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**Plaster and Ammonia.**

A correspondent of the *Genesee Farmer* says: "You have lately proved that gypsum, in its ordinary condition of dry powder, will not combine with carbonate of lime and sulphate of ammonia. I know it is a practical fact, from trial on a large scale. I also thought it would in some cases expel ammonia, because I had injured an experimental plat of turnips by mixing gypsum with guano. With no more chemistry than a gentleman obtains at college and retains scantily amid the varied duties and pursuits of life, I have a very high respect for the results that induction, like yours in the case above, will give us, but no confidence in the dicta of men like Liebig, whose genius (and I think he has a great deal of it,) is occasionally prostituted to fame."

[We recommend this paragraph to the attention of our farmers. The lesson to be derived from it is, that gypsum should be moistened, when mixed with guano.

**Falling Bodies.**

The following table, giving the height and the time of bodies falling, will be found very useful to millwrights in calculating the velocity of water, especially on falls under sixteen feet:—

Height of the fall in feet.	Time of falling in sec's.	Height of the fall in feet.	Time of falling in sec's.
1	.25	14	.935
2	.352	16	1.
3	.432	20	1.117
4	.5	24	1.22
5	.557	25	1.25
6	.612	30	1.37
7	.666	36	1.5
8	.706	40	1.58
9	.75	45	1.67
10	.79	50	1.76
12	.864		

**Improvement in Scales for Weighing.**

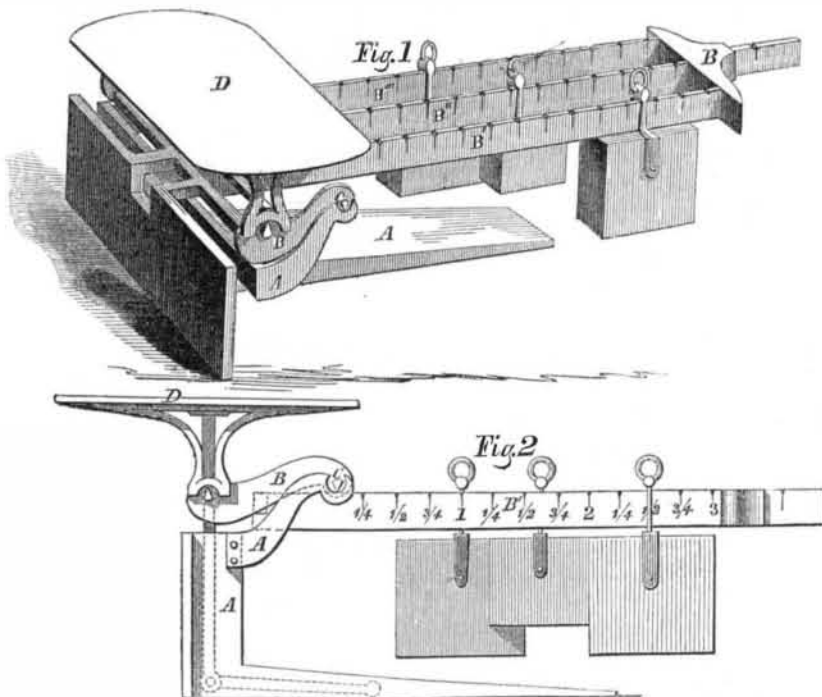
The invention illustrated in the accompanying engravings differs from the common scales in having the after part of the weighing lever composed of three or more arms—an arrangement which permits the apparatus to be condensed into a small space, while its capacity is very great; the construction also does away with the necessity of removing the weights from the scale beams, and thus saves much inconvenience.

In our engraving, fig. 1 is a perspective and fig. 2 a sectional view. The apparatus is supported on a standard, A, and the weighing lever, B, which operates in the common manner, but is made with three arms, B' B'' B''', has its fulcrum at C. The articles to be weighed are placed on the platform, D, which rests upon a knife edge on the lever, B.

The weights upon the arms, B' and B''', it will be noticed, are both of the same size; if they were both moved out on the arms, double the quantity of material could be weighed than if only one arm and one weight of the same dimensions were employed.

The tare may be indicated with great facility by using one of the weights for that purpose. The smaller weight is intended for use

**IMPROVEMENT IN WEIGHING SCALES.**



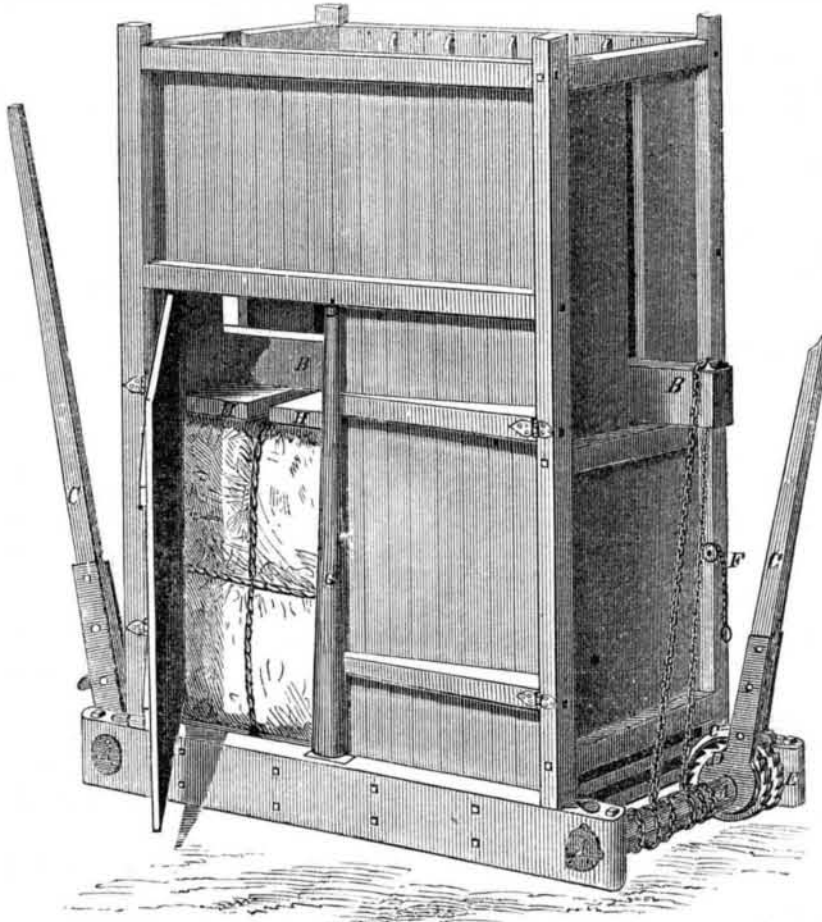
in indicating the fractional parts. If all of the weights are not wanted for immediate use, they may be shoved up under the fulcrum, out of the way, but still remaining in a convenient position. An additional or extra weight may be hung upon the extreme end of lever B, when necessary.

The simplicity, compactness, and accuracy of these scales must be apparent to every one.

The field for their introduction is large. The improvement may be attached readily to the ordinary platform scales; indeed, the variety of form in which the principles of the patent can be presented, is endless.

The inventors, Messrs. S. S. Mills and M. Bissell, of Charleston, S. C., will be happy to give any further information. The patent bears date Feb. 5, 1856.

**IMPROVED HAY PRESS.**



**Press for Hay, Cotton, &c.**

In this apparatus there is a strong shaft, A, placed at each of the lower ends of the frame. The compression is effected by means of chains extending from the shafts to the ends of the follower beam, B, the chains being wound up on the shafts; the latter are rotated by means of the levers, C C, the hooked

pawls of which, C', catch in the teeth of the ratchet wheel, D. The force with which the compression is effected is limited only by the length of the levers, and as these may be easily extended, the effective power of the machine is truly enormous.

E is a secondary ratchet wheel, having a spring pawl, not here shown, which holds the

purchase on shafts, A A, during the back strokes of the levers, C C. F is a cord for releasing, at pleasure, the pawl of the secondary ratchet wheel, E. The levers, C C, are not permanently attached to shafts, A A, and may therefore be removed out of the way when not wanted for use.

The ends of bar G, which hold the doors together, fit into mortises in the frame-work of the machine, and thus relieve the doors from strain; the hinges being placed on the outer surfaces of the cross-pieces, the door will not fly violently open when the bar, G, is released and damage is thus prevented. The platform, H, is composed of separate pieces of plank, and is thus easily handled; the pieces are kept slightly apart by means of guide posts.

This press is strikingly simple in all its parts, strong, portable, and cheap in construction. The invention is highly spoken of by all who have had it in use.

For further information address the inventor, C. J. Fay, North Lincoln, Me. Patented July 11, 1855.

**A Great Artesian Well.**

A new Artesian well is being bored in the Avenue Charles X., at the angle of the Avenue St. Cloud and Petit Pare, near Paris, for the purpose of supplying the ornamental lakes of the Bois de Boulogne. An interesting paper has been communicated to the Academy by M. Dumas on the subject, from which it appears that Mr. Kind, the engineer, has undertaken to bore a well 29 inches in diameter, and continue the sinking, if necessary, to the depth of 2500 feet, and thus obtain a daily supply of 10,000 cubic meters of water, being nearly equal to the volume of water delivered by the Seine through the Pont de la Tournelle, at Paris. The boring was commenced on August 2d last, with a diameter of about 41 in. For some time, when the operations were through marl and chalk, the average daily progress was 16 1-2 feet; then, through sand, it was reduced to 8 1-4 to 10 feet; and now, having reached another stratum of chalk, containing boulders, the speed is 5 feet, the depth being already upwards of 980 feet, and by May 1st it is expected that the enormous depth of about 2360 feet from the surface will be attained, being more than 490 feet deeper than the Artesian well at Grenelle. The motive power is a steam engine of 24-horse power.

**Red Granite.**

Lord Stanhope, in the course of his lecture before a scientific society in London, speaking of the fragments of marble found in the alluvial soil which covers to a considerable depth the site of the Forum of ancient Rome, says that among the various marbles thus discovered, were considerable portions of red granite, known to exist in upper Egypt; and then his Lordship adds, that all the red granite which now supplies the world, is derived either from the estate of the Earl of Aberdeen in Scotland, or else from the scattered fragments which the excavation of ancient cities yield. It is singular that the learned lecturer had never heard of the vast quarries of red granite in Finland, of different shades, and susceptible of a polish equal in beauty to the most compact marble. In the deep gorges of the White Mountains, in New Hampshire, a species of beautiful red granite is found.

**Bituminous and Anthracite Coal for Boilers.**

The ferry steamboats plying on the East and North rivers between this city and other places now use bituminous coal for fuel. Two years ago anthracite coal was exclusively used. We have been informed that the bituminous generates steam as rapidly as anthracite, is not so severe on the metal, and on the whole is cheaper.