New Inventions.

Seed Sower.

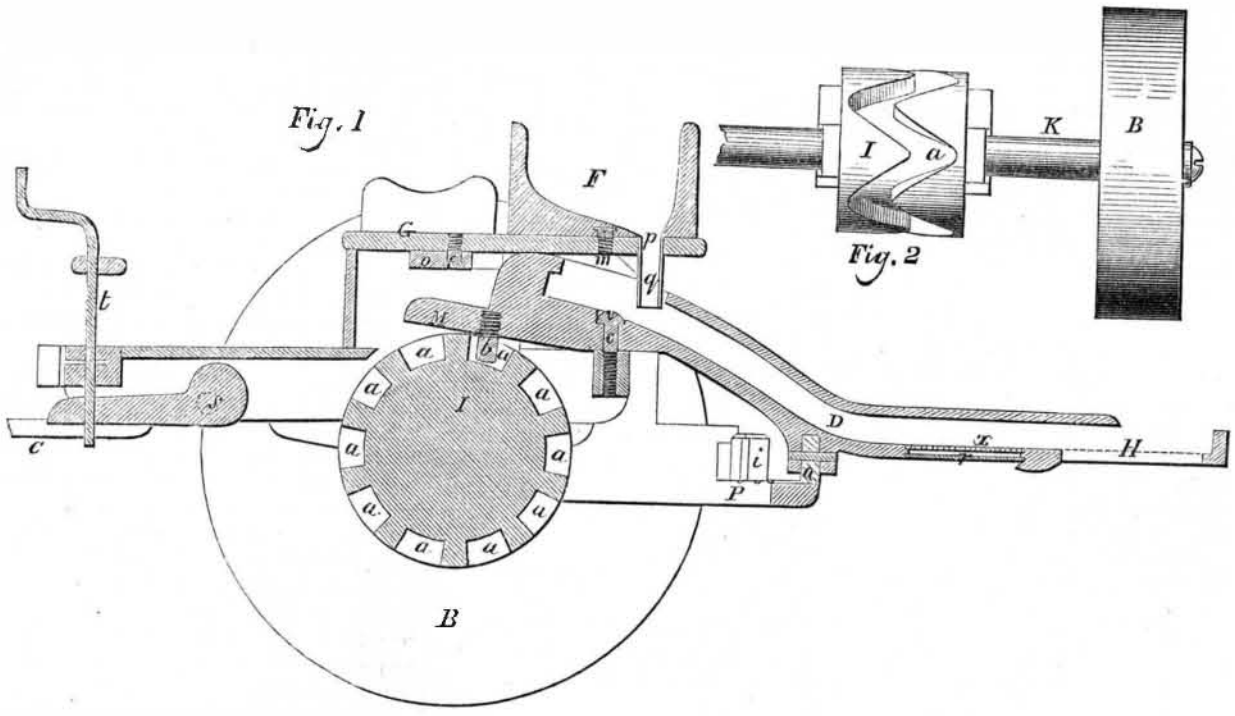
On the 12th of December last a patent was granted to John Andrews, of Winchester, Mass., for a seed sower, and assigned to himself, N. A. Richardson and Gardner Symmes, of the same place.

Figure 1 is a vertical longitudinal section of the machine, and figure 2 is a detached view of the axle with the grooved drum which gives motion to the sower. Similar letters indicate like parts.

In the seed sowers heretofore contrived, the grain has been delivered from a vibrating tailboard, from which it was suffered to drop upon the land, as the machine advanced. With these machines a very narrow strip only was sowed at a time, and their operation was consequently slow and defective. To obviate this inconvenience, and to produce a machine that shall imitate, as far as possible, the motion of the hand in sowing grain, is the object of this invention, which consists in delivering the grain in the requisite quantity to a hollow trough or scatterer which is caused to swing back and forth round a fixed center, by which means the grain is thrown to a considerable distance upon each side of the path traveled over, and the sowing is performed much more rapidly than the machines heretofore contrived have been capable of.

The machine travels upon wheels, B, and is drawn in the direction of the shafts, C. The grain or other seed is placed in the hopper, F, by the driver of the machine, who is seated upon the box, G, the grain in the hopper, F, passing through the hole, *p*, and pipe, *q*, through the expanding trough or scatterer, D, upon the extreme end of which is the sieve, H, through which it is allowed to pass. In order that the grain may be distributed over a space much wider than the length of the sieve, H, the latter receives a swinging motion, around a fixed point, by which means the seed is thrown to a considerable distance upon each side. This swinging motion is communicated to the scatterer in the following manner ; I is a drum securely attached to the axle, K, and having a zigzag groove, *a*, in which plays a pin, *b*, projecting downwards from the arm, M, secured to the scatterer. The latter is pivoted to the frame of the machine at C, and thus as the drum, I, revolves, the scatterer is vibrated from side to side, and the seed is scattered over a much wider space than would otherwise be the case. In addition to this swinging motion from side to side, the scatterer has also a rapid vertical vibratory motion produced in the following manner : P is a curved way or support upon which the rear portion of the scatterer rests, this way is corrugated or channelled ; Q is a roller upon the under side of the scatterer, which travels upon the corrugated way, P, and thus as the scatterer is vibrated around its center of motion it is also rapidly vibrated in a vertical direction, and the descent of the grain along the trough is facilitated. In order that the axle and drum may be turned by the motion of the wheels, the latter are connected with the axle by means of the toothed clutches, which embrace the axle and are forced up to the wheel by springs, *d*. That the scatterer may be made to vibrate only when the machine is advancing, and not when it is backing, the teeth of the clutches are inclined upon one side, so that when the machine is backed the wheels revolve without turning the axle. And when it is desired to disconnect the wheels entirely from the axle, this may be done by pressing in the handle of the lever, O. This lever is pivoted at *f*, and bears, when pressed in, upon the ends of two arms, which actuate the clutch levers, and release the clutches from contact with the wheels. To relieve the machine from strain, the scatterer is allowed, as it swings to each side, to strike upon the spring stops, *i*, which yield as they are pressed in, and gradually overcome its momentum. In order to adjust the quantity of grain sowed, the hopper is pivoted at a point, *m*, around which it may be moved by the lever, O. By this means the hole, *p*, may be more or less enlarged, or it may be closed entirely. The lever plays over a graduated arc for the purpose of graduating the hopper to sow any desired quantity per acre. It often happens that grain and other seeds to be sown are filled with the seeds of weeds. To remove these and prevent them from being sown with the grain the following device is employed :—A portion of the bottom of the seed trough is cut out, and replaced by a sieve, *x*, of a fineness that shall admit the seeds of weeds to pass through, but not the grain ; beneath this sieve is a box, *r*, in which such seeds are collected to be afterwards disposed of. In windy weather the scatterer must be operated much nearer to the ground than it need be upon a calm day,

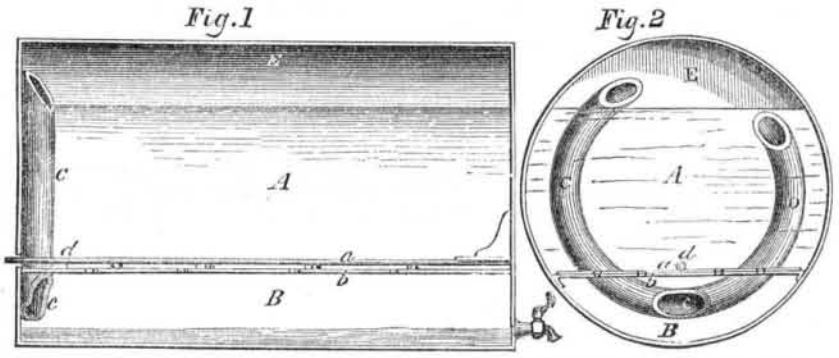
ANDREWS' SEED PLANTER.



in such case the grain will not be thrown to so great a distance upon each side, and the feed of the hopper will require to be diminished in a corresponding degree. To effect this depression the following means are used. The shafts are pivoted to the body of the machine at *s*, around this pivot the shafts and the machine are adjusted to each other by means of the screw, *t*, and thus the extreme end of the scatterer is raised more or less from the surface of the ground as required. It is evident that other means may be adopted for the purpose of swinging or vibrating the scatterer, but the method described has been found sufficient.

More information respecting this invention may be obtained by letter addressed to the inventor at Winchester.

FREEING STEAM BOILERS OF SEDIMENT.



The accompanying figures represent the improvement in cleaning boilers, for which a patent was granted to Hiram Strait, of Covington, Ky., on the 4th inst., and his claim published in the Scientific American, in the list of last week.

Figure 1 is a vertical longitudinal section of a cylindrical steam boiler with the improvement, and figure 2 is an interior view of the back end of the boiler showing the steam blow tube as combined with the sediment chamber. Similar letters refer to like parts.

A is the water chamber or space of the boiler; and E is the steam space above the water line; B is the sediment chamber or space. It is separate from the water space by a perforated partition plate, *b*, of strong boiler metal, which is fitted snug to the boiler all round its edges, and can only communicate with the water space through the perforations, or rows of holes punched in it; *a* is a broad plate, nearly as wide and long as the partition, *b*. It has the same number of perforations as *b*, and when the openings of both are directly above one another, there is free water communication through them between the water chamber, A, and the sediment chamber, B, so that the pressure of the steam is then exerted upon the surface of the water in the boiler. This is the way the plate, *a*, is set, when not blowing off, and during the time sediment may be falling down, as the water is evaporating into steam in the boiler; *d* is a rod attached to the plate, *a*, which latter performs the office of a large slide valve. This rod extends through the end of the boiler in a stuffing box, and may be connected to the engine by chain or rod, or be operated by a hand lever; C D is a curved sectional tube, with an opening, *c*, under the partition, *b*, with which it communicates. The top of one end of this tube is open in the steam space, the other is a little below it in the water space. By pushing in or drawing out the rod, *d*, so as to bring the openings of the valve, *a*, over the blank spaces in the partition, *b*, water communication will be cut off between A and B, and if the blow-off cock at the front end of the boiler be opened, it is evident that the steam will rush down the pipe, C, and force out all the water and sediment in chamber, B, until the water line is lowered to the lip of the arm, D, of the pipe, when steam will then rush down both branches. It is plain that no more than a certain amount of water can be blown out of a boiler to which this apparatus is attached, and it is equally plain that the sediment chamber will be completely swept out and cleansed.—Whenever steam is seen to issue from the blow-off clock, it is closed, and the valve plate, *a*, is pushed in or drawn out, as the case may be, so as to bring the perforations in both plates above one another. The holes in the partition, *b*, and large valve, *a*, may be made to come above one another, by drawing out or pushing in.

The object of this improvement is to make the boiler self-cleaning by making the pressure of the steam expel sediment, scales, &c., in the manner described and shown. The sediment chamber is not intended to be large, only of sufficient size to collect the sediment. This beautiful apparatus appears to be capable of doing all that is claimed for it.

More information may be obtained by letter addressed to the patentee, Mr. Strait, at Covington, Ky.

Winding up Lines, Twist, or Cord.

The claims in this week's list of patents granted to Byron Boardman, and Geo. C. Sweet, of Norwich, Conn., relate to a machine for winding up fishing lines, cord, twist, or any such manufacture, into hanks or skeins, of such length as may be desired for sale or use. The patent embraces six claims, and covers a number of devices and combinations in such machinery. The principal working parts in the machine consist of two hooks, which are placed at a distance apart, corresponding to the length to which the line is to be wound, and a sweep which is capable of rotating round these hooks.—The hooks remain stationary, and the sweep rotates around to lay a sufficient quantity of line around them, when it becomes stationary, and the hooks then rotate to perform the woolding or binding round.

Card Exhibitor and Distributor.

The invention for which a patent has been granted this week to Wright Duryea, of this city, whose claim will be found in the usual list, consists in providing a roller in the lower part of the case, and printing the cards at suitable intervals apart on a long strip of paper, winding it upon the roller. These cards are guided from the roller to an opening in the case, where they are discharged, and each card can be cut off as desired, a portion of the strip being always held by a spring, to allow of it being caught by the thumb and fingers, to pull out the next card.

New Cabin Chair.

The claim on another page, in the patent granted to Wm. Thomas, of Hingham, Mass., relates to a chair for the cabins of vessels, so as to give it the same motion as a hammock. This will be much pleasanter for passengers, and will no doubt prevent many persons from becoming sea sick.

Rose's Straw Cutter.

The improvement on straw cutters, for which a patent was granted this week to Ira Rose, of Akron, Ohio, embraces a peculiar and simple means of operating the cutting knife and feed rollers, by which these are operated by the revolutions of a *cam* only.—The device is simple, and not liable to get out of order.

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