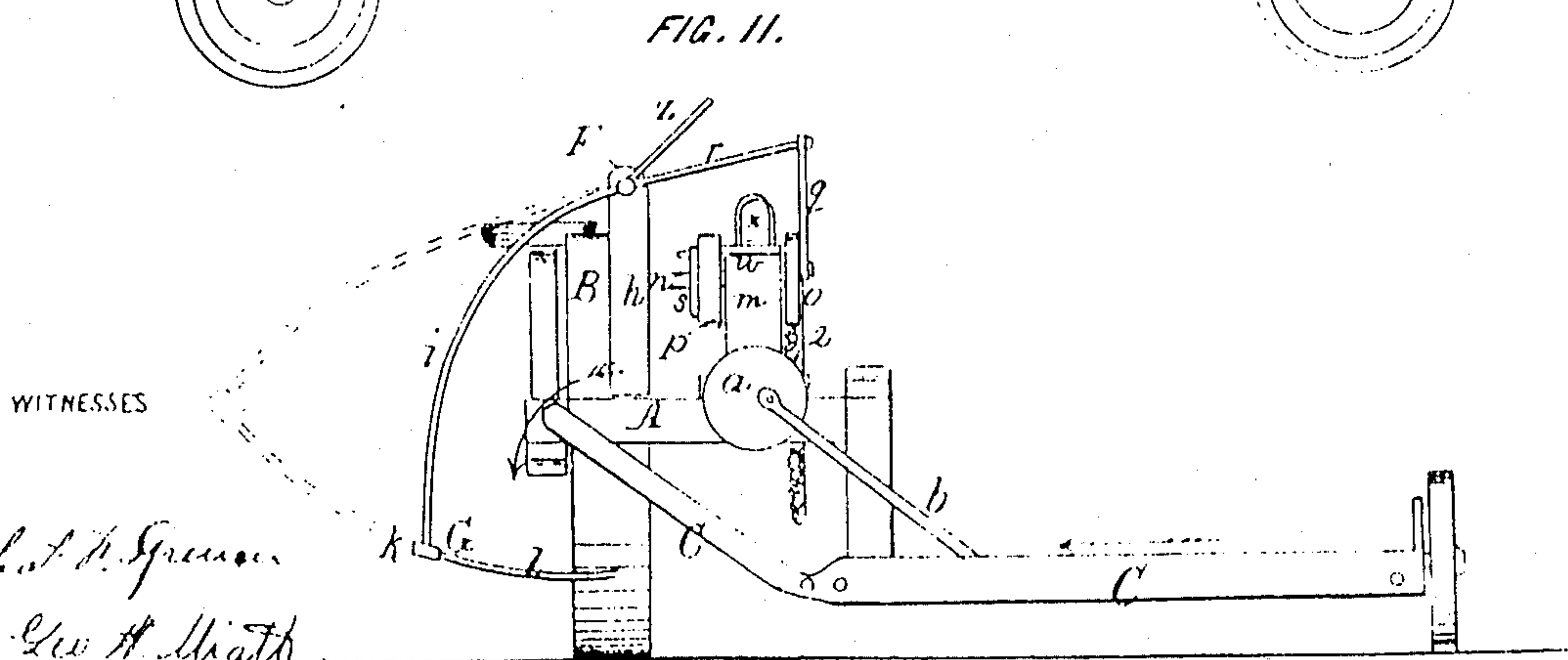
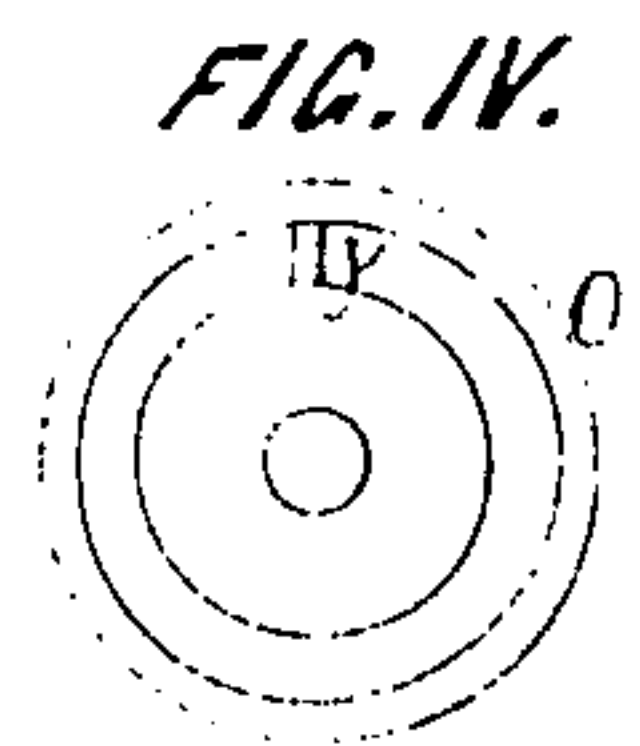
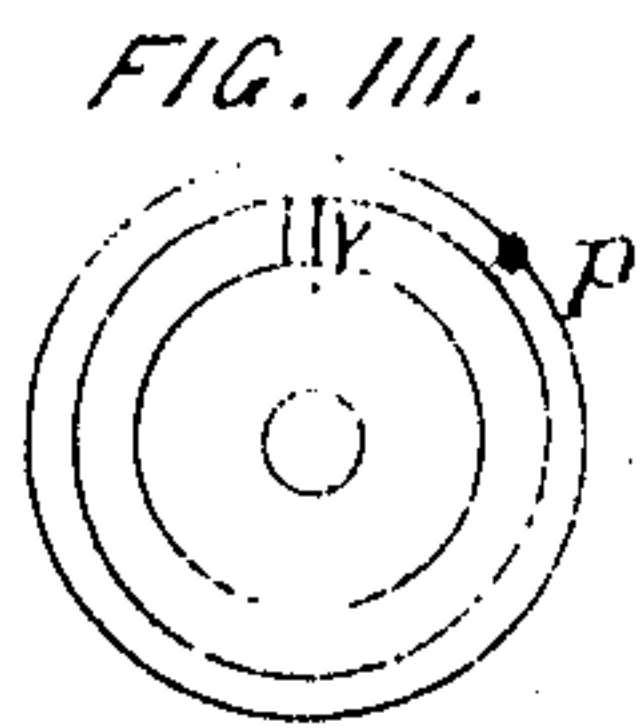
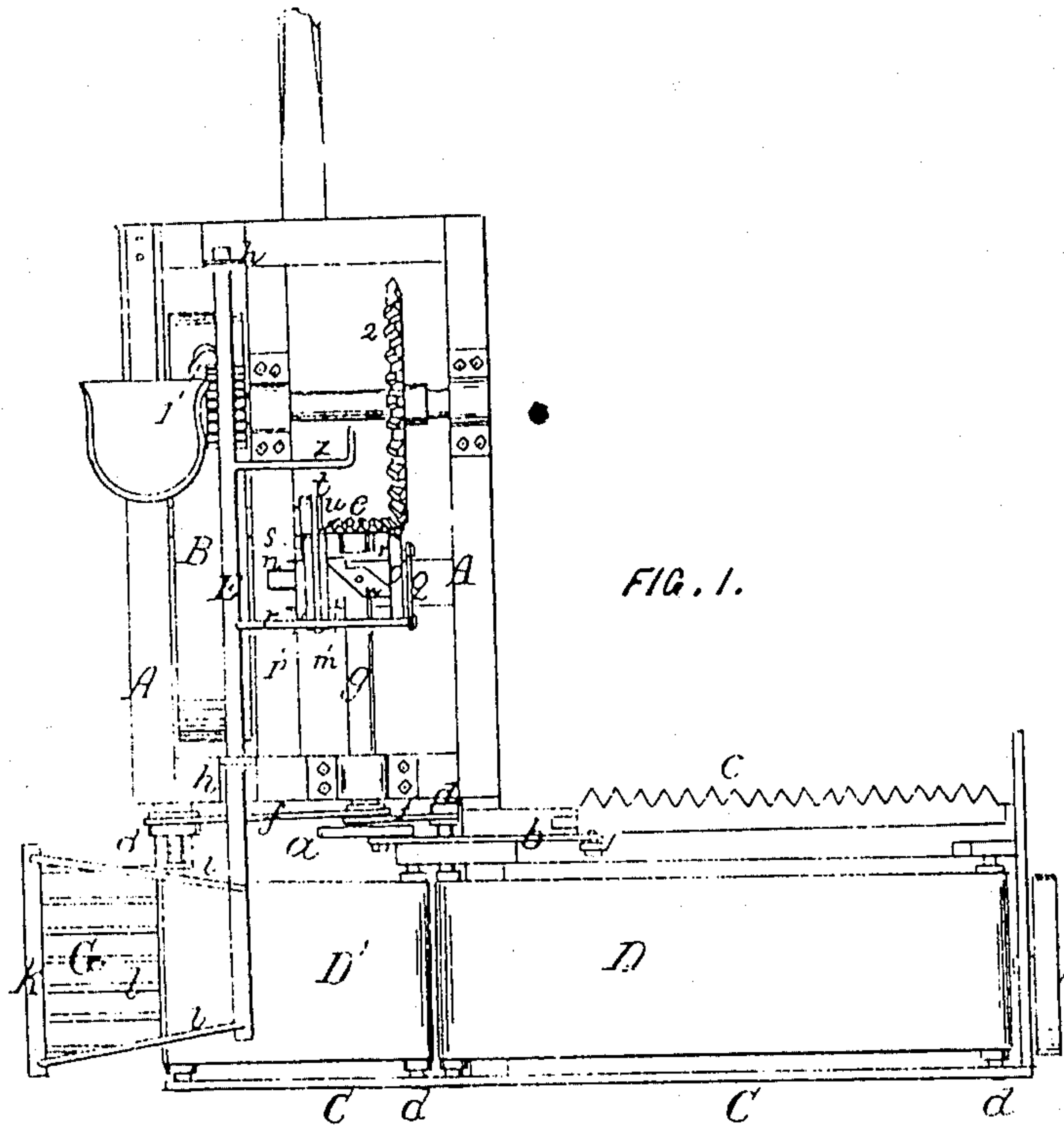


A. L. Smith. Mower.

No. 98113.

Patented Dec. 21 1863



WITNESSES
Chas. H. Green

Geo. H. Minto

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UNITED STATES PATENT OFFICE.

A. L. SMITH, OF BRISTOL CENTRE, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 98,113, dated December 21, 1869.

To all whom it may concern:

Be it known that I, A. L. SMITH, of Bristol Centre, in the county of Ontario and State of New York, have invented a certain new and useful Improvement in Harvesters; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved machine; Fig. 2, a rear elevation of the same; Figs. 3 and 4, detail views.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in an arrangement of parts for collecting and depositing the gavel, as hereinafter described.

In the drawings, A indicates the main frame, and B the driving-wheel. The latter has an ordinary internal gear, with which engages a pinion, 1, giving motion to bevel-wheel 2 on its shaft, which in turn actuates bevel-pinion 3. On the shaft of this pinion is situated the pitman-head *a*, having pitman *b*, which imparts motion to cutter-bar *c*. These parts are all of ordinary construction.

In the rear of the main frame is hung a cross-frame, C C', the lower portion being horizontal and supporting an endless apron, D, and the upper portion being angular and supporting an endless apron, D'. These aprons pass around rollers *d' d'* and *d d*, the former of which are actuated by bands *f f* from shaft *g*. The cut grain falling upon apron D is conveyed to D', where it is carried up the incline and deposited on the gavel-holder, presently to be described.

On the front and rear of the main frame are erected two standards, *h h*, in which is mounted a rock-shaft, E. To the rear end of this rock-shaft the gavel-holder G is secured by a connecting rod or rods, *i i*. This gavel-holder is in the shape of a rake, having a head, *k*, and curved teeth *l l*, or some equivalent form, and its position is such that when depressed the said teeth rest under the elevated end of apron D', with their ends shutting in close to the under side of said apron, where they can catch the grain as it falls over. The simple throwing out of the gavel-holder allows the grain to

fall in a body to the ground when sufficient has collected.

In a standard, *m*, is mounted a shaft, *n*, having on the outer end a wheel, *o*, fixed rigidly thereto, and on the inner end a wheel, *p*, but which moves loosely thereon. Near the periphery of the outer wheel is jointed a connecting-rod, *q*, which attaches at the opposite end in a similar manner to a stiff arm, *r*, of the rock-shaft E, so that as the wheel *o* is revolved the said shaft will receive a rocking motion, and consequently the gavel-head will be thrown out to discharge the gavel, as shown by dotted lines, Fig. 2. With the opposite wheel, *p*, and with the shaft *n* is attached a coiled spring, *s*, which, as the wheel is turned on the shaft, winds up around the shaft and gives it tension. Wheel *p* is turned by means of a band, *t*, connecting it with pulley *u* on the main axle. By making pulleys of different sizes different degrees of motion may be attained to give quicker or slower motion to the gavel-holder, as will presently be described.

Between the wheels *o p* is located a pawl, *w*, pivoted in the center, and having its points resting against the sides of the wheels, being held up to place by a spring, *x*. The sides of the wheels have shoulders or pins *y y'*, that of *o* always resting against the point of the pawl, which thus keeps it from turning, while that of *p* simply comes in contact with the opposite end of the pawl once in every revolution of the wheel, thereby acting as a cam. When it strikes it throws the pawl back and releases it from engagement with the wheel *o*, when the latter flies around by reason of the tension of the wound-up spring *s* upon the shaft *n*. This sudden action, operating through rods *q* and *r*, gives a quick motion to the rock-shaft, and instantly withdraws the gavel-head from under the gavel and allows the latter to drop in a body, thereby preventing any scattering of the straws. This arrangement of parts, combining with the gavel-head and aprons, is most effective in discharging the gavels, for a quick movement is necessary, else the forward motion of the machine will produce scattering. It is also exceedingly simple, and not liable to get out of order, and I believe it is original with myself.

I am aware that endless aprons have before been used in harvesters, and also fingers for holding and discharging the gavels. Such, in their broad sense, I do not claim.

If desired, a hand-lever, *z*, may be connected with the rock-shaft, within reach of the driver, by which he can change the automatic action of the gavel-head to one under his own control; but in such case, of course, a disconnection is made with the other operating parts.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement of the pivoted pawl *w*, wheels *o p*, shaft *n*, and springs *s*, when the said parts are combined with the gavel-discharger *E G* and aprons *D D'*, in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

A. L. SMITH.

Witnesses:

R. F. OSGOOD,
GEO. W. MIATT.