are 6 to 7 only represented and in fig 6^d same plate there are often only five in the space of one line in long direction.

As these are very minute details however these deviations are of no great importance especially in a general figure; we should however expect to see greater accuracy of proportions in enlarged figures, at any rate in a work by an author who is very severe in his criticisms of the illustrations of others. Yet by reference to fig 6^e of same plate above cited we find an enlargement

in which the cellules instead of being represented so as to bear the proportions of in the transverse and longitudinal diameters of 8 to 10 or 11, represented so that ~~two~~ in the longitudinal direction occupy the space of 4 in the transverse direction

Vol. 2. *Rhinopora verrucosa* is described on page 48. as having 64 cellules in the space of an inch, while figure 1^a pl 19 which is said to be "natural size" has only from 40 to 42 to the inch

Vol. 2. *Rhinopora tuberosa* is described on page 49 as having 80 to 85 cellules to the inch, while in the

~~specimen~~ fig. 2^a said to be natural size only sixty to the inch ~~are~~ are represented

Vol. 2. *Fenestella tenuis* - the length and breadth of the fenestules are said on page 57. to bear ^{about} the proportions of five to three.

Vol. 2. *Orthis circulus* - described on p. 56. as having the rays or striae "curving upwards and widening out on the hinge line" while on all the ^{figures} specimens on pl 20, ~~excepting on fig 6.7~~ they are almost exactly straight near the hinge, and in fig 6^a they curve a little downwards

Vol. 2. *Stromboceras parvis* - page 185 is described as having a ^{thickness of} cal" of which the joints ^{are nearly}

equal the width of the col.
while in fig 1^f which is
enlarged especially to show
the structure, the joints are
less than half the width
of the column.

Vol 2. Spirifer crispus is descri-
- on p. 262 as having "five
or 6, rarely 8, plications
on each valve" while
fig 3^b and 3^c ^{pl. 54.} show ten each
exclusive of the mesial fold
and fig 3^e shows 11.

July 16 1868
Gold Charge for Gilson 266 50

Springfield Sept.
4 1869

Sept. 4	Exp. on package of books (A.W.)	1 00
" 4	Gas bill	3 26
" 11	Exp. on two boxes papers	1 25
" 15	Exp. in pk. for A.W.	40
" 16	Translation Germ. Calathea	1 50
" 19	Exp. book borrowed f. Ag.	1 25
"	postage on proof Philad	21
" 27	Load of wood	5 00
"	Carrying up same	50
" 30	Exp. on two pkgs from Chicago (plates)	1 75
Oct. 3	Gas bill	3 60
" 5	Postage on letter for A.W.	18
"	Photogr. Crinoids	1 00
" 17	Exp. on extras f. Philad. Acad	1 15

22 05

Oct. 21st 1869

To ~~get~~ ~~put~~ over

To ~~translation of German~~ ~~1.25~~

~~Postage & Billing~~ over 22 05

23 Photographs of drawing 5 00

24 Postage on letter photogr.
and papers to Prof Loren 79

28 P.O. Box rent 1.63

Nov. 1 Gas bill ~~5.33~~ 5 33

" 8 Express on package 25

" 9 Express package 1 80

10 Postage on papers and photo
sent abroad 1 68

" 14 Load wood 5 00

Carrying up same 50

~~26 Telegram to ANN 75~~

27 Express box 5 50

47 52

Dec 7 Express on books
from Washington 1 20

Isotilus gigas Dr Kay.

I saw a beautiful specimen of this species in Mr. Worthen's possession from Trenton Falls N.Y. that showed under a strong magnifier the reticulations of the eyes beautifully. They are very minute however, and scarcely visible under a single-glass lens.

1868

Washington July 14,

Left with Mr Rhes,
\$866.00 Gold

Bond (5.20) 1000.00

1 do \$500.00 ; one fo. 100.00

Gill's note \$50.00

and another on Gill for
\$1000.00 secured by deed
of truck, which I have left
with Gill for record, after
which he is to leave it
with Mr. Force. The
same bundle left with Mr Rhes
contains many papers etc

1000

1000	.00
1150	.00
600	.00
1000	.00
100	.00
<hr/>	
3900	.00

Washington Feb. 15th 1868

Hayden has collected for me
and has in his hands your
expenses incurred by me
in Nebraska Survey 80.00

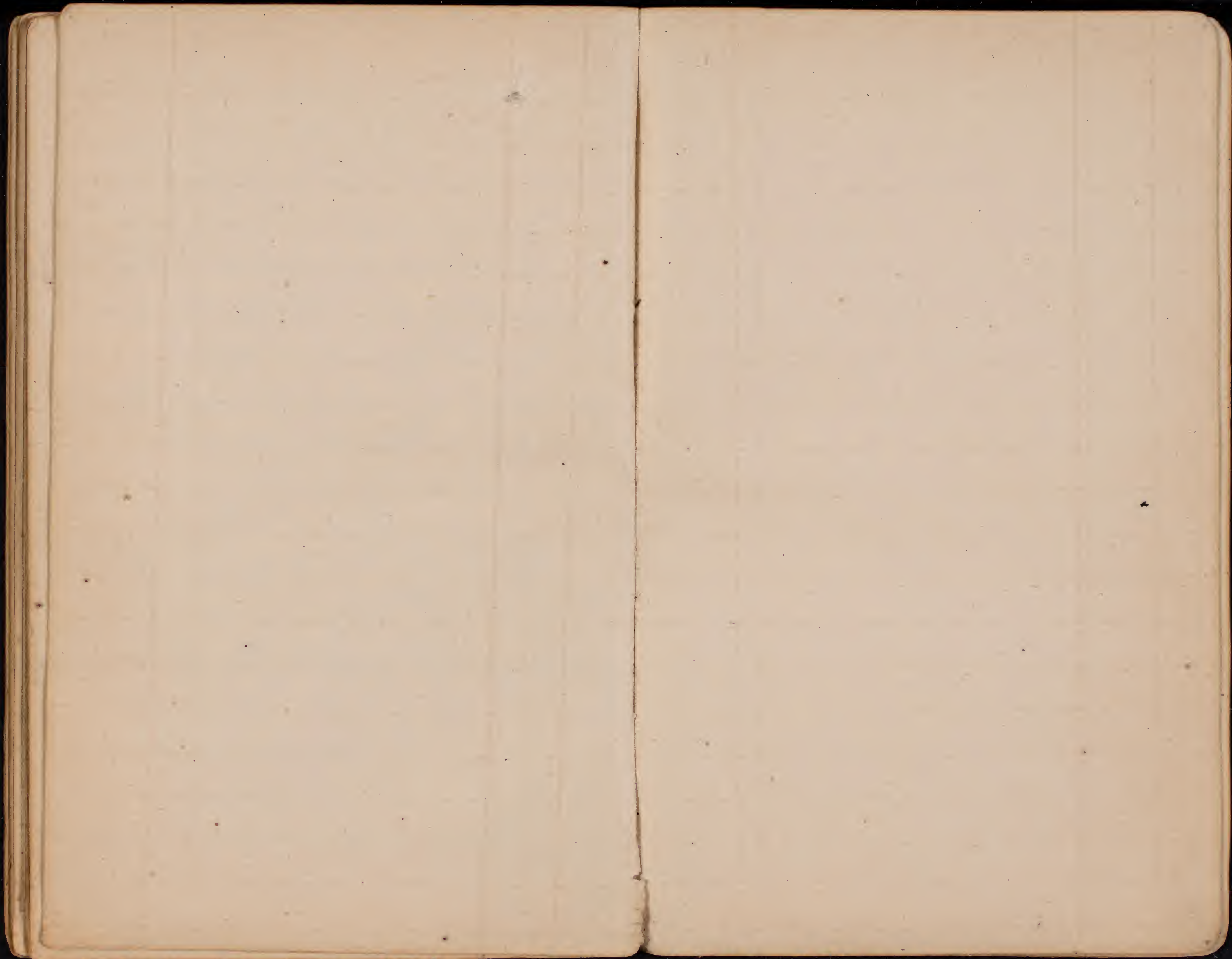
Also is to collect for

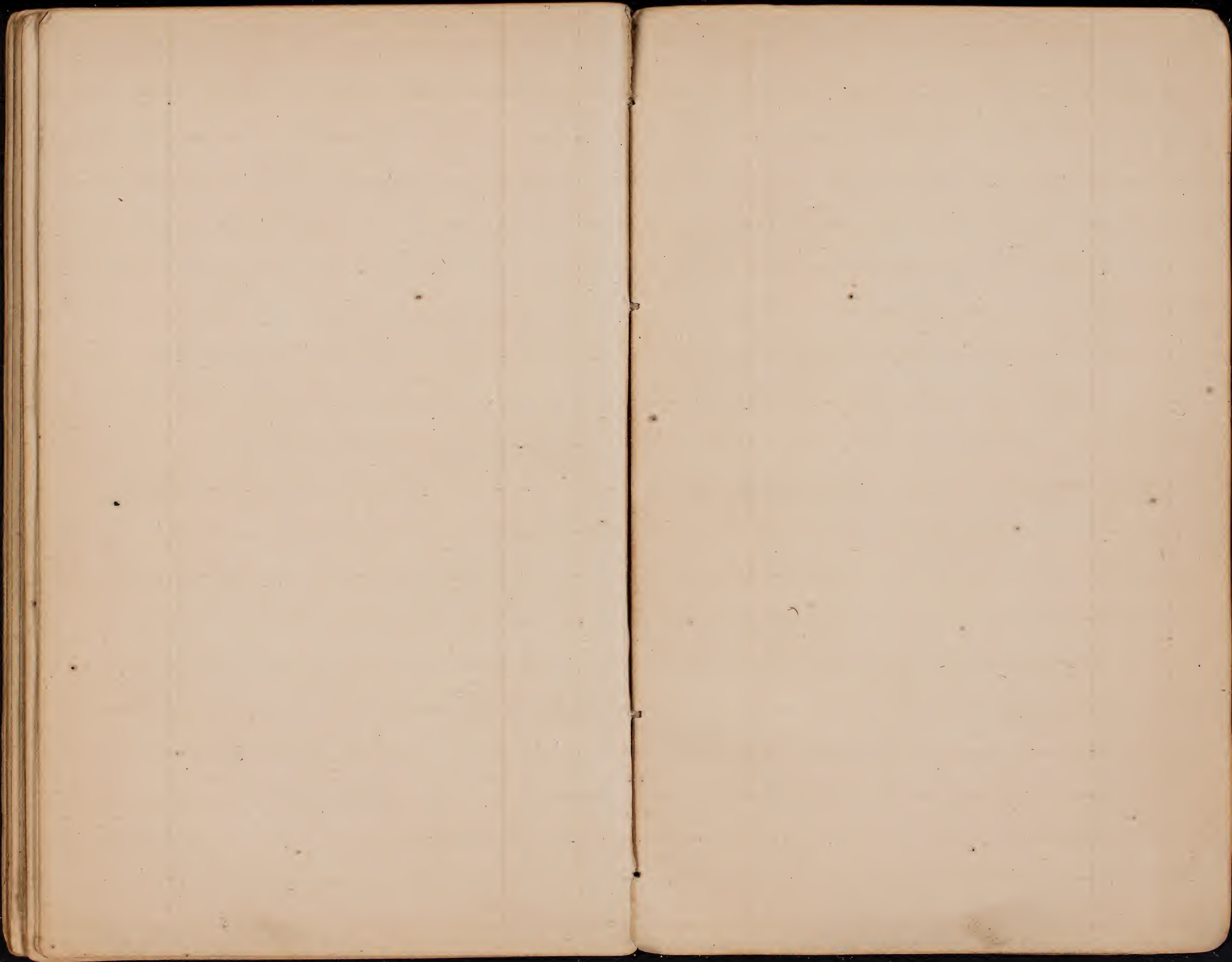
(me 2 months and 14 days
salary at \$150.00 (Neb. Survey) 375.00
and a little bill of items

paid out by me, being
expenses on specimens to H. W. Hille, &c. bill rendered 21.45

July 15, 1868 Hayden has my copy of
Taylor's statistics of coal & Iron Min. Am. Terr,
Apr. 6th 1867 paid on expenses
on specimens of MS. from Fort Union
for Hayden's Report 75

July	Postage on reply to Swallow	1.50
	Printing same	2.40





Faintest effluvescent
Refreshing ~~is~~ Styer apparant

Loaned to Mr. Hagee
My papers on Capt. Simpsons
papers and the geol. of his survey
Also to Mr. Hagee a paper
on China Geol.

Hayden has my copy
Fremonts Report
and ~~Cappellini's travels in~~
America

March, 19th

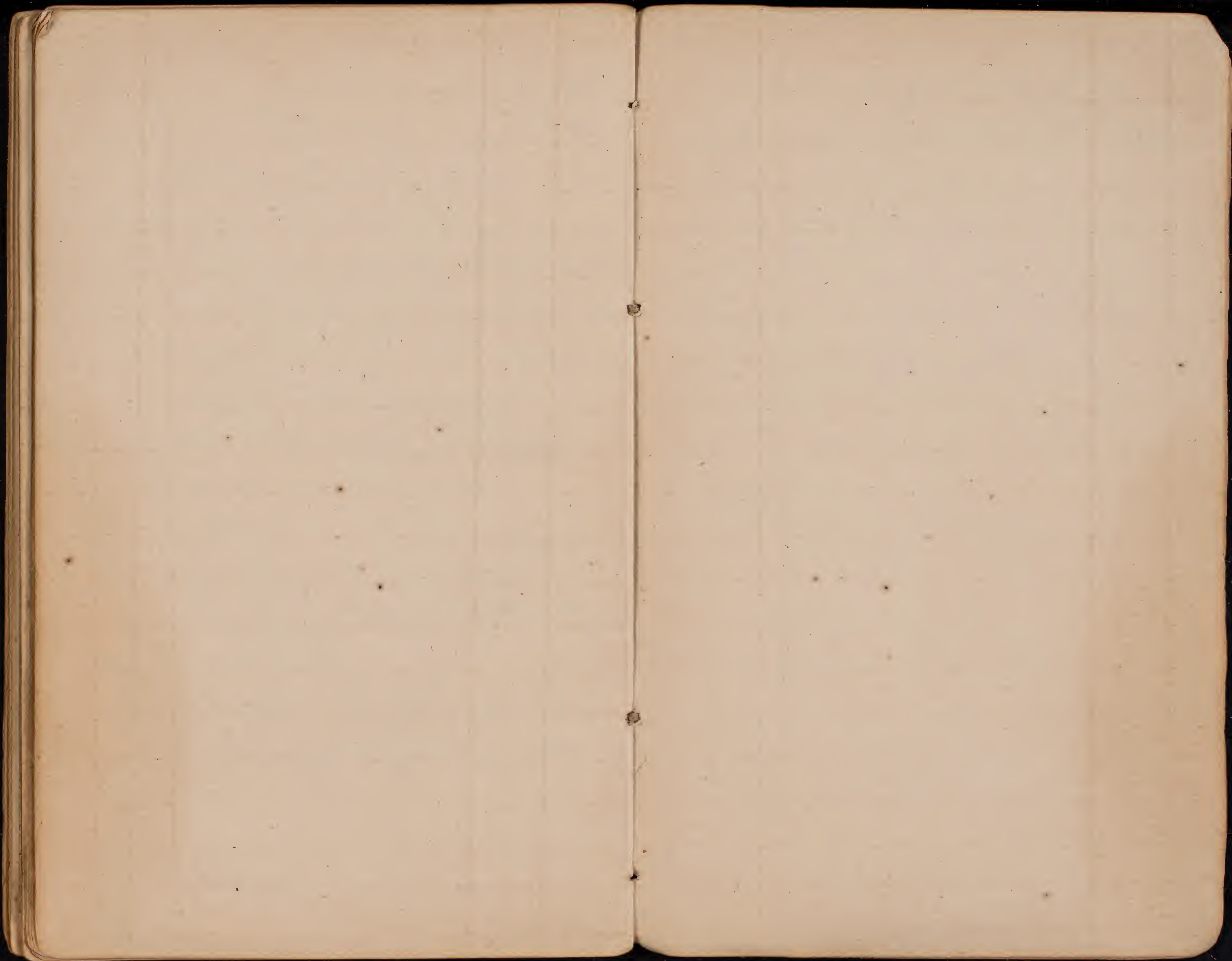
Dr. Elbridge of Agricult Library
borrowed 1st vol. Iowa Report
and 1st vol. Arkansas Report

Gill took Hermannsen

Decr. 27th 1869

Mem. in regard to plates drawn
by me and left at Springfield Ill.

- 1 Pl. with long Prob. Strotter
- 2 Coal m. Crinoids & Bryoz
- 3 Burlington Crinoids Scaph. & Zoa
- 4 Coal. Braach. Clinton, little part
- 5 Coal on Lowell. with a few
Braachip - Murella &c
- 6 Keokuck. Echinoids ^{sharpish} & Crinoids
Platyceras on Crinoids^{ix}
- 7 Burlington Crinoids showing int.
Characters - 1 Echinoid
- 8 Burlington Stool. Vault Jarns
Pentamerus &c
- 9 Burlington Amphoraer.
with arms. Megaloc. &c



Washington July 12, 1868

Little things due me for
expenses on foot survey, Nebraska 21.45

Washing the Aug 8th 1837 -

sent out 7 shirts

3. Under shirts

1. for drawers

4 for socks

2 Handkerfs all 17/10

Aug 15th - Returned from New Haven to Wash^g

Books returned to
Smithsonian Inst
Apr. 11th 1868

1st Down Acad (Scorpions)
Palaeontographica 3-1853
and vol. 1. same

Monatsbericht. der
K. P. Akad. Zu Berlin
1861-1-

May 28 - 1868 Returned to
Smithsonian Inst. Sent some Geol. Soc
vol XV and vol. XIX.

The Geologist vol. IV

Rosinck & Schan's Monogr. Crinoidia
Perron's Index palaeontologiques
1 vol. the one showing the geol. range
of fossil sp.

Mem. May 19th 1870
The Printer Philad. Proceed. for 1869
sent bill against Meke & Wrothen for
Est. ~~12.30~~ = 6.60, and
12.90. = 31.80. I sent money
order today to Prof Seidy for my half.
to be paid to Printer, and sent the bill
to Wrothen for him to pay his half

May 19th 1870 - Also sent
money order to Prof Lovering for
3.36 cents to pay my dues to Am.
Ass. for Salem meeting, and postage
on this vol. Proceedings of Ass.

Account with Hayden

Washington Dec 1837

Dr To order - for Prof
 Turner's funeral \$300
 Exp on small package of
 shells sent to Leonard for
 comparison 50
 July 18 paid Mr Lyell
 for repapering boards
 for plates of fossils 75
 " 20 paid for brown paper
 for covers of plates
 and drawings 12
 Sep. 5 exp on fossils sent to Henry
 for comparison 75
 Sep. 16 Exp. fossils sent to Henry for
 comparison 25
 May 1st Paid on his land in
 Kansas 1.66
 May 3^d exps on paper con-
 -taining description fossils to
 Phila 250

June 11th Paid on exp on land in Kansas
Mr. P. out for exp. 12.75

To amt. Paid Mr. McClure on
land in Kansas \$20

2.40
 94
 36
 130
 from
 Mr.

1859 June 29 Paid boarding \$7.50

June 14 11.00 6.50

July 5 3.00

Took Rooms on F. St
and commenced boarding
at Mr. [unclear] Aug 7th

Commenced taking my
breakfast at my room on
Monday 14th Aug - 1859

Moved to Room on 13th St
Sept 13th

Returned again to 13th St
13th Street July 26 - 1860

paid for my meals at
[unclear] 1 - 13th March 1859

Steno No. 20

Andriana subglobosa H. B.
- ident with

Aetion concinna H. B.

Arical longiformis

March 28 - 1860 94

Settled room Rent 130

Board up to 26th Nov
May 1st to 20th Apr -

Wm Stimpson, to 10 drawings
of *Hopl. crustacea* at 150
May - 6th 1860

July 15 Bill 30th [unclear]

Arrived at Washington from
Springfield Dec. 29. 1869

Commenced boarding with Mr.
Bale Dec. 30.

