W. U. HOOVER.

Band Cutting Machine.

No. 48,280. Patented June 20, 1865.

FIG. 1.

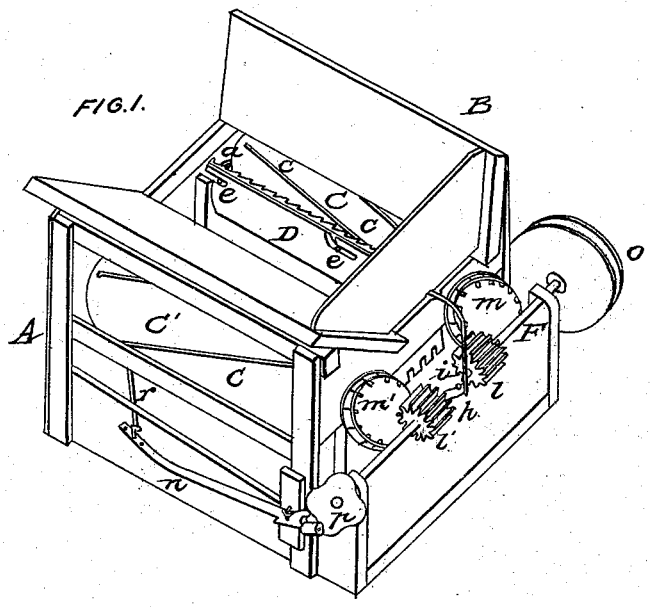


FIG. 3

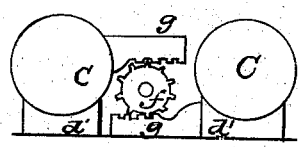
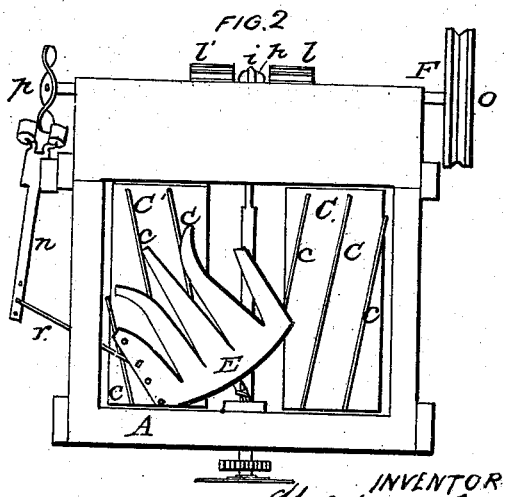


FIG. 2



WITNESSES

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IMPROVEMENT IN BAND-CUTTING MACHINES.

Specification forming part of Letters Patent No. **48,280**, dated June 20, 1865.

To all whom it may concern:

Be it known that I, W. UPTON HOOVER, of Macomb, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Band-Cutting Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the drawings, Figure 1 is a perspective view of the machine complete. Fig. 2 is a bottom-plan view; and Fig. 3 is an end view of the rollers and the devices for adjusting them.

The nature of my invention consists in so combining and arranging a reciprocating saw-toothed band-cutter with a pair of adjustable feed-rollers, and a vibrating, separating, or feed-regulating shaker that the parts shall all operate together, and thereby cut the bands of bundles of grain, and feed the same into a thrashing-machine automatically and continuously.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

A represents a rectangular frame, of any suitable size, on top of which is mounted a hopper, B, for receiving the bundles of grain to be operated upon.

In the center of the frame, underneath, or in the bottom of the hopper, which is left open, is located a stationary piece, D, in which is mounted the saw *a* in such a manner that it will readily move to and fro therein. The saw may rest in a groove cut in the upper edge of the piece D, and be secured therein by means of the pins *e* working in the slots in bar D, as shown in Fig. 1, or in any other suitable manner.

A short distance below and on either side of D are mounted the two feed-rollers C and C′. These rollers are shown provided with spiral projections or flanges *c*, for the purpose of feeding the unthrashed grain down upon the shaker E placed underneath the rollers. Instead of the ribs or projections *c*, teeth may be used on the feed-rollers, if desired. These rollers are mounted at each end in movable bearings *d* and *d′*, to each of which is attached an arm, *g*, provided with cogs or teeth, as shown more clearly in Fig. 3.

On a shaft running parallel with the rollers is secured a cog-wheel, *f*, at each end, of suitable size, and so located as to engage in the teeth of the arms or racks *g*. By turning this shaft the rollers will be drawn together or shoved apart, as may be desired, and thus regulate the feed to any required extent. A pawl and ratchet located at any suitable point serves to hold the shaft and wheels *f* from turning, and thus keep the rollers, when once adjusted, in position.

Across the end of the machine, at right angles to the rollers, a shaft, F, is mounted, having a pully, *o*, at one end for receiving motion from the thrashing-machine, and having a cam-wheel at the opposite end for operating the lever *n*, by which a vibratory motion is imparted to the shaker E, it being connected thereto by the rod *r*, these latter parts being more clearly shown in Fig. 2.

Midway of the shaft F is a crank, *h*, to which is secured one end of the pitman or rod *i*, the opposite being connected with the saw or sickle *a*. On either side of crank *h*, on the shaft F, is secured the gear-wheels *l* and *l′*, which wheels gear into the wheels *m* and *m′* on the end of the rollers C and C′. The wheels *l* and *l′*, it will be observed, are made very wide on their faces or peripheries, which is done for the purpose of permitting the rollers with their wheels *m* and *m′* to be moved laterally and still be kept in gear with said wheels *l* and *l′*.

Directly underneath the rollers the shaker E is located and so pivoted as to permit the same to be vibrated by means of devices previously described. The rod *n* or shaker E, or both, may be provided with a series of holes, as shown, for the purpose of regulating the vibration of the shaker, as may be necessary.

Instead of the cam-wheel *p* a crank may be substituted and used in connection with an elbow lever and rod for the purpose of imparting motion to the shaker E, as is usual in fanning-mills.

The operation of my improved machine is as follows: The apparatus is secured directly over the mouth of an ordinary thrashing-machine, from which motion is imparted to it in any desired manner. The sheaves or bundles

of grain are placed in the hopper B in a position parallel with the rollers, which brings the bands of the bundles at right angles to and directly across the sickle or saw *a*, by which they are sundered, releasing the straw and permitting it to be drawn down between the rollers C and C′ upon the shaker E, from whence it is gradually and regularly fed into the mouth of the thrashing-machine. The sides of the hopper B are made inclining toward the center at the bottom, for the purpose of bringing the bundle onto the cutter and insuring the cutting of the band. Several bundles may be placed or pitched into the hopper at once, and they will be fed by their own gravity down upon the cutter if care be only taken to place them lengthwise of the hopper.

By these means I am enabled to produce a machine that operates with ease and rapidity, and that performs the entire operation of cutting the band and feeding the grain regularly into the thrashing-machine automatically and in a highly satisfactory manner.

Having thus fully described my invention and its operation what I claim is—

1. The reciprocating band-cutter *a*, arranged and operating substantially as set forth.

2. In combination with the cutter *a*, the feed-rollers C and C′, constructed and operating substantially as shown and described.

3. The vibrating shaker E, when used, as shown, for the purpose of feeding the grain into the thrasher.

4. The combination and arrangement of shaft F, provided with the crank *h*, gear-wheels *l l′*, cam *p*, or its equivalent, and wheels *m* and *m′*, as and for the purpose set forth.

5. The adjustable bearings *d* and *d′*, provided with the racks *g* and *g′*, in combination with the wheels *f*, for the purpose of adjusting the rollers C and C′, as herein described.

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Witnesses:
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