

Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL, AND OTHER IMPROVEMENTS.

VOLUME X.]

NEW-YORK FEBRUARY 10, 1855.

[NUMBER 22.]

THE
SCIENTIFIC AMERICAN,
PUBLISHED WEEKLY
At 128 Fulton Street, N. Y. (Sun Buildings.)
BY MUNN & COMPANY.

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Improvement in Platform Scales.

The annexed figures represent an improvement in platform scales, for which a patent was granted to Elnathan Sampson, on the 25th of July, 1854. This improved scale is adapted for railroad scales, hay scales, and for weighing heavy bodies or loads of any kind in warehouses.

Figure 1 is a perspective view of the scale used for weighing hay (or other loads) on a cart; figure 2 is a plan view of the platform frame of a hay scale, and figure 3 is a transverse section of a railroad scale. Similar letters refer to like parts.

The principle feature of the invention consists in supporting the platform upon a series of short levers which extend transversely from the sides of the platform to near the middle of the same, and are there connected to a laterally vibrating lever which extends the whole length of the platform, and is connected to the lever of the scale beam, which arrangement obviates the use of trussed levers in constructing scales of the largest size; also obviating the necessity of having a pit in putting one up, thereby rendering such scales portable and convenient to be laid on the ground and used at once, and at any place. Another feature of the invention relates to the peculiar manner of connecting the platform to a series of transverse levers, by means of stirrups, *i*, figure 3, which have double concave auxiliary blocks, *k*, inserted between the bearing edges of the pivots of the levers, and the bearing edges of the stirrups which give free lateral and longitudinal motion to the platform without injury to the sharp bearing edges. *A A* are side pieces, and *BB* are the roadway pieces of the platform; *DD* are also side pieces, and *C* is a transverse piece, all united together as represented. The base of the scale may be made of pieces of timber, *Q* and *R*, framed together as shown in figure 3, and may have a suitable number of side and central supporting posts, *h h*, for the reception of the levers that suspend the platform. The outer ends of the transverse levers, *G G*, figure 3, are suspended to the series of outer short posts, *h h*, as follows:—A sharp-edged pivot, *n*, passes through an opening in the outer end of each lever, and rests in a concave in the top of the post, embraced by said opening. The inner ends of the transverse levers, *G G*, are connected to the laterally vibrating longitudinal lever, *E*, by links, *l l*, which connect sharp-edged pivots in the inner ends of the levers, *G*, to similar pivots located in the longitudinal lever, *E*, these pivots being in a longitudinal line with each other. The lever, *E*, is suspended in figure 3, to a series of central posts, *h'*, by means of sharp-edged pivots, *m*, which rest in the heads of the posts, but a central transverse lever and pivots, *h'*, may be dispensed with entirely on hay scales, as shown in figure 2, although they may be necessary on large scales, like those for railroads, in figure 3, but the manner in which the pivots are made, and the levers are hung, are the same as shown in

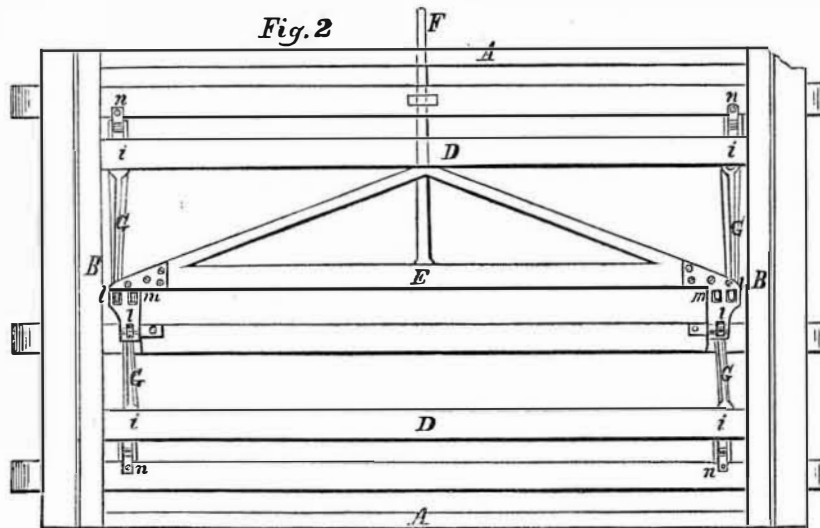
SAMPSON'S PLATFORM SCALES.



figure 3, whether only two series of transverse levers are used, or an additional central series.

A short distance inside of the bearing pivot, *n*, in the outer end of each of the transverse levers, *G*, there passes through the elongated opening of each lever, a sharp-edged pivot, *s*, to which series of pivots the platform is suspended by the stirrups, *i i*, and the intermediate bearing block, *k*, the sharp-edged pivots, *o* and *s*, being arranged as in figure 3, namely, by each block, *k*, fitting loosely into the opening in a stirrup, *i*, with the under concave edge thereof resting upon the edge of pivot, *s*, and the edge of

the cross bar of the stirrup resting in the concavity in the upper edge of said block. An opening in the shank of each stirrup at right angles to the opening that receives the block, *k*, receives a sharp-edged pivot, *o*, in the portion, *D*, of the side of the platform frame, and completes the connection of said frame with the system of levers. This enables the platform to swing, as it were, freely in a lateral and longitudinal direction upon sharp edges without any danger of straining or disarranging them; *F* is a lever connected with the longitudinal lever, *E*; it projects beyond the base of the scale at the side a sufficient distance to allow of it being



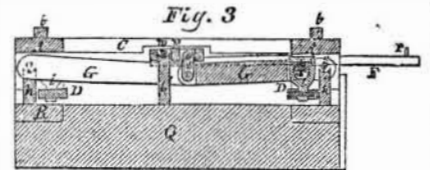
connected to the scale beam at *P*, in any of the known ways—the scale beam being the same as shown in figure 1.

When a load, as in figure 1, is placed upon the platform of the scales, it imparts motion to the lever, *F*, which operates the scale beam through the medium of the lever, *E*, and the transverse levers, *G G*. These levers are very sensitive and accurate in transmitting motion to the beam which indicates the weight of the load. The longitudinal

vibrating lever is so short that it does not require to be trussed, to make it stiff, thus effecting a great saving in the material of construction. The platform does not require to be all planked over for a railroad scale, two rails, *t t*, as in figure 3, being sufficient, but it is shown planked in figure 1, for a hay or common road scale.

These scales can be constructed at far less expense than the old kind; no rural village, however small, should be without one, and

any agriculturist who has a large farm will soon save the expense of such a scale, owing to its convenience for weighing loads of hay, &c. All kinds of grain, potatoes, and every other article of agricultural produce, should be sold by weight, not measure, and the time will yet arrive when laws will be made to carry out this system; and this scale, because of its portability and cheapness, will pave



the way for such a revolution in the mode of buying and selling grain, and other agricultural products which are now sold by measure.

One of these scales is now on exhibition at the Fair of the Metropolitan Institute, Washington, D. C.

More information may be obtained by letter addressed to H. G. Judd, agent, Vergennes Scale Manufacturing Co., Vergennes, Vt.

New System of Gearing for Machinery and Railroads.

M. Minotto, Vice-Director of Telegraphs in Piedmont, has presented to the Society for the encouragement of National Industry, Paris, models and a description of a new system of gearing, called wedge gearing, which is proposed to replace, in a number of cases, the common toothed wheels. He proposes to apply it to railroads, the application consisting in the use of a grooved wheel, gearing upon a bar of iron placed in the middle of the track, to increase the adhesion of locomotives in the ascent of high grades. He also recommends its employment in the transmission of the rotary motion to the large main axes of propeller steamships, which must move rapidly to operate usefully upon the liquid.—[Exchange.]

[For railroads this plan is not new. Jas French, of Old Point Comfort, Va., is ahead of him in its application to railroads. It is a most absurd idea to apply it to drive propeller shafts; its great amount of friction so necessary for adhesion on railroads, would use up too much power on steamships.]

Justice to American Enterprise.

A new map of the Arctic Regions has been published by the British Admiralty, to which the names affixed to various localities by the American expedition sent out by Henry Grinnell, Esq., have been adopted; and in particular, Grinnell's Land, discovered by said expedition, is entered conspicuously on the map, it having been on a previous map of the Admiralty called Prince Albert's Land. This act of justice to the exertions of our countrymen, has been for some time strongly urged by the Rev. Dr. Scoresby, and other illustrious Arctic navigators.

Buoyant and Ball Proof.

A Mr. Clarkson has exhibited at the Underwriters' Rooms, Liverpool, a new material which he has invented, consisting of a combination of cork and wood, which he states, possesses many advantages over wood and iron, pure and simple, being lighter, stronger, and more elastic. His invention, he says, will be most useful in warfare, as he can construct boats that cannot be swamped; and with portable sides, easily moved and carried, which might protect boat's crews, and which cannot be penetrated by Minie balls fired at a distance of twenty yards, pieces of wood far thicker being broken in pieces when subjected to similar trial