

New Inventions.

Supporting Articles of Dress.

The patent granted in this week's list of claims, to John Dick, of this city, for a method of supporting articles of dress, is at once useful, simple, and ingenious. It consists in having two or more supporting pieces of whalebone, wood, rattan, or steel, or any other material possessing sufficient elasticity and stiffness, applied to such part of a garment as is liable to become wrinkled—like the waists of ladies' dresses, or the spring part at the foot of pantaloons—by the movements of the body or limbs, or otherwise, and so arranging these pieces—whalebone, &c.—as to allow perfect freedom of the body, and the returning of the article of dress to its former extended smooth surface, after being contracted by the motion of the body. The spring extenders of Mr. Dick are so arranged as to contract and pass one another as into a sheath, so as to allow the article or the part of dress to which they are applied, to contract, and then expand again, with the greatest facility.

Invincible Horse Bit.

The patent granted, in this week's list of claims, to Messrs. Titus & Fenwick, is for a very novel purpose. Its object is to control runaway horses, and consists in governing a horse by exerting sufficient pressure upon his nostrils, to check respiration and thereby bring him to a stand-still. The pressure is exerted by means of two ornamental padded levers arranged on the sides of the horse's nostrils, and supported by the bit bar and operated, through the agency of the reins, by the rider or driver. Springs are also provided for throwing the pads off the horse's nostrils when his speed has been slackened, these springs also serving to keep the pads out of operation when only the ordinary strain is exerted upon the bit, and thus render the contrivance capable of serving as an ordinary bit when the horse moves gently.

Improvement in Hand Trucks.

The annexed figures represent the improved hand truck for which a patent was granted to Parley Hutchins, formerly of Norwich, but now of Chester Village, Mass., on the 16th of last month.

The nature of the invention consists in furnishing the truck with an elevator, of which the front piece which raises and supports the load forms a part, the said elevator working in suitable guides in the side pieces of the truck, and connected with a windlass, for the purpose of raising the load to deposit it upon a cart, or any place elevated above the ground.

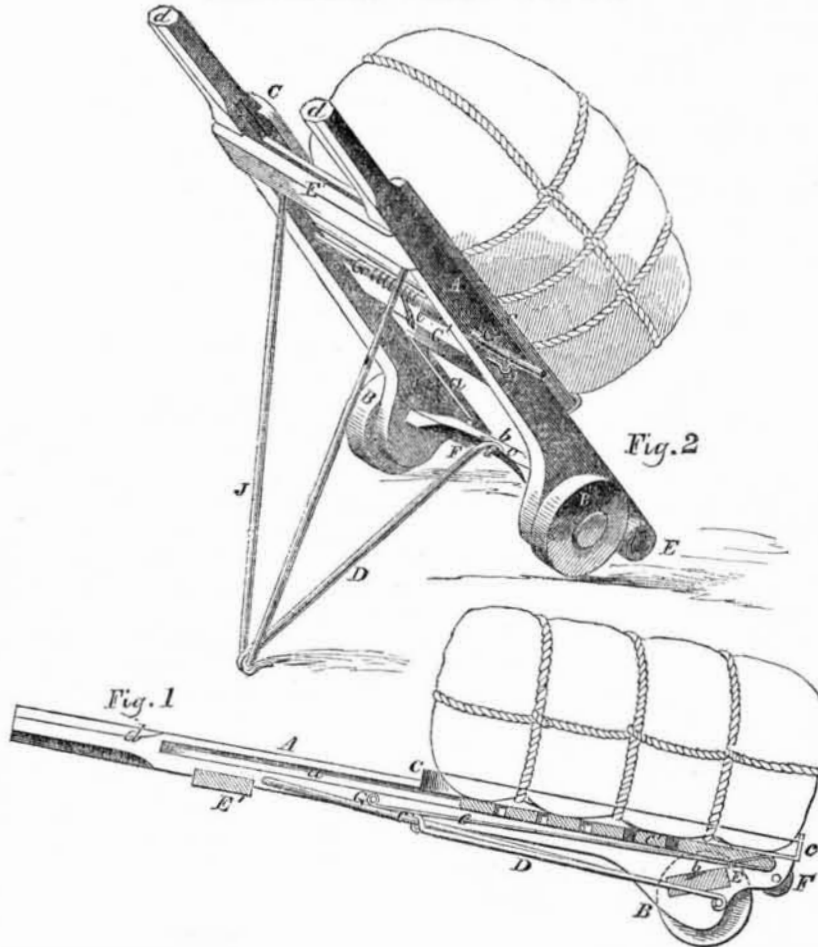
Figure 1 is a longitudinal sectional view of the truck in a condition for moving a load from one place to another; figure 2 is a perspective view of the same in condition for elevating the load. Similar letters refer to like parts.

A A are the side pieces of the truck, of which the handles, d d, form a part. These are united by cross pieces, E E', and furnished with a pair of wheels, B B. Thus far this truck resembles the common hand truck without a front piece. The elevator consists of a strong frame composed of side pieces, C C, and cross pieces, C' C', and having attached to its front the iron front piece, C<sup>2</sup>, such as is attached to the side pieces, A A, of the common hand truck. This frame rests on the top of the side pieces, A A, and is furnished with tongues on its sides to fit in grooves, a a, in the said side pieces, A A, so that it is confined to the main portion of the truck, but free to slide up and down; G is the windlass shaft or barrel working in bearings in the side pieces, A A, outside of which it is provided at one end with a crank, G'. The elevator is attached to this windlass by a cord, e; J is a leg attached to the back or under side of the side pieces, A A, to support the truck while raising the load upon it by the elevator. This leg, when in use, is braced by a brace, D, at the bottom, which hooks with a hook, c, into a notch, b,

in the cross-piece, E, as shown in figure 2, but when not in use the brace hooks on to one side of it, and it is thrown up close to the underside of the truck. The truck is provided with a pair of small wheels, F F, in front of the wheels, B B, for the purpose of raising the truck with its load on to a pair of scales to be weighed, or raising it up a step.

The load is brought on to the truck in the same way as on a common truck, the elevator being for that purpose let down to its lowest position in order that the front piece C<sup>2</sup>, may be got under the load, and the leg, J, is thrown up close to the under side. The elevator remains in this position while the load is being moved, as shown in figure 1, but when the load is to be lifted, it is brought

ELEVATING HAND TRUCK.

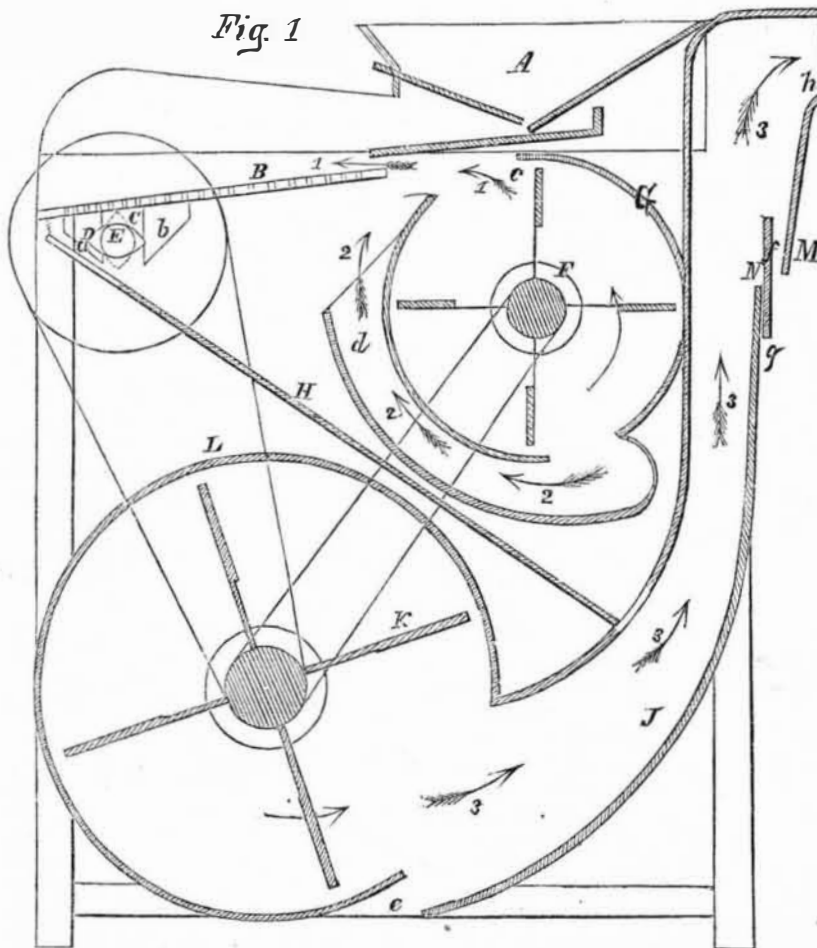


close to where it is to be deposited, and the handles are then raised to throw the weight on the small wheels, F F. The leg, J, is thrown down on to the ground or floor, and the brace, D, is brought into operation, when the truck will stand firm by itself, and leave the person using it at liberty to turn the crank, G, of the windlass, to wind up the cord, e, and raise the elevator with the load

upon it as shown in figure 2. The crank is then prevented turning by a pin, g, inserted in the side piece as a stop; and the load is deposited on the cart, shelf, or other elevated place, by merely bringing forward the handles of the truck and dumping it off the truck.

More information may be obtained by letter addressed to the patentee.

IMPROVED GRAIN SEPARATOR.



The annexed engraving is a longitudinal vertical section through the center of an improved grain separator, for which a patent was granted to David S. Mackey and Jarvis

R. Smith, of Batavia, N. Y., on the 25th of October, 1853.

The nature of the invention consists of two parts, 1st, the peculiar manner of operating the screw by means of two eccentrics working between blocks attached to the under side of the screen. 2nd, in having two blasts proceed from a single fan, said blasts crossing each other and so arranged that the grain is subjected to one of them before passing through the screen, while the other prevents the screen from being clogged with chaff, &c.

A represents the hopper in which the grain is placed; B the screen on which the grain falls from the hopper. The screen is sufficiently coarse to allow the grain to pass through it, but will prevent coarser matters; these fall off the screen at its outer and depressed end, it being somewhat inclined. The screen has a vibrating motion communicated to it, by means of two eccentrics, C and D, which are placed on a shaft, E, underneath the front end. These two eccentrics work between two blocks, a b, attached to the underside of the screen, and are of an elliptical form, and each one acts against a block, the one, C, working against the block, a, and the one, D, against the block, b. The eccentric, C, when it acts against the block, a, throws the screen forward, and the one, D, when it acts against the block, b, throws the screen backward. Now, as the eccentrics are placed in a reverse manner upon the shaft, E, the screen will have a reciprocating motion communicated to it. F is a fan placed in a box G. The box and fan are placed underneath the back part of the screen, or screen frame. The box, G, is provided with two apertures, c d, the aperture, c being at the upper part of the box, and the aperture, d, at the lower part. This box is of an irregular circular shape, so that two blasts may be obtained from the same fan. The fan rotates to the left, and the arrow, 1, shows the direction of the upper blast, and the arrows, 2, the direction of the lower blast. The upper blast passes over the top of the screen, and carries off the chaff and other light particles; while the lower blast passes upward through the screen, and prevents the chaff from settling upon the screen, and thereby prevents the said screen from being clogged. The two blasts, therefore, cross or intersect each other. The grain, after passing through the screen, falls upon the inclined plane, H, which forms the bottom of the box, I, which incloses the fan box. This inclined bottom or plane, H, conveys the grain into a blast spout, J, at the lower end of which is placed a fan, K, inclosed in a suitable box, L. The fan, K, rotates to the left, and the arrows, 3, show the direction of the blast. The grain passes down the blast spout, J, the blast forcing all light matter upward and out of the upper end of the blast spout. In the upper part of this spout there is a partition, f, the lower end of which does not quite touch the outer side of the spout, but leaves a small passage, as seen at g. The outer side of the spout is provided with a small valve, h, by which the opening, N, between the partition, f, and outer side of the spout may be made larger or smaller, as desired. The light screenings which possess too much gravity to be blown out at the end of the spout, J, fall through the passage, M, upon the floor, while the heavier screenings fall into the opening, N, and pass through the passage, g, into the blast spout, and are thus subjected a second time to the blast. By regulating the valve, h, all but the heavier screenings are prevented from entering the passage, N. At the upper end of the apron, H, there is a cockle screen attached by straps to the upper sieve, which thus gets the same shaking motion.

Thus by this improvement the grain is perfectly separated, the screen prevented from clogging, and a reciprocating motion is given to it by an extremely simple device, attended with very little friction.

The operation of this machine has given great satisfaction, both on account of its simplicity and excellent working qualities.

More information respecting this machine may be obtained by letter addressed to the patentees, at Batavia, Genesee Co., N. Y.