

(No Model.)

D. R. PRESTON.

PLATFORM ADJUSTMENT FOR HARVESTERS.

No. 278,596.

Patented May 29, 1883.

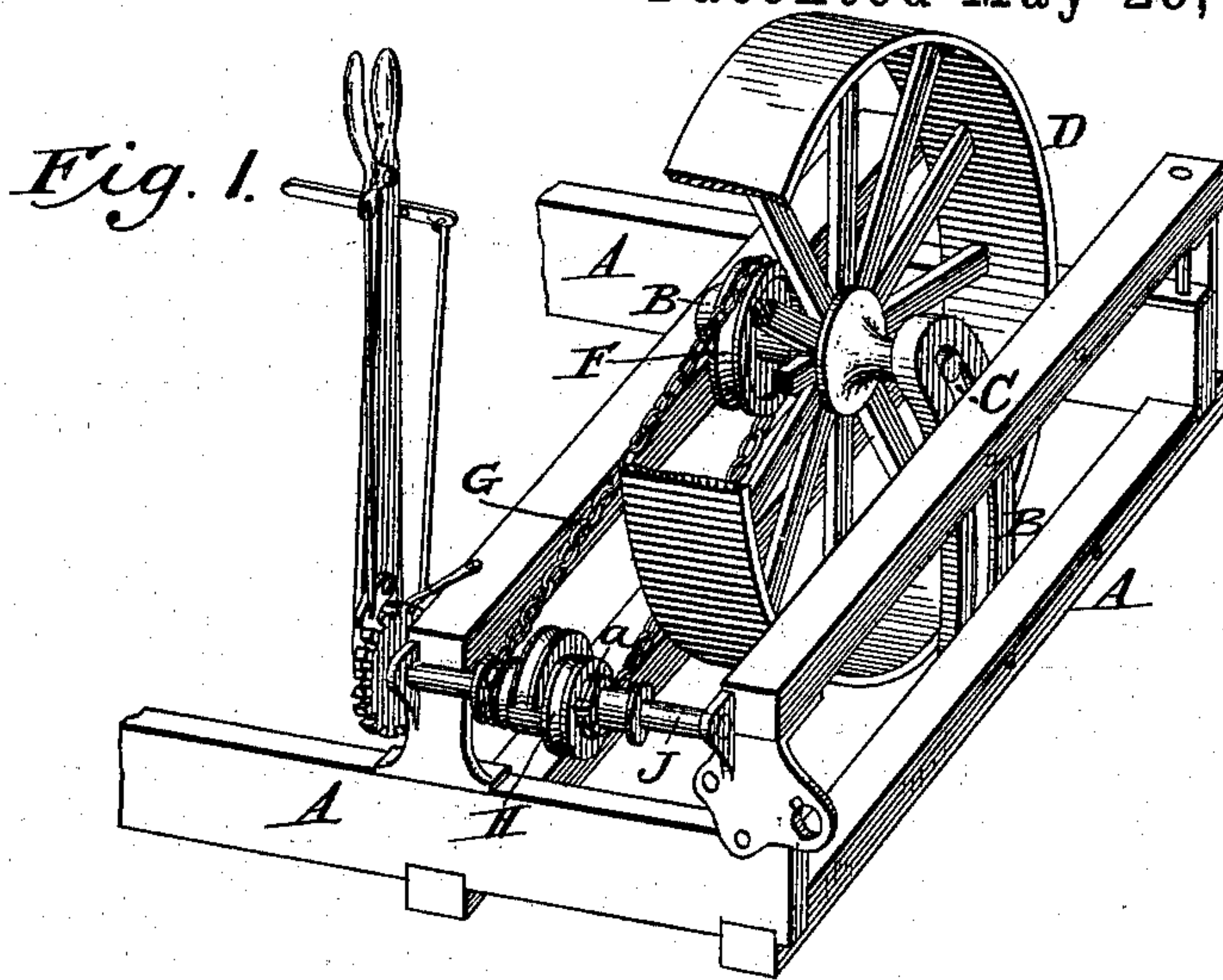


Fig. 2.

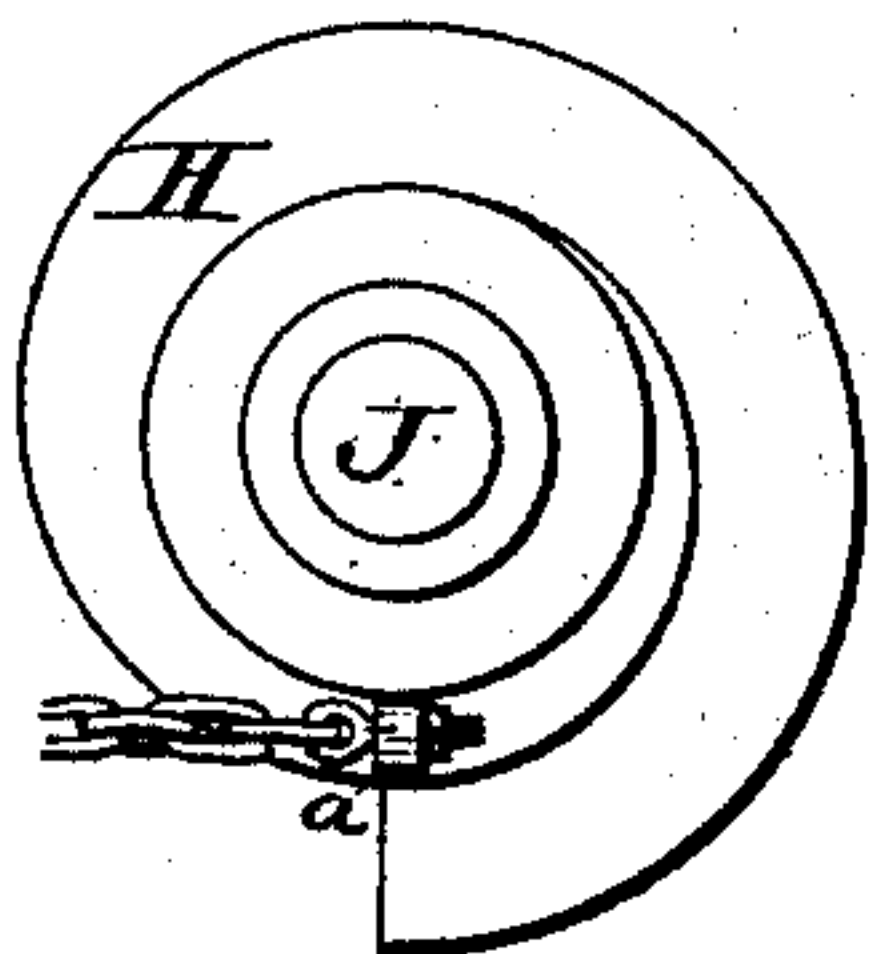


Fig. 3.

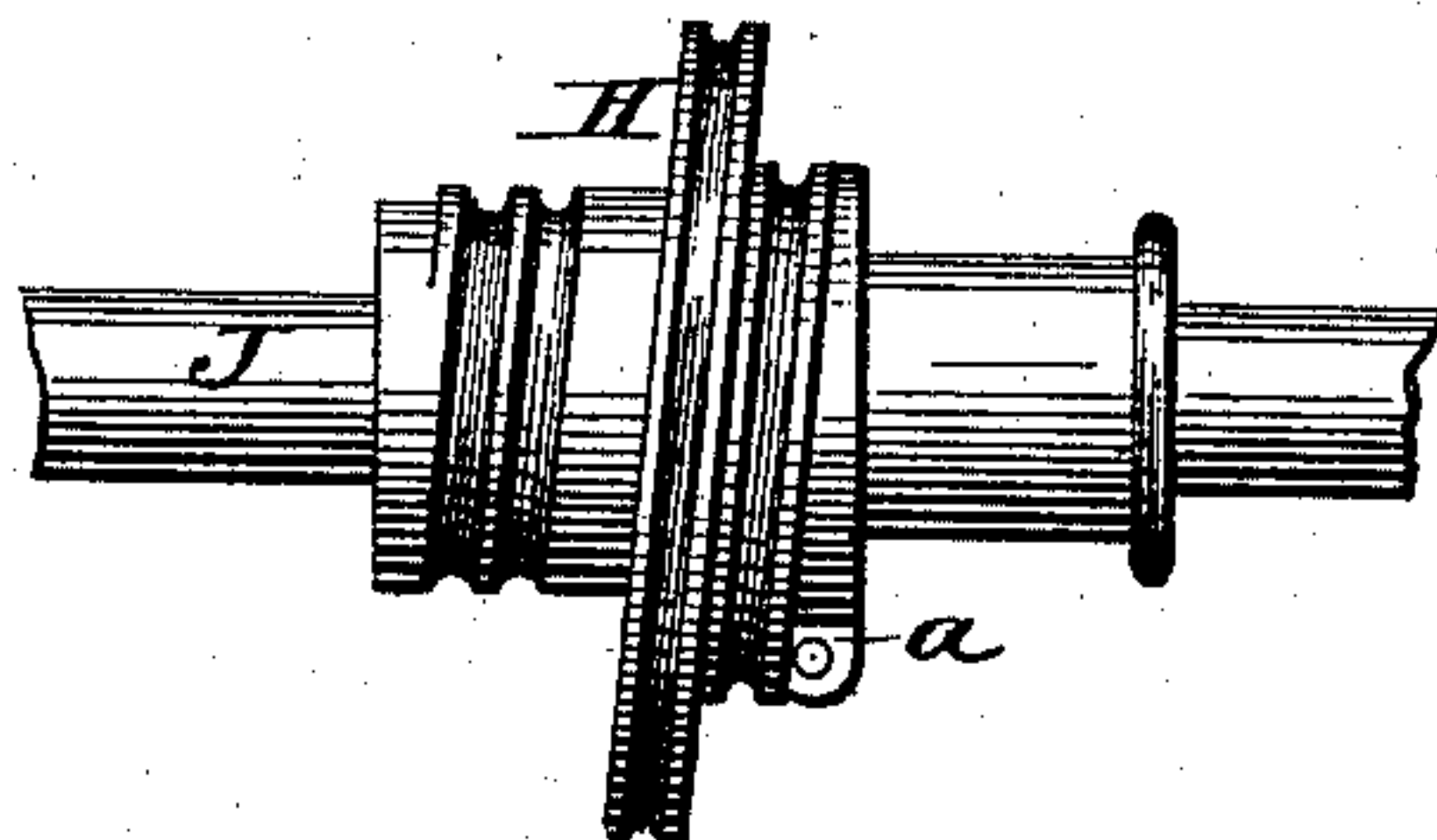
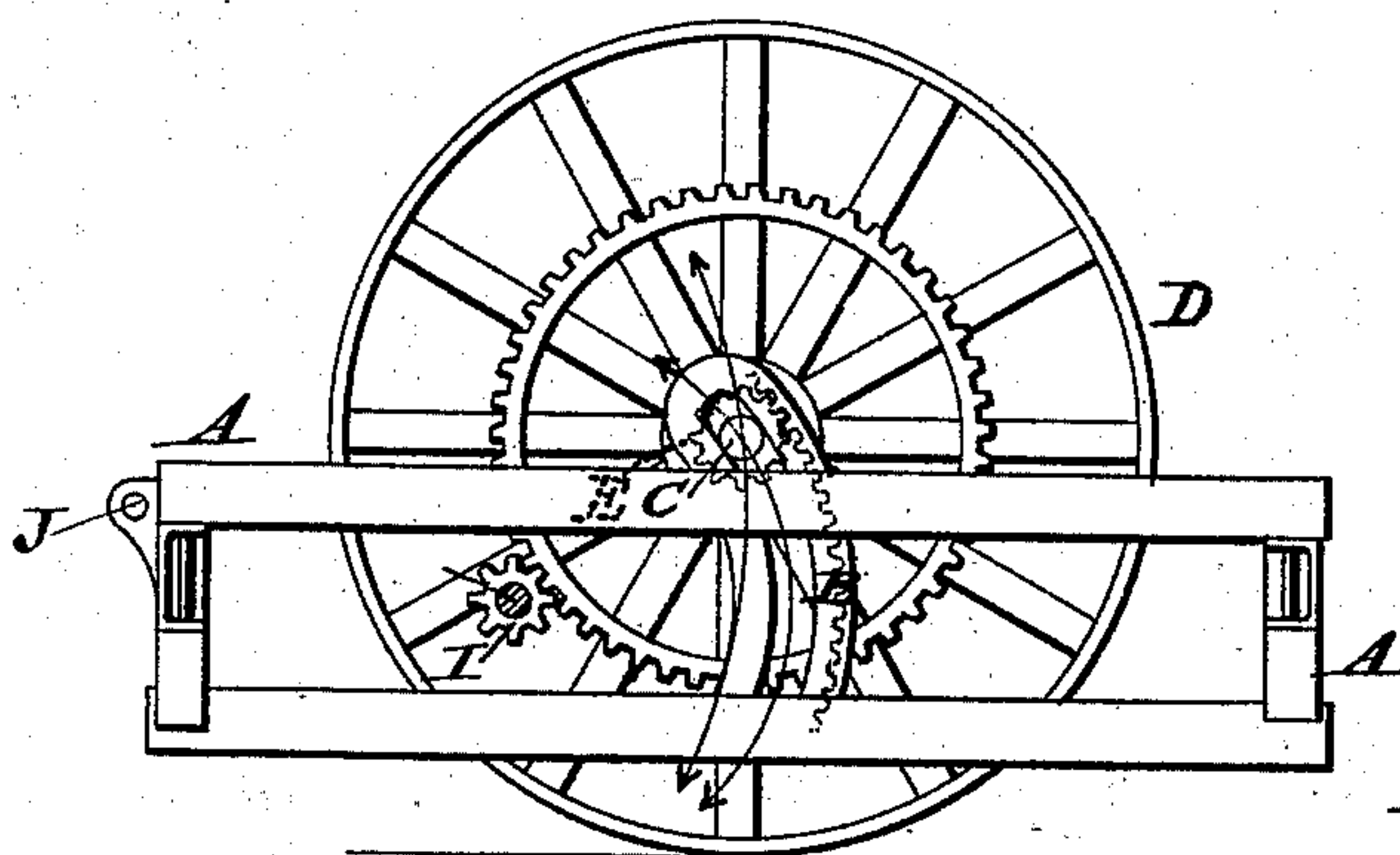


Fig. 4.



Attest.

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PLATFORM ADJUSTMENT FOR HARVESTERS.

SPECIFICATION forming part of Letters Patent No. 278,596, dated May 29, 1883.

Application filed February 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, DAVID R. PRESTON, of Whitewater, in the county of Walworth and State of Wisconsin, have invented certain Improvements in Platform Adjustments for Grain-Harvesting Machines, of which the following is a specification.

My invention relates to that class of harvesters in which the main frame is raised and lowered in relation to the main or ground wheel by means of pinions secured to the ends of its axle, and arranged to engage with upright slotted rack-plates secured to the frame, the wheel being loose on the axle. Heretofore the rotation of the axle and adjusting-pinions has commonly been effected by providing the axle with a drum or pulley, and extending a chain from one side thereof to a winding-drum on the main frame.

My invention consists in passing a chain around and from opposite sides of the pulley on the axle to opposite sides of a winding-drum, which is made of conical or helical form to compensate for the varying length of the chain.

Referring to the accompanying drawings, Figure 1 is a perspective view of the main frame and its connections constructed on my plan; Fig. 2, an end view of the winding-drum; Fig. 3, a front elevation of the same, and Fig. 4 a diagram illustrating the relation of the various parts.

A represents the main frame, of rectangular form, constructed in the manner described in Letters Patent granted to George Esterly on the 1st day of August, 1882, No. 262,026, but which may be constructed in any other suitable manner.

B B represent the two upright slotted rack-plates, bolted to opposite sides of the main frame. C represents the main axle, extended horizontally and loosely through the main or ground wheel D, and seated at its ends in the slots of the rack-plates.

E represents one of the pinions secured on the ends of the axle, and engaging with the respective rack-plates, so that as the axle is turned in one direction or the other the pinions, acting on said racks, will raise or lower the frame.

F represents the drum or pulley secured to the axle as a means of turning the same.

The foregoing parts are all of substantially the usual form, and operate in the ordinary manner.

G represents the operating-chain, passed around the pulley and extended from its opposite sides to opposite sides and ends of the winding-drum H, so that as the drum is turned it takes up one end of the chain and slackens the other. In this manner a positive motion may be imparted to the pulley, shaft, and pinions in either direction. As usual, the rack-plates are curved in the arc of a circle described from the center of the pinion I, which receives motion from a geared rim on the main wheel and transmits it to the working parts of the machine. The racks being thus curved from a point eccentric to the axis of the winding-drum, it follows that as the frame rises and falls the distance between the drum and the pulley F changes, thus lengthening or shortening the chain. To compensate for the variation and keep the chain constantly at the proper tension, one end of the winding-drum is made with a grooved surface, winding gradually outward from the center in a spiro-conoidal or helical form, as shown. This surface is constructed with reference to the other parts in such manner that as the frame rises the lower end of the chain is taken up with increasing rapidity, and vice versa. The opposite end of the drum may have a winding-surface of constant diameter, as shown, to take up the upper end of the chain; or, if preferred, both ends of the drum may be made eccentric, so that each will compensate in part for the changing length of the chain. The precise form or curvature given the drum is not material, the only requirement being that it shall act to compensate for the variation in distance between the drum and pulley to prevent the slackening of the chain. The drum is preferably mounted, as usual, on a horizontal shaft, J, seated in bearings on the main frame, and provided with a ratchet-wheel and a pawl-lever, as shown, adapted to be operated by the driver while in his seat. The connection of the chain to the drum may be made in any suitable manner; but it is preferred to provide the drum with perforated ears *a*, and to connect the chain thereto by means of eyebolts or hook-bolts passed through said ears, and provided with

tightening-nuts on the ends, as shown. The chain may have links of any suitable form, and the pulley F a surface provided with suitable projections or recesses to interlock therewith.

5 The present invention is restricted to those matters and things which are hereinafter claimed, and as to all matters which may be described or shown, but which are not claimed, the right is reserved to make the same the sub-
10 ject of a separate patent.

For the purpose of locking the machine positively at the required height, I employ, in connection with the wheel, a dog pivoted to the
15 main frame, and arranged to engage in said wheel, as shown. When in engagement this dog prevents motion of the wheel in either direction, and thus holds the winding-drum, chain, and elevating-pinions positively in position. The locking-dog may be disengaged by oper-
20 ating devices of any suitable character, the preferred arrangement being to extend a rod therefrom to a foot-lever within reach of the driver, as shown in the drawings, whereby the driver is enabled to unlock the mechanism with
25 his foot, and to retain the same in the unlocked condition while effecting the required adjustment by means of the hand-lever.

Having thus described my invention, what I claim is—

30 1. In a harvesting-machine, the elevating-

pulley, arranged and operating substantially as described, in combination with the operating-chain and the winding-drum having an eccentric surface, substantially as described.

2. A winding-drum for the elevating-chain 35 of a harvester, having one portion of its surface of substantially constant diameter and the remaining portion of variable diameter, substantially as described and shown.

3. The winding-drum having two grooved 40 ends, one cylindrical and the other of spiro-conoidal form, substantially as described and shown.

4. The axle, its pulley and pinions, in combination with the curved rack-plates, the wind- 45 ing-chain, and the eccentrically-located winding-drum, adapted, substantially as described, to maintain a constant tension on the chain.

5. In a harvester, the combination of the fol- 50 lowing elements: the main frame and its rack-plates curved in the arc of a circle, the main axle, its pinions and pulley, the chain extending from the two edges of the pulley, and a take-up mechanism located on the frame eccentric to the rack-plates and connected to the 55 two ends of the chain.

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