E. A. Barton,

Grain Drill.

No. 92,001. Patented June 29, 1869.

FIG. 2.

FIG. 4.

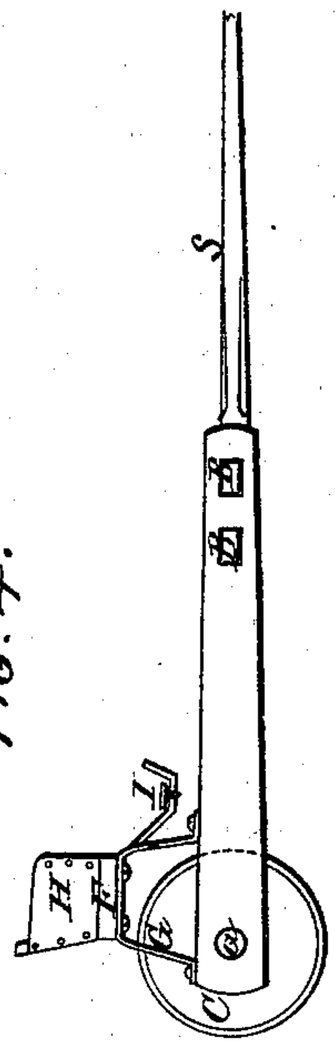


FIG. 6.

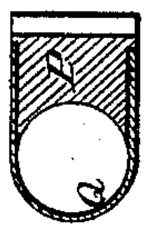


FIG. 5.

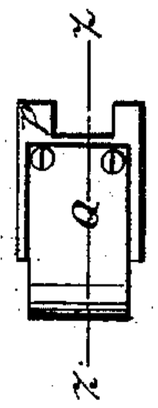


FIG. 1.

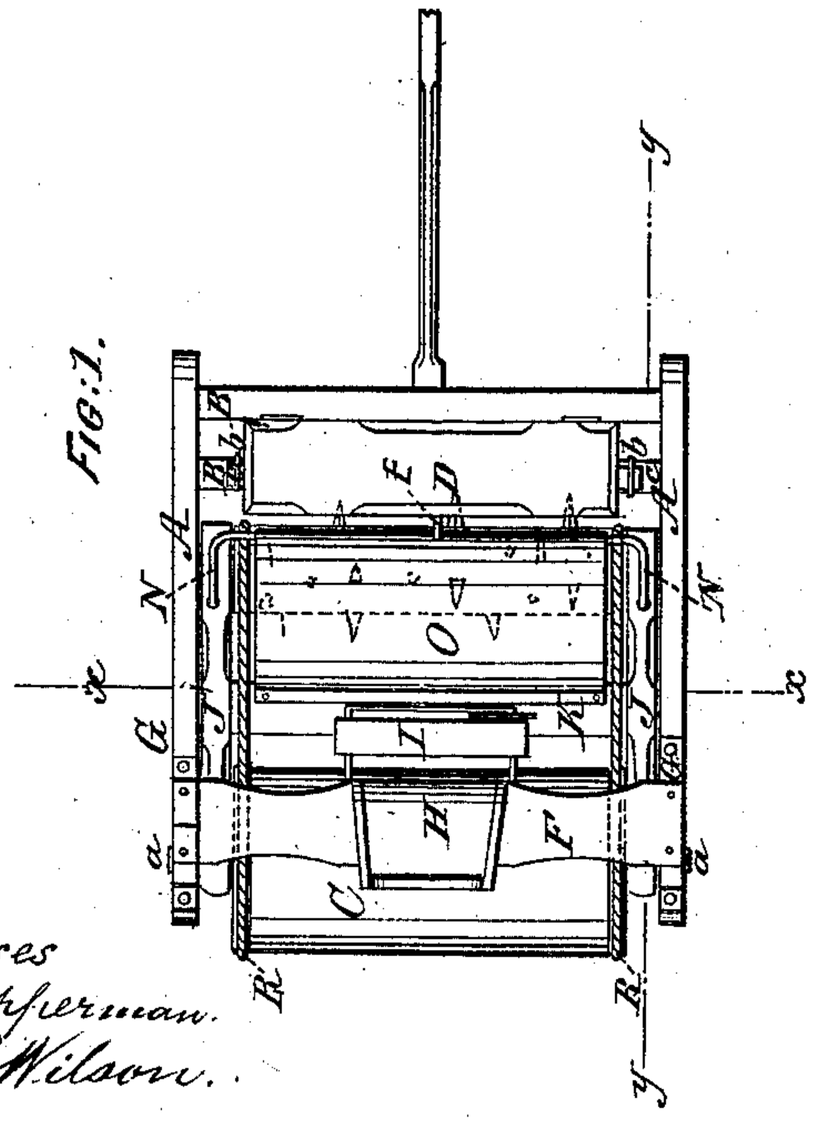
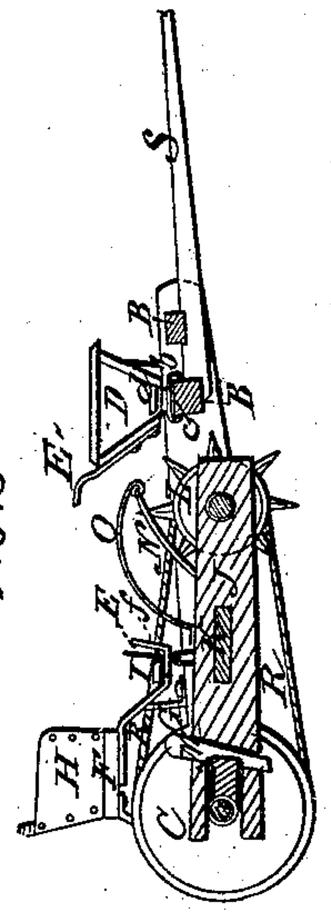


FIG. 3



Witnesses
F. A. Hopperman.
Chas. C. Wilson.

Inventor
E. A. Barton
By attys
Asa W. Antire & Co.

United States Patent Office.

EDWIN A. BARTON, OF BOONVILLE, INDIANA.

Letters Patent No. 92,001, *dated June* 29, 1869.

IMPROVEMENT IN COMBINED SEED-SOWER, HARROW, AND ROLLER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, EDWIN A. BARTON, of Boonville, in the county of Warrick, and State of Indiana, have invented certain new and useful Improvements in Combined Seed-Sower, Harrow, and Roller; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this application.

My invention consists in such an arrangement and construction of parts, that it may be altered to a seed-sower and harrow, harrow and roller, or roller only.

To enable those skilled in the art to make and use my improved machine, I will proceed to describe the construction and operation of the same, referring to the accompanying drawings by letters, and in which—

Figure 1 is a top view of my improved machine;

Figure 2, a section of the same, at the line *x x*, fig. 1;

Figure 3, a longitudinal vertical section, at the line *y y*, fig. 1;

Figure 4, a side view, with the harrow and seed-sower detached; and

Figures 5 and 6, detail views on increased scale, showing the boxes in which the roller rotates, fig. 6 being a section at line *z z* of fig. 5.

Similar letters of reference denote like parts in the different figures.

A A are two side rails, and B B, two cross-bars, forming the frame for the roller C, which is provided with an axle, *a*, the ends of which rest and revolve in bearings near the rear ends of the side rails A A.

The rear one of the two cross-bars B B is provided with seed-channels, or chutes, through which the seed flow from the hopper D, said hopper being arranged on the cross-bar B, by means of staples, *b*, passing over tangs, *c*, arranged on the ends of the hopper.

The hopper is provided with a sliding bottom, provided with seed-holes, which coincide, in a given position, with holes in the bottom proper and the chutes of the cross-bar B, so that, by means of the lever E, the flow of seed may be increased, diminished, or entirely stopped.

S is the tongue, which is secured to the cross-bars B B, as shown.

The rear ends of the rails A A are provided with brackets, G, to which is secured a platform, F, on which is secured the seat H, which has a hinged lid, in order that it may be used as a tool-chest.

Suspended from the platform F, upon a suitable frame, is the foot-board I, provided at one end with a pin, *f*, which serves as the fulcrum for the lever E.

The roller C is shorter than the distance between the side rails A A, to an extent equal to the combined thickness of the two side rails J J of the harrow-frame, and a trifle more, which will enable the roller to rotate freely between the rails of the harrow-frame, the journal-boxes, shown at figs. 5 and 6, serving as collars between the ends of the rollers and the harrow-frame, to keep the roller in place.

The harrow-frame consists of two side rails, J J, joined by the cross-bar K, in the centre.

The forward ends are provided with bearings, for the reception of the axle of the rotary harrow L, and the rear ends are mortised longitudinally, to receive the square ends of the boxes on the roller.

They are also mortised vertically, to receive the wedges M.

In the centre of the cross-bar K is arranged a hook, or staple, to which, by means of one or more links, is attached the lever E, whereby the harrow-frame may be raised or lowered, when necessary.

A frame, or bent rod, is secured to the forward ends of the rails J J, a little in rear of the axis of the harrow, to which is secured the shield or screen O, which is bent in the arc of a circle over the harrow, and secured, at its opposite side, to the cross-bar K, by means of bolts or rivets.

The journal-boxes, shown at figs. 5 and 6, are made of wood and metal.

P represents the wooden block, shaped as seen, and Q, a metal band, formed to embrace the journal, or axle of the roller, and give strength to the box. The square end is cut away vertically, to receive the wedge M, which passes through the side rails J J of the harrow-frame, for the purpose hereinafter explained.

R R are belts, bands, or chains, passing around the roller C and harrow L, in grooves made to receive the same, and keep them from contact with the ground.

The operation &c., of the machine, is as follows:

The roller being in its frame, and having the journal-boxes, or collars swung on its axle, the harrow-frame is attached by passing the mortised rear ends of its side rails over the square ends of the boxes, or collars on the roller-axle, the bands are then passed around the roller and harrow, and the wedges M driven in, which tightens the bands, and holds the two frames together.

The team being put in motion, the harrow-teeth are forced into the ground, and the harrow and roller both rotated, one operating upon the other through the medium of the bands R R. The seed are dropped in any given quantity (by a gauge-pin) immediately in front of the harrow, which turns them in and throws the clods immediately under the roller, which derives a dragging as well as rotary motion from the resistance encountered by the harrow, and thus effectually mashes the clods and rolls the earth down.

In going to or from the field, or when obstructions are encountered, the harrow-frame and harrow are elevated by the lever at the foot-board of the driver's seat.

When it is desirable to reduce the machine to a simple roller, the seed-hopper is removed, the bands R R are taken off, (the wedges M being first removed,) the

tongue S raised slightly, and pushed backward, when the harrow-frame will slide off the square ends of the journals, leaving them upon the axle of the roller, to serve as collars to keep said roller in place.

Having described the construction and operation of my improved machine,

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the roller-frame A A and harrow-frame J J, constructed as shown and described, the peculiarly-shaped bearings P Q, the belts R R, and wedges M M, all operating substantially as and for the purpose set forth.

2. A combined seed-sower, harrow, and roller, capable of conversion by means of the peculiarly-shaped bearings P Q, belts R R, and wedges M M, as and for the purpose hereinbefore specified.

3. In combination with the harrow-frame J J, when connected with the roller-frame A A by means of the bearings, P Q, belts R R, wedges M M, the screen O, constructed and arranged as and for the purpose set forth.

In testimony whereof, I have hereunto set my hand, this 19th day of March, 1869.

EDWIN A. BARTON.

Witnesses:

HENRY MACY,

JOHN H. WILLHELM.