2 Sheets—Sheet 1.

H. HUNT & S. BRYAN.

CORN HARVESTER.

No. 181,443. Patented Aug. 22, 1876.

Fig 1

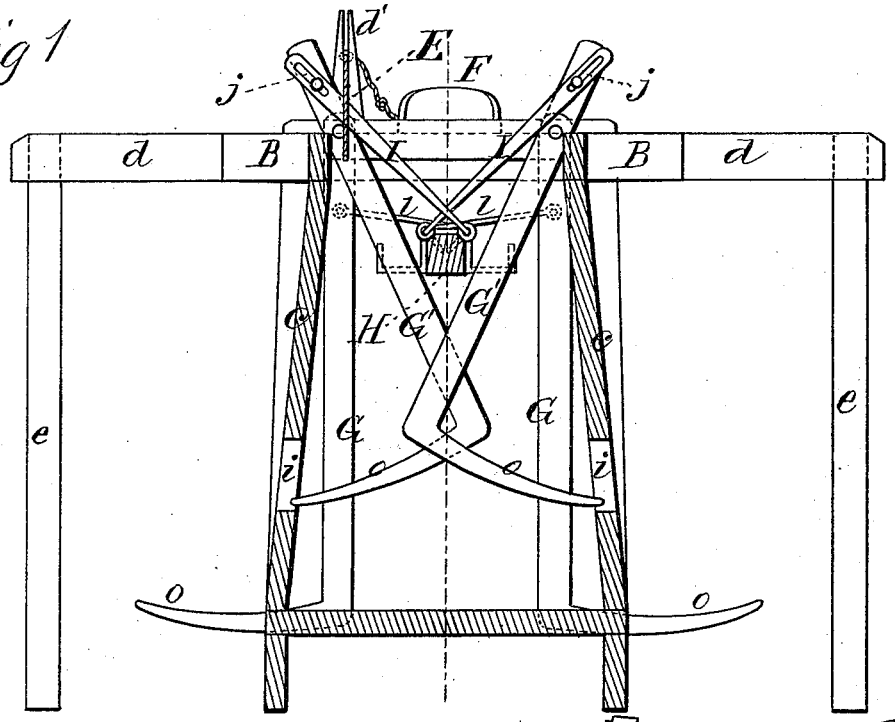
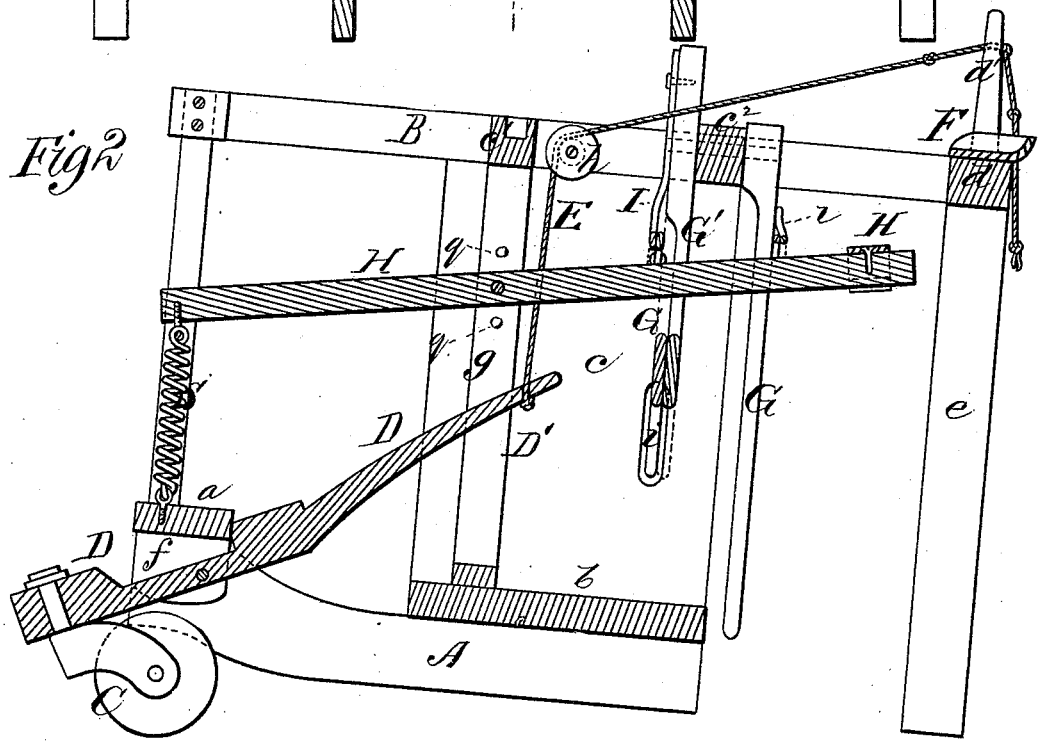


Fig 2



WITNESSES

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ATTORNEY

2 Sheets—Sheet 2.

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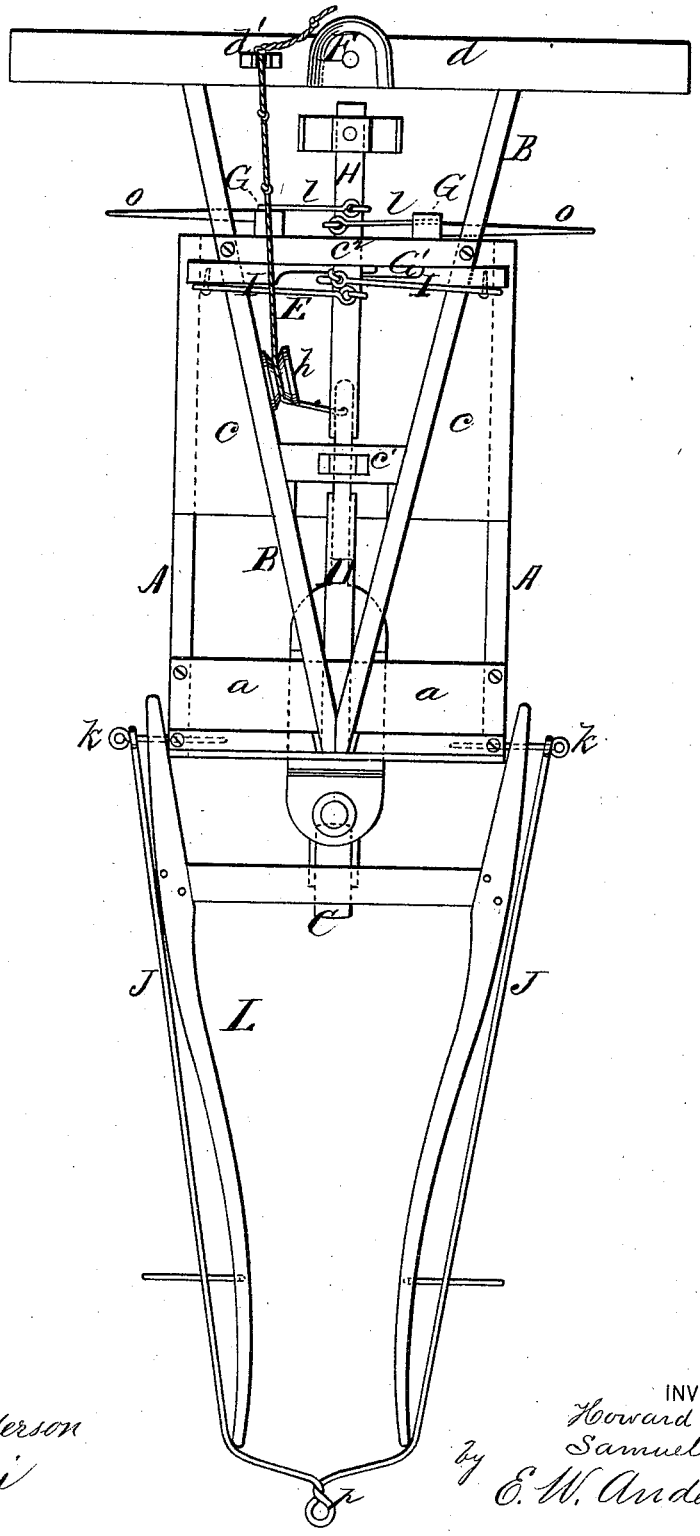
Fig 3



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UNITED STATES PATENT OFFICE.

HOWARD HUNT AND SAMUEL BRYAN, OF TWIN GROVE, WISCONSIN.

IMPROVEMENT IN CORN-HARVESTERS.

Specification forming part of Letters Patent No. **181,443**, dated August 22, 1876; application filed May 27, 1876.

To all whom it may concern:

Be it known that we, HOWARD HUNT and SAMUEL BRYAN, of Twin Grove, in the county of Green, and State of Wisconsin, have invented a new and valuable Improvement in Corn-Harvesters; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a cross-sectional view of my improved corn-harvester. Fig. 2 is a longitudinal vertical section of the same, and Fig. 3 is a plan view thereof, showing the guide attached to the thills.

This invention has relation to improvements in corn-harvesters; and it consists in a certain novel arrangement in connection with a frame of retractible dropper-arms arranged in sets of two on each side of the frame, one set being retracted when the other is protruded, and in the mechanism whereby such results are obtained, as will be hereinafter more fully explained.

In the annexed drawings, A designates the side rails of the frame of my improved apparatus, which are braced at their front ends by a cross-bar, *a*, and are connected in rear by a platform, *b*. *c c* represent the closed sides of our implement, which extend upward a certain distance, and are bolted or otherwise secured to a triangular frame, B, the ends of which are mortised to a transverse beam, *d*, to which are suitably attached bars *e*, in the lower ends of which the axle-arms of the transporting-wheels will be secured. The front end of the frame is supported by a caster-wheel, C, having its bearings in the front end of a beam, D. This beam is in the nature of a lever, and is fulcrumed in two studs, *f*, upon the under side of brace *a*, its power-arm being extended to the rear, and guided in its vibrations by being passed through a vertical slot, *g*, in an upright post, D, extending from the platform to the upper part of the frame, where it is mortised or otherwise secured to a transverse brace of the triangular frame B. It will be evident that by raising the power end of this lever the front end of the apparatus will also be elevated. This is accomplished by means of a cord or rope, E, secured to this arm, passing over a pulley, *h*, on the triangular frame B extending to the rear within reach of the driver's seat F on bar *d*, and secured against casual displacement by being passed through the cleft upper end of a stay, *d'*, erected on beam *d*, above described. Intermediate to the bar c^1, to which the standard D' is secured and beam *d* above described, is a third brace, c^2, of the triangular frame B, to which at its rear are pivoted, so as to vibrate vertically in a plane at right angles to the length of the frame, two hooks, G. These hooks are situated just in rear of the platform, and are connected by means of rods *l* to a vertically-vibrating treadle, H, extending to the rear within reach of the driver's feet, having its fulcrum in upright D', above described, and connected to the front bar *a* of the frame by means of a helical spring, S, which will at all times exercise sufficient restraint on hooks G to cause their tines *o* to be extended. The depression of the treadle will, by drawing the shanks of these hooks inward toward each other, retract the ends of these tines within the edge of the sides *c* of the frame. G' represents similar hooks, which are pivoted at or near the center of their lengths to the front vertical face of beam c^2, and the tines of which are adapted to pass during their operation through slots *i* in the sides of the casing *c*. These hooks, or droppers, as they are called, are connected beyond their pivot to beam or lever H by means of crossed rods I, a slot, *j*, being formed in their upper ends, for the purpose of securing them to the shanks of the hooks, and allowing hooks G to be retracted before hooks G' are protruded through slots *i*.

The effect of the contractile power of spring S is to cause hooks G to be constantly extended beyond the frame, and to cause the points of hooks G' to be drawn back within slots *i*, but when the driver, by bearing down upon the treadle, retracts hooks G, the other hooks G' will be extended or protruded. This effect is due to slots *j*, which prevent the vibration of the treadle from affecting hooks G' until the other set G are retracted. The re-

moval of the power applied to the treadle will enable the contractile power of spring S to come into play, the effect of the same being to retract hooks G′ and protrude hooks G. The shafts or pole L, whereby the draft-animals are hitched to the apparatus, are secured to the side beams A of the frame, as shown in Fig. 3, by means of bolts *k*, which also pass through eyes on the ends of a U-shaped metallic guide, J, which extends in front of the thills in an angular form, and is supported from the breast of the draft-animals by means of a strap secured at one end to an eye, *p*, on the guide, and at the other to the collar, hames, or breast-strap. This guide will raise any stalks which, by being inclined over the path of the apparatus, would be in danger of being trodden down by the team, and pass them to the cutters arranged between the end of the thills and hooks G′. The stalks, after being severed, will fall upon hooks G until a sufficient quantity has been accumulated to form a sheaf, when the driver, by pressing down upon the treadle, will retract this set of hooks, allowing the bundle of stalks to fall, and project the other set, so as to accumulate a second bundle. By this means, as one bundle is dropped by the retraction of one set of hooks, the other will be protruded to gather and receive all stalks severed from their stems subsequently. Lever H is capable of vertical adjustment for the purpose of increasing or diminishing its throw by means of spaced perforations *q*, made in upright D′, and it is guided, during its vibrations, by being extended through slot *g* in the said upright.

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

1. The alternately-vibrating dropper-hooks G G′, and rods *l* I, in combination with a vibrating treadle, H, and the frame of a corn-harvester, substantially as specified.

2. In combination with the dropper-hooks G G′, rods *l* I, and treadle H, the spring S, substantially as specified.

3. Hooks G′, connecting-rods I, having slot *g* in their upper ends, and treadle H, in combination with the dropper-hooks G, and rods *l*, substantially as specified.

4. In a corn-harvester, the dropper-hooks G G′, adapted to be alternately extended and retracted, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

HOWARD HUNT.
SAMUEL BRYAN.

Witnesses:
D. C. CLEVELAND,
F. R. MELVIN.