

(No Model.)

S. R. HOUSER.

COMBINED ROLLER AND PULVERIZER.

No. 334,703.

Patented Jan. 19, 1886.

Fig. 1.

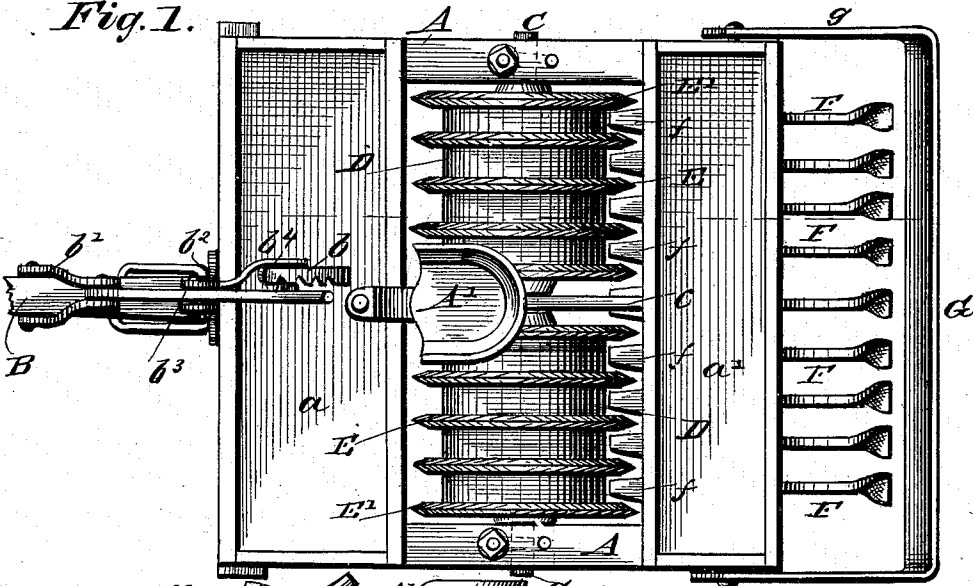


Fig. 2.

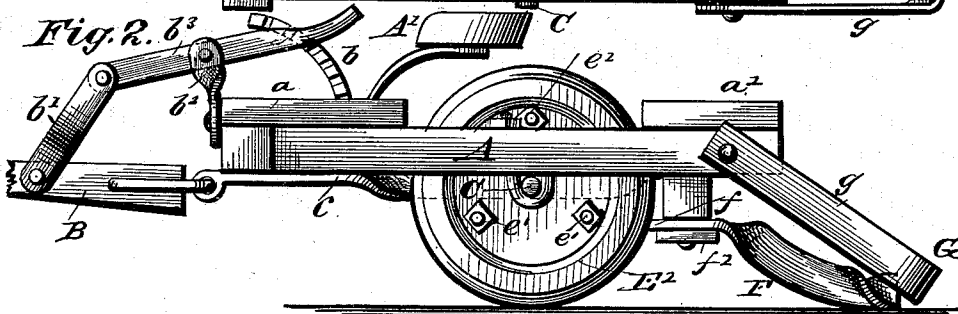


Fig. 3.

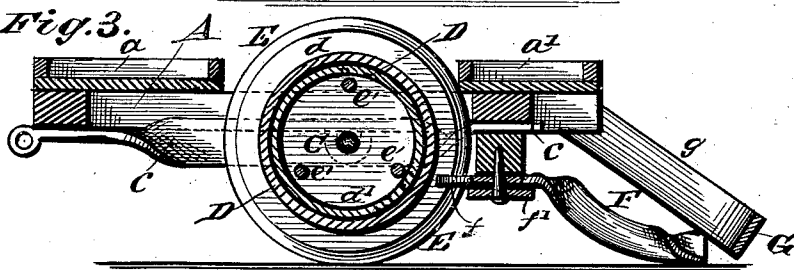
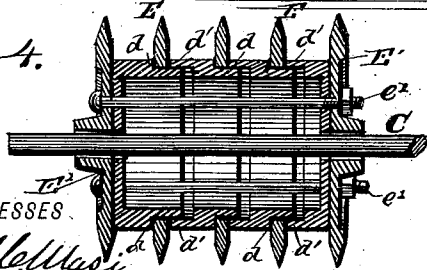
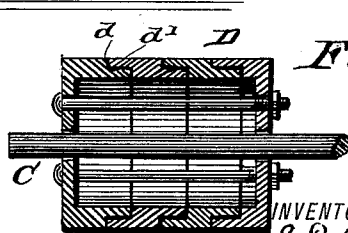


Fig. 4.



WITNESSES.
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Fig. 5.



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SAMUEL R. HOUSER, OF UPPER SANDUSKY, OHIO.

COMBINED ROLLER AND PULVERIZER.

SPECIFICATION forming part of Letters Patent No. 334,703, dated January 19, 1886.

Application filed September 26, 1885. Serial No. 173,960. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. HOUSER, a citizen of the United States, residing at Upper Sandusky, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in a Combined Roller and Pulverizer; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a plan view. Fig. 2 is a side elevation. Fig. 3 is a vertical section of the same. Fig. 4 is a detail sectional view showing the drum when used as a pulverizer, and Fig. 5 is a similar view showing same when used as a roller.

This invention relates to improvements in pulverizers, its object being to so construct the machine that by removing certain detachable parts it may be used as an earth-roller; and it consists in the construction and arrangement of hereinafter - described parts, which, by reference to the drawings, may be easily understood, and which are pointed out in the claims appended.

Referring to the accompanying drawings by letter, A designates the main frame of the machine, of rectangular shape, and having the transverse platforms *a a'* secured across its front and rear ends, respectively. The driver's seat *A'* is supported on a standard or standard-frame rising from the platform *a*, in the central longitudinal line of the main frame, and the tongue B is hinged to the center of the front beam of the frame. The tongue is rendered adjustable upwardly and downwardly by the following means:

b is a curved reach-bar rising from the platform *a*, in front of the driver's seat, the reach being on one side of the bar.

b' is an inverted yoke pivoted to the tongue.

b² is a standard rising from the front edge of the frame above the tongue.

b³ is a lever-arm pivoted near its center on the standard *b²*, having its outer end pivoted to the upper end of the yoke, and its inner end within easy reach from the driver's seat. The

lever-arm has an edge adapted to engage between the teeth of the rack, and a leaf-spring, *b⁴*, secured to it, which spring presses against the side of the bar *b* opposite the reach, and serves to keep the lever set in the position desired.

C is the axle, turning in proper bearings in the side beams of the main frame, and in the longitudinal bar *c*, secured to the said frame in its central line.

D D are roller-cylinders of proper width, having their meeting edges provided with the interior and exterior rabbets or flanges, *d d'*, respectively. The said rabbets are so constructed that when the cylinders are pushed closely together the interior rabbets will lie within the exterior, and the peripheries of the cylinders will form one continuous surface. The cylinders are bored centrally and turn freely on the axle, and are arranged in two similar sets, one on each side of the central bar, *c*, of the frame. The outer edges of the cylinders of each set are not rabbeted, for a purpose hereinafter apparent.

E E are steel pulverizing-disks, provided with central openings to fit snugly in the interior rabbets, *d'*, and having the peripheries brought to proper cutting-edges.

E' E' are pulverizing-disks adapted to lie against the ends of each set of cylinders, and having their central openings fitting loosely over the axle.

e' are long rods adapted to pass through proper openings in the cylinders and the end disks, E'. The said rods have their ends threaded, so that when the disks E are placed between the rabbets *d d'* of the cylinders and the end disks are put in place the whole may be bound tightly together, and form a pulverizing-roller, by means of nuts on the ends of the rods, or all the disks may be removed and the cylinders similarly bound together to form a continuous earth-roller.

F F are supplementary cutting and spreading bars, the front ends, *f*, of which lie in a horizontal plane, and are pivoted to a transverse bar, *f'*, secured across the main frame to the rear of the pulverizing-rollers. The ends *f* run forward between the disks E and act as scrapers to the cylinders D. To the rear of their pivots the bars F are twisted on

themselves, so as to lie in vertical planes, and are curved, their convex lower edges being brought to a proper edge, to act as pulverizers. The rear ends of the bars are twisted to lie in oblique parallel planes, and have no cutting-edges, so that they will spread laterally the earth pulverized by the disks and the cutting-edges of the bars F.

G is a rectangular frame, having its arms *g* pivoted at their upper ends to the rear ends of the side beams of the main frame. The lower edge of the horizontal bar of the frame G acts as a spreader, and further aids in pulverizing the earth acted on by the disks and supplementary bars. The said bars are pivoted to prevent their front ends, *f*, binding between the disks, should the latter have any lateral motion. The edges of the said ends converge slightly forward for the same purpose.

When the machine is used as a pulverizer, the disks E E', bars F, and frame G are all attached to the machine; but when it is desired to use the machine as an earth-roller they are all detached and the cylinders D bolted closely together to form continuous rolling-cylinders. The said cylinders are preferably made of metal—such as cast-iron—to give them sufficient weight.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In an earth rolling and pulverizing machine, the combination of the main frame, the axle turning in bearings thereon, the rolling-cylinders turning on the axle, with the meeting edges of adjacent cylinders provided, respectively, with interior and exterior rabbets, the former adapted to lie closely within and against the latter, the pulverizing disks with central openings, whereby they are adapted to fit over the interior rabbets and lie bound between the interior and exterior rabbets, the pulverizing-disks with central openings to fit over the axle, and lying against the outer side of the end cylinders of a set, and the rods with threaded ends and nuts thereon, whereby the cylinders and disks may be all tightly bound

together or the cylinders alone may be bound together to form a continuous earth-roller, substantially as specified.

2. In an earth-pulverizing machine, the combination, with the main frame, of curved pulverizing-bars secured to the rear thereof, having their convex lower edges brought to a proper edge to pulverize the earth, and their rear ends twisted, so as to lie in oblique parallel planes and spread laterally the earth pulverized by their edges, substantially as specified.

3. In an earth-pulverizing machine, the combination, with the main frame, axle, and pulverizing-rollers composed of the rolling-cylinders and pulverizing-disks bound tightly together, of supplementary curved pulverizing-bars secured to the frame in rear of the rollers, having their convex lower edges properly edged, to pulverize the earth, and their rear ends twisted, to lie in oblique planes and act as spreaders, substantially as specified.

4. In an earth-pulverizing machine, the combination, with the main frame, axle, and pulverizing-rollers composed of the rolling-cylinders and pulverizing-disks bound together, of supplementary curved pulverizing-bars pivoted to the main frame in rear of the rollers, with their front ends entering between the disks to form scrapers for the cylinders, their convex lower edges properly edged, to act as pulverizers, and their rear ends twisted, so as to lie in oblique planes and act as spreaders, substantially as specified.

5. In an earth-pulverizing machine, the combination, with the main frame, axle, and rollers, composed of the cylinders D and disks E E', of the pivoted pulverizing and spreading bars F, having the front ends, *f*, to act as cylinder-scrapers, and the spreading-frame G, pivoted to the rear end of the main frame, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL R. HOUSER.

Witnesses:

ELZA CARTER,
W. R. SATSMAN.