

(No Model.)

2 Sheets—Sheet 1.

S. GREEN.
HARVESTER DROPPER.

No. 257,318.

Patented May 2, 1882.

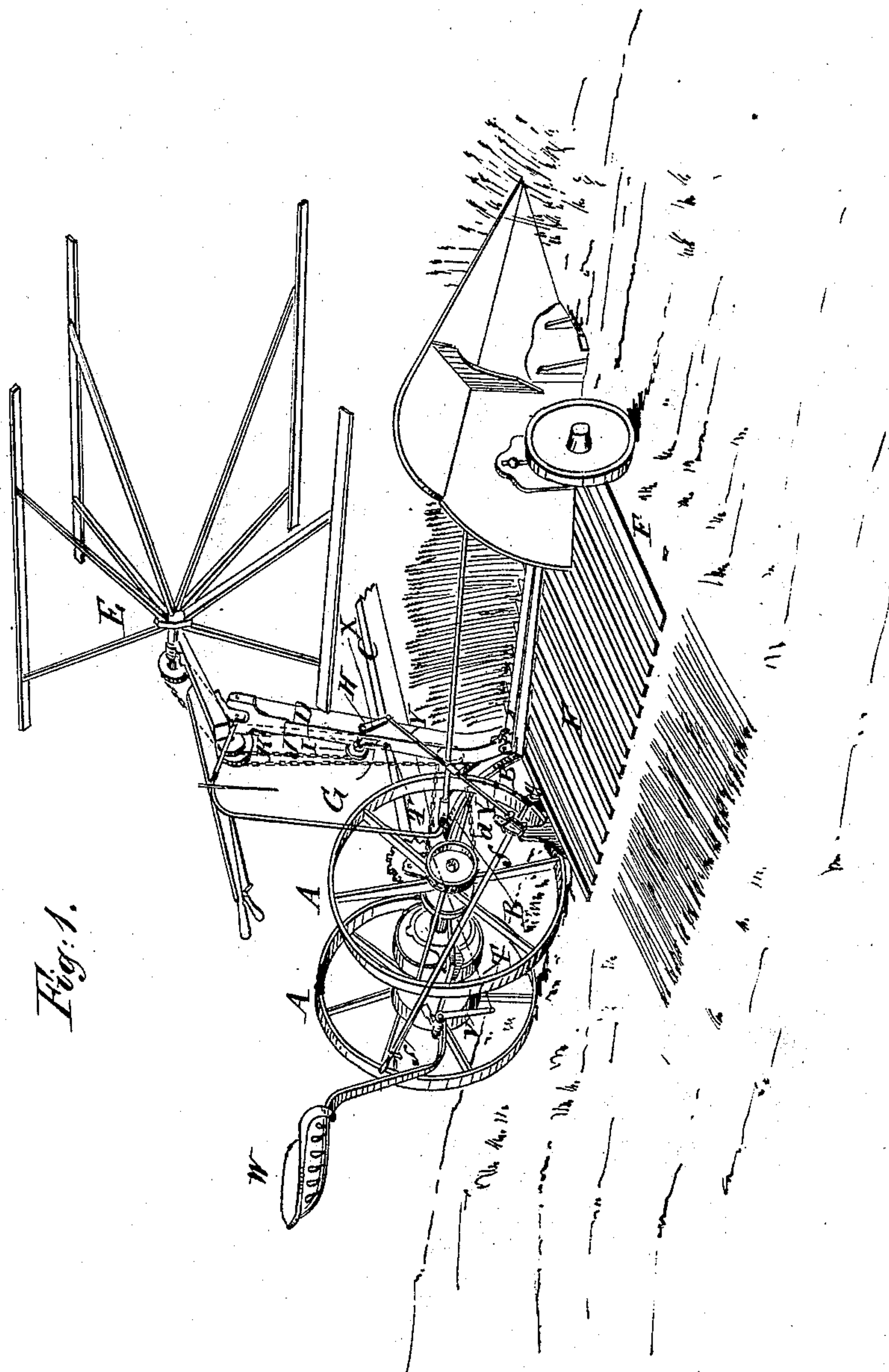


Fig. 1.

WITNESSES:

Chas. Nida.
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INVENTOR:

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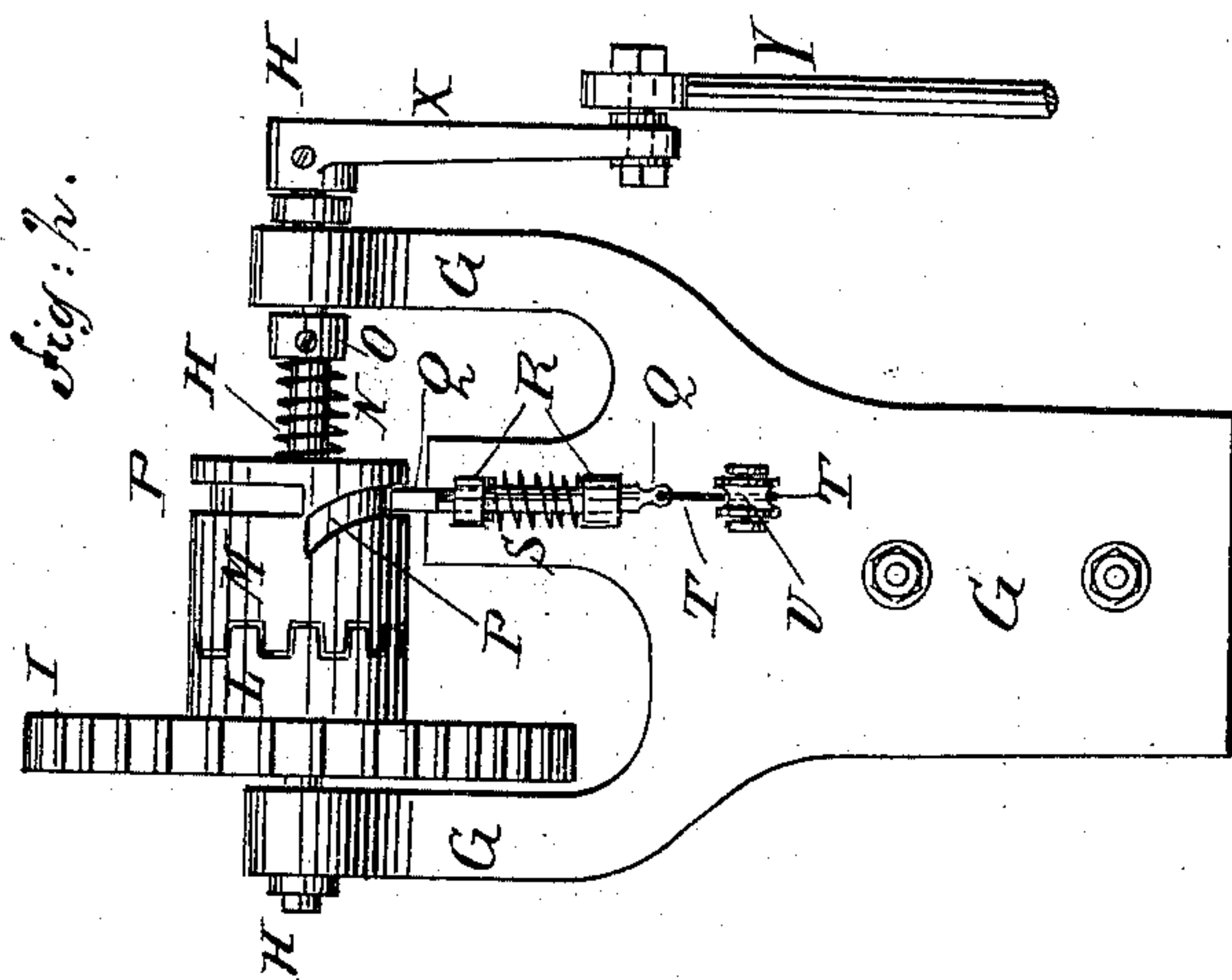
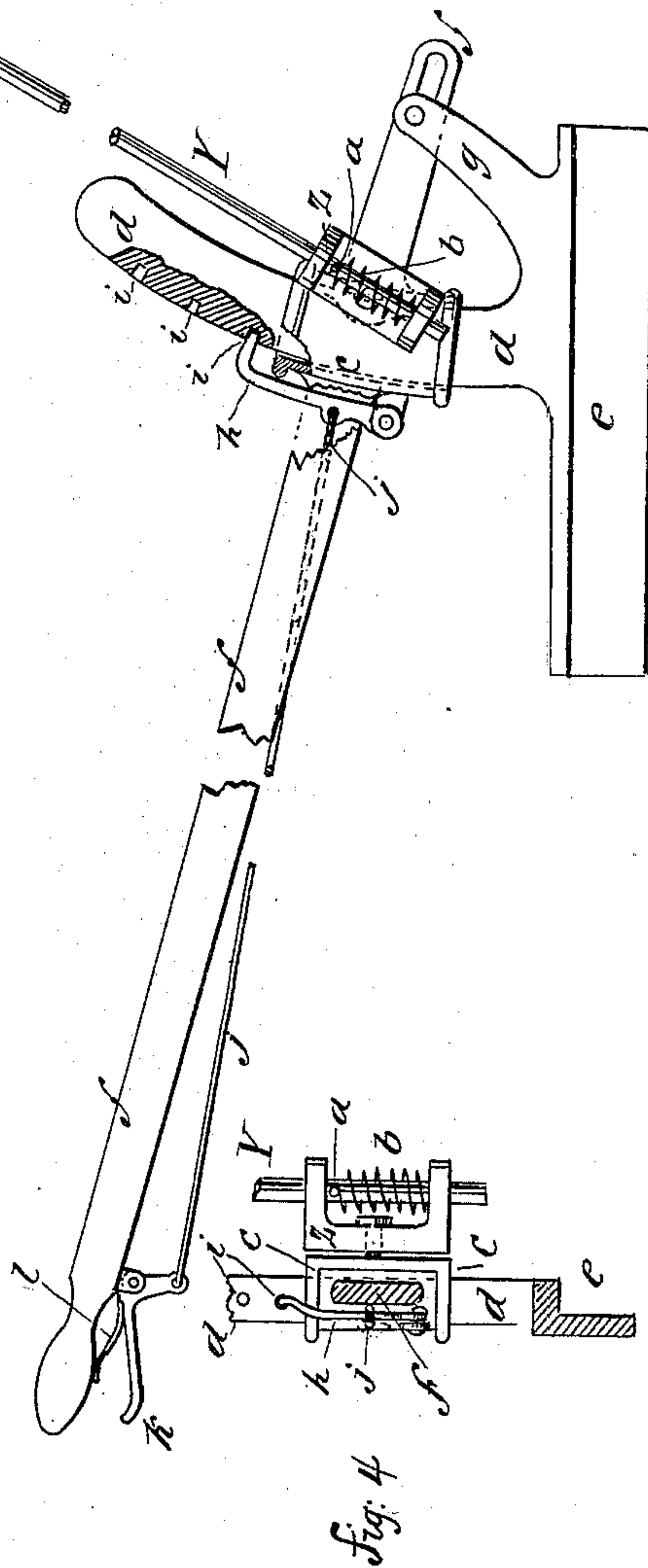
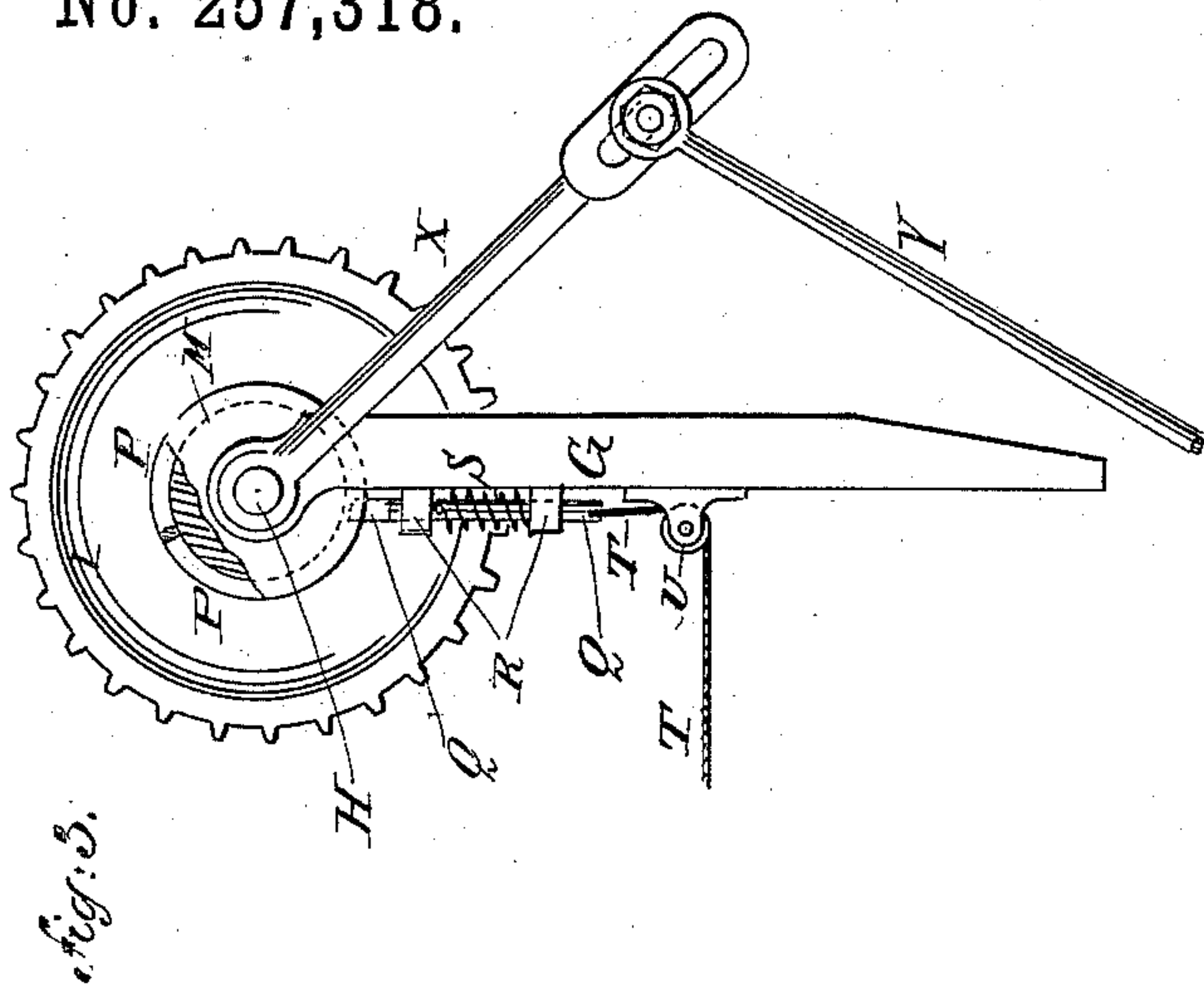
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UNITED STATES PATENT OFFICE.

SHEPHERD GREEN, OF NASHVILLE, TENNESSEE.

HARVESTER-DROPPER.

SPECIFICATION forming part of Letters Patent No. 257,318, dated May 2, 1882.

Application filed August 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, SHEPHERD GREEN, of Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Harvester-Droppers, of which the following is a specification.

In the accompanying drawings, Figure 1, Sheet 1, is a perspective view of my improvement, shown as applied to a harvester. Fig. 2, Sheet 2, is a rear elevation of the improvement, partly in section. Fig. 3, Sheet 2, is a side elevation of the same. Fig. 4, Sheet 2, is a detail view.

Similar letters of reference indicate corresponding parts.

The object of this invention is to promote convenience in operating and controlling harvester-droppers.

The invention consists in the combination, with the dropper, the reel-post, and the reel-driving mechanism, of the chain, the chain-wheels, the clutch, the spring, the shaft, the crank-arm, the connecting-rod, the pivoted plate, the collar, and the arm, whereby the dropper will be lowered and raised automatically; also, in the combination, with the chain-wheel, the crank-arm, the connecting-rod, and the dropper, of the clutch provided with a spiral groove and the spring-actuated bolt, whereby the dropper will be held stationary when in a position to receive the grain; also, in the combination, with the connecting-rod and its pivoted plate, of the stop-pin and the spring, whereby the said rod is allowed to continue its movement should the dropper strike an obstruction; and, also, in the combination, with the rod, the collar, and its arm, of the fulcrum-arm, the lever, the catch-hook and its rod, and spring-pressed bent lever, whereby the dropper can be adjusted to descend to a higher or lower point, as will be hereinafter fully described.

In the drawings, A represents the drive-wheels, B the frame, C the tongue, D the reel-post, E the reel, and F the dropper, of a harvester, about the construction of which parts there is nothing new.

To the reel-post D is attached a bracket, G, in bearings in which revolves a short shaft, H. Upon one end of the shaft H is placed a loose chain-wheel, I, around which passes an endless chain, J, which also passes around a chain-

wheel, K, connected with the shaft of the reel E or with the driving mechanism of the said reel. Upon the end of the hub of the chain-wheel I are formed clutch-teeth L, with which engage the teeth of the clutch M, which slides upon and revolves with the shaft H, so that the chain-wheel I, when in gear with the clutch M, will carry the shaft H with it in its revolution. The clutch M is pressed against the toothed hub of the chain-wheel I by a spring, N, coiled around the shaft H. One end of the spring N rests against the clutch M, and its other end rests against a collar, O, placed upon the shaft H and secured to it by a set-screw, so that it can be readily adjusted to regulate the tension of the said spring N. Around the outer part of the clutch M is formed a groove, P, the ends of which nearly meet, and which for the greater part of its length is parallel with a circle intersecting the axis of the said clutch M at right angles. The groove P at one end is curved inward, forming a spiral, as shown in Fig. 2.

Q is a pin or bolt, which slides in keepers R, attached to the bracket G in such positions that the forward end of said pin Q will enter the groove P. The pin Q is held forward by a spring, S, coiled around it between the keepers R. The upper end of the spring S is attached to the bolt Q and its lower end rests against the lower keeper, R, as shown in Figs. 2 and 3.

To the lower end of the sliding pin Q is attached the end of a cord or chain, T, which passes around a guide-pulley, U, pivoted to a support attached to the bracket G. The cord T extends back and is attached to the end of a bent foot-lever, V, which is pivoted to the frame B in such a position that the driver from his seat W can readily reach the said lever and operate it with his foot.

To the end of the shaft H is attached a crank-arm, X, to the outer end of which is pivoted the end of a connecting-rod, Y. The end of the crank X is slotted to receive the pivoting-pin of the rod Y, so that the pivoting-point can be adjusted nearer to or farther from the shaft H, to give a shorter or longer movement to the rod Y, as may be desired. The other end of the rod Y passes through holes in lugs formed upon the ends of a plate, Z.

To the rod Y, below the upper lug of the plate Z, is attached a stop-pin, a, so that the said

rod in its upward movement will carry the said plate Z with it. Upon the rod Y, between the stop-pin *a* and the lower lug of the plate Z, is coiled a spring, *b*, the upper end of which
 5 rests against the said stop-pin *a*, and its lower end rests against the said lower lug of the plate Z. The spring *b* holds the pin *a* up against the upper lug of the plate Z under ordinary
 10 circumstances; but should the dropper F strike an obstruction the spring *b* will yield and allow the rod Y to continue to descend until the outer end of the crank-arm X has passed the lowest point of its revolution, the yielding of
 15 the spring *b* thus preventing the mechanism from being broken. The plate Z is pivoted at its center to a sleeve or collar, *c*, so that the upper end of the rod Y can be carried through the circumference of a circle by the revolution of the crank-arm X. The collar *c* is placed
 20 upon the curved arm *d*, the base *e* of which is attached to the end of the frame of the dropper F.

To the collar *c* is pivoted a lever, *f*, the lower end of which is fulcrumed to an arm, *g*, formed
 25 upon the base *e*, or made separate and attached to the dropper-frame. The upper end of the lever *f* extends into such a position that it can be conveniently reached and operated by the driver from his seat to move the collar *c* up or
 30 down upon the curved arm *d*, to cause the dropper F to work farther from or closer to the ground.

To the collar *c*, or to a lug formed upon the said collar, is hinged a catch-hook, *h*, the point
 35 of which enters a hole, *i*, in the curved arm *d*, to secure the said collar in place upon the said arm. Several holes *i* are formed in the arm *d* to receive the point of the catch-hook *h*, so that the collar *c* can be secured in different
 40 positions upon the said arm.

To the catch-hook *h* is pivoted the lower end of a rod, *j*, which extends along the lever
 45 *f*, and its upper end is pivoted to the end of the short arm of a small bent lever, *k*. The lever *k* is pivoted at its angle to the lever *f*, and its long arm extends along the handle of the said lever *f*, so that it can be grasped by the hand that operates the said lever *f* and
 50 operated to disengage the catch-hook *h* from the curved arm *d*. The long arm of the bent lever *k* is pressed outward, holding the catch-hook *h* in gear with the arm *d* by a spring, *l*, interposed between it and the lever *f*.

In adjusting the mechanism the clutch M is
 55 so arranged that the bolt Q will enter the curved or cam end of the groove P and throw the said clutch out of gear with the chain-wheel I when the crank-arm X and the dropper F are at or near the highest points of their
 60 movements, so that the said dropper will be held stationary when in position to receive the

grain. When a sufficient quantity of grain for a gavel has been collected upon the dropper F the driver pulls the cord T and withdraws the bolt Q from the clutch M. The
 65 clutch is then thrown into gear with the chain-wheel I by the spring N, and the said chain-wheel I carries the clutch M, shaft H, and crank-arm X with it in its revolution. As the cord T is released the spring S presses the
 70 bolt Q into the straight part of the slot P, ready to throw the clutch M out of gear when the said clutch has completed a revolution. The revolution of the crank-arm X lowers the dropper F to drop the gavel and then raises
 75 it to again receive the cut grain.

With this construction, by operating the lever *f* the driver can adjust the dropper to descend in its downward movement to any desired point, and thus cause the dropper to
 80 work properly upon level ground and upon ascending and descending ground without its being necessary to stop the machine.

Having thus fully described my invention, I claim as new and desire to secure by Letters Pat-
 85 ent—

1. In a harvester-dropper, the combination, with the dropper F, the reel-post G, and the reel-driving mechanism, of the chain J, the chain-wheels K I, the clutch M, the spring N,
 90 the shaft H, the crank-arm X, the connecting-rod Y, the pivoted plate Z, the collar *c*, and the arm *d*, substantially as herein shown and described, whereby the dropper will be lowered and raised automatically, as set forth. 95

2. In a harvester-dropper, the combination, with the chain-wheel I, the crank-arm X, connecting-rod Y, and the dropper F, of the clutch M, provided with a spiral groove, P, and the spring-actuated bolt, substantially as shown
 100 and described, whereby the dropper will be held stationary when in a position to receive the grain, as set forth.

3. In a harvester-dropper, the combination, with the connecting-rod Y and the pivoted
 105 plate Z, of the stop-pin *a* and spring *b*, substantially as herein shown and described, whereby the said rod is allowed to continue its movement should the dropper strike an obstruction, as set forth. 110

4. In a harvester-dropper, the combination, with the rod Y, the collar *c*, and arm *d*, of the fulcrum-arm *g*, lever *f*, catch-hook *h*, rod *j*, and spring-pressed bent lever *k*, substantially as
 115 herein shown and described, whereby the dropper can be adjusted to descend to a higher or lower point, as set forth.

SHEPHERD GREEN.

Witnesses:

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 ISAAC REESE,
 J. R. GREEN.