

(No Model.)

2 Sheets—Sheet 1.

A. B., M. T. & J. N. D. REEVES.
STRAW STACKER.

No. 328,252.

Patented Oct. 13, 1885.

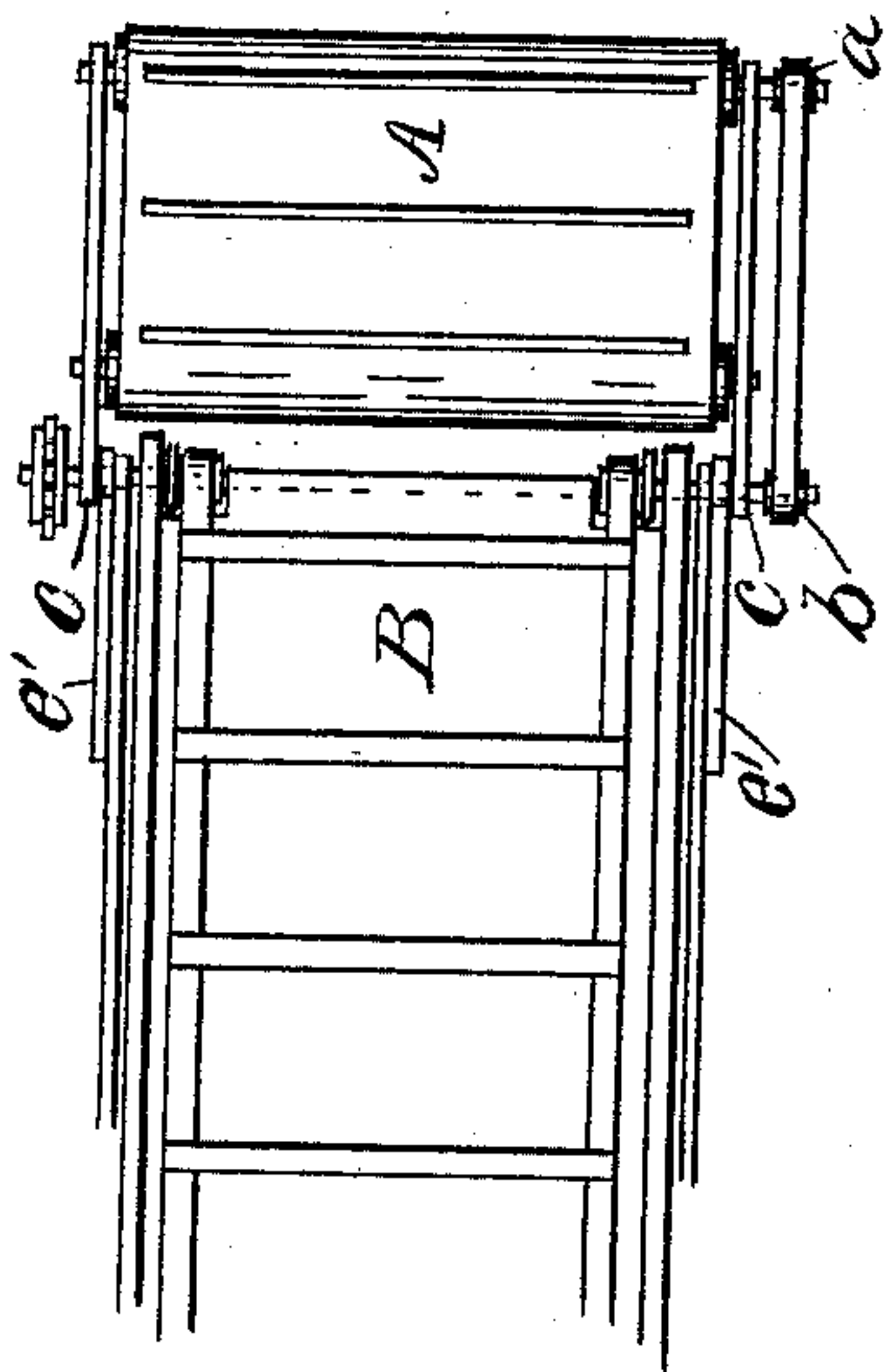


Fig. 3.

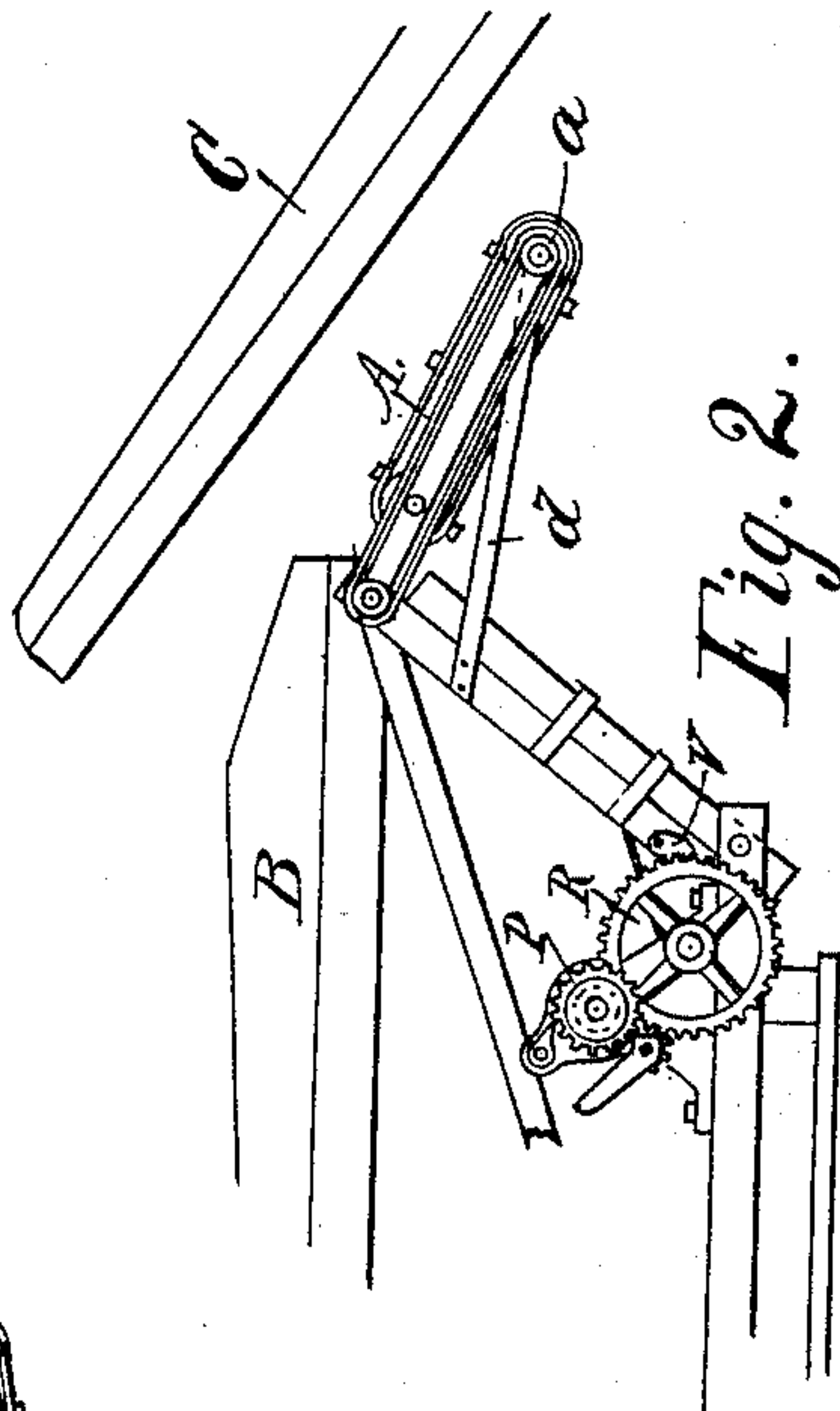


Fig. 2.

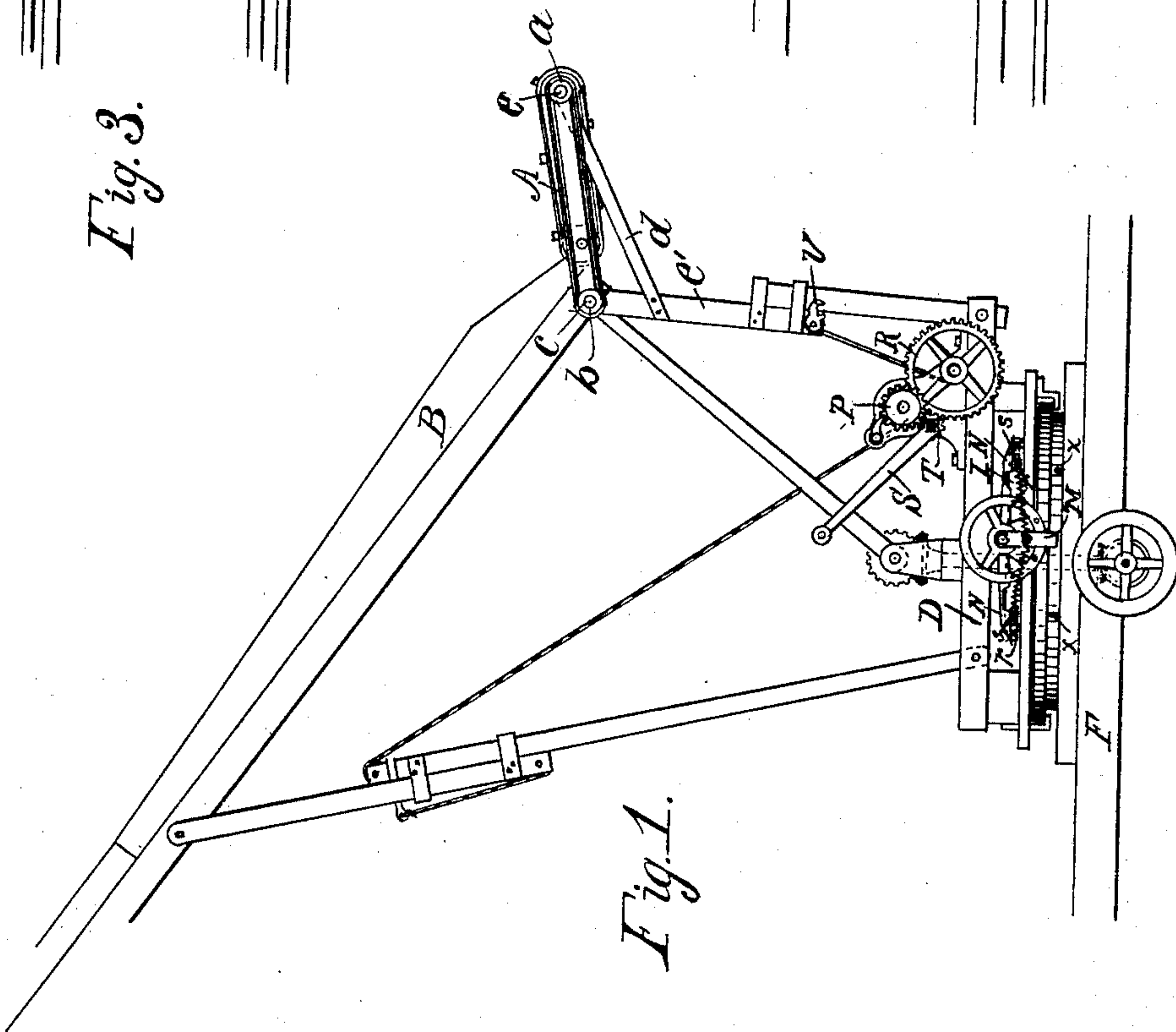


Fig. 1.

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By H. P. Hood, Att'y.

(No Model.)

2 Sheets—Sheet 2.

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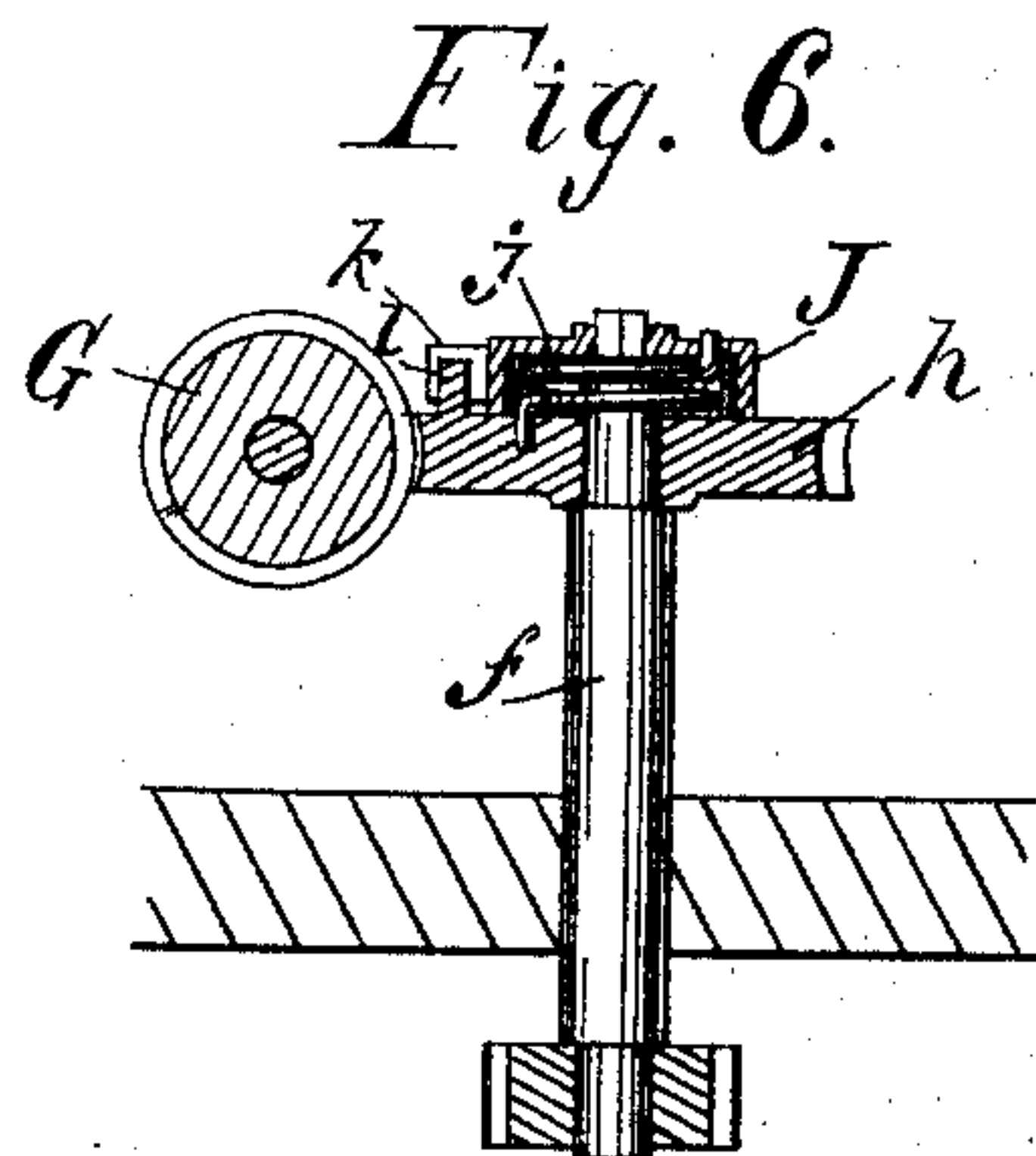
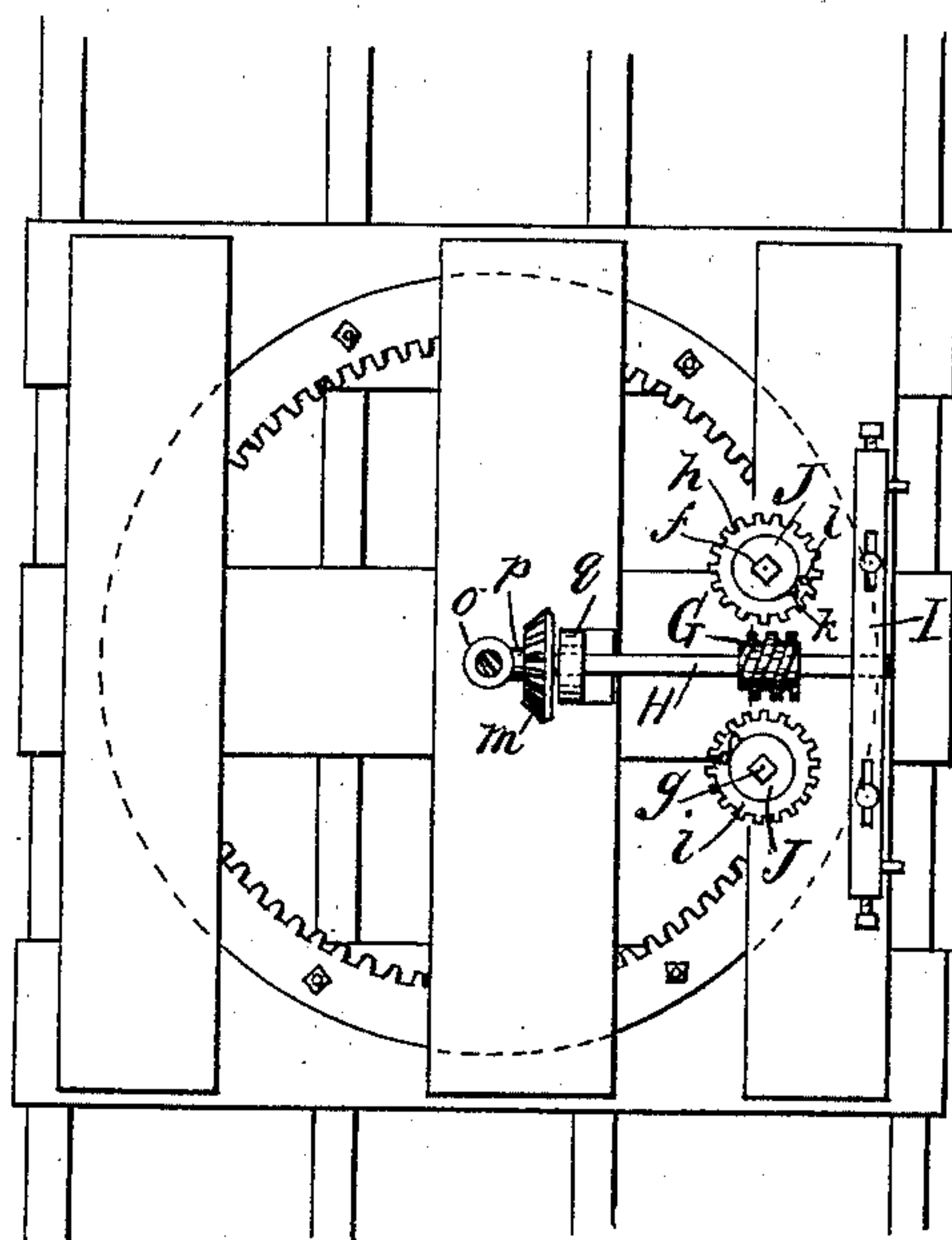
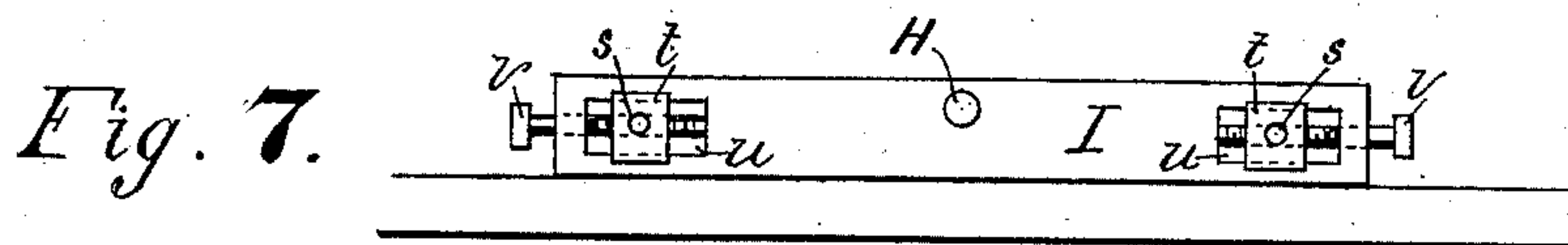


Fig. 4.

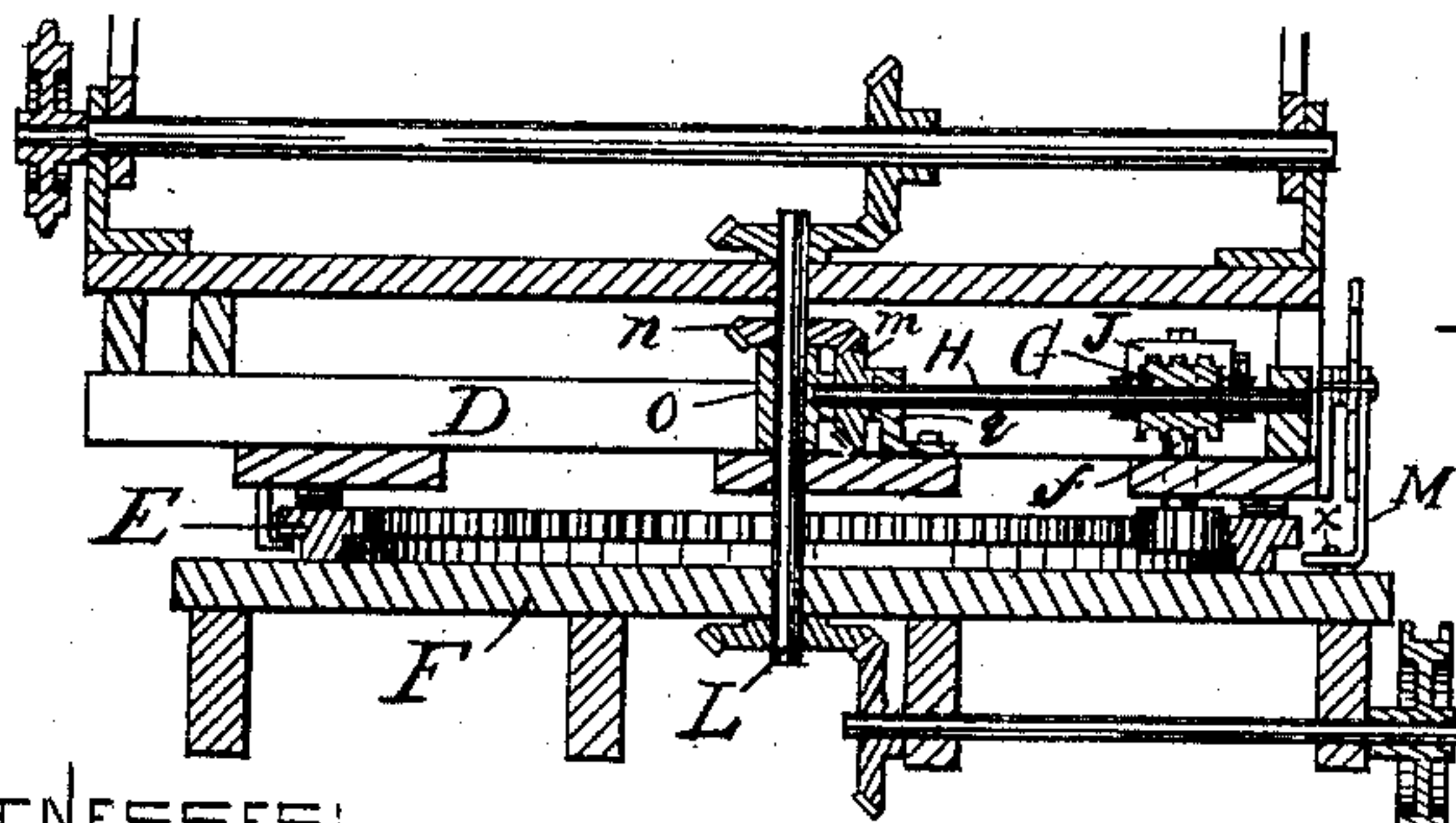
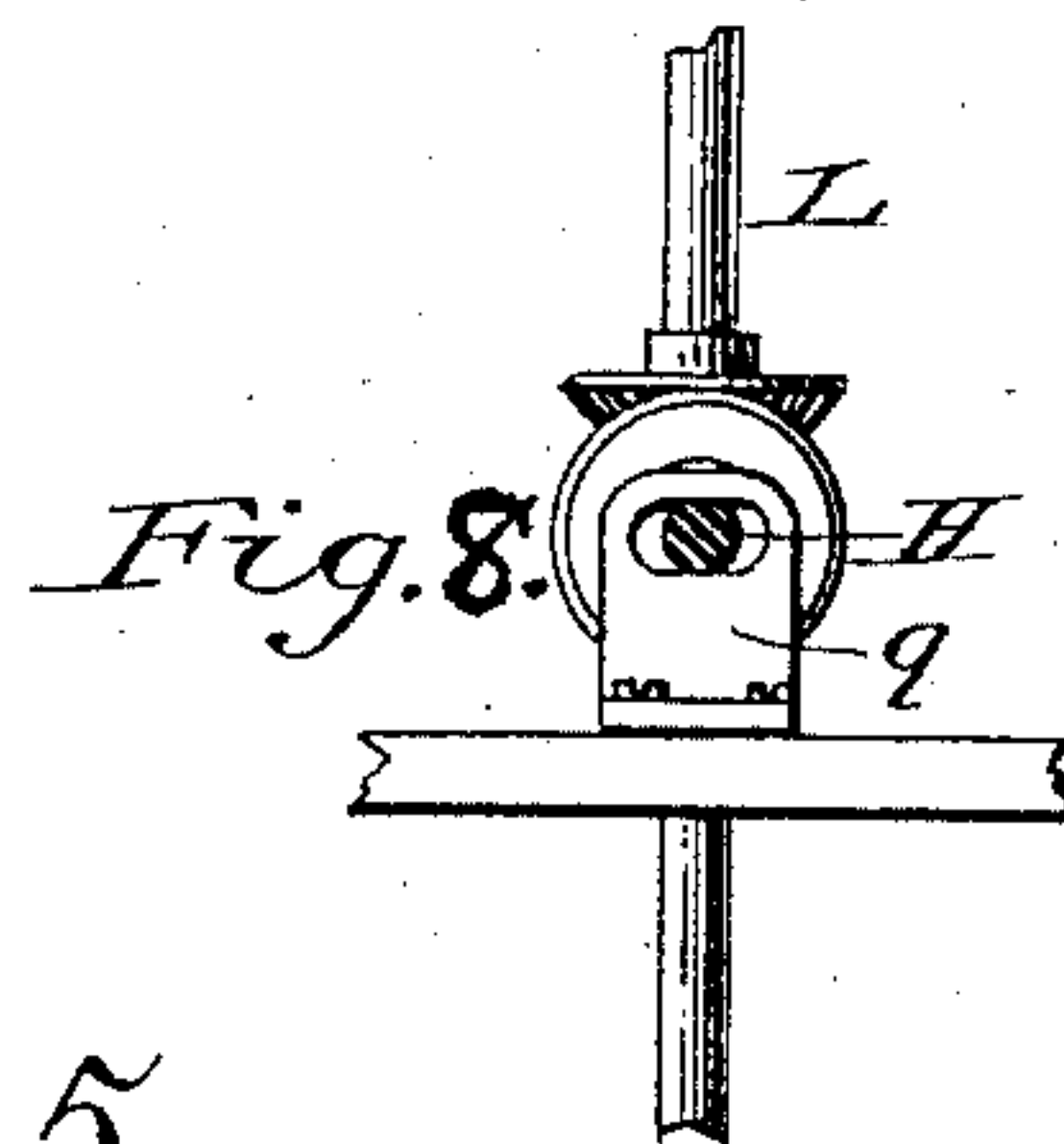


Fig. 5.

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UNITED STATES PATENT OFFICE.

ALFRED B. REEVES, MARSHAL T. REEVES, AND JAMES N. D. REEVES, OF COLUMBUS, INDIANA, ASSIGNORS TO REEVES & CO. AND JOSEPH I. IRWIN, ALL OF SAME PLACE.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 328,252, dated October 13, 1885.

Application filed March 5, 1885. Serial No. 157,805. (No model.)

To all whom it may concern:

Be it known that we, ALFRED B. REEVES, MARSHAL T. REEVES, and JAMES N. D. REEVES, citizens of the United States, residing at Columbus, in the county of Bartholomew and State of Indiana, have invented a new and useful Improvement in Straw-Stackers, of which the following is a specification.

Our invention relates to improvements in a straw-stacker for which Letters Patent were issued to us dated July 29, 1884, No. 302,588.

The objects of our improvements are to facilitate and make more perfect the operation of our straw-stacker, as shown in the accompanying drawings, and hereinafter fully described.

The accompanying drawings illustrate our invention.

Figure 1 is a partial side elevation showing the relative positions of the main and auxiliary straw-carriers when raised. Fig. 2 is a similar elevation showing the relative positions of the main and auxiliary straw-carriers when lowered. Fig. 3 is a plan of the auxiliary straw-carrier. Fig. 4 is a partial plan of the turn-table, showing the mechanism for turning it. Fig. 5 is a vertical section through the center of the turn-table. Fig. 6 is an enlarged vertical section of a portion of the turning mechanism. Fig. 7 is a side elevation of the sliding bearing. Fig. 8 represents a side elevation of the slotted bearing *g*.

A is a short secondary conveyer, hinged to the forward end of the main conveyer-trough B. Said conveyer is driven by a belt passing over a pulley, *a*, on its forward shaft, and a pulley, *b*, on the driving-shaft of the main conveyer.

In this class of straw-stackers as heretofore constructed it has been found that while the straw falling into the straw-carrier trough is retained without trouble, when the building of the straw-stack is first begun, and the trough is level or inclined upward at a slight angle, the straw will fall from the trough to a considerable extent when the stack is nearly finished, and the conveyer-trough is inclined upward at a sharp angle.

For the purpose of causing the conveyer A to assume a proper angle to retain the straw and convey such portion of it to the main conveyer-belt as may have a tendency to fall away, and also to swing downward out of the way of the thrasher straw-carrier C, said conveyer is hinged at its rear end to the main conveyer-trough at *c*, and its forward end is supported by a pair of braces, *d*, one end of each of said braces being pivoted on the driving-shaft *e* of conveyer A, and the other ends of said braces are rigidly secured to the upper portions of the forward extension-braces, *e'*, which support the forward end of the main straw-carrier. The turn-table D is rotated alternately in opposite directions by means of pinions on the lower ends of a pair of short vertical shafts, *f* and *g*. Said shafts are mounted in fixed bearings on the turn-table, and the pinions engage the internal gear-wheel, E, which is secured to the bed-frame F. The vertical shafts *f* and *g* are provided at their upper ends with screw gear-wheels *h* and *i*, which are revolved by a screw, G, which is secured on the horizontal shaft H. Said shaft has one end bearing in a sliding block, I, which is arranged to move endwise at each partial revolution of the turn-table, so as to cause screw G to alternately engage the gear-wheels *h* and *i*, as fully explained in our before-mentioned Letters Patent.

In the stacker shown in said Letters Patent the gear-wheels corresponding to wheels *h* and *i* were rigidly secured to their respective shafts, and said shafts commenced to revolve as soon as engaged by the screw.

For the purpose of causing the turn-table to rest at the end of each partial revolution, and thereby deposit more straw at the ends of the straw-stack than elsewhere, wheels *h* and *i* are arranged to turn loosely on their respective shafts, and are each held in place thereon by a hollow cap, J, (shown in Fig. 6,) which is rigidly secured to the shaft. A spiral spring, *j*, is coiled about that portion of the shaft which is inclosed in the cap J, and the upper end of said spring is secured to the cap, while the lower end is secured to the gear-wheel.

The caps J have each a short arm, *k*, and the gear-wheels have each a stud, *l*, projecting upward so as to engage arm *k*. Shaft H is revolved by means of the vertical shaft L and bevel gear-wheels *m* and *n*.

For the purpose of keeping the bevel gear-wheel *m* in proper working relation with wheel *n* when the screw G is shifted from one to the other of the screw gear-wheels *h* and *i*, we provide a collar, *o*, adapted to turn freely on shaft L, and having on one side a bearing, *p*, for the end of shaft H. Shaft H passes also through a bearing, *q*, which is slotted laterally, so as to allow a swinging movement of the shaft from side to side, but prevents any vertical movement of the shaft. The sliding bearing I is actuated by means of a trip-lever, M, and springs *r r*, and when the screw G is engaged with either of the gear-wheels *g* or *h* it is held in engagement therewith by means of one of the catches, N N, which hook over pins *s s*.

In the machine described in our before-mentioned Letters Patent said pins are permanently fixed in the bearing-block I. We have found in practice as the parts wear it is necessary to change the position of the pins. To meet this requirement we now secure the pins *s s* in movable blocks *t t*, which are arranged to slide in slots *u u* in the block I. Said movable blocks and pins are adjustably secured in place by screws *v v*, which have bearings in the bearing-block I, and pass through screw-threaded holes in the movable blocks.

The extensible supports, by means of which the straw-carrier is raised or lowered, are operated by two windlasses, P and R, both being turned simultaneously by a crank, S, and pinion T. Said pinion is arranged to be disengaged from windlass P, which operates the forward supports, *e' e'*.

For the purpose of insuring the stopping of windlass P when the forward end of the straw-carrier has been lowered sufficiently, we pivot to the lower end of the sliding portion of said support a toothed pawl, V. Said pawl is pivoted to the support in such a position relatively to the gear-wheel of windlass P that when the pawl is brought in contact with said gear-wheel its teeth are successively drawn into engagement with the teeth of the gear when it is turning in a direction to draw the support down, but will at once be thrown out of engagement when the gear is turned in the opposite direction.

In operation, when the stack is commenced, the straw-carrier is nearly level, as shown in Fig. 2, and the secondary conveyer A is inclined downward to allow the main carrier to come closely up under the straw-carrier of the

thrasher. As the stack increases in height and the main straw-carrier is raised conveyer A is tilted backward, so as to retain and carry backward the straw at the lower end of the main carrier. When screw G is engaged with gear-wheel *h*, said wheel turns loosely on its shaft, winding up spring *j*, until stud *l* engages arm *k* on cap J. Shaft *f* then revolves with wheel *h*, and the turn-table rotates until trip-lever M engages a pin, *x*, projecting from the bed-frame. When screw G releases wheel *h*, the turn-table stops, and the recoil of spring *j* turns wheel *h* on its shaft till stopped by stud *l* coming in contact with the opposite side of arm *k*. When screw G leaves wheel *h*, it engages wheel *i*, but the turn-table remains at rest until the wheel has made a revolution and its stud *l* has engaged the arm *k*.

We claim as our invention—

1. The combination, substantially as specified, of the principal straw-conveyer, the secondary conveyer hinged thereto, the extensible supports, and the braces connecting said supports and said secondary conveyer, whereby the relative positions of said primary and secondary conveyers are changed automatically during the rising and lowering of the principal conveyer, for the purpose specified.

2. In a straw-stacker, the combination, with the circular cogged rack on the bed-frame, the turn-table, the pair of vertical shafts mounted in said table, and having pinions engaging said circular rack, of a pair of gear-wheels mounted so as to turn on said vertical shafts, a pair of arms rigidly secured to said shafts, studs on said gear-wheels adapted to engage said arms, and means, substantially as described, for revolving said gear-wheels, all combined, substantially as and for the purpose specified.

3. The combination, with vertical shaft L, horizontal swinging shaft H, and bevel gear-wheels *m* and *n*, of collar *o*, having bearing *p*, and slotted bearing *q*, all substantially as and for the purpose specified.

4. In a straw-stacker, the combination, with the sliding bearing-block I and catches N N, of the movable blocks *t t*, having pins *s s*, and screws *v v*, all substantially as and for the purpose specified.

5. In a straw-stacker, pawl V, combined with windlass P, and its driving gear-wheel and extension support *e*, in the manner and for the purpose specified.

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