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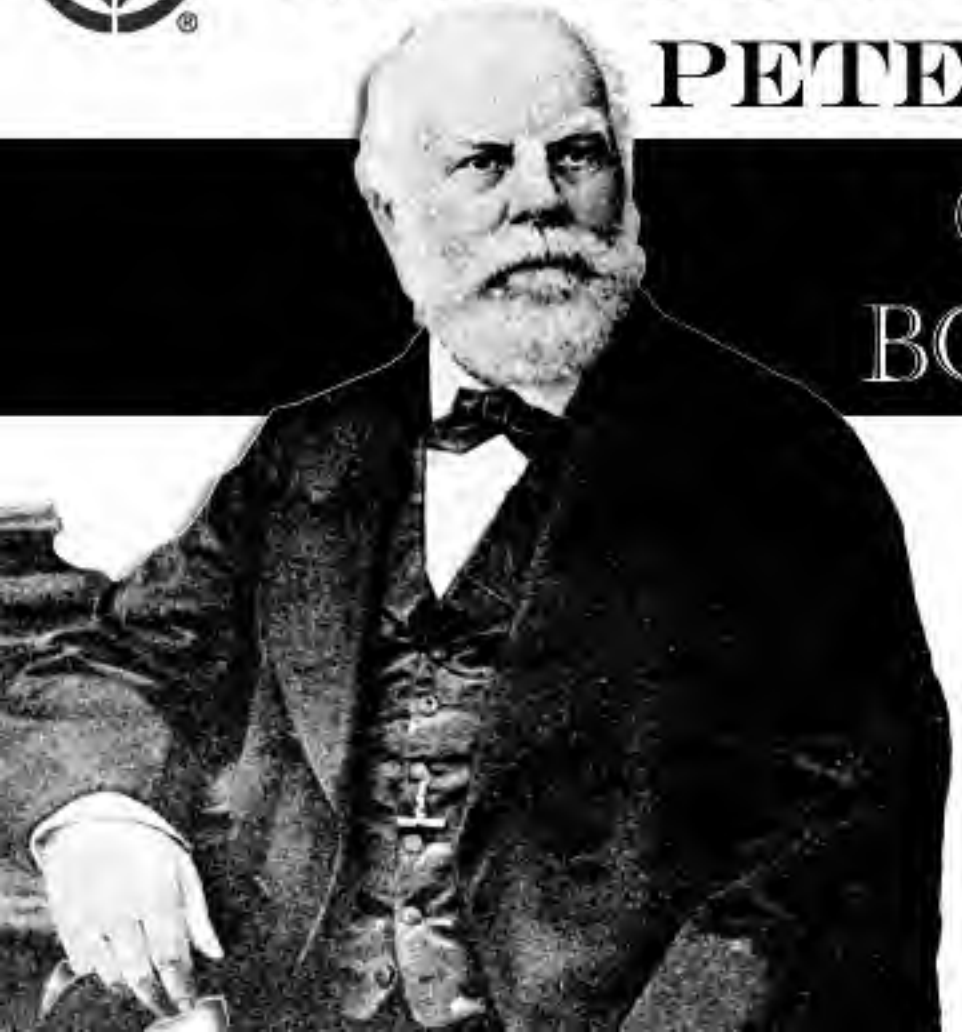
George Engelmann Botanical Notebooks



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the results obtained in 1869 throughout the United Kingdom. There is one-fourth increase in the number of head sold—1,477 against 1,853, over £2 increase in the average price per head, and nearly £18,000 increase in the total sum realized. Eighty-three animals were sold for 100 guineas and above, averaging about £180, against 30 animals in 1868, and 52 in 1869. The highest price, 800 guineas, was given for a heifer, but, as she has since failed to breed, a large portion of this sum has since been returned. The next highest sum paid was 500 guineas for a two-year-old heifer. Only 9 of the 83 were bulls, the highest bringing 240 guineas. Most of the trade for bulls, however, is transacted privately, when higher prices prevail.

The table to which reference has been made is merely a summary of public sales. Much business is done privately, at high prices. The sale of 14 animals from the Aylesby herd for 2,000 guineas is quoted; also the sale of Captain Gunter's 2 Duchess heifers for 2,500 guineas, and of 7 animals from the Warlaby herd for 5,000 guineas, for exportation to America, Australia, and Canada.

At the Irish draft sales, there has been a great increase in prices. Mr. Welsted's 14 averaged £34 1*s.* 10*d.*; Earl Fitzwilliams's 14 averaged £31 4*s.* 9*d.*, and Mr. Crosbie's 26 averaged £23 13*s.* 1*d.* In Scotland prices have been similar to those of last year; three lots averaging £32, £32 13*s.*, and £30 7*s.*, respectively.

An enormous foreign trade has been transacted; much of which was done privately, Mr. Cochrane, of Canada, alone spending nearly £15,000 in pure-bred animals.

AMERICAN SHORT-HORNS.

The editor gives a detailed account of a visit, during the past winter, to the United States and Canada, during which he saw several of the leading American herds. Some of these are very minutely and favorably described. Complimentary allusion is made to the fact that the re-importation of short-horns from America into England has been successfully inaugurated within the past few years. He says: "Short-horn breeders, ere this, have been able to form their own judgment upon the cattle that have, since 1861, been sent back into this country, and their offspring have, by their own merit, shown that the blood has suffered little if any degeneracy, even under a change of climate, and on different soil and food."

The following reference is made to the Bates stock of short-horns:

Few strains of blood have created of past years more attention than that of the Duchess tribe; the scarcity and demand for it in this country led to its re-importation from America, where, consequently, it has drawn forth as much, or even more, notice. Although Duchess 34th, generally admitted to be one of the finest of the tribe, was offered by Mr. Bates, in 1835, (whilst in calf, with Duke of Northumberland 1,940, by Belvedere,) to the Ohio Company for 150 guineas, she was not purchased; and the first exportation of Duchesses was made by Mr. Thorne from Earl Ducie's sale in 1853. A period of depression in America ensued afterward, and it is considered that Thorndale, Duchess County, New York, situated in a cold, hilly district, near the Hudson River, in its deficiency of limestone, was unfitted for the growth and development of short-horns. Mr. Thorne sold most of his herd to Mr. Sheldon, whose estate at White Springs Farms, Geneva, is in a good grass region, has a fine wheat soil, and is thoroughly adapted for cattle. Here the tribe increased, but domestic circumstances led to the sale of Mr. Sheldon's herd to Messrs. Walcott and Campbell, of New York Mills, Utica, where this branch of the tribe is at present located. Here are (December, 1870) ten cows and heifers, varying from two to ten years old; two heifer-calves; one three-year-old bull, and four bull-calves; but all these cows and heifers are not in a breeding state. There is at the present time great demand for the *pure* pedigree; the word pure is here used technically, and is intended to con-

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Short-horn sale of John Lynn, at Stroxton, near Grantham, October 7, 1870:

	£	s.	d.
32 cows and heifers, at an average of £46 8*s*	1,484	14	0
7 bulls and calves, at an average of £45 15*s*	320	5	0
39 averaged £46 5*s*. 7*d*. Total	1,804	19	0

Short-horn sale of the entire herd of Wm. Cox, esq., at Brailsford Hall, near Derby, November 9, 1870:

	£	s.	d.
26 cows and heifers, at an average of £29 6*s*. 4*d*	762	6.	0
14 bulls and calves, at an average of £20 4*s*. 3*d*	282	19	6
40 averaged £26 2*s*. 7*d*. Total	1,045	5	6

The large herd of short-horns belonging to the late Mr. W. Hewer, at Sevenhampton, was sold October 6, 86 head, 25 of which were calves, averaging only £22 5*s*. 9*d*. The cattle were not in good condition. Mr. Hewer's Berkshire pigs were celebrated, and brought high prices, the stock of 40 head averaging £11 10*s*., several being but a few weeks old.

The entire herd belonging to Mr. W. Caless was sold October 12, at Bodicote House, Banbury. The average of the entire herd of 49 head was £24 8*s*. 7*d*. The stock was only in fair store condition, and the day was unfavorable.

About 50 head from the herd of J. Fawcett, esq., of Scaleby Castle, Carlisle, were sold under unfavorable circumstances October 20, averaging £24 7*s*. 10*d*. Five young bulls, bred by the Right Hon. Lord Kenlis, were sold at an average of £37 7*s*. 7*d*.

The late Mr. W. A. Provis's herd was sold November 25, at the Grange, Ellesmere, Salop, but, being in low store order, averaged only £18 7*s*. 6*d*. for 30 head.

During the week of the Birmingham cattle show, Mr. B. Wainman, of Whitley Manor, Salop, sold 27 head of short-horns at an average of £23 14*s*. One four-year old Darlington cow was sold for 110 guineas.

During the week of the York fat cattle show, Mr. Dodds offered for sale at York, December 8, 23 bulls and 17 cows and heifers. Forty-six guineas was the highest price given for a prize yearling bull. Lady Fortunate, a six-year-old cow, and the winner of upward of twenty prizes, was sold for 71 guineas, and Industry, another prize cow, four years old, was sold for 62 guineas. Emily, a yearling heifer, brought 50 guineas.

SUMMARY OF SHORT-HORN AUCTION SALES IN 1870.

A table is given showing the number of lots of short-horn cattle sold in 1870, the highest, lowest, and average prices obtained for them, and the total sum realized from each sale. We glean from it the following particulars: Total number of sales, 42; number of cattle sold, 1,853; highest price obtained, 800 guineas; lowest price, 4 guineas; average of all the sales, £37 19*s*. 6*d*.; aggregate of all the sales, £70,363 13*s*. These figures do not include the Irish and Scotch draft sales, nor the Birmingham and York collective sales, nor a few drafted animals from different herds, most of which were young bulls, offered at stock sales and markets in England; yet they exhibit a most favorable contrast with

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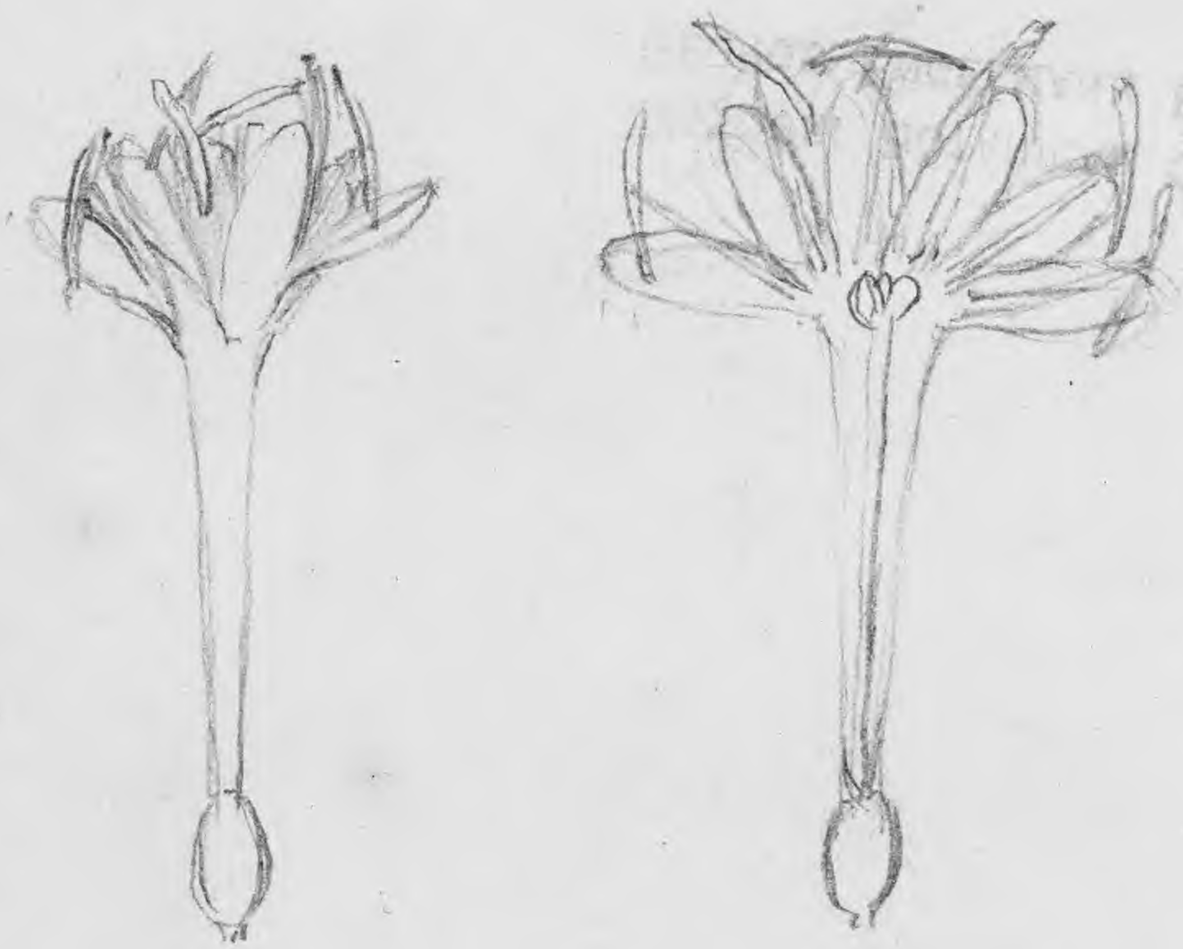
Agave maculata Day — maculosa Hook

Dec 23 1866

from cult. specimen, root sent by Dr Bigelow from Santa Rosa



ovary 7–8 mm

perig 40 mm

lobes 12–13 oblong

tube 28

stamens inserted in fauces not longer th limb

style ~~[illegible]~~ not reaching above base of lobes.

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ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

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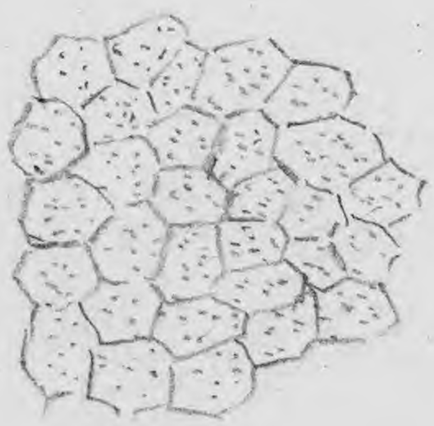
Agave mamilosa May 20 1872

cult from Bigelow's Rio Grande roots

x 150



cells of rugose shining seed

flat delicately punctured

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Leitch & Corlies

DRUGGISTS

Southwest Corner Fifth and Market Streets

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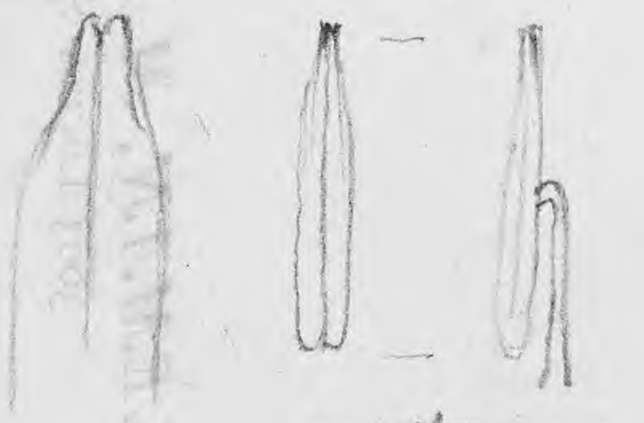
Agave mandlosa

Aug 31 1875

Dr Wislizenus Mier 1847.



stigma in bud ×10

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Agave
Wislizeni, Mier. No 373
May 31 1847

Sept 1 1875

Style never exceeds # feet
anthers 10-11
10 mm
25 mm
16 mm
×2
×4
seed ×4, thick.

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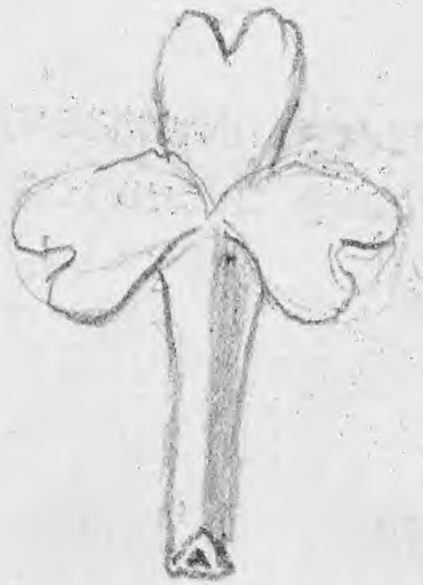
×2

Sept 1. 1875

Wright Mex Boundary. 1905

below El Paso

(5 × 17



slight ×4

fl. 41 mm long

anth 16-17 14

lobes longer than tube

10

stamens not quite reaching to tip of lobes

style at last reaching to the middle of lobes

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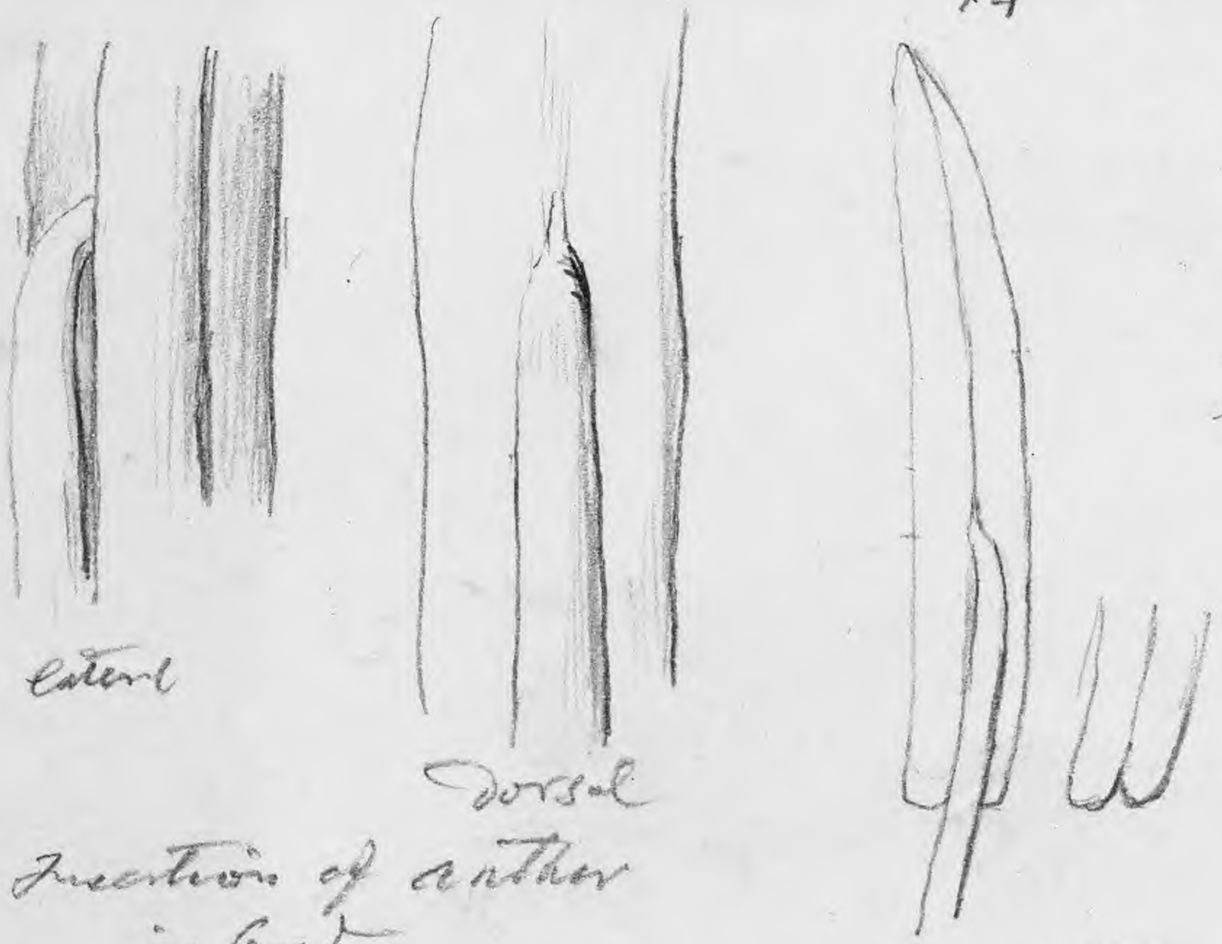
Agave marulosa July 20 1879

in flower in my garden

×10 ×10 ×4 fully open stigma × 10



filament somewhat bent, but not kneed

segments of perianth at last revolute on margins, not involute as in most sp.

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Henry T. Rohling,
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ST. LOUIS, MO.

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Oct 6 1882

Agave macrolosa
cult in my garden
maturing now.
capsule with a long beak fragile
which splits in 3 parts, with
the top of the capsule
capsule short stipitate.

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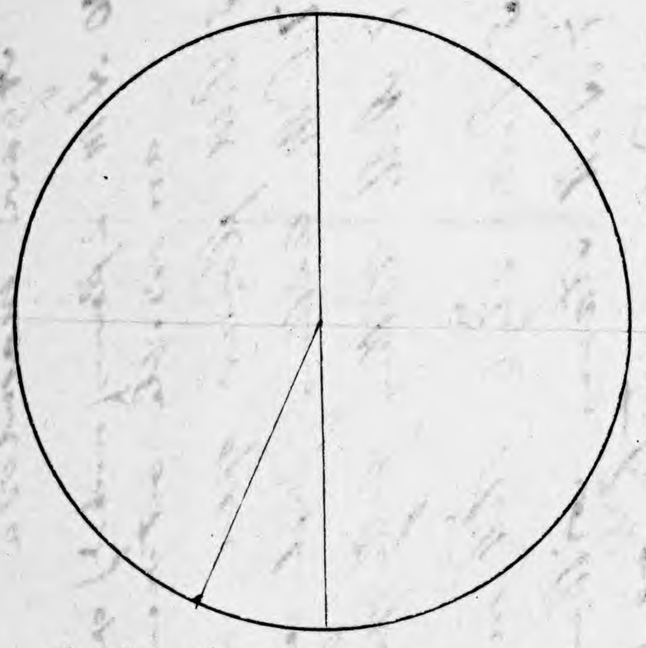
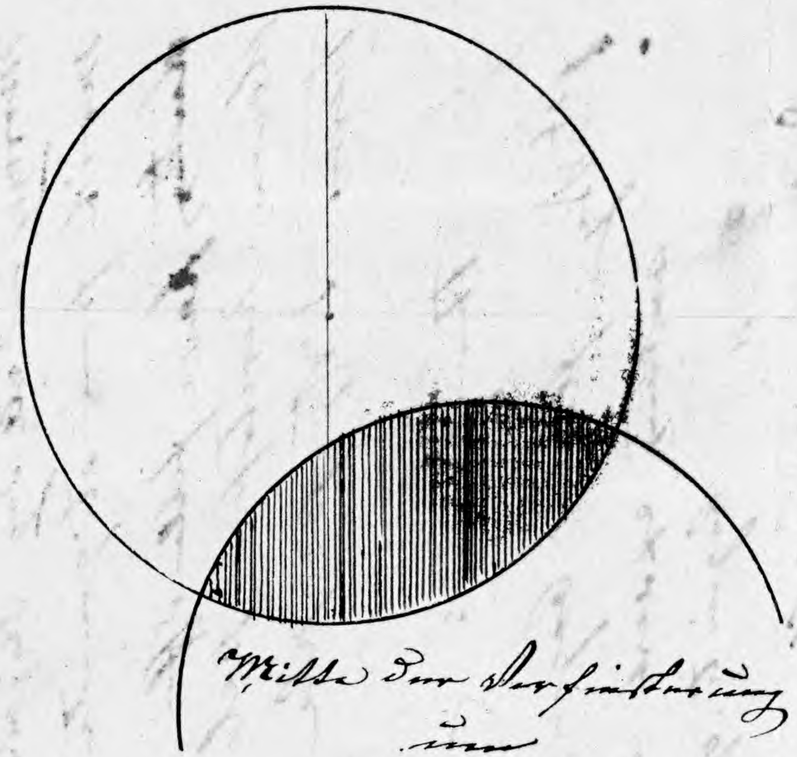
Oberer Sonnenrand.



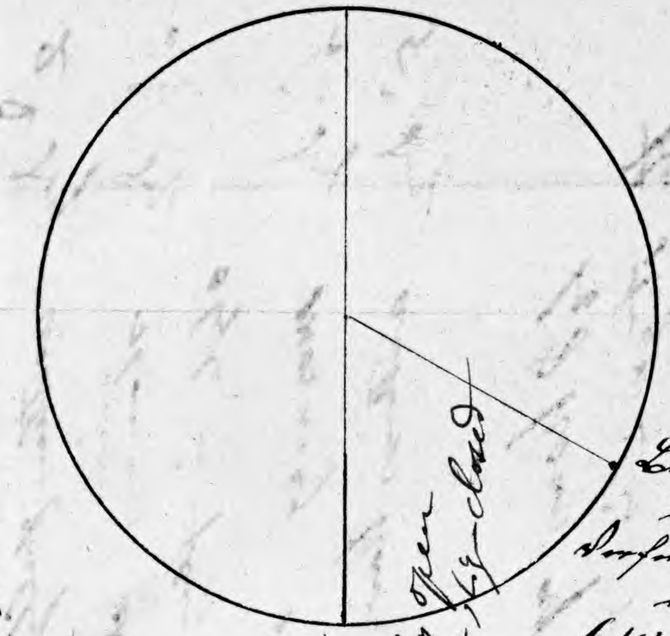
Ende der Verfinsterung um 8 Uhr 7 M.

Oberer Sonnenrand.



Mitte der Verfinsterung um 7 Uhr 22 M.

Oberer Sonnenrand.



Beginn der Verfinsterung um 6 Uhr 38 M.

Sonnenfinsterniß am 17. Mai 1882 Vormittags.

Für Creuznach berechnet.

4 50 M. morgens bis 5 Uhr 10 M. alles wolkenfrei
5 Uhr 10 M. alles wolkenfrei
5 Uhr 9 M. alles wolkenfrei
5 Uhr 9 M. alles wolkenfrei
5 Uhr 9

Agave maculosa July 4 1882

4th 10 A M 2 flowers (marked) open at top of bud a little, brown anthers are visible between perianal lobes

5 P.M flower open, anthers spreading, base of flower tube filled with brown liquor

7. P.M. anthers just begin to open, style very short

5th 7 A M. anthers fully open, covered with pollen.

5 P.M style still much shorter than filaments

6 7 A M stamens withered

5 P M style as long as anthers, stigma begin to open, cut dry

7 morning and all day stigma fully open and very moist from stigmatic liquor, anthers withering, flowers begin to turn

8 ~~anthers~~ have fallen off and stigma is getting dry flowers, heretofore pale greenish yellow turns dirty purple.

Therefore:

1st day flower begins to open in forenoon
anthers expect in afternoon
" begin to open in evening

2d day anthers fully open in morning

3d day stamens withered in morning
style in afternoon as long as stamens, stigma begin to open

4th day morning stigma fully open, very moist

5th day anthers have fallen, stigma getting dry

4 48 hours after the anthers shed their pollen the stigma is ready to receive pollen

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Agave marulosa angustifolia
filamentis longissimis
West Texas, Palmer —
cult. at Cambridge
Aug 17 1882

ovary 9–10 mm long
Tube 14 mm
lobes 12
stamens 10 mm longer than lobes
effete anthers 7 mm long, before opening 9–9½ mm
stamens inserted in the throat
flower greenish, fading
dull purple
leaves channeled, when spread out
not more than ½ inch wide

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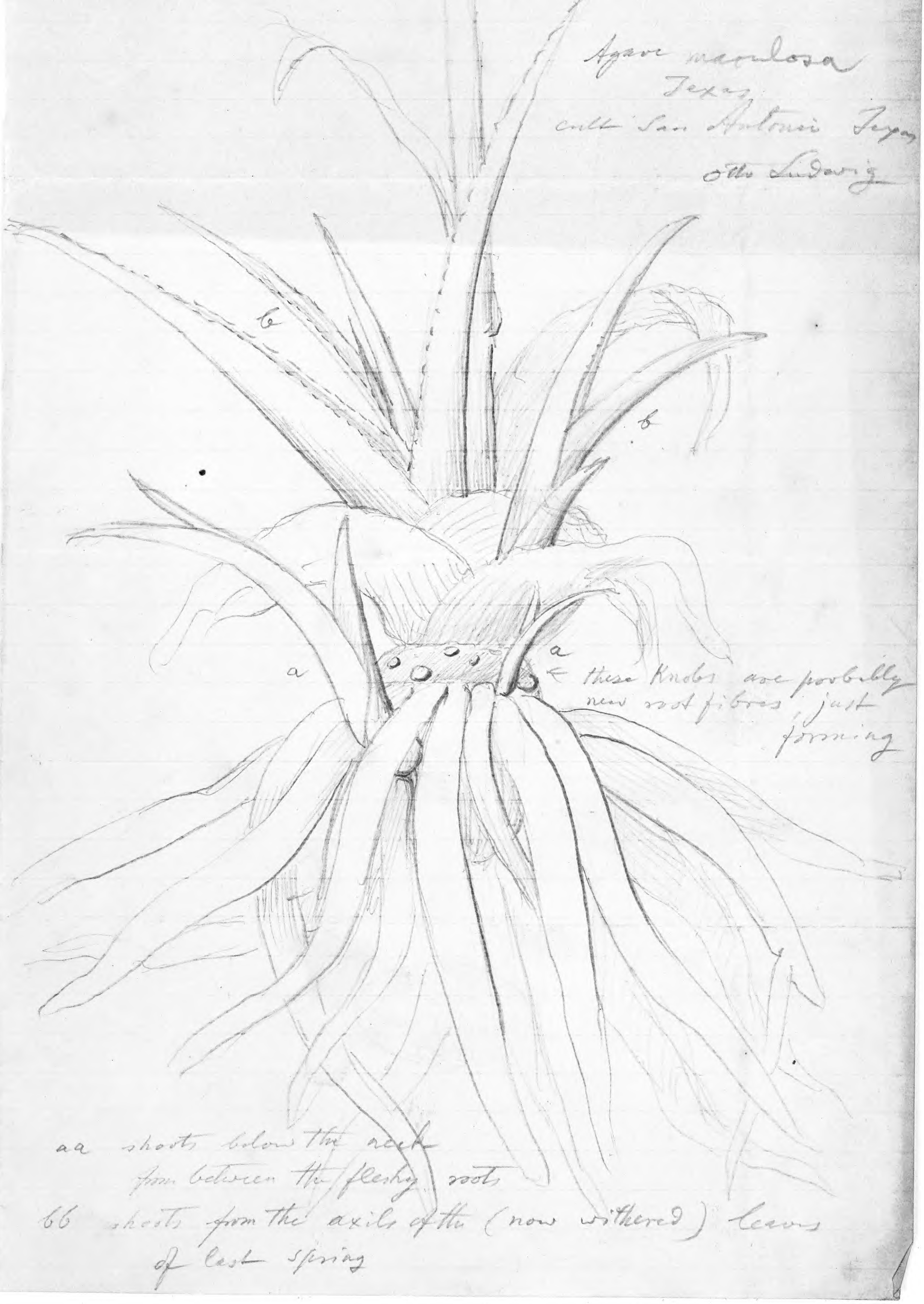
old scape

Aug 31 1877

Agave macrosa
Texas
cult San Antonio Texas
Otto Ludwig



aa shoots below the neck
from between the fleshy roots
bb shoots from the axils of the (now withered) leaves
of last spring

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[From Dr Engelmann] A. maculosa Hook Bot Mag 1859 t. 5122 | 1.185
A. maculata Lapl. Bot Mag Bound 1859 p. 3

Agave maculata (or aculeata) Engelm. V Radice crassa cylindrica nigra foliis radicalibus lanceolato-linearibus ~~canaliculatis~~ longe acuminatis subtus convexis supra profunde concavis V recurvatis glaucis ~~supra infra~~ ~~fusco~~ albido maculis atro viridibus notatis; margine cartilagineo dentatis V, apice aculeis nec spinescentibus 4-6 pollicaribus. Scapo sesquipedali basi foliis paucis instructo foliis superioribus bractiformibus integris; floribus ~~spicatis~~ in spicam simplicem dispositis basi bracteatis, brevissime pedicellatis; tubo corollae ~~ovario paucem~~ supernae vix ampliato, ovario laxiusque longiore; laciniis subaequalibus linari oblongis obtusis, dorso versus apicem ~~barbatum~~ albo-penicillatum callosoque farinatis; ~~filamentis~~ ovario vix longioribus, rotato patentibus, margine demum revolutis; filamentis usque ad faucem ~~cum corolla~~ tubo connatis, laciniis perigonii paulo brevioribus, antheris ~~sub~~ supra medium adnatis; stylo sub antheris filamentis brevior, stigmate obtuso subtrilobo; ~~post anthesin~~ demum filamentis aequante, stigmateque trilobo lobis emarginato-subbilobis.

Root 6-8 inches in diameter 4-6 inches long black with long thick white fibres. Leaves 4-6 inches long, ½ inch wide, deeply channeled but not carinate, very glaucous, dark greenish brown blotches more distinct on the upper than on the lower surface. — Scape 1½-2 feet high — Spike about 6 inches long, with 12 or 15 flowers; bract subulate acuminate, longer than the pedicel, which is about 1 l. long and is articulated in the middle ~~ovary~~ 6 whole flower 2 l. long ovary 6''' tube 9'', and limb again about 6''' long; laciniae at first green, afterwards with the plant on both sides dirty purplish, near 2''' wide; fruit pedicellate — flower has a musky, not disagreeable odor.

Closely near Agave revoluta Klotsch, but that

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x smooth margined leaves, limb = tube, stamens free in the tube, and longer than the limb. —

But still nearer related to our species is Polyanthes Mexicana Jacq. (Kunth V. p. 847), but that has foliis integerrimis (also "micropunctate"); flores geminis sessiles bractéolati; tubo floris 18 l. long (9 in our plant), fl. white; segments of limb only 2 or 4 lines long; it has also the Carmine apice callosae penicillatae. Kunth says of it: Est probabiliter Agaves species. — Nothing is said of the fragrance.

immature fruit

capsula (immatura) obvato-oblonga, obtuse triangulari, ~~apice~~ cuspidata persistente coronata, basi in petiolum sub medio articulatum angustata; seminibus compressis (in loculis singulis uniserialibus?)

Eagle pass on the Rio Grande

June 17. 1861 My old specimen in flower in the Bot. Mirror; Scape 4 feet high — spike 9 inches long; flowers 30 lines long. Ovary 8 lines, tube 12" lobes 8-9" long 2½-3 l. wide; " flowers dirty purplish

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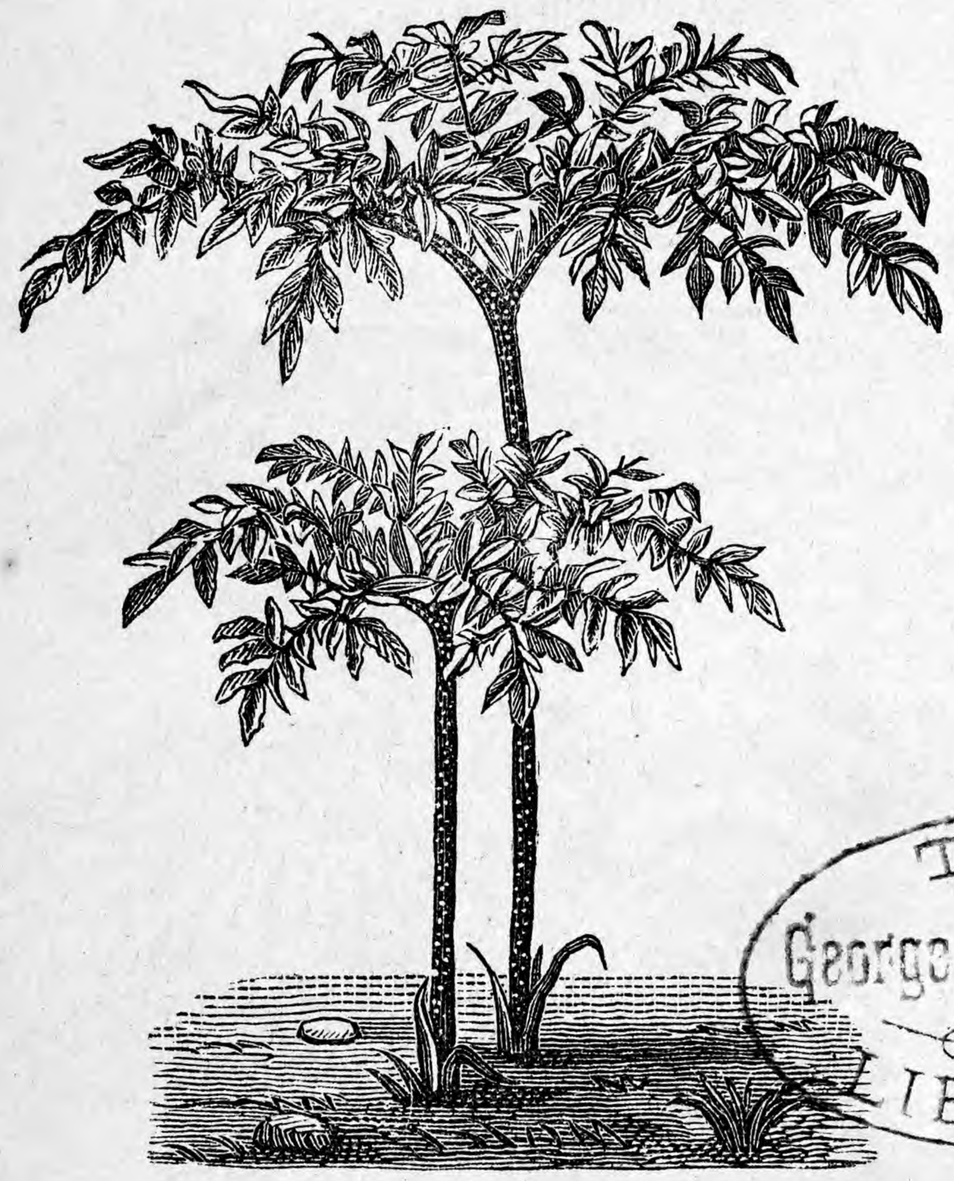
(A gregaii) = variegata Jardin [This folder includes sheets 17 & 18]

		s.	d.
191.	**Anthurium** Augustinianum Koch (*cordatum* Hort.)	4 to 8	„
192.	— bellum	8	„
193.	— calophyllum	2	6
194.	— consanguineum	8	„
298.	— crassipes	4 to 20	„



AMORPHOPHALLUS RIVIERI. — 10d to 12 s.

		s.	d.
383.	**Anthurium** crystallinum	12 to 40	„
195.	— cucullatum	4	„
197.	— fissum	8	„
409.	— floribundum	12	„
198.	— Galeottianum	4	„
322.	— glaucescens	8 to 20	„
199.	— Hügeli (*Hookeri*)	2	6
351.	— hybridum	12	„
299.	— imperiale	12	„
200.	— leuconeurum	3	3
201.	— Lindigi	8	„
385.	— macrophyllum	28	„
202.	— magnificum	4 to 160	„
323.	— Malyi	8	„
203.	— mauritianum	4	„
204.	— Maximilianum	8	„
205.	— Moritzianum	8	„
301.	— peltatum radiatum	20 to 40	„
210.	— radicans	4	„
211.	— regale	8 to 160	„
212.	— rubricaule	5	„
213.	— Scherzerianum (Flore, XVII, 139.)	4 to 160	„
75.	**Ariopsis** peltata	1	8
324.	**Arisæma** præcox	4	„
217.	**Arisæma** filiforme	2	6
76.	— ringens (Flore, XI, 167)	4	„
302.	**Asterostigma** zebrinum	2	6
	Caladium, see *Catal. of Gesneriaceous plants*, No 160-*GG*, page 87.		
57.	**Colocasia** cærulescens	2	6
14.	— esculenta	1	8
136.	— — batavensis	1	8
78.	**Conophallus** bulbifer (Flore)	1	8
387.	**Curmeria** picturata	8 to 20	„
355.	**Dieffenbachia** amazonica	4 to 12	„
280.	— Baraquiniana	1/8 to 80	„
292.	— Bausei	6/6 to 160	„
326.	— Bowmani	1/8 to 160	„
412.	— brasiliensis	60 to 160	„
290.	— eburnea	2/6 to 8	„
220.	— gigantea	3	3
221.	— grandis	3	3
407.	— imperialis, *very strong*	40 to 120	„
386.	— latimaculata	4 to 40	„
338.	— nebulosa	4 to 20	„
379.	— nobilis	8 to 40	„
223.	— Pearcei	2/6 to 20	„
225.	— Seguine picta	2/6 to 20	„
291.	— Wallisi	5	„
227.	— Weiri	2/6 to 20	„
79.	**Echidnium** Schomburgki (*surinamense*)	2	6
377.	**Godwinia** gigas	8	„
303.	**Gonatanthus** sarmentosus	1	8
232.	**Philodendron** bipinnatifidum	12	„
234.	— crassinervium	4	„
410.	— Daguense	8	„
235.	— giganteum	2/6 to 6	6
236.	— grandifolium	8	„
237.	— heliconiæfolium	1	8
238.	— Lindeni	4	„
239.	— longilaminatum	8	„
411.	— melanochrysum	8	„
241.	— panduræforme	4	„
243.	— sanguineum	4	„
245.	— sp. (*Philippines*)	4	„
305.	— *spinosum*	4	„
246.	— squamiferum (*crinipes*)	4	„
247.	— surinamense	8	„

Aroïds of picturesque and ornamental foliage. The plants of this genus are very suitable for covering walls; their singular verdure and curious flowers produce always a pleasing effect.

389.	**Phyllotænium** Lindeni	8 to 20	„
388.	**Pistia** Stratiotes	1	8
248.	**Pothos** argyræa	1	8
249.	— — major	1	8
390.	— filifolia	16	„
250.	— lucida	2	6
251.	— pentaphylla	4 to 20	„
1900.	**Richardia** africana (*Calla*)	„	5
1901.	— albo-maculata („)	1	8
	per dozen	14	6

To be planted in groups, in open air and full sun, water

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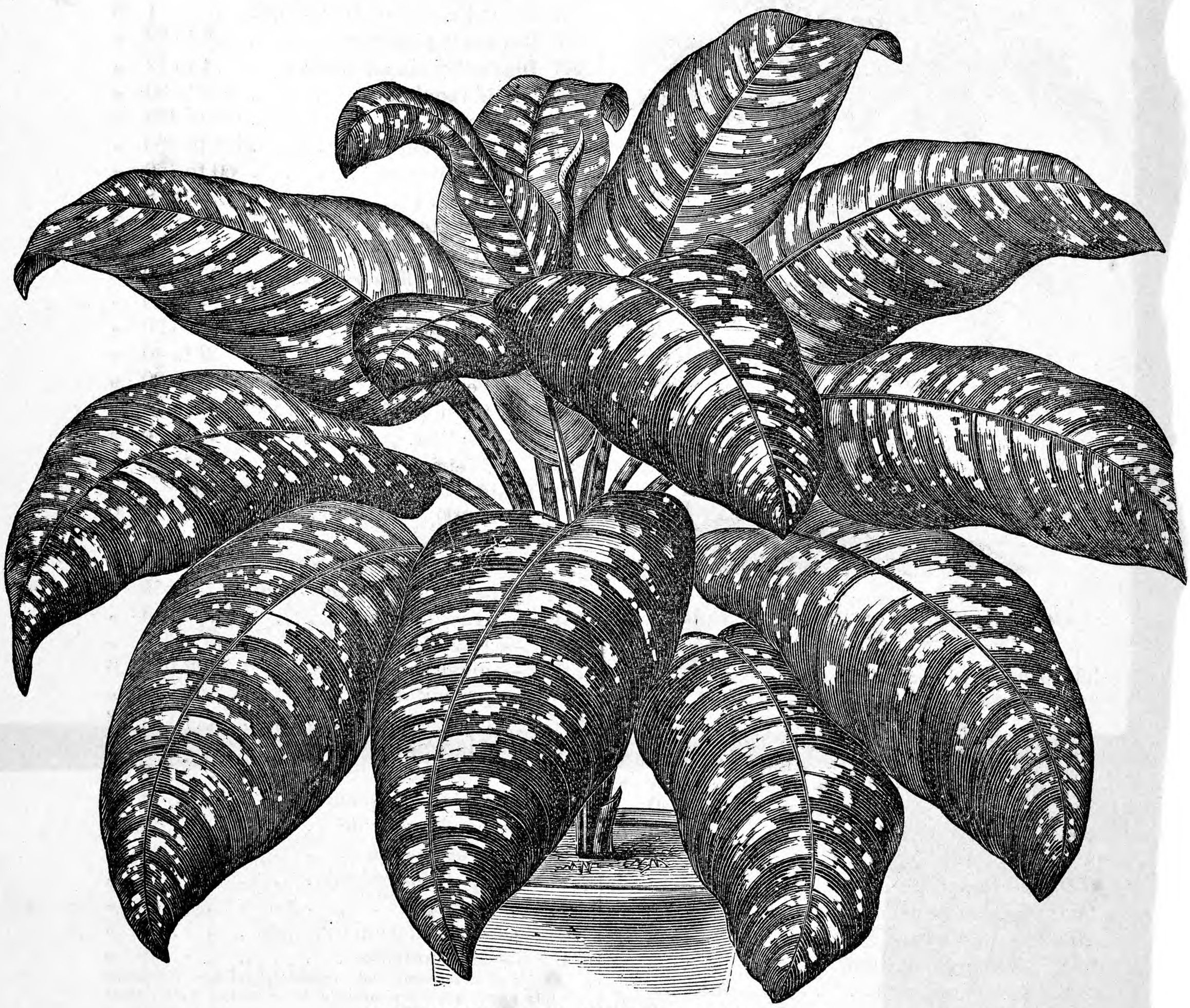
them abundantly during hot weather; — This new CALLA with foliage of dark varnished green, covered with blotches of snow-white, and each plant surmounted with its pure white cornet, gives a wonderful effect during the greater part of the season.

	s.	d.
253. **Schismatoglottis** picta	2	6
255. **Schizocasia** Portei	3	3
257. **Spathiphyllum** cannæfolium	24	„
258. **Spathiphyllum** heliconiæfolium	20	„
262. **Syngonium** albo-lineatum	2	6
261. — Schottianum	1	8
263. **Tornelia** fragrans (*Monstera deliciosa*)	4 to 16	„
274. **Typhonium** divaricatum	2/6 to 6	6
271. **Xanthosoma** appendiculatum	1	8
88. — atrovirens	1	8
90. — helleborifolium	1	8
68. — Mafaffa	1	8
85. — — variegatum	1	8
89. — sagittifolium	1	8
273. **Xanthosoma** utile	1	8
71. — versicolor (FLORE)	2	6
70. — violaceum	1	8
397. **Zamioculcas** Loddigesi	12	„



DIEFFENBACHIA NOBILIS. — 8 to 40 s.

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Agave Greggii n. sp.

caulis * tubo fere toto adnati

foliis mollibus margine crebrissime

aculeolatis, ovato-lanceolatis,

racemo densiflorio, bractiis e basi

ovata acuminatis, ovariis sessili-

bus triangularibus

ovario oblongo lineari, tubo ampliato et

lobis fere aequilongis

stamina * stylo longissime exsertis

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M. KOVÁCS,

APOTHECARY

Franklin Avenue, bet. 18th & 19th Streets,

ST. LOUIS, MO.

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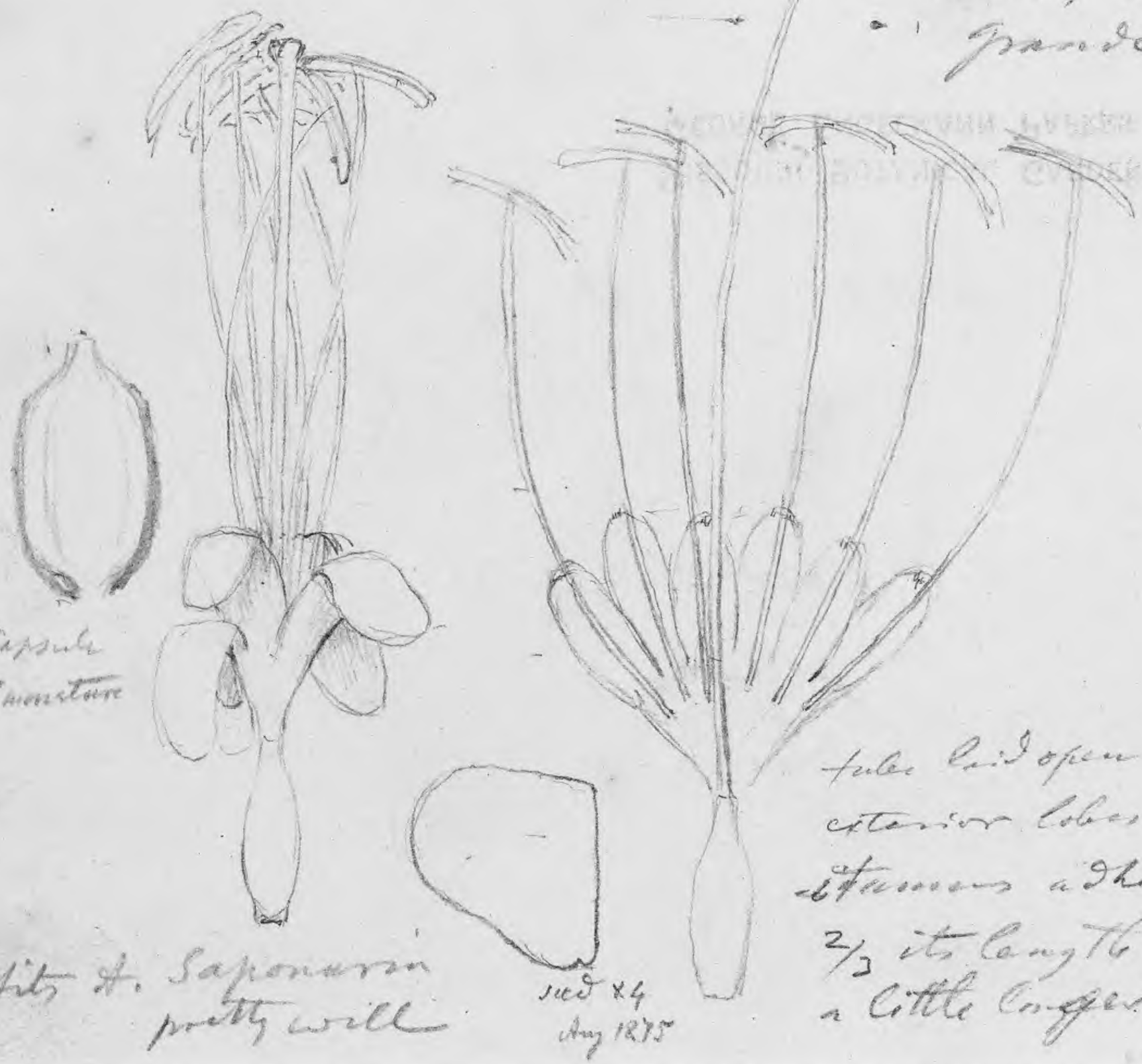
Agave Greggii Dec 22 66

Mier, on the Goon Rio Grande Dr J. Gregg



ovary 8-9 lines
perigon 12 lines
divided to middle
lobes and reversed
filaments 1 line L'd
about 2/3 of tube
exserted beyond
longer than perigon

tube laid open
exterior lobes a little longer
stamens adhering to tube
2/3 its length, exterior ones
a little longer than interior
ones

filts of S. Saponaria
pretty well

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ALEX. LEITCH,

APOTHECARY & PHARMACEUTIST,

Marble Building Cor. Fourth & Olive Sts. St. Louis, Mo.

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Agave Greggii = A Sisoyana ?

Ovary oblong ~~little~~ shorter than perig. (3/4 its length, much more than half as long)

tube wide funnelshaped, rarely ~~half~~ as long as oblong spreading or recurved lobes

filaments inserted ~~in base of tube~~ above the middle of (~~oblong~~ 2/3 up) the tube.

Long exserted, (much longer than perigon

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St. Louis, February 10th, 1875.

Sir:

We beg leave to again call your attention to assessment on you in July last for defraying expenses of surveys, drawings and Engineers in procuring the sinking of the railroad tracks leading West from Seventh Street.

The plan known as the "Peoples" has been substantially adopted by the City Council and the Pacific Railroad Company.

The Committee are now in great need of funds to pay [illegible] substantially re-imburse a member for funds advanced

Agave

Saunders, Ref. Bot see below

Agave variegata, Jacobi Ag. p. 180 Hand. Gartenz. XXI. 459

folia ~~mollia~~, molliter acuminata, vix cartilaginea semiteretia
canaliculata, undulata, maculata. [= virginica].

6-7 poll longa 3/4 poll lata reflexa

scapus simplex, 3 ped. altus, spica 6 poll longa

flores singuli distiti (1/2 poll distantes) 1 1/2 poll longi (sine gemitis)

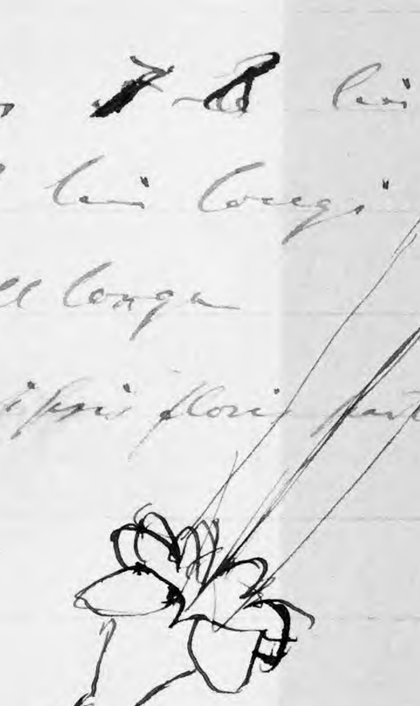
ovarium ovatum 5 lin longum

perigonii tubus infundibuliformis 7-8 lin longus

lobi patuli demum reflexi 8 lin longi 15-16 lin

filamenta faucei inserta 2 3/4 poll longa

planta tota plus minus supra punctata, spici floris partis



Saunders Refug Bot V. t. 326 July 1872

flores singulis

ovarium tubus infundibuliformis & lobi patuli aequilongi

Mexico?

flowers 15 lines ~~3/8 inch fide Saunders~~ = (ovary 5, tube 5 - lobes 5) filaments 18-24 lines exsert

anthers 6-7 lines long; Saunders says 3/8 inch = 4 1/2 lin but figure shows about 4-5/8
in Saunders figure

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$\frac{1}{8} = \frac{3}{24} = \frac{1\frac{1}{2}\text{ dr.}}{3}$ $\frac{15}{45}$

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