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tions can thus be obtained by each State desiring the specimens for agricultural

colleges or State cabinets.

In the collection of native birds the specimens are labeled to show at a glance which are the friends of the farmer by destroying injurious insects, or which are the enemies that prey upon his crops. The plates of insects are especially designed to show such insects as are destructive to vegetation, so that the farmer or fruit grower may recognize them at a glance. Then, by referring to a manuscript work by Professor Glover, the entomologist of the Department, he can immediately learn all that is known of their habits, and the best means to exterminate them. All inquiries relative to noxious insects of the farm made by agriculturists or others desiring such information can be readily answered and the best known remedies recommended.

In the cases devoted to the animal and vegetable fibers they are shown in all their stages, from the seed to the manufactured articles, or from the raw material, as in the

case of wool, to the various fabrics made from it.

The collection of domestic poultry shows type specimens of such as are recommended as best for market, laying eggs, or for any particular purpose. The design of the economic collection of flours manufactured from cereals, dye-stuffs, gums, oils, &c., is to show what can be made from various native materials, or to suggest the various products imported from abroad that should be grown in this country.

5. DIVISION OF HORTICULTURE.

This consists of an experimental garden with the arboretum, and is devoted to the introduction of new and valuable and promising plants, shrubs, and trees, native and foreign, suitable to the various sections of the Union. What is known as the Botanical Garden has no connection with this division or the Department.

WHAT IT HAS ACCOMPLISHED.

Now, Mr. Speaker, what has the Department accomplished? Since the claims of agriculture have been recognized and fostered by Government, the excellence and variety of its machinery and implements have surpassed those of all other nations.

In 1847 the number of agricultural patents granted was but 47; in 1863 it had increased to 390; in 1865 to 642; in 1866 to 1,778; and for each of the last two years it has reached nearly 2,000. These improvements are rapidly revolutionizing the agriculture of the West, and reducing to the lowest point ever attained the proportion of manual labor employed in the operations of farming, saving at least fifty per cent. of

the manual labor required in agricultural pursuits.

Under its present able head the Department has distributed the last year nearly six hundred thousand packages of seed, including upward of thirty thousand sacks of winter wheat imported by the Commissioner, besides new varieties of oats and other cereals, which have been sent into every congressional district in the Union; thus affording at once a more general diffusion of new and valuable kinds of grain than would or could be done by private enterprise in many years. As the result of this distribution of seed by the Department from year to year, there are now raised hundreds of thousands of bushels of oats, incomparably superior to the old varieties, and in many instances nearly doubling the crop. And so of the increased quantity and superior quality of the wheat in many of the States. The same might be said of several of our other products. This increase has contributed millions to the wealth of the country, and alone establishes the utility and great benefits resulting from this Department.

It is said that he who makes two blades of grass grow where one did before is a public benefactor. This Department has done this, and more, in many varieties of agricultural products. It has established relations with organized associations for agricultural improvements, whether governmental or otherwise, making exchanges of seeds, plants, and publications. Through an extended correspondence with foreign societies and our consuls abroad it is searching the world for new and valuable plants to acclimatize, new varieties of cereals to test, and, when found valuable, to distribute, thus finding and introducing into our agriculture the valuable products of all countries

suitable and profitable for our cultivation.

Agriculture is the great civilizer of the world. Its improvements and advancements mark national as well as individual progress. Whatever will add to its success, furnish it with valuable inventions and discoveries, are so many steps toward accomplishing the highest forms of civilization and human happiness. In this country, with its broad and fertile acres, the cultivator of the soil is generally its owner. So large a proportion of our population being engaged in this pursuit it must ever be a leading accupation. The great extent of our country and its capabilities make it necessary that there shall always be a great diversity of agricultural labor. To give direction to this diversified agriculture is one great purpose of the Department, and it will be able to lead the way in processes of culture, as well as selection of products and their varieties, in the different localities, and thus enabling farmers to give attention to that culture which promises and secures the best results and rewards.

Another thing: Agricultural colleges, under the liberal land grants of Congress, are being established in different States, under State control. This Department, as a common head, can and will furnish great assistance in the farm education proposed in these colleges.

Like the Bureau of Education, but recently established to concentrate statistics and lead and give information and direction to educational interests in the States, this Department will be able to give the same, and perhaps much greater, facilities in the

direction of agricultural education among the people.

PUBLIC LANDS.

Intimately connected with this subject is the land policy of the Government, about which I desire to make a few additional remarks. In the early days of the Republic our public lands were regarded as a source of revenue. It was expected from their sale to pay a large proportion of the expenses of the Government; but in later days it was found that, with expense of survey and sale, these expectations were not realized, and a new policy was adopted, and large quantities of the public domain have been used in constructing railroads, endowing colleges, rewarding military services, and stimulating immigration by giving homesteads to all persons who will live on and improve them.

In this way this heritage of the people has largely contributed to the material development of our country. These grants have not always been wisely made, and in many respects have no doubt been great outrages upon the rights of the people. The future policy of the Government should be to so provide by legislation that our public lands should be preserved for actual settlers, and thereby furnish free homes to the landless. Concentration of large quantities in the hands of monopolists and speculators is the great curse of most of the Western States, and has and does impede agricultural im-

provement and development.

Of our public lands about seventy-eight million acres have been granted for schools and colleges, over ten millions of which have been given to agricultural colleges. Two hundred million acres have been appropriated and given to build railroads and other improvements. About seventy-three million acres have been given to our soldiers, their widows and children. The Government still owns about a thousand million acres. This vast domain as fast as it is surveyed is open to settlement under our homestead laws, which give every man or unmarried woman one hundred and sixty acres for the cost of survey and entry, upon living upon and improving the same for the time limited, which is five years, except a soldier, who, under the bill passed by the House, is allowed to count three years of his term of service in the Army, or whatever term under that period he has served, as part of the five years' residence.

In the year 1869, about two and a half million acres were given to homestead and preëmption settlers. In the same year about eight million acres were converted from wild lands into farms, making some sixty thousand farms. We now have over six million real-estate owners, being one in about every six of our population, and nearly

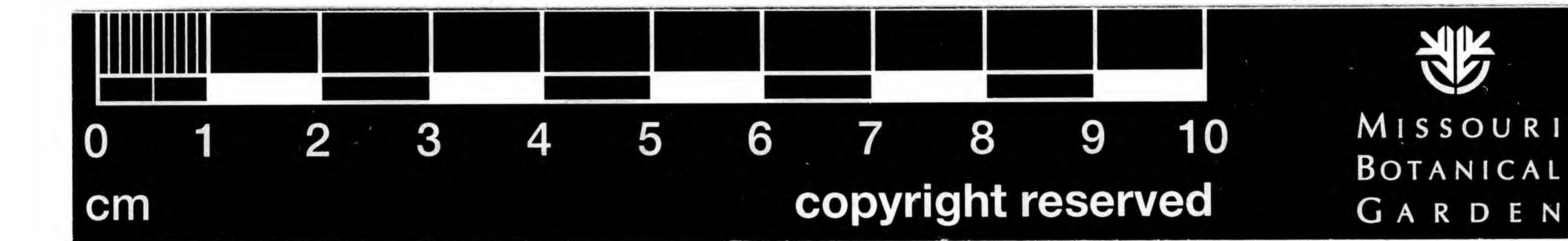
one-half of our whole population are engaged in the pursuit of agriculture.

The whole landed property of England is now owned by thirty thousand persons, making one in every six hundred and fifty of its population. One-half of its soil is now owned by about one hundred and fifty persons. Nineteen and a half million acres in Scotland are owned by twelve proprietors. In this country this extensive ownership of the soil, the sense of proprietorship resulting therefrom, encouraging independence of action and thought, constitute the corner-stone of our Republic. The multiplication of these free homes for the people, instilling into their minds the spirit of agriculture and mechanical progress, and education, and moral development, and improvement, will secure freedom, equality, and prosperity among our people, and perpetuity to our Government.

In this grand work, with such support as should be and no doubt will be given to it, the Agricultural Department, in the future as in the past, will be an efficient and important aid to the other branches of the Government. The memorial to which I have alluded alleges that over three million dollars have already been expended upon the Department without any corresponding benefits. Having stated its great benefits in the past, and what it is expected to accomplish in the future, I append to these remarks a statement showing the several appropriations for each year from 1839, the first one

made, to and including 1870:

1839, (first appropriation for the promotion of agriculture, from Patent Office	
fund)	\$1,000
1842, (from Patent Office fund)	1,000
1843. (from Patent Office fund)	2,000
1844, (from Patent Office fund)	2,000
1845, (from Patent Office fund)	3,000
1846, (from Patent Office fund)	
1847, (from Patent Office fund)	3,000

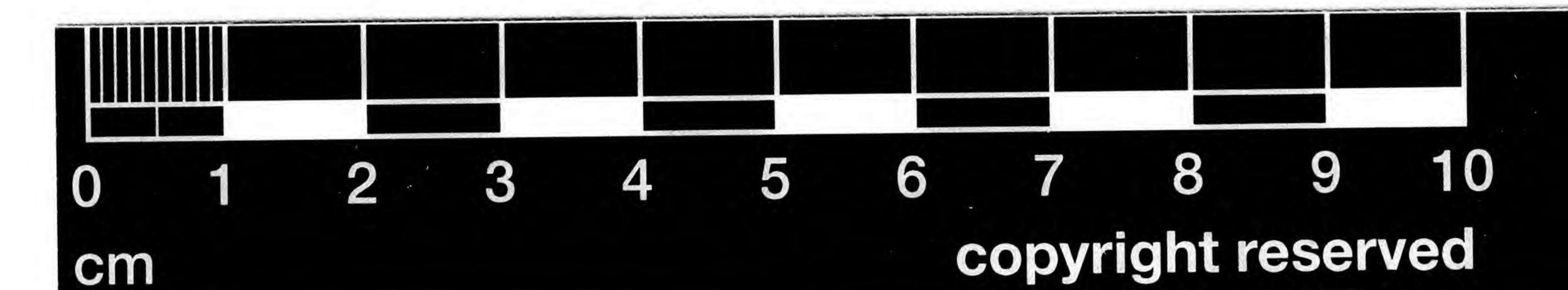


Articles.	M	April.							
SAN FRANCISCO.									
Flour, superfineper barrel extrasdodo	\$5 50	to	\$5	75	\$5	75	to	\$7	25
extrasdodo	6.00	to	7	00					
Wheat, Stateper cental	2 35	to	2	40		45			
Oregon	I was a second	to	2	40	2	45	to	2	5.0
Corn, whitedodo			1	50	1	65	to	1	70
yellowdodo	The second secon		1	50	1	65	to	1	70
Barley					1	35	to	1	60
Oats do do	4				1	60	to	1	75.
Hay, Stateper ton	13 00	to	15	50	12	00	to	14	50
Pork, messper barrel.								26	00.
prime do do					21	00	to	22	00
Beef, messdododo					14	00	to	18	00
Lard, in barrelsper pound	13	to		15		$14\frac{1}{2}$	to		$15\frac{1}{2}$
domesticdodo	14	to		141		14	to		$14\frac{1}{2}$
Butter, Statedododo	$27\frac{1}{2}$	to		35		25	to		30.
Oregon do do									
overlanddodo									
Cheesedodo	10	to	4	14		10	to		14
Wool, nativedododo		to		23		18	to		271
Californiadodo		to		23		18	. to		271
Oregondodo									

PRICES OF MIDDLING COTTON.

The following statement of the prices of middling cotton, at the first of each month of the past twenty years, prepared by the editor of the New York Shipping and Commercial List, will be found useful for reference:

		QUOTATIONS											ear.
YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average of y
1871 1870 1869 1868 1867 1866 1865 1864 1863 1862 1861 1860 1859 1858 1857 1856 1855 1854 1853 1852 1851	11½ 1238 128 13¼ 13¼ 9½	Cts. 58 12 14 12 12 14 1	$Cts{15\frac{1}{4}\frac{1}{4}\frac{1}{4}}$ $29\frac{1}{4}$	$Cts. \frac{1}{1537834} \frac{2}{28} \frac{1}{2}$ $28\frac{1}{2}$ $28\frac{1}$ $28\frac{1}{2}$ $28\frac{1}{2}$ $28\frac{1}{2}$ $28\frac{1}{2}$ 281	$Cts.$ $23\frac{1}{2}\frac{1}{2}\frac{1}{2}$ $23\frac{1}{2}\frac{1}{2}$ $23\frac{1}{2}\frac{1}{2}$ $23\frac{1}{2}\frac{1}{2}$ $24\frac{1}{2}\frac{1}{2}$ $24\frac{1}\frac{1}{2}\frac{1}{2}$ $24\frac{1}\frac{1}{2}\frac{1}{2}$ $24\frac{1}\frac{1}{2}\frac{1}{2}$ $24\frac{1}\frac{1}{2}\frac{1}{2}$	$Cts.$ $\begin{array}{c} 225834 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 294 \\ 31 \\ 31 \\ 294 \\ 31 \\ 31 \\ 31 \\ 31 \\ 31 \\ 31 \\ 31 \\ 3$	$Cts.$ $\begin{array}{c} 20\frac{1}{4} \\ 32\frac{1}{2} \\ 32$	$Cts.$ $\begin{array}{c} 20 \\ 34\frac{1}{2} \\ 30\frac{1}{2} \\ 36 \\ 48 \\ 163\frac{1}{2} \\ 47 \\ 16\frac{1}{2} \\ 13\frac{1}{2} \\ 13\frac{1}{$	$Cts.$ $\begin{array}{c} 19\frac{3}{4} \\ 30\frac{1}{2} \\ 30$	$Cts.$ $163\frac{1}{2}$ $26\frac{1}{2}$ $26\frac{1}{2$	$Cts.$ $\begin{array}{c} 17\\26\frac{1}{4}\\25\frac{1}{4}\\19\\36\\128\frac{1}{2}\\12\frac{1}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\12\frac{1}{2}\\121$	Cts. 168 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Cts. 21. 02 29. 60 26. 79 26. 84 39. 66 58. 96 115. 71 74. 26 41. 13 17. 06 11. 98 12. 48 14. 09 11. 29 10. 14 9. 87 10. 60 9. 98



ENGLISH SHORT-HORN CATTLE SALES.

Thornton's Circular for January, 1871, contains a record of sales of short-horns for the preceding quarter, and much other information of interest to American stockbreeders. From its pages we compile the following:

Short-horn sale	of Messrs.	Garne &	Son,	and	Mr.	George	Garne,	at
Churchill Heath,								

54 cows and heifers, at an average of £36 2s. 11d. 3 bulls, at an average of £37 9s		s. a. 190 270
57 averaged £36 4s. 3d. Total	2,064	60

Three cows brought respectively 77, 75, and 85 guineas; the best bull, 50 guineas. The lowest sale was that of a two-year old heifer, at 19 guineas.

Short-horn sale of the entire herd of William Butler, at Badminton, October 5, 1870:

62 cows and heifers, at an average of £39 9s. 2d.	2,446 10 0	
12 bulls and calves, at an average of £32 2s. 3d. 74 averaged £38 5s. 4d. Total		

The tribe of Darlingtons, comprising 11 animals, averaged £85 3s., the highest, a two-year old heifer, bringing 155 guineas.

Short-horn sale of selected stock from the herd of Lady Pigot, at Branche's Park, Newmarket, October 7, 1870:

21 cows and heifers, at an average of £46 12s	978		0
30 averaged £39 2s. 7d. Total	1,173	18	0

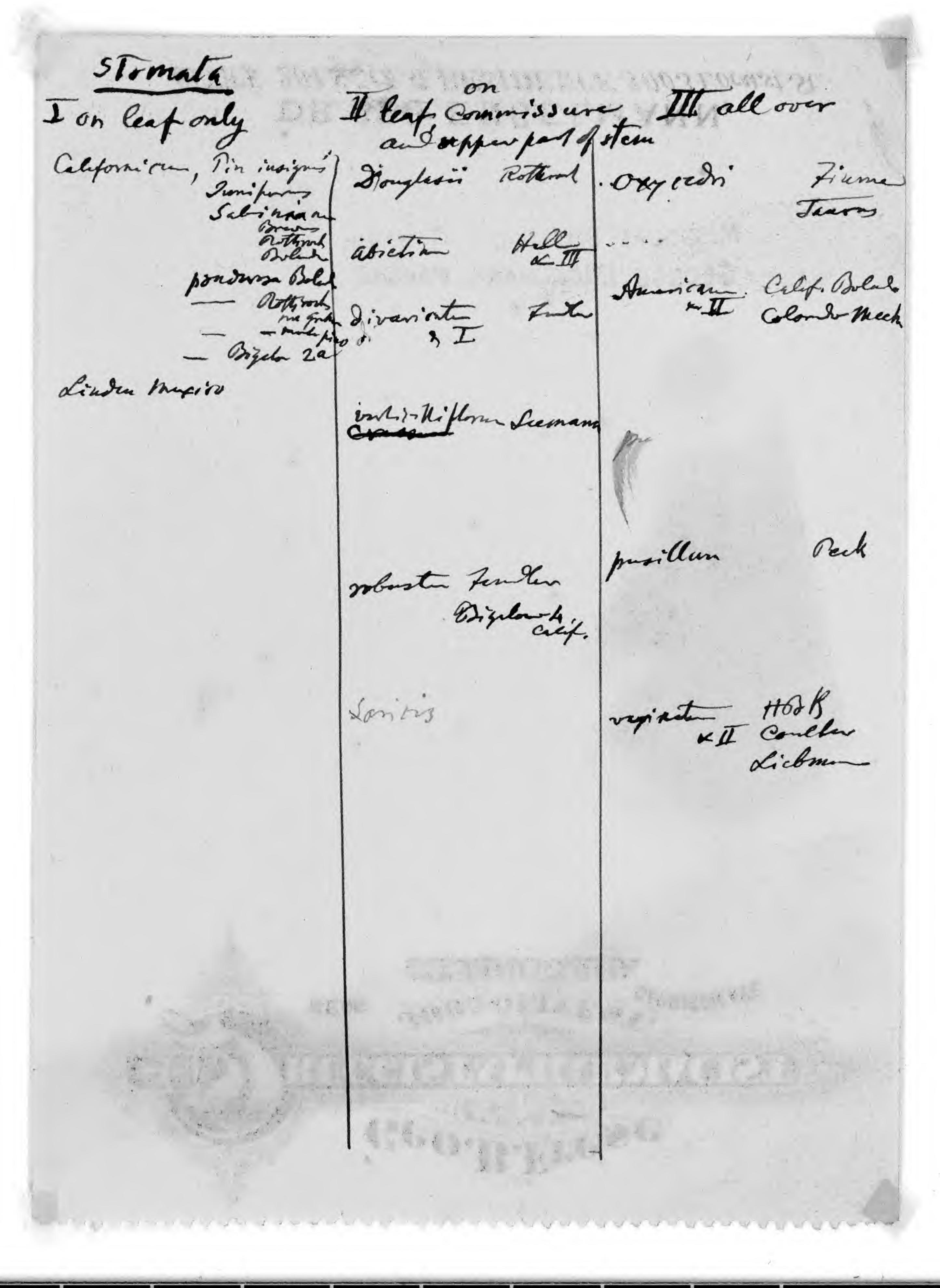
Short-horn sale of Sir George R. Philips, at Weston Park farm, Warwickshire, October 18, 1870, comprising several entire tribes:

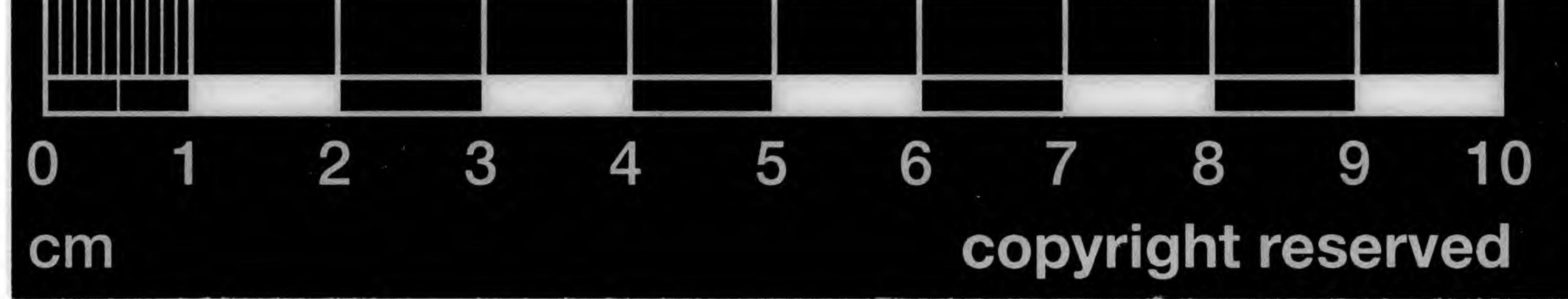
	£	8.	d.
38 cows and heifers, at an average of £48	1,824	7	6
9 bulls, at an average of £28	252	0	0
47 averaged £44 3s. 7d. Total	2,076	7	6

Thirteen Sylphs and Knightleys averaged £83 16s. 9d.; 11 Welcomes averaged £33 4s. 4d.; 7 Gwyneths averaged £26 2s. The highest in the whole lot, a two-year old heifer, brought 205 guineas.

Six short-horn bulls from the Brailes herd, the property of H. J. Sheldon, esq., sold at the Weston Park farm sale for £264 12s., averaging

£44 2s.





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DR. GEO. ENGELMENN,

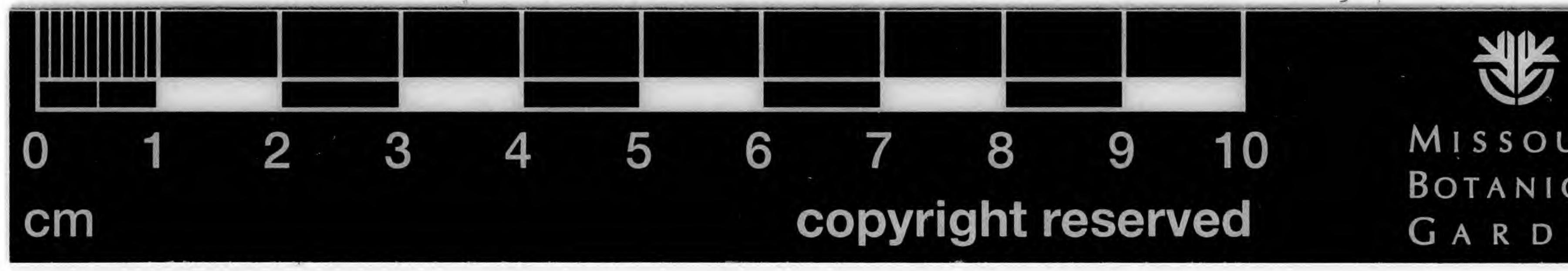
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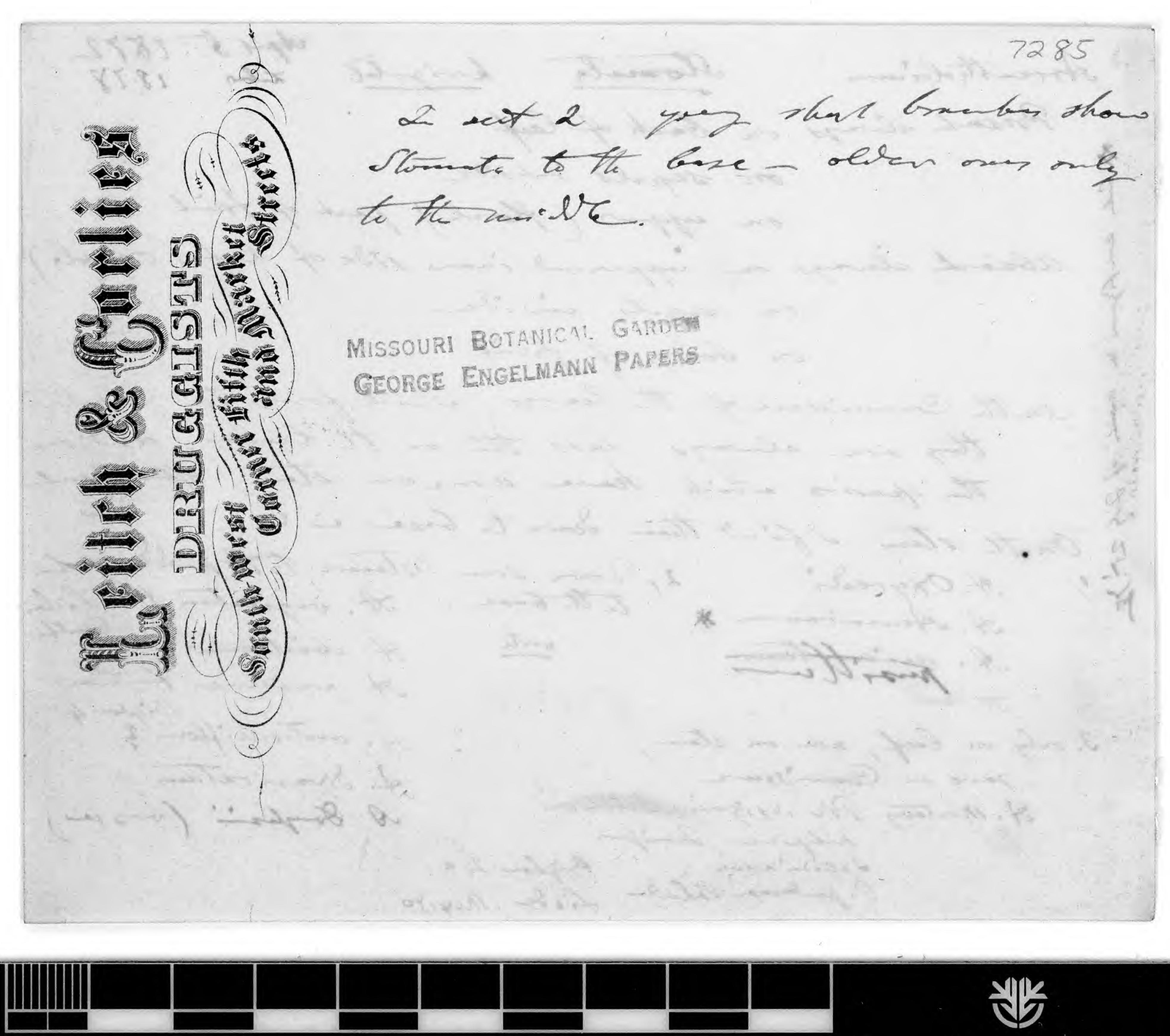


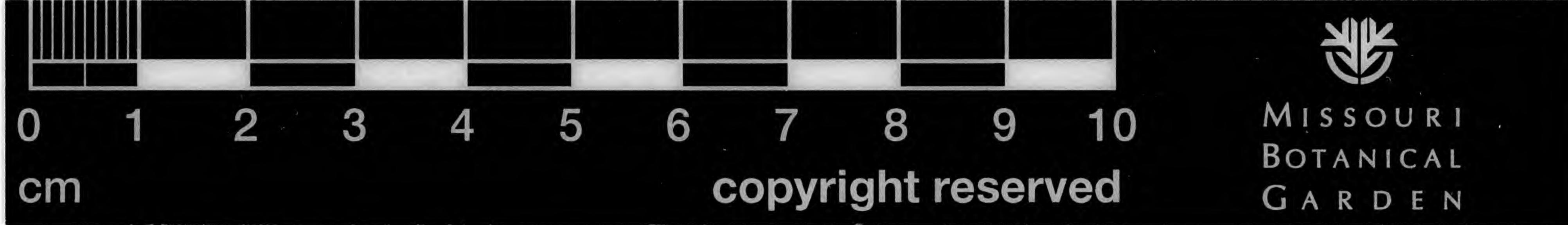
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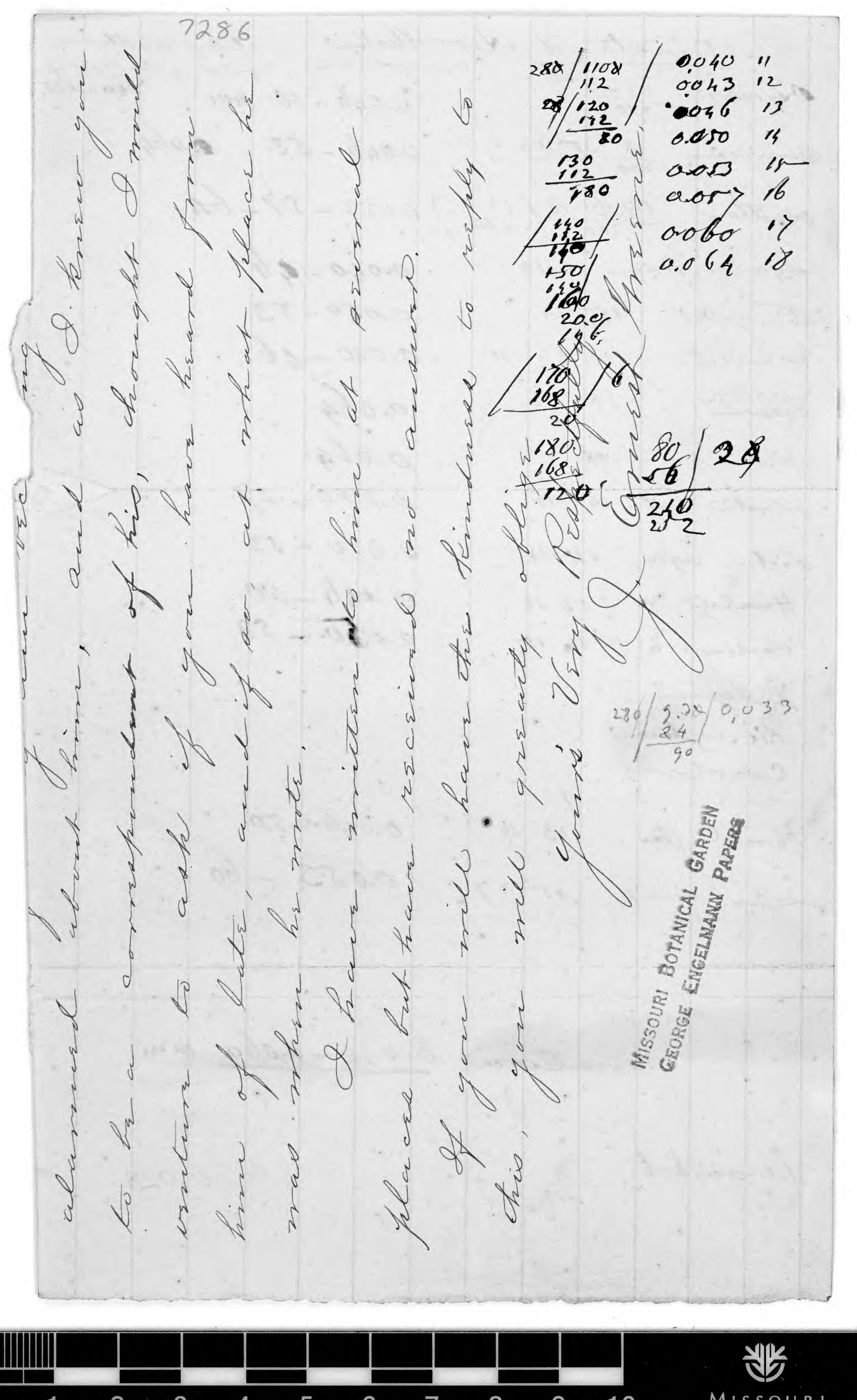
BOTANICAL GARDEN



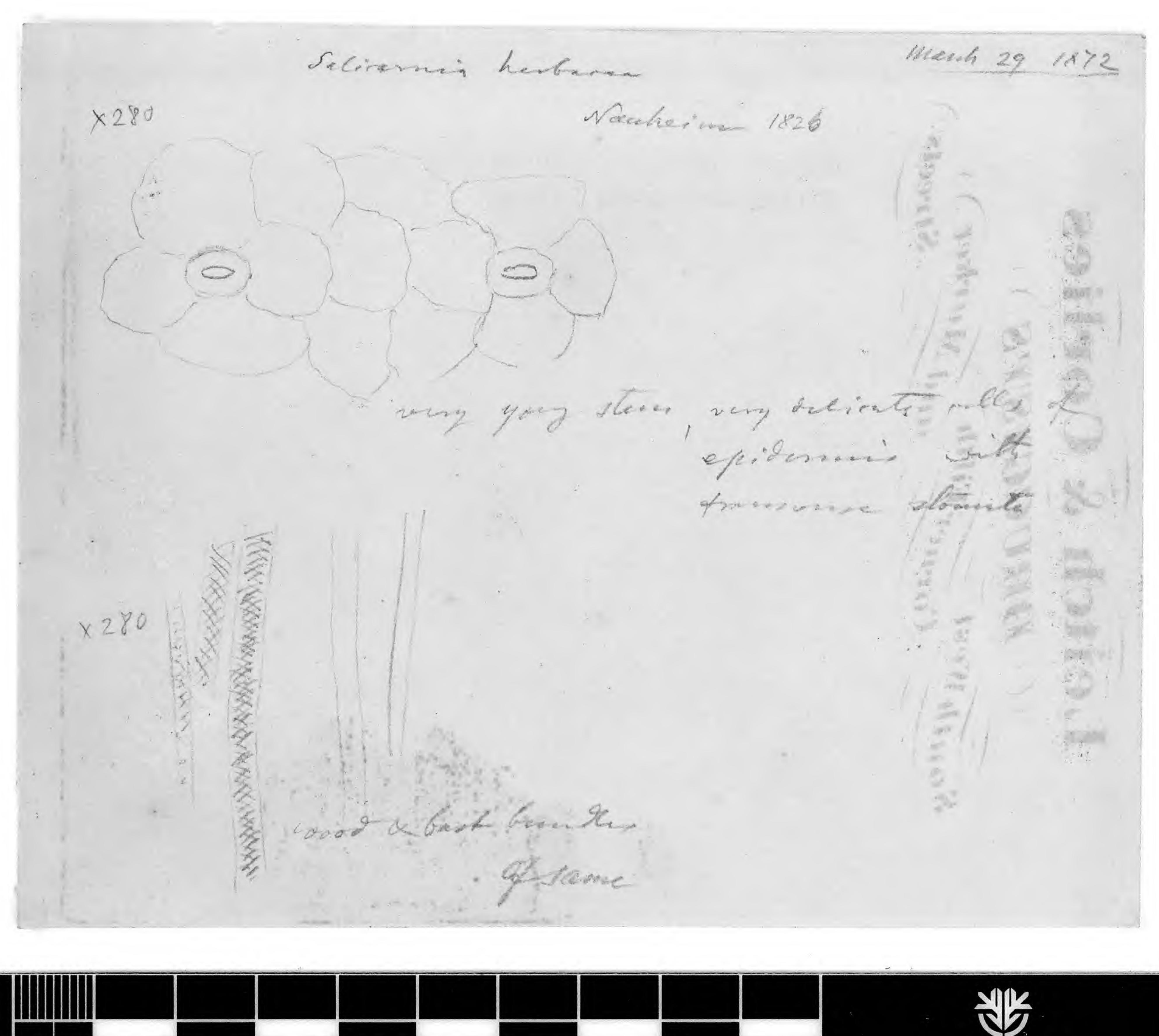


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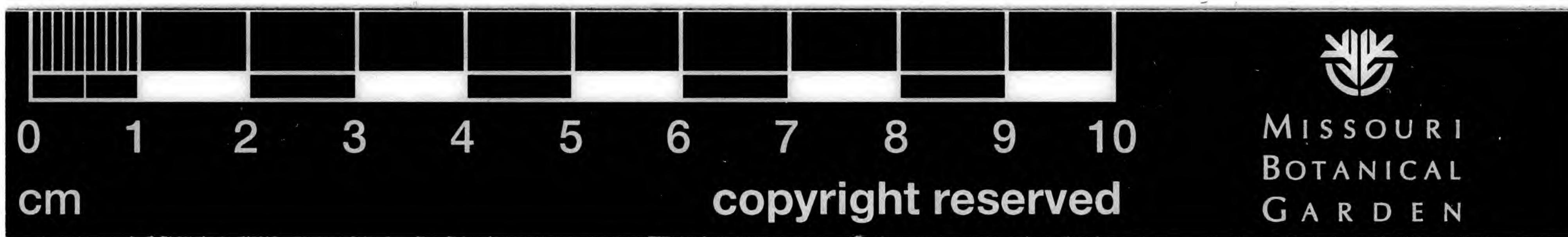
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The regular meetings of the Academy

Of Science, take place every first and third Monday of each month.

Your punctual attendance is requested at the such meetings, and especially at the next one, which will be held next Monday, at 8 P. M., at the Polytechnic Hall.

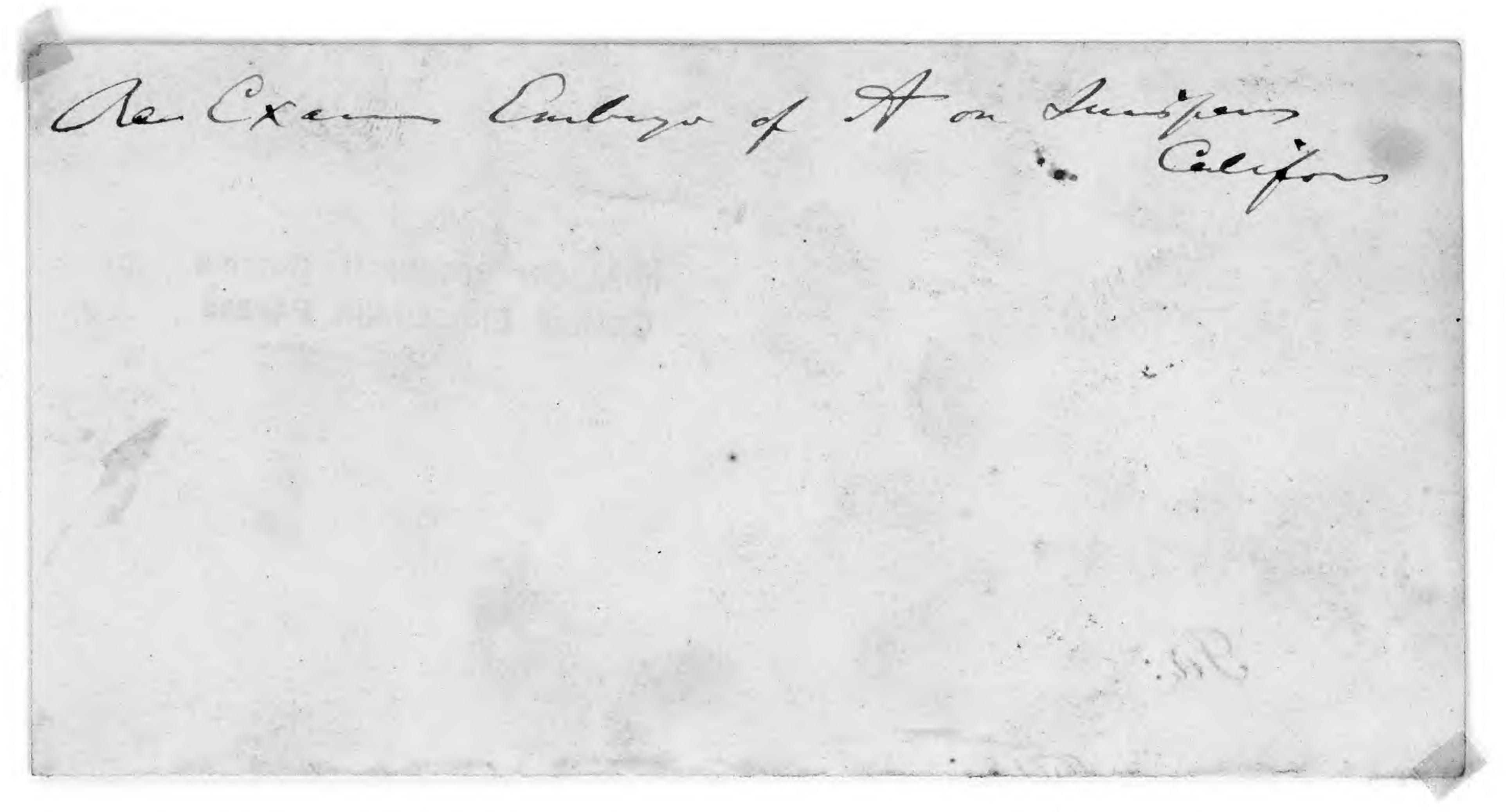
C. V. RILEY,

Recording Secretary.

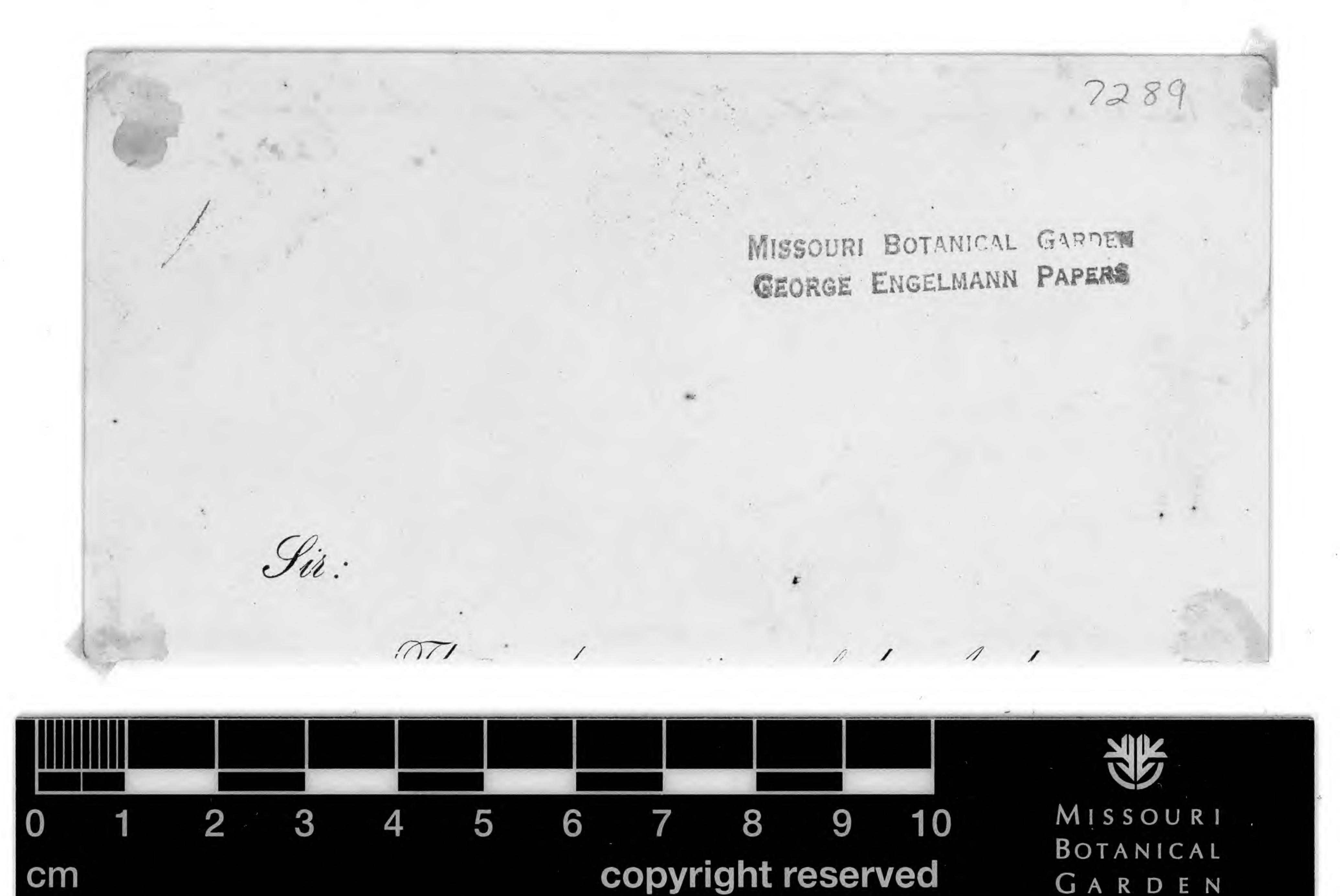
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GARDEN

1607 1969 1117 1774 1779 2206 2565 2326 2365 1492 1897 1512 1647 1635 A viginatum and ponderosae (Rock, M.) x diania Junelopes fl. Gues before water; akons The whit spis, while for the along willing I sellen milantly. A flower true this left only ispring. Hay are very small yet - May - (though in worm regions!) 7.8.9.10 fl. probly Against as obove A fun? Show and Swilly ! how In the plat look i contitue or oping? A. time Any Total. A un'ant develops bud - toptriper fig i Sopt & despo - in court flag felly developed - much aper ithing They if for it & minutaes 2 Fall flowing al fle das developed the fall similar 6/2 fl. LS dwologed - Spin meanly succession?) Abietica

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hriter a carly spining In a few the flowerbed one Iwelope, I visible but santy Toller already regularly Iwaloped (it is orgina) The your fail has already estart. This is 1.3.4. Hund olds Mexicon vaginature of futten & Bizilians plats on P. pondisosa. in about the Januallege in Detten are - flower very slightly lurly May of Jeens no Blen it - frit swellget (only -i) vill grown) 18.9.10 Californ for for Mortery at a P. porterosa & strongers. 13/august of many to open, but pril est gente mateire i 14, Americane. 6x12, Laips & popularose (med) have degety wife from lept a Octob. To flower prol(nanty) mateure 5. on ponderosa (Parry) ordetsian, on Aleria, Recienty of A. minutain. MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

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et dissonis Ang 26 1880 Arouthobium oridutele lugel on Pin ponderosa, dott Dregon Ang to from the gellow Any Aiver worth of Sison's Mile at femiles on same tree om sperimen shows both above to gether on Janu branchet. Meles wirtell die down after flowing, stem not puritting femiles maturing fruit show also flower township and their seem to perseit longer at least 3 or 4 geans seronding browns never from some agilies failing as between the when no fit was developed male spikes with 5-7 pair of flowers mostly 3 parts) sometimes 4 parts, The Home flow opening first at days 4 - freshed - but of the chamber of. The speries, convey on the shire pende opiky 4-5 pain of flowers also on Black States. Arcentholium Sirvic sture.

on Abies convolor, on Methasta ab 1 Tooo feet eleviti; sely Jemeler den, much more sleaden grungt approaching A. Answer Bacon ; frit much smalle femile spikes 4 - 6 rem 7 print flowing frit much smiller, . secondry flowering

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brancher on fritig sperieus, same as Cash, but of from the dam axils as the fruiting files, and lacking (or below) them, with is never the case with the list do it a. divani caterne ? Sombing i flowing secondary flowing brombelets Cabind the primary flowing one, which it have not seen is list no male sp ceen, probably because frast flower of withered acting Arrentholium on Tin Lambertione Aug 31" MISSOURI BOTANICAL GARNEN GEORGE ENGELMANN PAPERS

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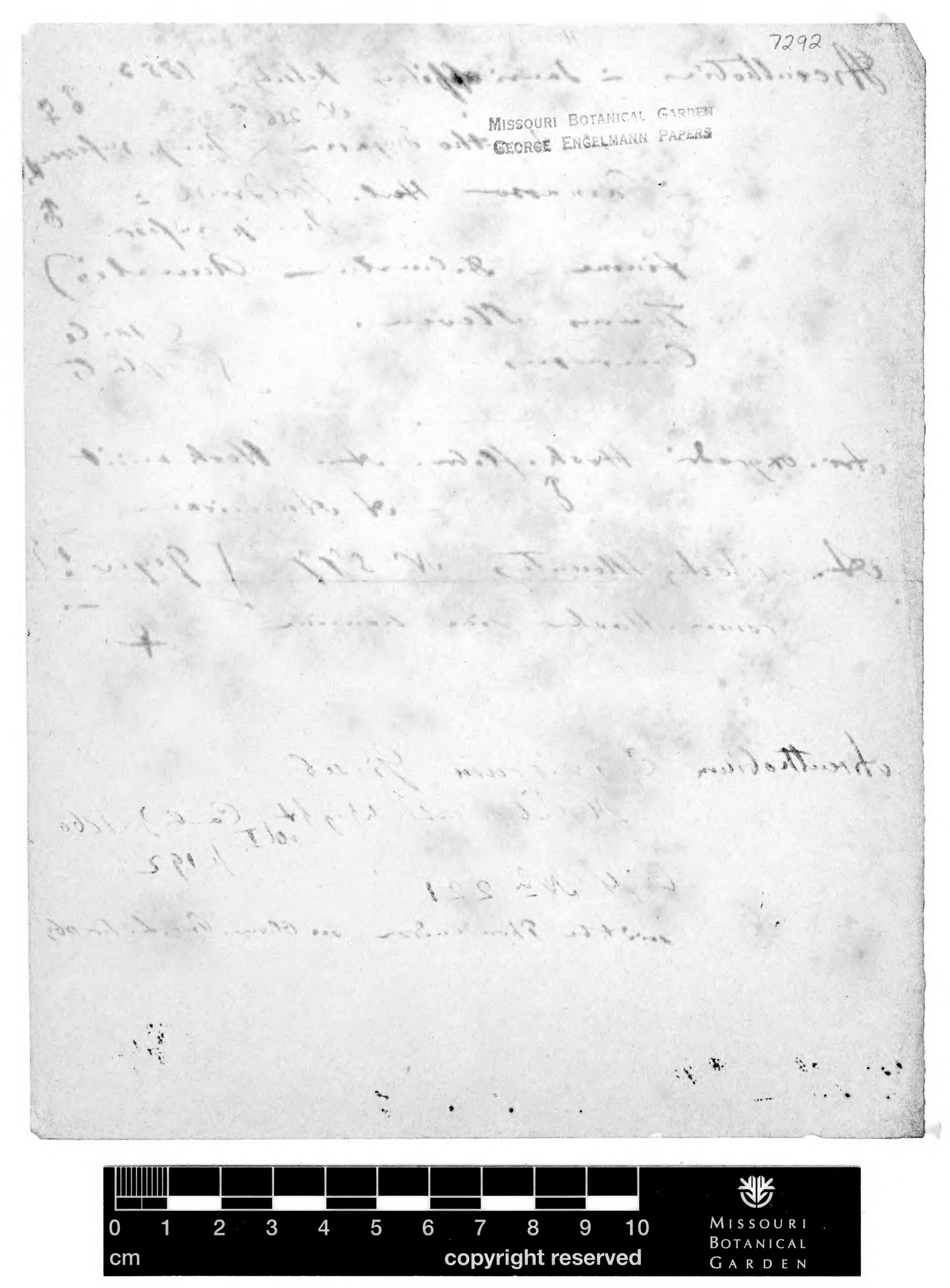
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M. Colorient Wight Calif 1866

Will No 221 seidt the Thombrendron see Oliver. For 1863

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MISSOURI BOTANICAL GARDEN.

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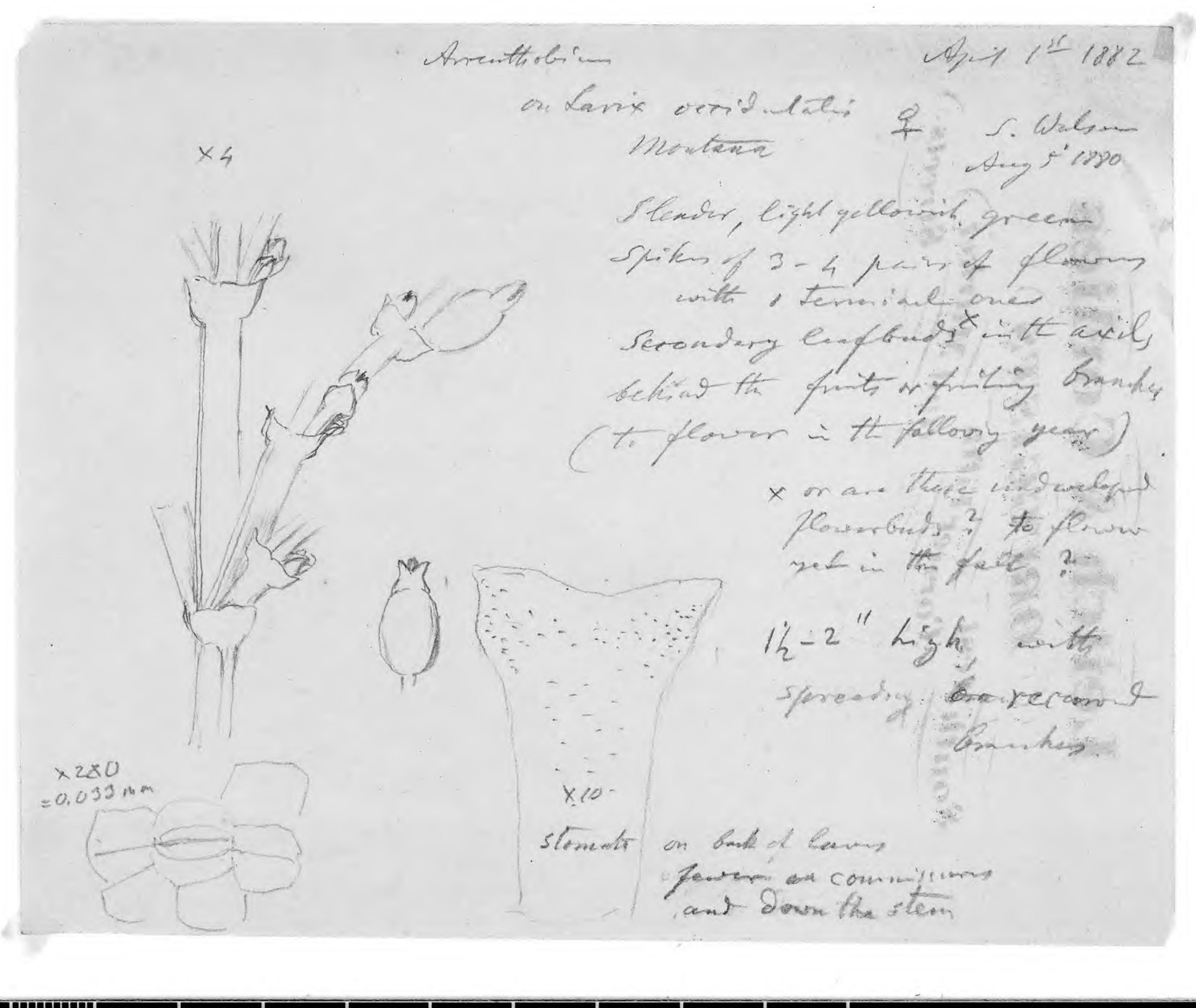
Arestho Ginen on Pinns flexilis mountain dent Mah 0.024-0.029 mm Brown not get open 72-Clan 10-12 pollen apparently not yet fælly formend, at lenst the Spinner not well developed provins unequal in 2 jei-M. 2/2 - 3 com m. diameter. Color orbitalar, 2 hold out first



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