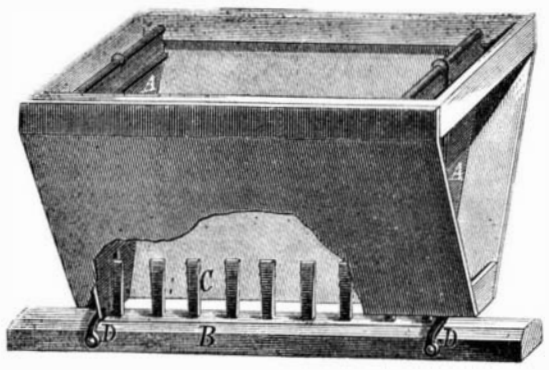
IMPROVED COTTON PLANTER.

In the annexed engraving is represented an improved cotton planter, which plants two rows at a time in drills, distributing the seed in the same manner as a grain drill distributes grain. The rows may be made three, three and a half, or four feet apart at pleasure. The drill teeth for planting cotton are easily removed, and as many cultivator teeth substituted as to fill the entire space between the teeth, the latter of any required form, thus converting the machine into an efficient cultivator. The teeth preferred by the inventor are of his own construction, and can be set either to run shallow and just shave the top of the ground or to penetrate to a depth of six or eight inches. Ordinarily one horse is able to draw the machine. When deep cultivating is to be done, a pole may be used so that two horses may be attached. By leaving out one or two of the middle teeth, two horses may be used in cultivating young cotton or corn, by straddling the row.

A general view of the implement in use is given in Fig. 1. Fig. 2 represents the improvement in the hopper, designed to facilitate the planting of cotton seed, which, from its fibrous covering, it is difficult to cause to descend through ordinary passages. Within the hopper are swinging plates or diaphragms, A, which are pivoted to bars at the top and extend nearly to the bottom. B is a reciprocating stirrer rod provided with pins or teeth, C, which project upward into the hopper. The object of these pins is to facilitate the working down of the seed. The stirrer rod is hung in stirrups in the lower ends of pendent bars, D. By means of the cam arrangement, E, on the wheels, Fig. 1, the stirrer rod, B, is vibrated, and also the diaphragms, A. The seed in the hopper is, by the latter, given an alternate vibrating action from end to end of the receptacle, this movement increasing in intensity toward the bottom, at which point the ends of the plates have the greatest

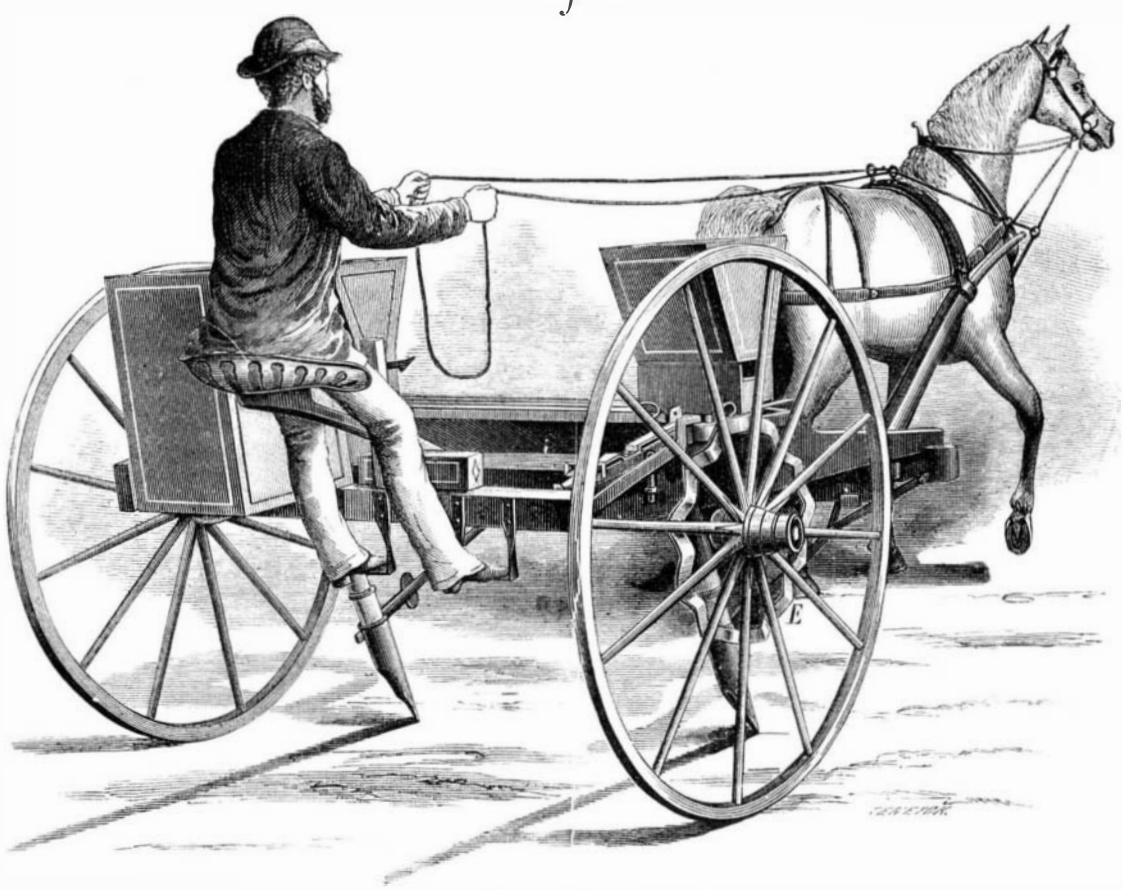
Fig. 2



swinging motion. The seed is thus freely delivered; and when mixed with fertilizers, its distribution is in no wise hindered.

Patented October 28, 1873 For further particulars, relative to rights to manufacture, etc., address the inventor, Mr. Pierpont Seymour, East Bloomfield, Ontario county, N. Y.

Fig. 1.

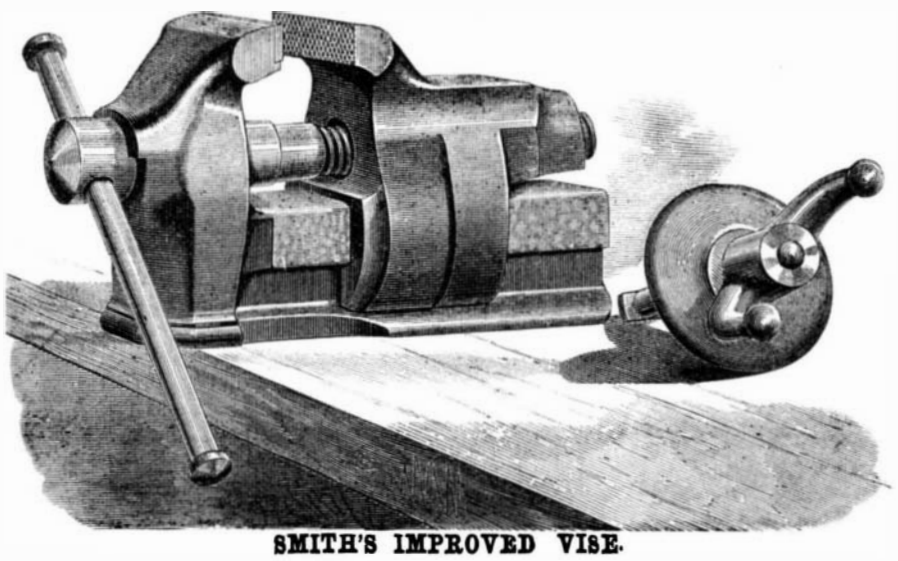


SEYMOUR'S COTTON PLANTER.

IMPROVED VISE.

The vise is one of the oldest and most familiar tools extant, and has been the subject of great numbers of patents The following is a description of one of the best improvements on this indispensable appliance. A vise, to attain and retain a position as a standard with mechanics, must supply the following qualifications: Strength to allow of chipping or filing the work without a possibility of the vise breaking; the inertia of the anvil should be sufficient to absorb the effect of blows; the jaws should move parallel and freely, and should be arranged in such a manner as to get the whole power of the screw; all parts should be durable; and lastly, the tool should be furnished cheaply.

The accompanying engraving represents an excellent form of vise devised by Mr. H. B. Smith, one of the earliest and most successful patentees of woodworking machinery. An inspection of the engraving will show how the foregoing requirements are supplied. The jaws are steel-faced by welding, and massive strength and inertia are secured by a proper and plentiful use of metal. The motion is direct, and all surfaces exposed to sliding friction are chilled, thus gaining parallel action, durability, and increased strength. The chill is shown by the mottled appearance, seen on the beam, and is one of the principal improvements claimed. Cheapness is secured by special machinery, which enables the vises to be quickly and economically made. The manufacturer can be addressed at Smithville, Burlington county, N. J. [See advertisement on inside page]



SMITH'S IMPROVED VISE.

Whale Artillery.

On a small island opposite to the town of Wadso, in the extreme north of Norway, there exists an establishment the like of which is probably not to be met with in any part of the world Its most appropriate designation would be, perhaps, a slaughter yard for whales; and Mr. Foyn, its proprietor, conducts the business of capturing and cutting up the monsters in a manner peculiarly his own. Instead of fitting out the usual sized vessels, intended to make long voyages and bring home only the most useful parts of the animal, Mr. Foyn employs small—one hundred and fifty to one hundred and eighty tons—screw steamers, shoots his fish with a cannon, and has them towed back, one by one, as they are captured, to the shambles at Wadso. As the fishing grounds are within easy reach of the latter, the steamers, as a rule, secure and return with a prize within twelve hours' time. With respect to the cannon employed, it is a gun having a chamber about four feet long; this is mounted on the forecastle of the vessel, and, being very accurately balanced, can be easily moved to allow an exact aim to be taken. The projectile in use consists of a long iron bolt, having at its extreme end four harpoons, bound round with a line so as to be flat, and close to the harpoons a five or six pounder shell. As soon as the steamer has approached sufficiently near to the fish—and whales off that part of the coast are not over shy, allowing a vessel to come within shot—the bolt is fired off, and, if well directed, penetrates deeply into the flesh and blubber of the animal. The whale then naturally rushes off at a furious pace, thinking thus to elude his pursuers. Unfortunately for him, however, no step could be more suicidal, for the effect of his rapid movement is to make the bolt slip back a little, thus setting free the four harpoons from the lines, and, by means of a mechanical arrangement, causing a shell to explode. This generally proves the *coup de grace*, killing the fish outright; but occasionally the animal is not sufficiently hard hit, and its capture is not so easily effected, as it dashes away at a tremendous speed, dragging the steamer after it.

Pedestrian Training.

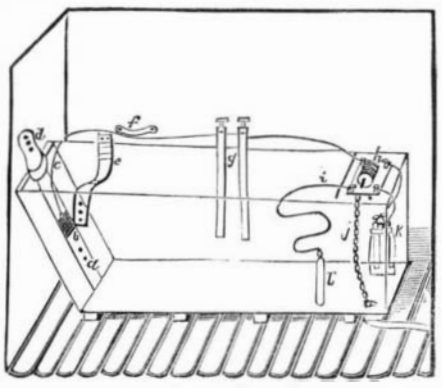
Pedestrianism, as an athletic exercise, has become deservedly popular. There is no course of gymnastics so well calculated to develope a large number of muscles, or to produce so beneficial an effect upon the system. There is a right way and a wrong way of walking—the one beneficial, the other negative in its result. What the right way is, a writer in an English contemporary tells us in the following:

The body must be held erect, with head well thrown back; the movement of the legs must be from the hip downward, and the body should be carried motionless. The arms should be swung well forward in harmony with the legs, and the elbow should, when in front, be nearly on a level and at almost right angles with the chin, the hands being open and extended. The leg should be brought well round from the hip, and the heel deposited on the ground in line with the rear foot, so as to leave your footmarks pretty nearly in a line. But above all things hold your head up and the body erect.

Stitches and other kindred annoyances are common in learning to walk, but the beginner would do well to walk it off, and never ease if he is seized with distress. To do so is to throw away the pace he has acquired from the commencement of his walk, and to knock all the regularity out of his stride.

POTIN'S GALVANO-ELECTRIC BATH.

The bath is blue slate, grooved and bedded in with red lead, and cramped up with iron cramps or nuts and bolts; it should stand on a wooden cradle either of elm or oak, and be protected by matchboarding all round; the floor should be tiled if on the basement, and covered with zinc if above. *a* is a board with holes to raise or lower the zinc plate; it is



grooved at the sides, and enters into the slate at the bottom of the bath by two iron pegs. *b* is a zinc plate; *c* a copper wire; *d* a flannel cushion for the head; *e* is a three inch web bing to support the head or nape of the neck; *f* is a handle; *g* hot and cold water taps with gutta percha tubing attached; *h* is a coil resting on the board; *i* is a copper wire in connection with carbon; *j* is a chain to lift up the plug; *k* is an acid and zinc cylinder, etc., which can be fitted up outside of the bath if there is room; *l* is the carbon.

Scientific Surveys.

The Secretary of the Interior, in his annual report, says: The results of the geological and geographical survey of the Territories, conducted during the past session by Messrs. Hayden and Powell, under the direction of this department, will, it is believed, equal in interest and importance those of any previous year. The survey, under F. V. Hayden, continued its labors of the two preceding years in the Territory of Colorado. The survey of the southern and southwestern portions of Colorado has been completed. The total area surveyed was about 30,000 square miles, portions of which were rugged. The exploration of the remarkable pre-historic ruins of Southern Colorado, glimpses of which were obtained the preceding season, was continued with great success. The survey under J. W. Powell continued the labors of the preceding year in the Territory of Utah. Nearly 10,000 square miles of country were surveyed during the season just closed.