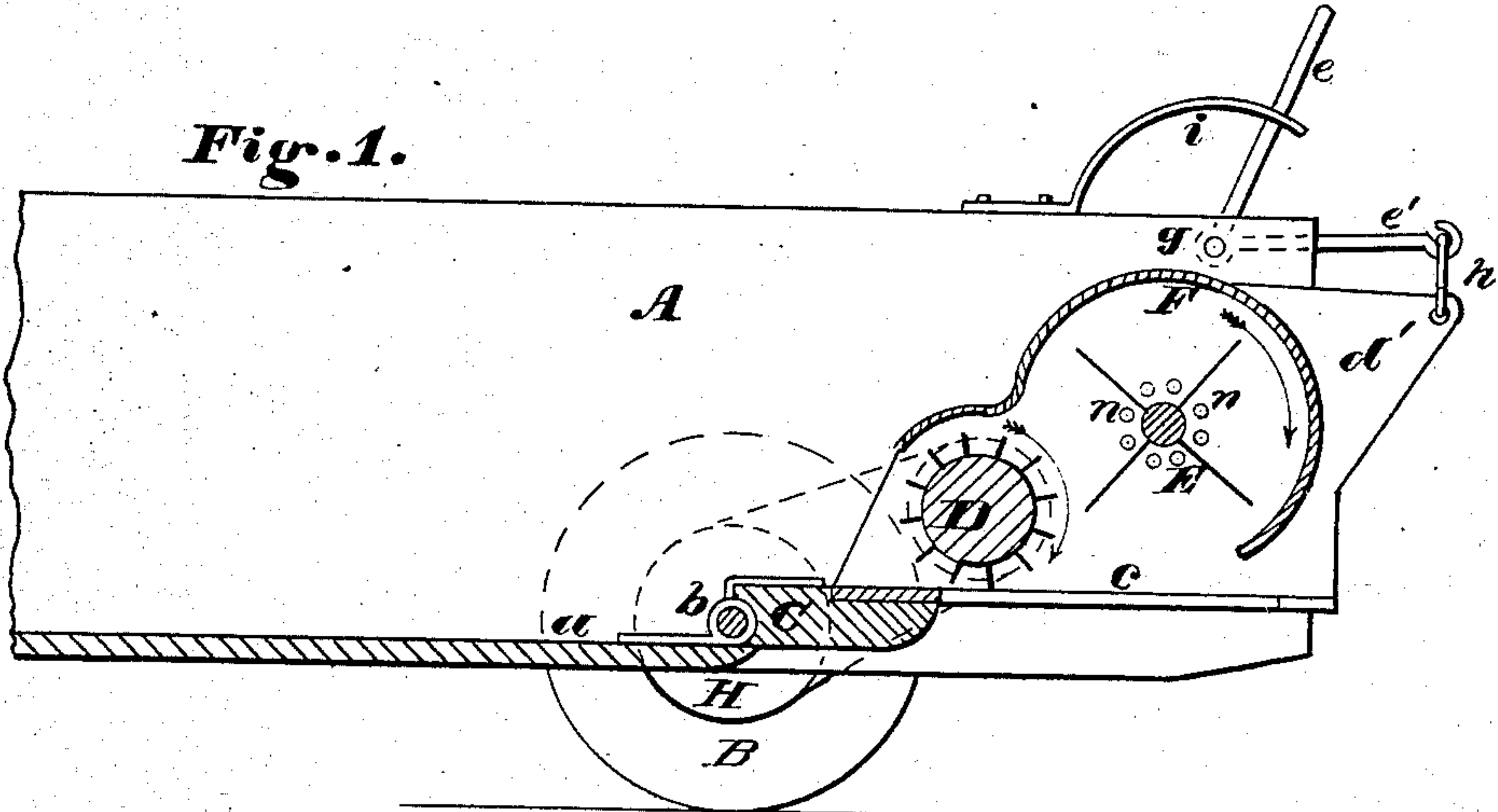


C. R. HARDY.  
Clover-Harvesters.

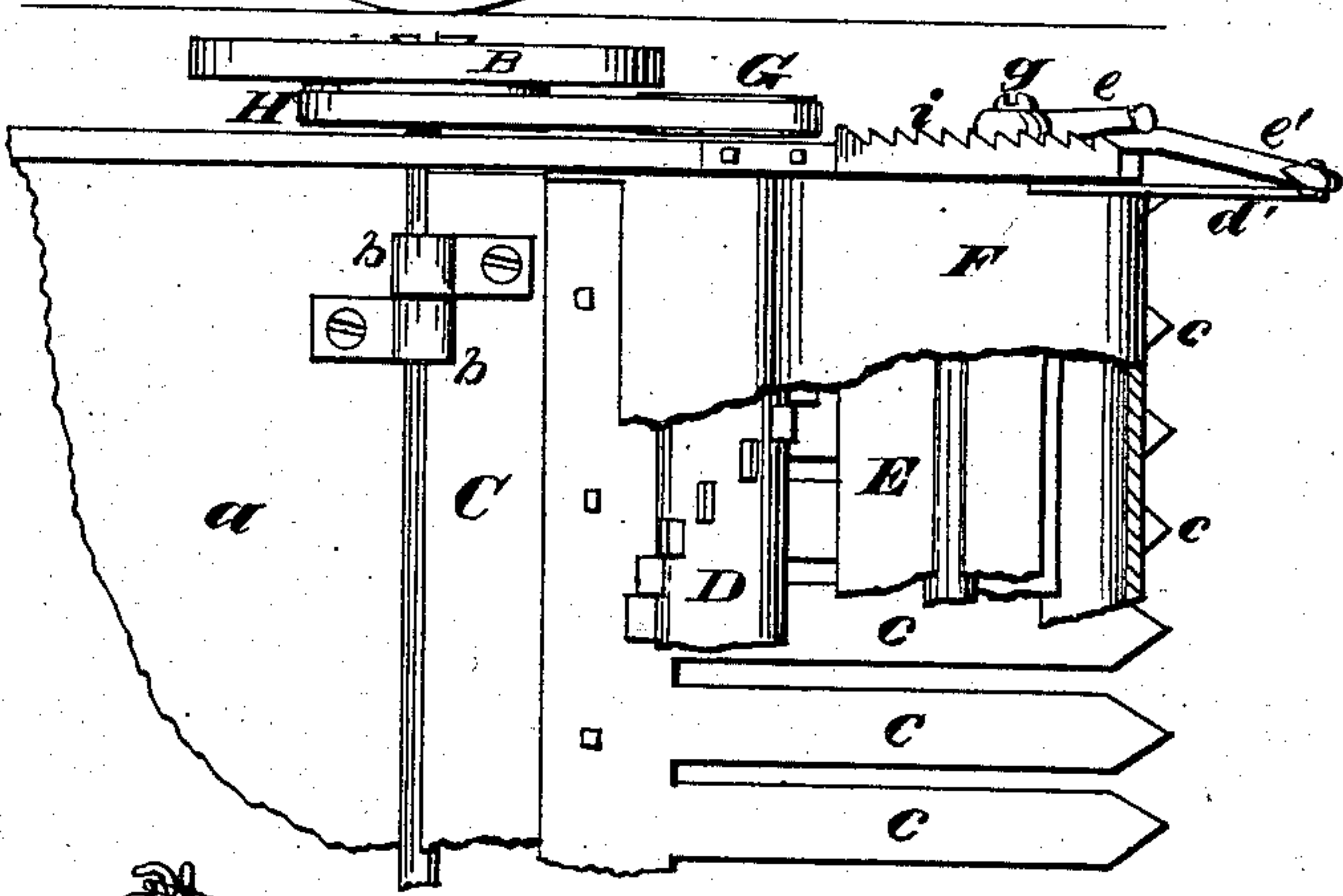
No. 158,795.

Patented Jan. 19, 1875.

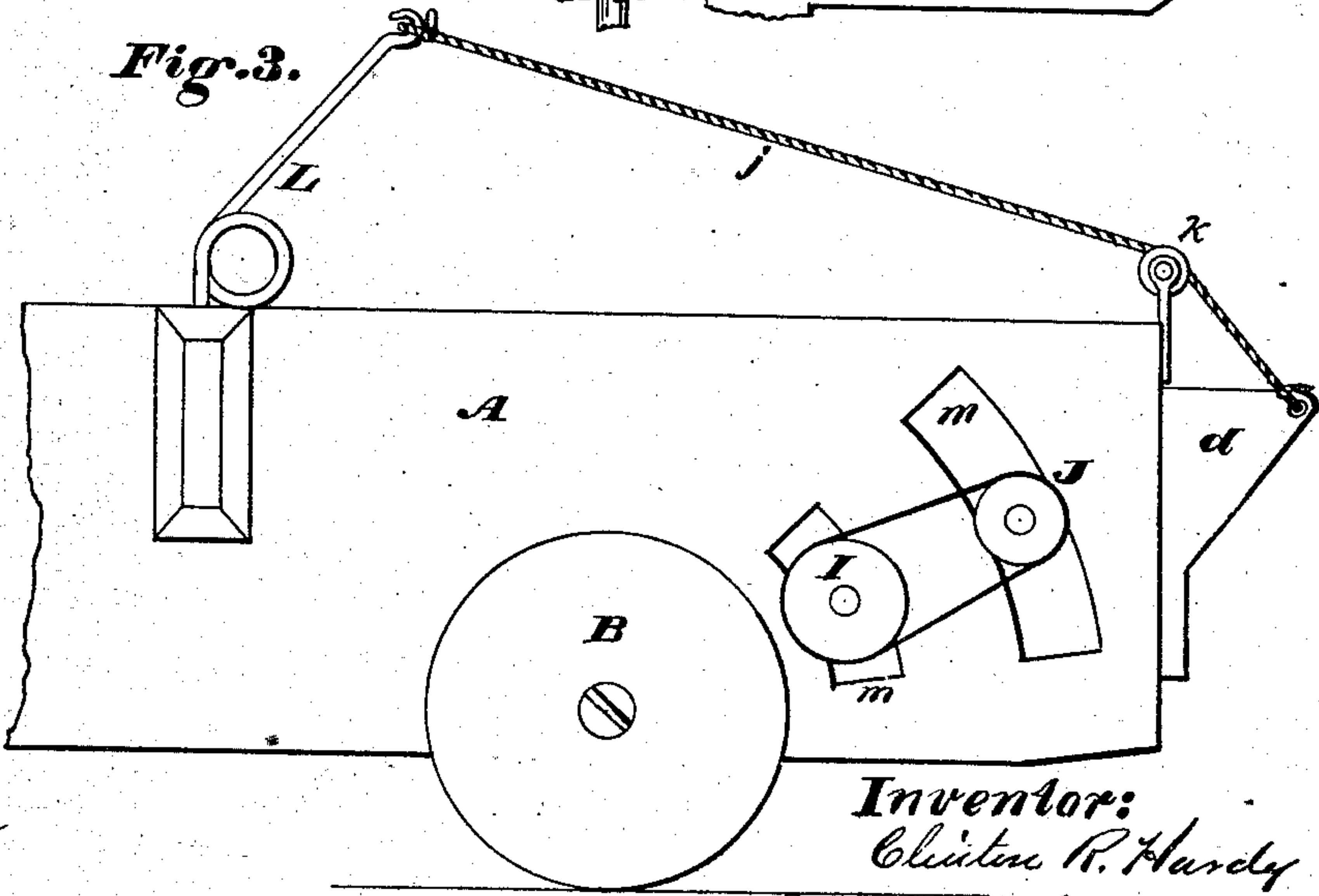
**Fig. 1.**



*Fig. 2.*



*Fig. 3.*



*Attest:*

R. Conwell }  
M. A. Gordon

**Inventor:**

Inventor:  
Clinton R. Hardy  
Per Henry Conwell Jr  
Attorney



# UNITED STATES PATENT OFFICE.

CLINTON R. HARDY, OF LEXINGTON, INDIANA.

## IMPROVEMENT IN CLOVER-HARVESTERS.

Specification forming part of Letters Patent No. **158,795**, dated January 19, 1875; application filed July 13, 1874.

*To all whom it may concern:*

Be it known that I, CLINTON R. HARDY, of Lexington, in the county of Scott and State of Indiana, have invented certain Improvements in Clover-Harvesters, of which the following is a specification:

In the machines ordinarily used for this purpose it is necessary to raise or lower the rear end, to regulate the height of the stripping-teeth at the front to suit the varying height of the clover. This necessitates lifting not only the bed itself, but the load in it.

In my invention only the operative mechanism, consisting of the stripping-teeth, reel, and fan for blowing the clover-heads back into the bed, is movable up and down, the bed remaining horizontal. This movement is about the axis of the main driving-wheels, so that the tension of the driving-belt is not changed.

In the drawings, Figure 1 is a longitudinal vertical mid-section of my invention. Fig. 2 is a plan, partially broken away to show the mechanism. Fig. 3 is a side view.

A represents a rectangular box-bed, the rear portion of which is omitted, as it contains no part of my invention. It may be supported upon caster-wheels, in the usual manner, or upon ordinary wheels, like those shown at B B. These latter support the front part of the bed A. The front portion of the bottom, *a*, of the bed is cut away about on the axial line of the ground-wheels B. B, and a cross-bar, C, bearing the operative mechanism, is hinged to the bottom at *b b*, on the axial line of the ground-wheels. To this bar is attached the stripping-teeth *c c* and the side frames, *d d'*, in which are journaled the reel D and blower or fan E. The latter are partially inclosed by a cylindrical housing, F, of sheet metal or thin wood, which is also secured to the side frames, *d d'*, at the ends. On one of the reel-journals, outside of the bed, is secured a pulley, G, which is rotated by a belt from a pulley, H, on the inner face of one of the ground-wheels. This is shown in dotted lines in Fig. 1, and in plan in Fig. 2. On the other journal of the reel, outside of the bed, (see Fig. 3,) is a pulley, I, which transmits motion to another pulley, J, on one of the journals of the fan E, through the medium of a belt, as shown.

By these means rotary motion is imparted to the reel and the fan by the revolution of the ground-wheel. A bell-crank lever provided with two arms, *e e'*, is pivoted to one side of the bed at *g*, the arm *e'* being connected to the side frame, *d'*, by a link, *h*, or any equivalent device. The upright arm *e* engages with a curved guide-ratchet, *i*, and by moving it (the arm) back and forth, the points of the stripping-teeth *c c* are raised and lowered, the teeth in the ratchet serving to hold the lever at any desired angle, in the usual manner.

As the hand-lever above described operates only on one side of the bed, and the weight to be lifted is considerable, I obviate the side draft and assist the operator by means of a compensating-spring, L, (see Fig. 3,) which may be attached to the opposite side of the bed from the hand-lever *e*. A cord or wire, *j*, attached to the upper end of the spring, extends forward and over a guide-sheave, *k*, to the side frame, *d*, where it is attached. I prefer that the spring L be strong enough to lift about three-fourths of the weight of the hinged part bearing the mechanism, leaving one-fourth to be controlled by the operator; but the spring may be made strong enough to lift all of the weight freely, so that it will require a slight forward pressure on the hand-lever to keep the teeth down. In this case the teeth on the ratchet *i* would be beveled in the opposite way from that shown.

By hinging the adjustable parts on the axial line of the ground-wheels, the pulley G moves concentrically around the pulley H, and the belt connecting them is thus kept always tight. Segmental openings *m m* in the sides of the bed allow for the proper movement of the projecting journals of the reel and fan. In the side frame, *d'*, are sundry holes *n n*, to admit air to the fan E.

When the harvester is in motion the reel and fan revolve in the direction of the arrows, the former cutting off the heads of clover caught by the teeth, and the latter blowing them back into the bed A, where they may be packed down by a boy.

The machine is intended to be drawn by horses; but no provision for this purpose is shown, as it forms no part of my invention, and is common to all machines of this class.



A side draft is, however, preferable, as it prevents the horses from treading down the clover before it is stripped.

With my device for raising and lowering the teeth, it is obvious that a much larger bed, capable of containing a much heavier load, can be used than in those machines where the rear of the bed is raised and lowered to regulate the height of the teeth.

The driver may be provided with a seat, if desired.

I do not claim the reel, nor the method of operating it, for this is common to machines of this class; but

What I do claim is—

1. In a clover-harvester, the frame com-

posed of the cross-bar C and side frames, *d d'*, for bearing the operative mechanism, consisting of the reel D and teeth *c c*, hinged on a line joining the centers of the ground-wheels B B, and operated by the lever *e e'*, substantially as shown and specified.

2. The fan E and housing F, in combination with the reel D, teeth *c c*, pulleys G H I J, and ground-wheels B B, constructed to operate together substantially as shown, and for the purposes set forth.

CLINTON R. HARDY.

Witnesses:

J. M. AURICK,

W. STRATTON.