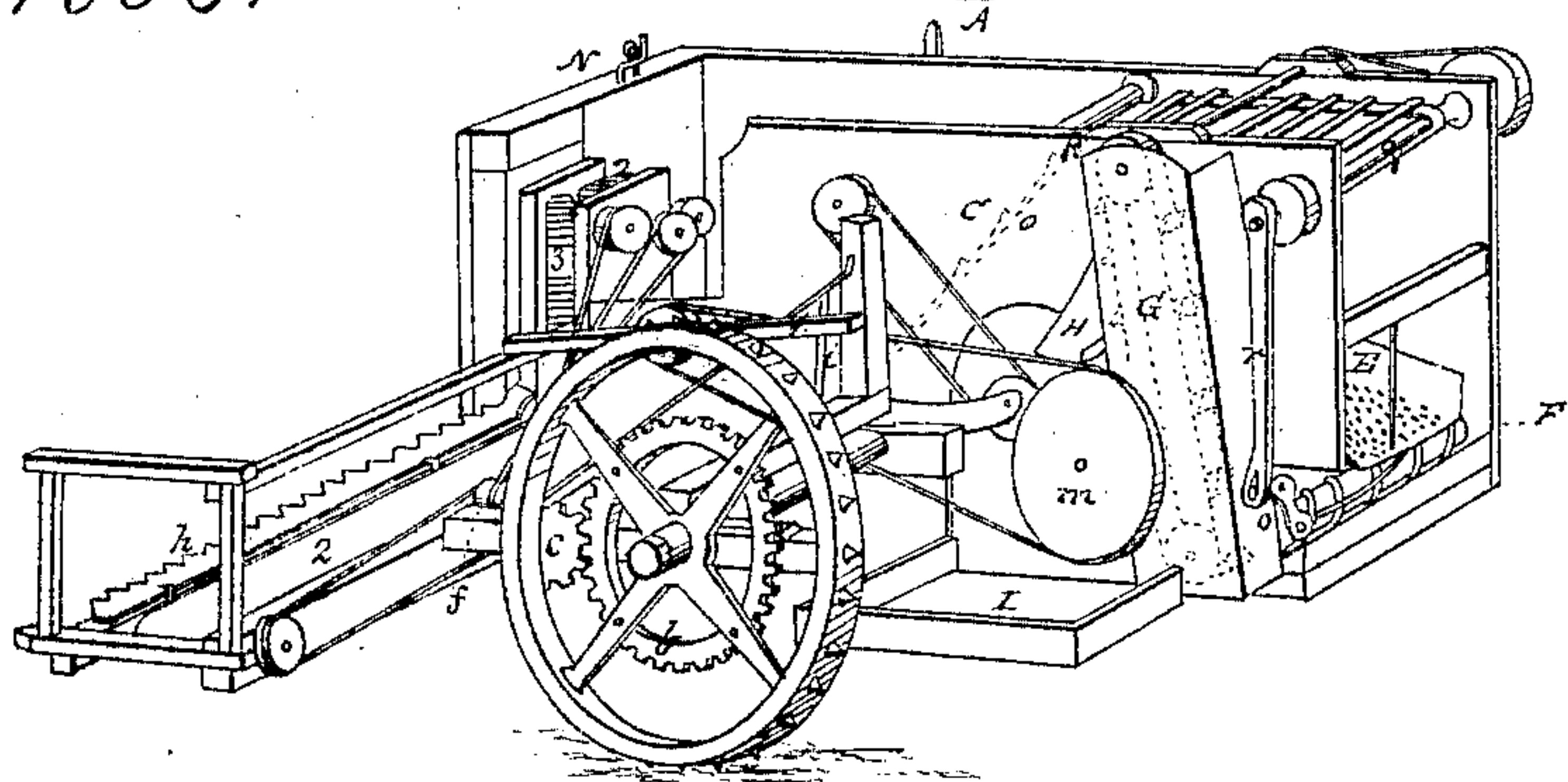


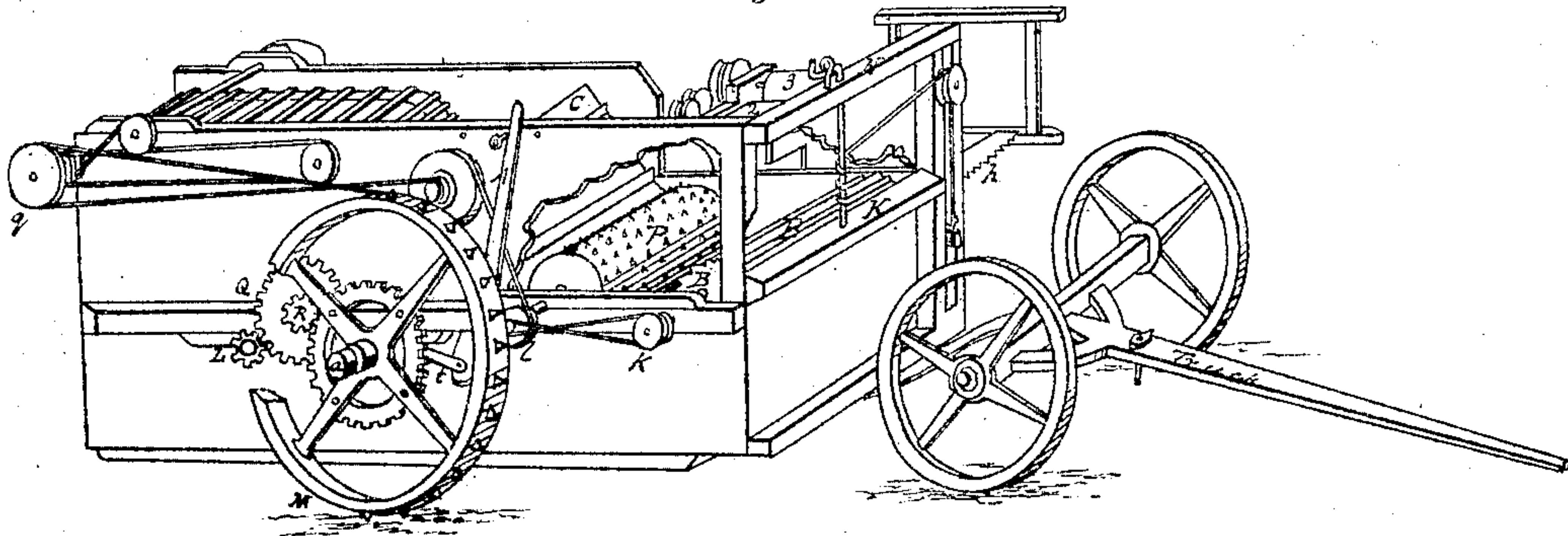
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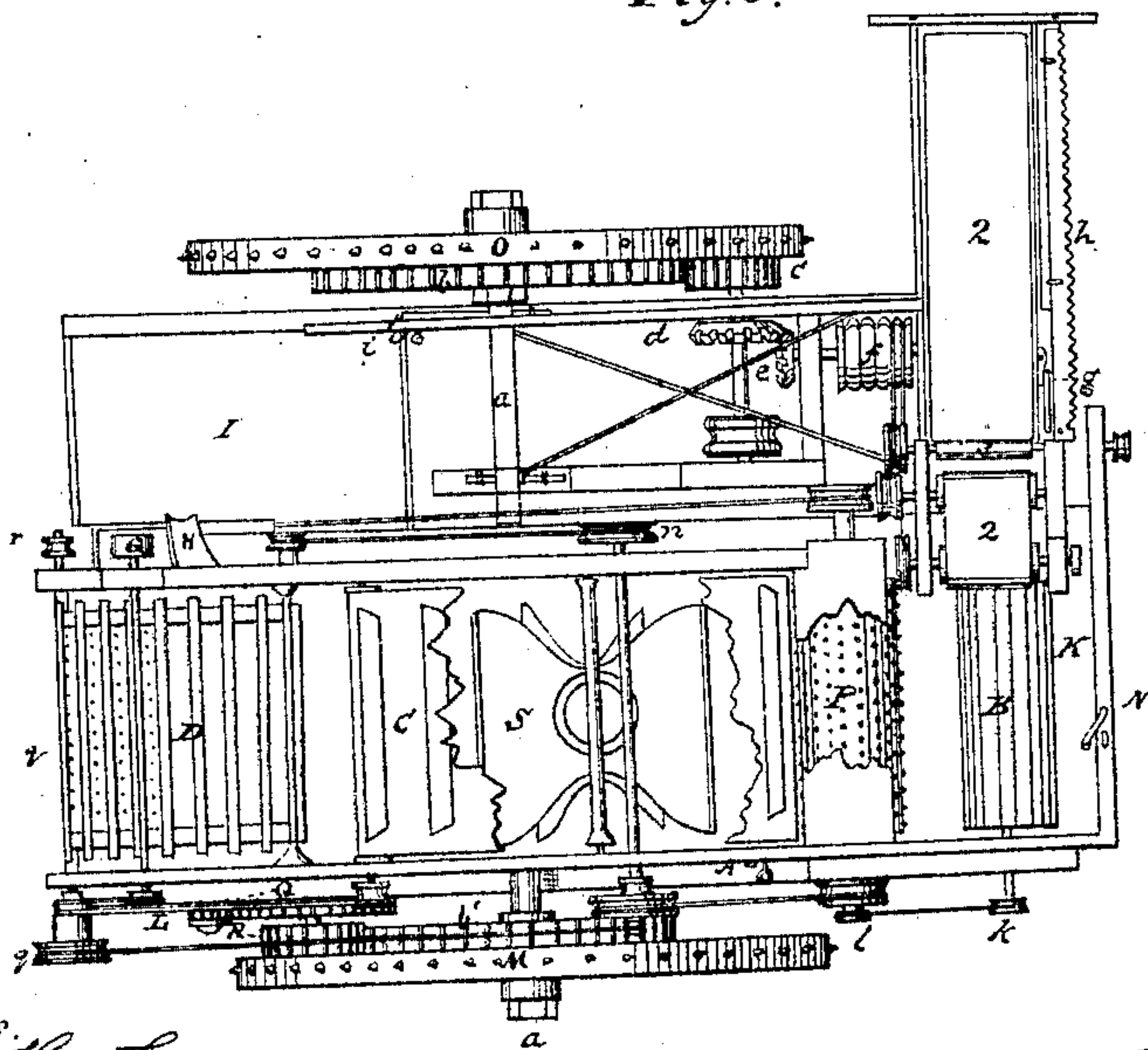
*Fig. 1. Patented Nov. 15, 1864.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*  
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# UNITED STATES PATENT OFFICE.

DAVID J. MARVIN, OF STOCKTON, CALIFORNIA.

## IMPROVEMENT IN HARVESTING-MACHINES.

Specification forming part of Letters Patent No. 45,061, dated November 15, 1864.

*To all whom it may concern:*

Be it known that I, DAVID J. MARVIN, of the city of Stockton, in the county of San Joaquin, and in the State of California, have invented, made, used, and constructed an Improved Machine entitled "Marvin's Improved Combined Header and Thrasher;" and I do hereby declare that the following is a full, clear, and exact description of its construction and operation, reference being had to the accompanying drawings, and the letters of reference marked thereon, and making a part of this specification, in which—

Figure 1 is a perspective left side view. Fig. 2 is a perspective right side view. Fig. 3 is a top or bird's-eye view.

The nature of my invention is designed to facilitate and expedite the reaping, thrashing, cleaning, and gathering of grain by means of the combination of the several parts and devices hereinafter described.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

I construct a main frame of wood or other suitable material, as represented in Figs. 1 and 2, of the desired size and capacity. About midway and three-quarters of the depth thereof I provide journals for the axle *a*, to which are fitted the power-wheels *M* and *O*. The left wheel, *O*, is placed at some distance from the main frame for the purpose of attaching a swinging apparatus for the header, which is held in journals by the shaft *a*, and as hereinafter described. I provide or cast, as a whole, to the wheel *O* the geared wheel *b*, connecting with the pinion *c*, the shaft of which crossing the swinging frame, and being held thereon in journals. To this shaft I fit a beveled-gear wheel, *d*, Fig. 3, which connects with the beveled pinion *e*, the shaft of which is held in a journal placed between the swinging bars. Upon the same shaft is fitted a pulley for four belts, *f*, which communicate with the small pulleys belonging to the main belts 2 and 3. The end of this shaft is made with an arm, to which is fitted the pitman *g*, and may be attached in any convenient manner to the sickle-plate *h* to the right end, and thus imparting to the same a rapid and oscillating motion. The header apparatus be thrown in and out of gear by the lever 1, which rests against a pin

to the sliding lever *i*. The latter is attached on its lower end to the journals of the swinging apparatus. Over said journals I fit iron frame-bars, which are bent to such angles that their forward ends may be fastened underneath the back ends of the frame-bars of the swinging apparatus. The back ends of said bars are bent or forged at a right angle laterally, so that the same may fit into the orifice provided in the sliding lever *i*. Thus sufficient space is obtained between the swinging journals and the forward angles of the iron bars as to allow the pinion *c* to be removed from the geared wheel *b*. Said iron bars may be held in rings, clamps, or other devices and allow the same to slide. One lever *i* is, however, sufficient for moving the swinging apparatus, and as shown in the drawings.

The header is provided with a frame similar to the one represented in the drawings, Figs. 1 and 2. At the left end may be seen the cylinder and pulley over which the belt 2 passes, the width of which may vary according to the nature and size of the machine. Said belt extends inward and toward the main frame of the thrasher, whence its progress is arrested by a cylinder, and passing underneath of which rises up perpendicularly a short distance above the feeder *B*, passing or revolving over two cylinders, which are provided with small pulleys connecting by belts to the pulley *f*, as does also the small pulley to the left of the header.

I provide a small endless belt, 3, of the same width as that of 2, which, it will be seen, is placed in the angle occasioned by the belt 2 going from a horizontal to a perpendicular direction, said belt 3 running parallel with the perpendicular portion of belt 2; but a trifle of space is left between the belts 2 and 3, so as to admit of the stalks of grain to be elevated between the belts 2 and 3. The inside bar or sleeper, *a'*, of the swinging apparatus projects a trifle through between the posts *b' b'* of the frame. To this end I attach a chain or rope, *c'*, which I allow to pass over the pulley *d'*, located over said slot on the cross-timber, thence to the rod *N*, around which it is wound, which serves as a means for further regulating the header.

It would be obvious to say that this header is a separate implement, since it works en-



tirely independent of the thrasher, yet its motive power is derived from the same source propelling the thrasher. The driver stands on the platform K. In Fig. 2 may be observed the entire machine with the truck attached.

I construct a cylindrical feeder, B, with edges running lengthwise, the shaft of which, extending outside of the frame, is provided with a pulley, *k*. Immediately under said cylinder I provide an inclined board, the upper edge of which reaches nearly to the under side of said cylinder. This, with the inclined plane *o*, which I shall hereinafter describe, forms a trough into which I fit the thrashing-cylinder P, which is of about the same dimensions as the feeder B, and is provided with a quantity of wire projections, as represented in the drawings. The grain passing thus between the feeder B and the cylinder P undergoes the process of the separating of the grain from the ears or stalks, the grain is conveyed upward, and drops onto the inclined plane *p* by the endless belt C, as is also the straw, which passes over the slat-belt D. The cylinder P is provided with a double pulley, *l*, on the right end and a single pulley on the left end of the shaft thereof, the pulley of the left end connecting by belt with the large pulley *m*, which latter is fastened to the shaft of the pinion L. Said pinion connects with the geared wheels Q and R, situated on the cylinder belonging to the fan S, the wheels Q and R connecting with the geared wheel *b'*, as attached to the power of driving-wheel M. The fan S is situated under the inclined planes *o p*, and before the shaking-screen E, which serves in cleaning the grain from foreign substances. The left end of the fan-shaft is also provided with a pulley which communicates by belt with the pulley *n*, the shaft of which crosses the main frame near the upper extremity of belt C, to which I affix a double pulley, which connects by belt with the double pulley of the rack P.

It will be observed that many of parts revolving are provided with double belting and pulleys, which is otherwise a safeguard should any of the belts slip or break.

The inclined planes mentioned as being situated under the belt C are indicated by the dotted lines *o* and *p*, which form a space for the fan S. The inclined plane *p* receives the grain from the cups of elevator C, thence dropping into the shaking screen E. The belt C is placed parallel with the inclined plane *o*. The upper cylinder-shaft at the right end is provided with a pulley, which communicates by belt with the pulley and shaft *q*, which answers at the same time as cylinder for the slat-belt D. To the left end of said *q*, I attach an eccentric pulley, to which is attached the rod *r*, the lower end of which is held by a slot and pin to the arm *s*, which latter is held by a pin against the lower end of the frame, the

other end of which is attached to the shaking screen E.

I construct an elevator, G, to the left of the frame, as represented in the drawings, the upper pulley-shaft of which crosses the frame, and, being provided with a pulley, connects by belt with the pulley and shaft *q*, from which latter the elevator G receives its motion. The lower pulley of said elevator serves as the shaft for the spiral conveyer F, which is situated immediately under the shaking screen E in the lower frame, conveying the grain that has fallen through the screen and cleaned by the fan to the cups of the elevator, which drops upon the trough H, where it may be gathered into sacks or otherwise. Under said trough may be seen a platform, I, whereon the person tending the collection of the grain is placed.

The thrasher may be thrown in and out of gear by the lever A, which rests against a pin to the main frame, the lower end of which is fastened by a pivot, upon which it may move to the lower-frame timber. A short distance above this pivot is an orifice for the reception of the brake *t*, which may be attached to the axle-tree *a* in any manner. The journal holding the axle *a* and main wheel M is elongated laterally, and thus allows the pinion Q to be removed from the geared wheel *b'*, when all the parts belonging to the thrasher will cease working. The grain, after reaping, is conveyed by belt 2, thence passing perpendicularly upward between the belts 2 and 3, thence falling on the feeder B, which conveys it to the rack P, which moves with sufficient rapidity as to thrash the same. The straw and grass pass over the conveyer C simultaneously.

I also construct a truck, as represented in Fig. 2, which may be attached in the known manner.

I do not broadly claim the machine as herein described; but

What I claim as my invention and improvements, for which I desire to secure Letters Patent, is—

1. In a combined header and thrasher, so pivoting and hinging the cutter-frame upon the main axle *a* that it can be moved longitudinally, and also raised or lowered at pleasure, substantially as and for the purpose specified.

2. In a combined header and thrasher having its cutter-frame mounted or hinged as above described, the combination and arrangement of the bar *a'*, posts *b' b'*, pulley *d'*, cord *c'*, and crank-rod N, substantially as and for the purpose herein set forth.

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Witnesses:

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