(No Model.) 2 Sheets—Sheet 1.

B. M. ROOT.

CORN SHELLER.

No. 368,356. Patented Aug. 16, 1887.

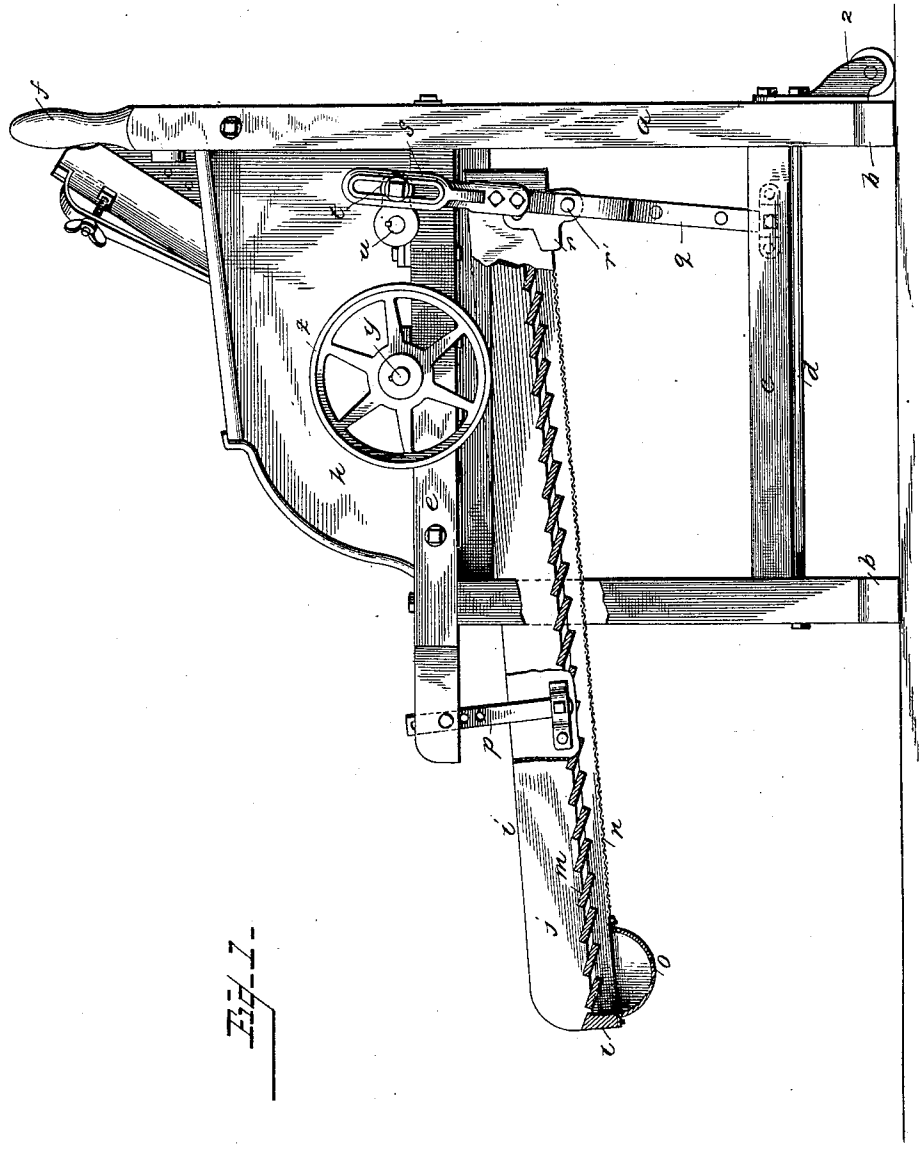


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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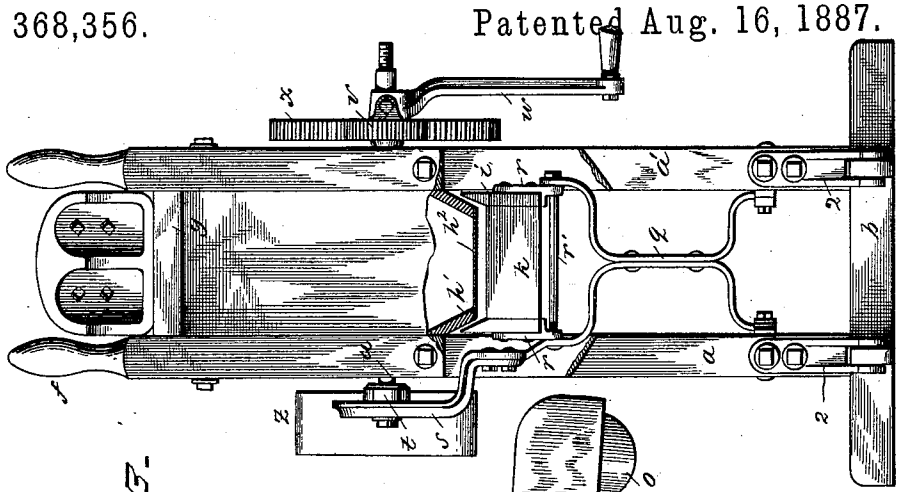
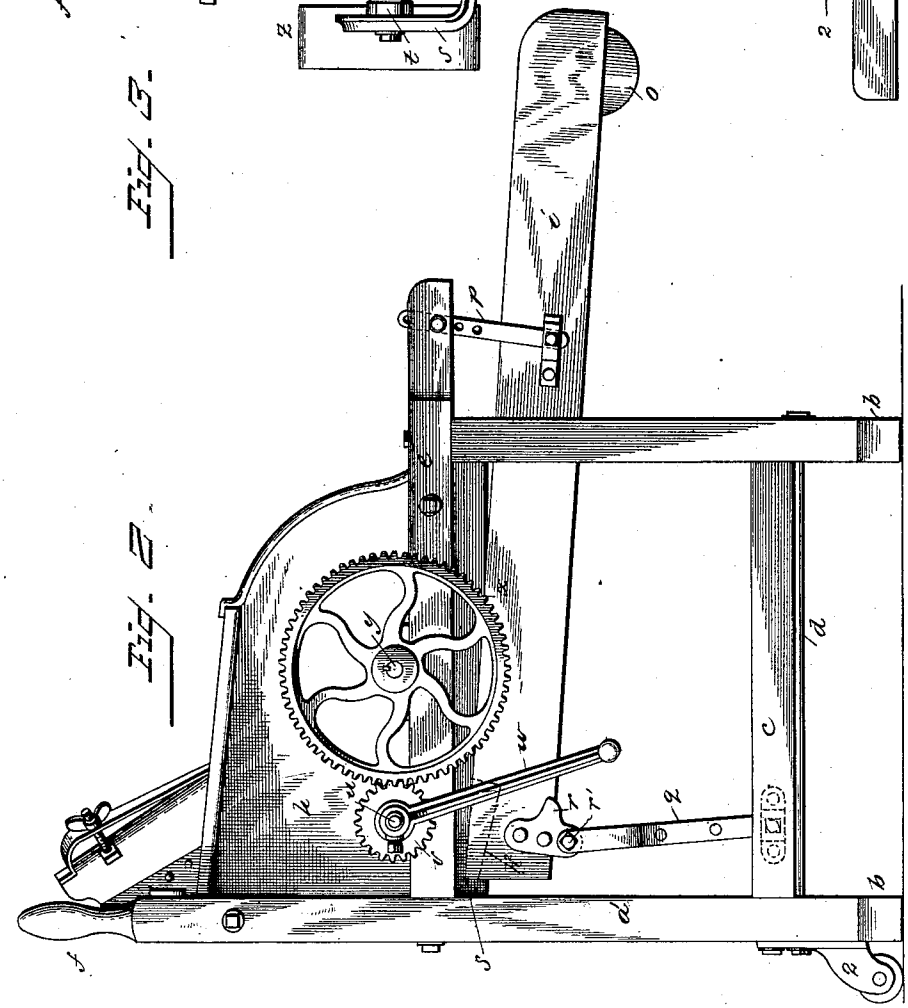


Fig. 2.



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UNITED STATES PATENT OFFICE.

BENJAMIN M. ROOT, OF YORK, PENNSYLVANIA.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 368,356, dated August 16, 1887.

Application filed August 24, 1886. Serial No. 211,771. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN M. ROOT, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Corn-Shellers, of which the following is a full, clear, and exact description.

The object of this invention is to provide a corn-shelling machine with means for separating the shelled corn from the cobs and the chaff; and the invention consists in a peculiar construction and combination of the riddle and sieve and means for operating the same, as hereinafter more particularly set forth and claimed.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of the discharge side of the machine with the separator partly in section. Fig. 2 is a similar view of the opposite side of the machine, and Fig. 3 is a front elevation with part of the casing broken away to show some of the details of the separator.

I have not shown the details of the shelling mechanism, for the reason that I do not herein claim anything new in it; but I may remark that the shelling mechanism, so far as it appears in the drawings, may be the same as that covered in my United States Letters Patent of March 29, 1881, No. 239,552. This shelling mechanism is arranged in a frame constructed of uprights *a a'*, transverse foot-pieces *b*, longitudinal stringers *c*, metallic tie-rods *d*, and top timbers, *e*, which several pieces *a*, *b*, *c*, and *e* may be secured together in any suitable substantial manner. The uprights *a* are provided with handles *f*, for a purpose hereinafter explained, and these uprights are further connected near the handles by a cross-piece, *g*. The bottom of the casing *h*, which contains the corn-shelling mechanism, is open, so as to discharge the corn and the cobs downward into the separator *i*. This separator consists of side pieces, *j*, and end pieces, *k l*. Between these side pieces, and arranged therein at an incline, the lower points of which tend toward the front of the machine, are arranged slats *m*, with spaces between them, after the manner of blind-slats, such slats overlapping and being sufficiently far apart to permit the escape between them of the corn and chaff and to retain the cobs, which latter are discharged over the end bar, *l*. Obviously the slats may run lengthwise instead of crosswise in this separator *i*. The bottom of this separator consists of a wire or other suitable screen, *n*, upon which the corn and chaff fall, the mesh of this screen being sufficiently large to permit the escape of the chaff, while the corn is discharged over the chute *o*, arranged at the discharge end of the separator. The slats form what I have termed the "riddle," and the wire-netting the screen or sieve. This separator is loosely suspended from the top timbers, *e*, by adjustable hangers *p*, arranged, substantially as indicated in the drawings, near the discharge end of the separator, while the forward end of the separator is supported at a higher elevation than its discharge end by means of an X-shaped rocker, *q*, said rocker having pivotal bearings in the timbers *e*, and also being pivotally jointed to castings *r*, made fast to the forward end of the separator.

Secured to the upper end of one side of the rocker *q*, and projecting therefrom laterally and vertically, is a slotted arm, *s*, which is engaged by a crank, *t*, on a pinion-shaft, *u*, so as to give to said separator such shaking motion as is necessary to agitate the shelled corn and the cobs and insure their feed to the discharge end of the separator. The pinion-shaft *u* extends transversely of the machine, and has on its other end a pinion, *v*, and, if desired, an operating-crank, *w*, and said pinion meshes with a gear-wheel, *x*, on the main sheller-shaft *y*. Obviously the operating-crank *w* may be applied to the gear-wheel *x* or its shaft *y*.

In Fig. 1 I have shown a pulley, *z*, applied to the sheller-shaft *y* for driving the machine by power. It will be understood that the pulley *z* may be applied to the shaft *u*.

The separator may be secured to the rocker *q* by a bolt, *r'*, which is readily removable, and it will be seen that by removing this bolt *r'* and detaching the hangers *p* the separator may be readily disconnected from the machine. Furthermore, it will be observed that by the use of the peculiar separator set forth and its means of application to the sheller proper the separator may be applied to machines already in use at very small expense.

To facilitate the moving of the corn-sheller, there may be applied to the uprights *a*, on their front sides, the caster-wheels 2 2, which are arranged on a level with the lower edge of the foot-pieces *b*, so that the machine will stand firm upon such foot-pieces while in use, and not be subject to the vibration incident to resting upon wheels. When it is desired to use the casters for moving the machine, the machine is simply tilted forward until it rests upon the casters, and then by grasping the handles *f* the machine may be trundled wherever desired.

In Fig. 3 I have broken away part of the casing, and have shown that the lower end of the sheller-casing *h* is made funnel-shaped at *h'* and projects within the sides of the separator, and at this end of the machine the casing *h* is provided with a deflector-plate, h^2. (See Fig. 2, dotted lines, and Fig. 3.) This deflector-plate may be simply a piece of sheet metal having an inclined bottom projecting into the separator and sides covering the space between this bottom and the frame. The deflector is arranged beneath the shelling mechanism, and forms a chute to direct the material into the separator and prevent it from flying out beyond such separator.

What I claim is—

1. In a corn-sheller, the separator consisting of a riddle and a screen, the latter arranged below the former, and a frame common to both and provided with discharges for the riddle and screen independent of one another, combined with hangers suspending the separator from the machine near the discharge end of such separator, and a rocker sustaining the separator at its other end and pivotally connected therewith, and a slotted arm rigidly affixed to said rocker, and a crank-shaft engaging it to impart a shaking motion to such separator, substantially as described.

2. In a corn-sheller, a separator comprising a riddle and a screen, the latter arranged below the former, a frame common to both, and provided with independent discharges for each, combined with hangers *p*, for suspending the said separator near its discharge end from such sheller, an **X**-shaped rocker, *q*, pivoted below such separator on the timbers of the sheller-frame and loosely connected to its sides, a slotted arm, *s*, projecting laterally and vertically from the upper end of one side of the rocker, a crank-shaft engaging such slotted arm, and means to rotate said crank-shaft, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of August, A. D. 1886.

BENJAMIN M. ROOT.

Witnesses:

JOHN C. SPANGLER,

LEWIS A. HOKE.