

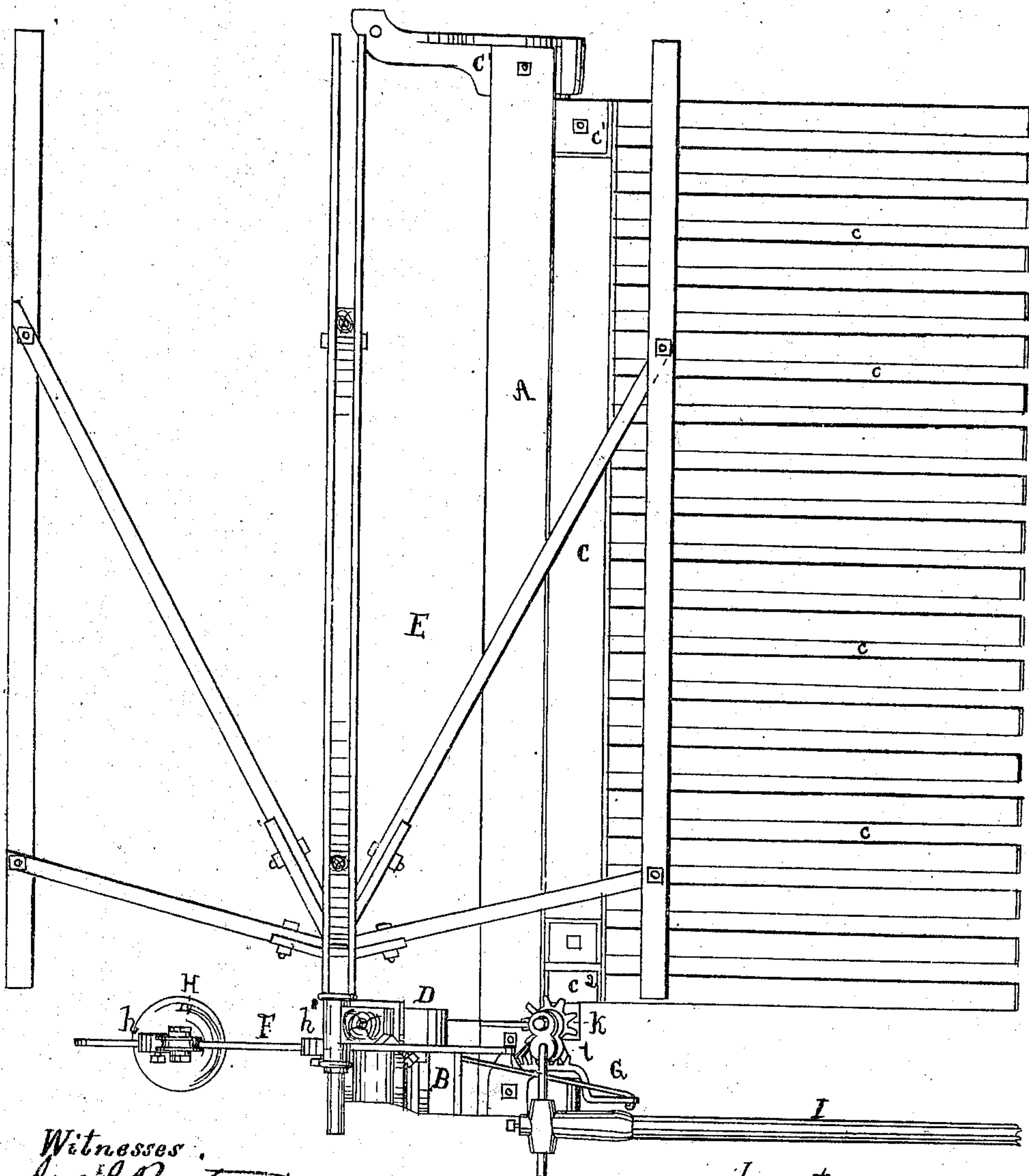
2. Sheets. Sheet 1.

A. Rank,
Harvester Dropper.

No. 89,792.

Patented May 4, 1869

Fig 1.



Witnesses.
J. S. Peyton,
C. A. DeLong.

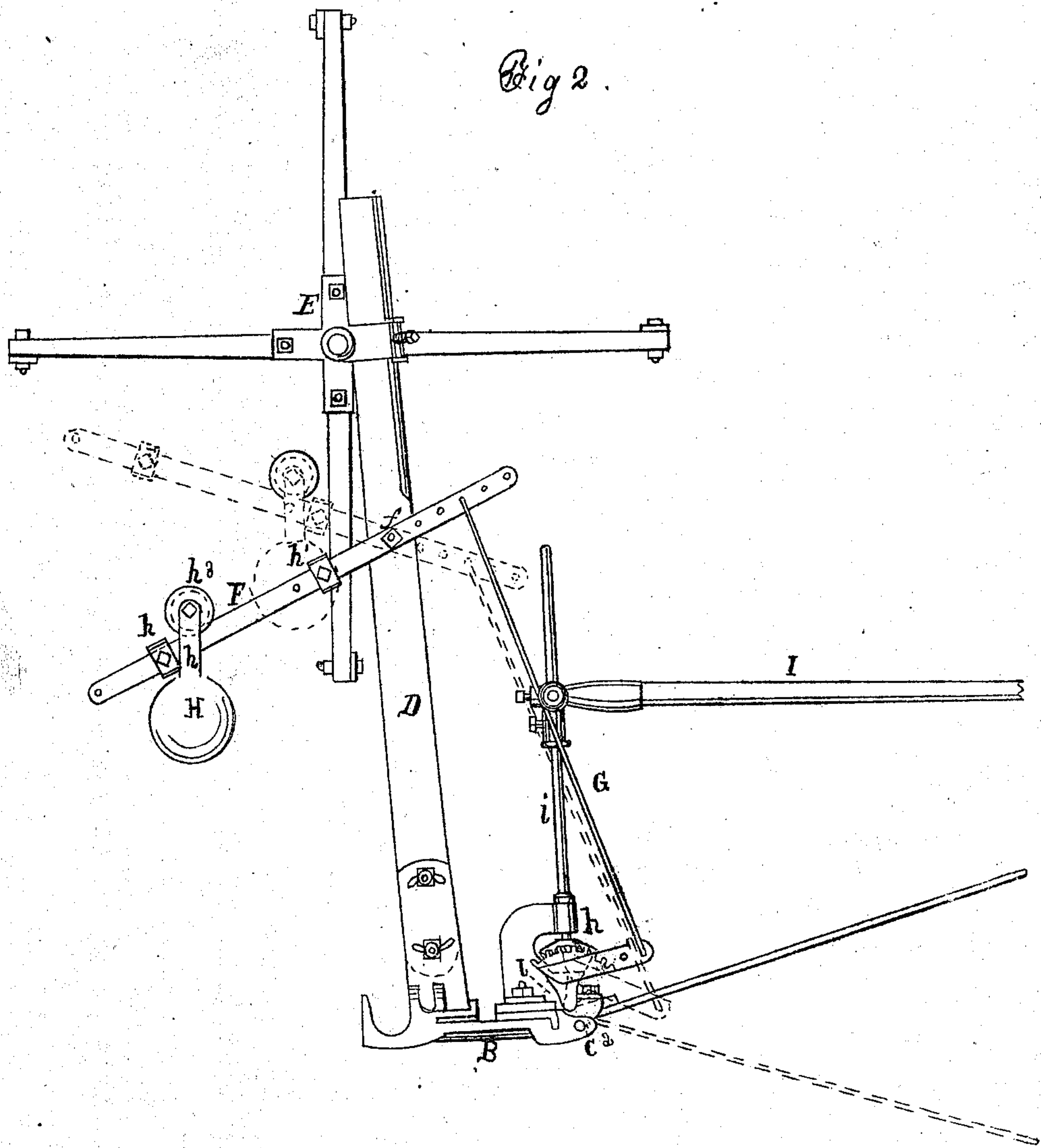
Inventor.
A. Rank, by his atty
W. B. Baldwin

2. Sheets. Sheet 2.

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Baltie DeLong.

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UNITED STATES PATENT OFFICE.

AMOS RANK, OF SALEM, OHIO.

IMPROVEMENT IN HARVESTER-DROPPERS.

• Specification forming part of Letters Patent No. 89,792, dated May 4, 1869.

To all whom it may concern:

Be it known that I, AMOS RANK, of Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Harvesters, of which the following is a full, clear, and exact description.

The object of my invention is automatically to discharge the cut grain in gavels from the platform of a harvester; and the improvements herein claimed consist, first, in a novel method, hereinafter described, of combining a counterbalanced vibrating dropping or tilting platform with a harvester, in such manner that the weight of the gavel itself shall cause its discharge; second, the improvement further consists in a novel method of combining a vibrating platform with an adjustable counterpoise to vary the size of the gavels; third, the improvement further consists in a novel method of combining a vibrating platform with a counterpoise traversing freely toward and from the fulcrum of the rocking lever, which operates the platform, so as to give an upward and downward stroke to the platform; fourth, the improvement further consists in a novel method of combining a counterbalanced dropping or tilting platform with a cut-off, operated by the counterbalance; fifth, the improvement further consists in a novel method of combining a dropping or tilting platform with a cut-off and with a counter-balance mounted on a reel-post.

In the accompanying drawings, which make part of this specification, I have shown so much only of a harvester as is necessary to illustrate the invention herein claimed.

The improvements are to be used in connection with a fully-organized harvester, such, for instance, as the "Ætna," manufactured by me.

The drawings show my invention adapted to use in conjunction with certain devices patented by me June 30, 1868.

Figure 1 is a plan or top view, and Fig. 2 a side elevation, of my improvements.

In this instance a finger-beam, A, is shown as secured at its heel end to a shoe, B, and as provided with a divider, C, of suitable form at its grain end. The platform, in this instance, is composed of parallel slats *e*, secured to a bar, C, rocking in pivots *e*¹ *e*² on an axis parallel to the finger-beam. A reel-post, D, bolted

to a standard on the shoe B, carries an overhung reel, E.

In order to carry out the first part of my invention, I pivot a lever, F, to vibrate on a fulcrum, *f*, on the reel-post, and connect one of its ends with the platform by a link, G, so that the two shall move in unison. A weight or counterpoise, H, on this lever holds up the platform until a gavel of the desired weight has accumulated, when the platform drops and the gavel slides off, the stubble serving as a comb to draw off the grain from the platform. When the gavel has been partially drawn off, the counterpoise, owing to the diminished resistance, raises the rear end of the platform quickly, thus clearing the gavel rapidly and preventing straggling.

In order to vary the size of the bundles, adjustable stops *h* *h*¹ are placed on the lever F. The ball H is suspended by links *h*² from a roller, *h*³, running freely on the lever, which inclines forward when the platform is elevated, so that the ball rests against the outer stop; consequently the farther this stop *h* is moved from the fulcrum *f* the larger will be the gavel required to counterbalance the weight.

It will be seen by the red lines in Fig. 2 that as the platform drops to discharge the gavel the weight H approaches the fulcrum, so that when once started the platform drops very quickly. The weight in like manner recedes from the fulcrum as the platform rises, and thus gives it a quick upward movement, by which mode of operation the efficiency of the machine is increased.

In order to prevent the grain from falling on the platform during the discharge of the gavel, a cut-off, I, is mounted on a vertical shaft, *i*, carrying a pinion, *k*, rotated by a toothed sector, *l*, operated by the link G. The sector is fixed on the pivot on which the platform turns, and the two are so arranged relatively to each other that as the platform drops the cut-off is interposed, and as the platform rises the cut-off is withdrawn.

The range of motion of the platform and cut-off may be varied by attaching the link nearer to or farther from the fulcrum by a series of holes in the lever F, as shown in Fig. 2, or by a slot and set-screw.

It is obvious that the details of my inven-

tion may be varied without departing from the spirit of my invention. The platform, for instance, might be made to tilt on an axis in rear of its front edge, or the cut-off might be so arranged as to vibrate vertically around the reel, or over the platform, instead of horizontally.

I claim—

1. A counterpoised vibrating platform, on which the grain falls when first cut, and from which the gavels are automatically discharged by their own weight, substantially as set forth.

2. The combination of a vibrating platform, on which the grain falls when first cut, with an adjustable counterpoise to vary the size of the gavels, substantially as set forth.

3. The combination, substantially as set

forth, of a vibrating platform, a vibrating lever, and a counterpoise traveling on the lever, to insure a quick vibration of the platform in both its upward and downward movements.

4. The combination, substantially as set forth, of a vibrating counterpoised platform with a cut-off, automatically operated by a counterpoise.

5. The combination, substantially as set forth, of a reel-post, a counterpoise mounted thereon, a platform, and a cut-off.

In testimony whereof I have hereunto subscribed my name.

AMOS RANK.

Witnesses:

THOS. G. BAIRD,

C. W. CADWALLADER.