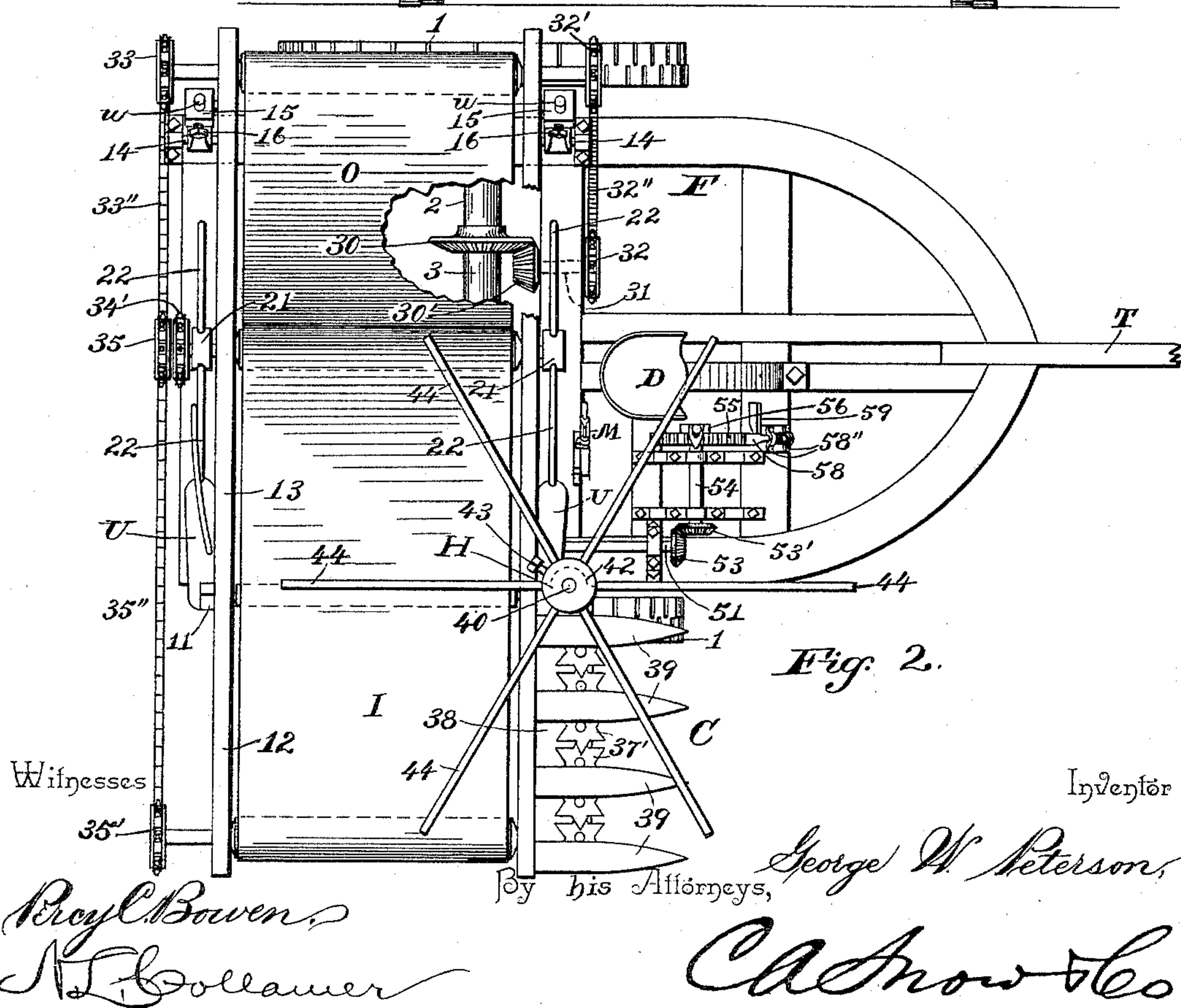
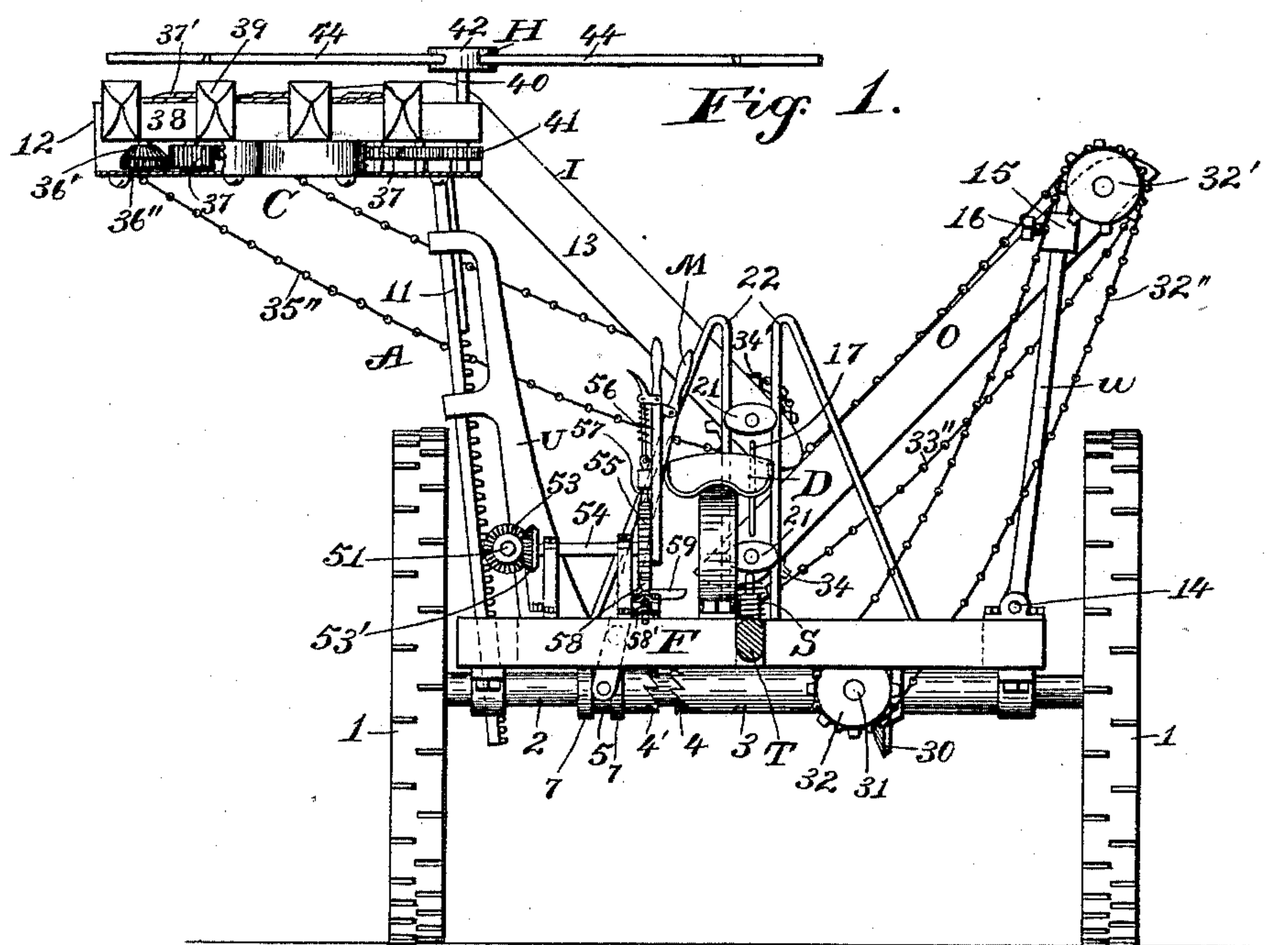


3 Sheets—Sheet 1.

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3 Sheets—Sheet 2.

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Patented Nov. 8, 1892.

Fig. 3.

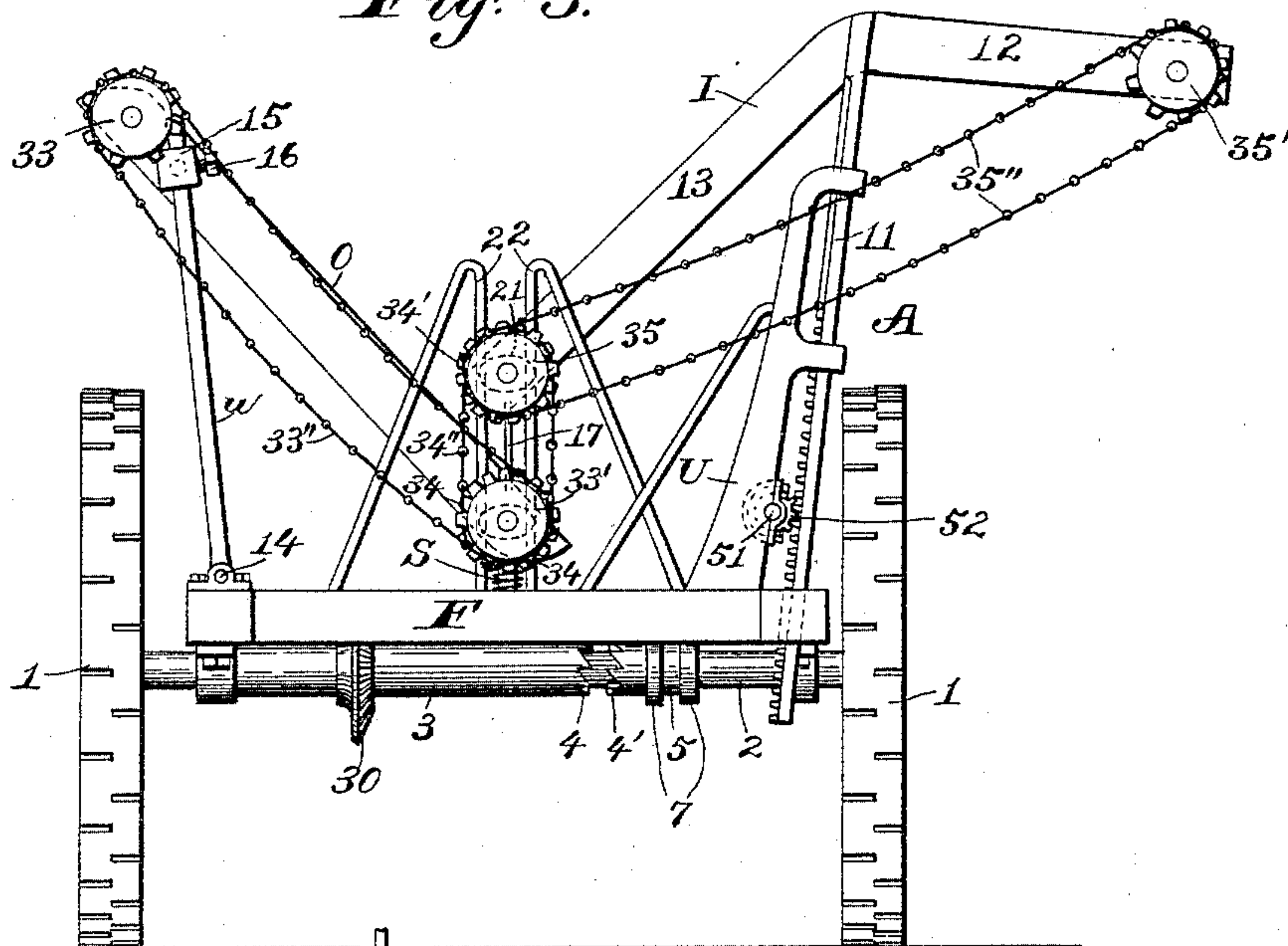


Fig. 4.

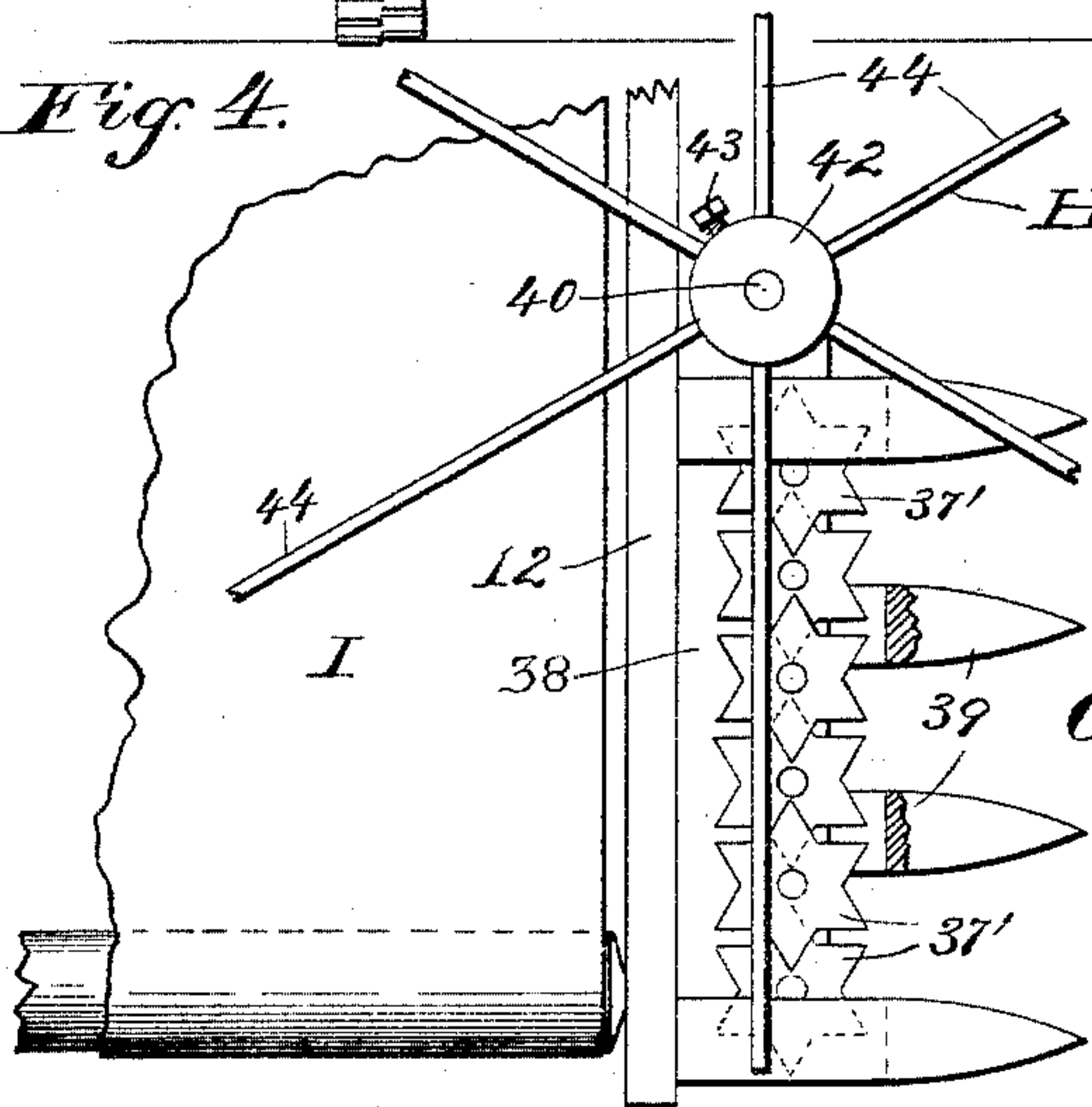


Fig. 5.

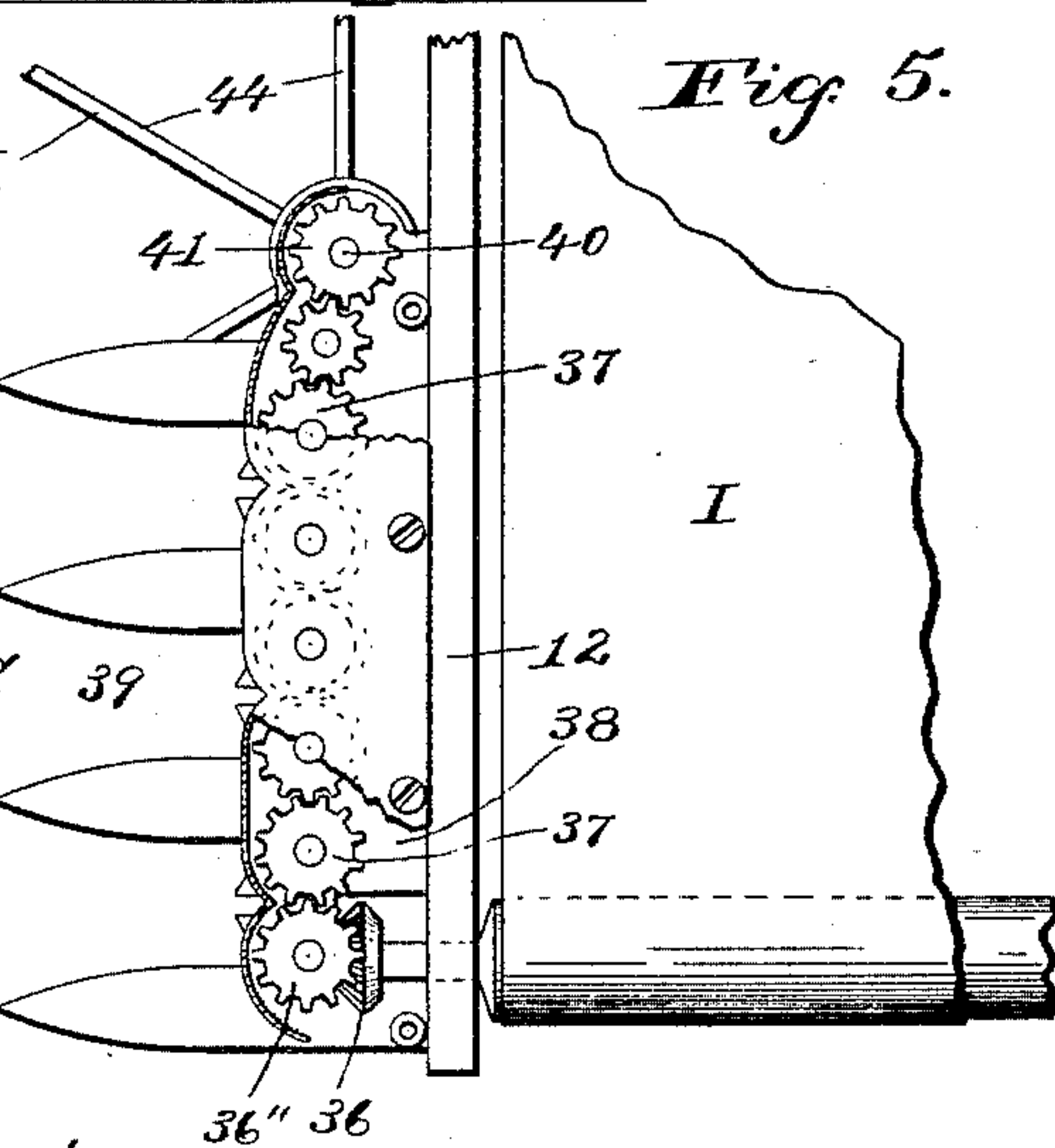
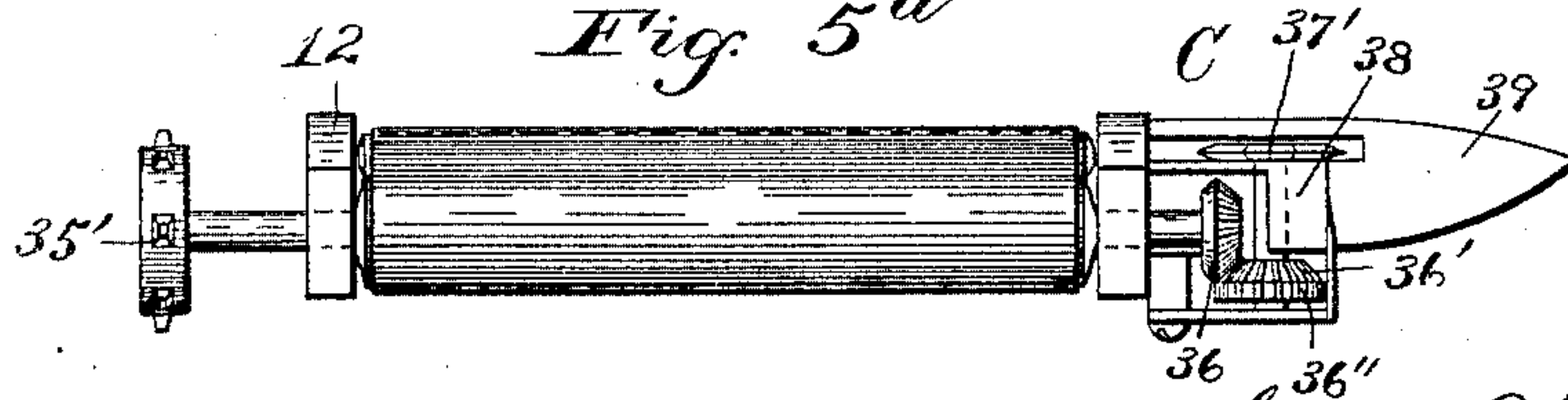


Fig. 5^a



Witnesses

Inventör

Percy C. Bowen.

By his Attorneys,

George W. Peterson.

H. E. Colamer.

Chas. Snow & Co.

(No Model.)

3 Sheets—Sheet 3.

G. W. PETERSON.
BROOM CORN HARVESTER.

No. 485,711.

Patented Nov. 8, 1892.

Fig. 6.

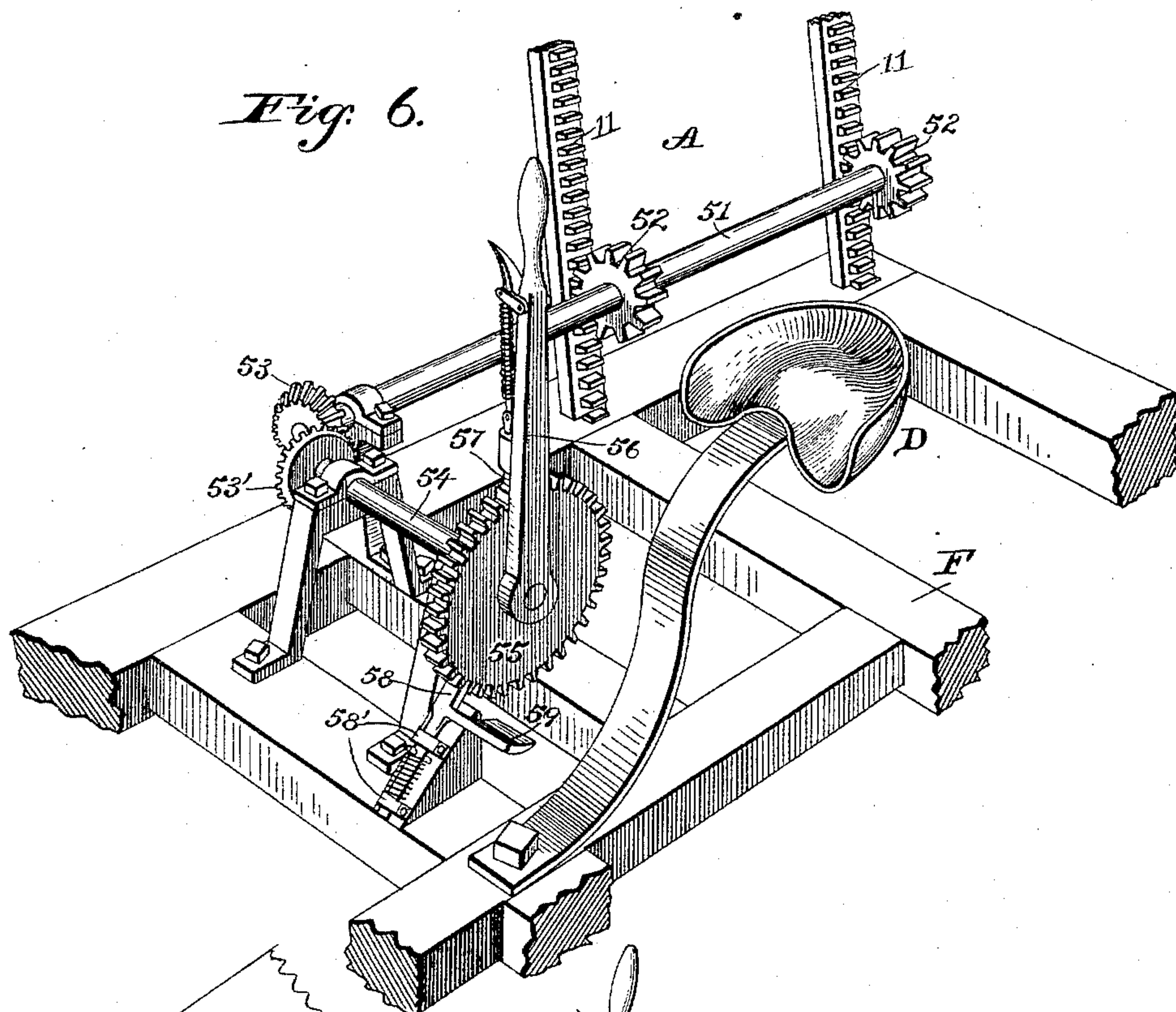


Fig. 7.

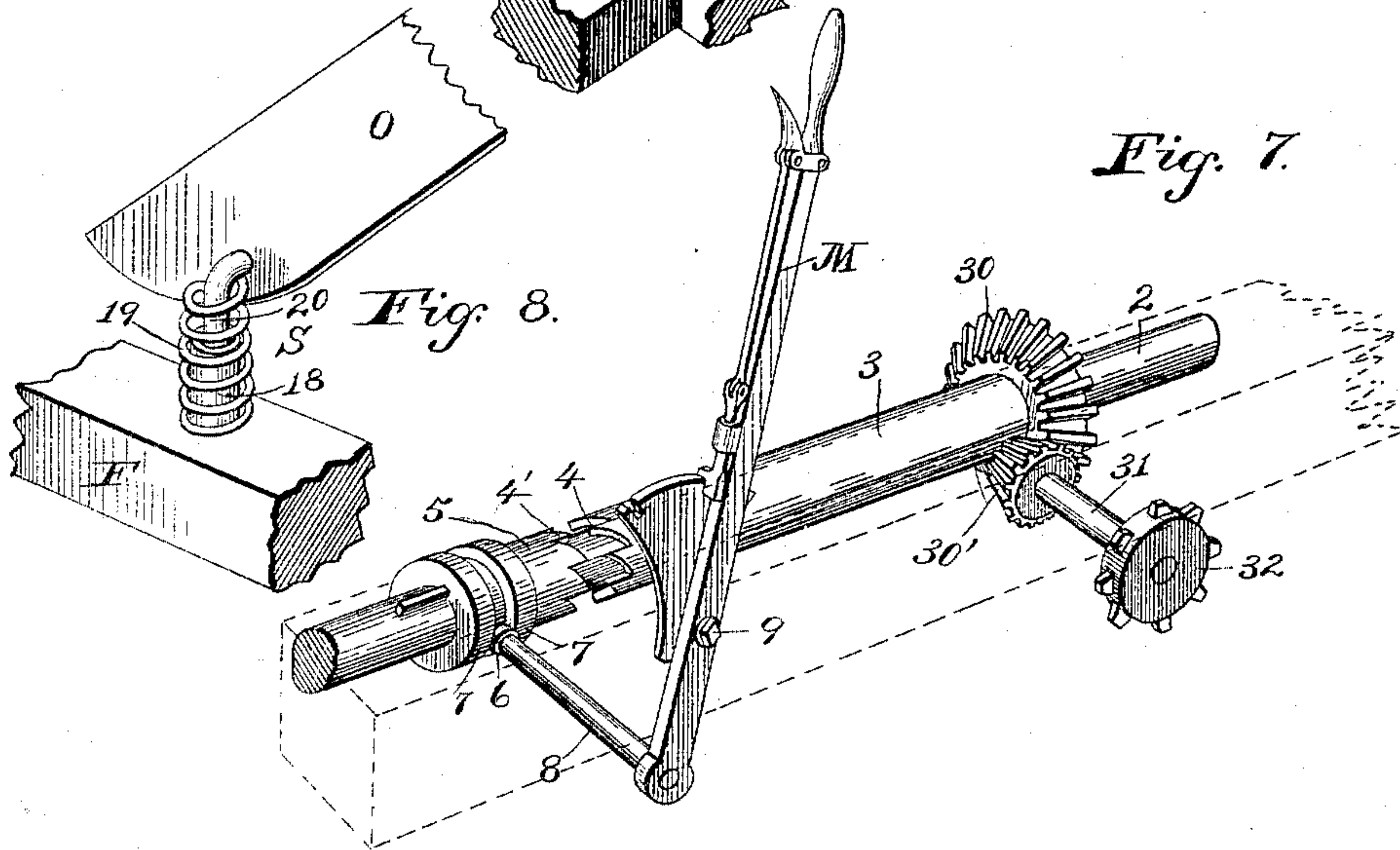
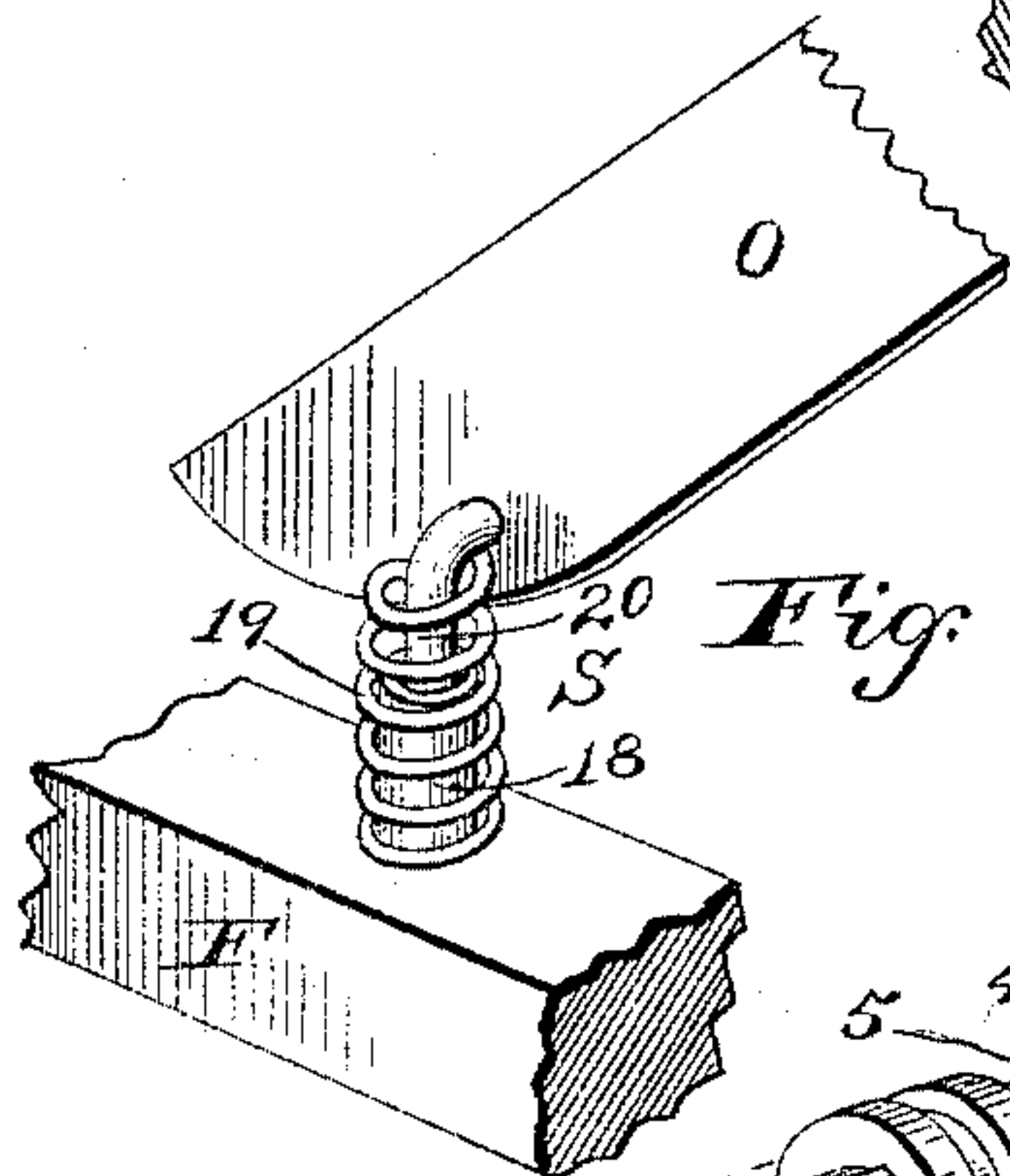


Fig. 8.



Witnesses

Inventor

Rey C. Bowen
A. C. Colamer

By his Attorneys,

George W. Peterson,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

GEORGE W. PETERSON, OF LEONARDVILLE, KANSAS.

BROOM-CORN HARVESTER.

SPECIFICATION forming part of Letters Patent No. 485,711, dated November 8, 1892.

Application filed July 28, 1891. Serial No. 400,939. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PETERSON, a citizen of the United States, residing at Leonardville, in the county of Riley and State of Kansas, have invented a new and useful Broom-Corn Harvester, of which the following is a specification.

This invention relates to harvesters, and more especially to those of that class that are adapted for the cutting of corn; and the object of the same is to produce certain improvements in machines of this character.

To this end the invention consists in the construction hereinafter more fully set forth and claimed, and as illustrated on the drawings, wherein—

Figure 1 is a front elevation of this improved machine. Fig. 2 is a plan view thereof. Fig. 3 is a rear elevation. Fig. 4 is an enlarged plan view of the cutting apparatus, showing certain of the fingers as broken away at their inner ends. Fig. 5 is a bottom plan view of said apparatus. Fig. 5^a is an outer end elevation thereof. Fig. 6 is a perspective detail showing the means for adjusting the height of the cutting apparatus. Fig. 7 is a perspective detail showing the mechanism for throwing the machine into and out of operation. Fig. 8 is a perspective detail of one of the cushions for supporting the inner ends of the carrier-frames.

Referring to the said drawings, the letter F designates the main frame having uprights U, which support the cutting apparatus C.

I is the frame of the inwardly-traveling carrier in rear of this cutting apparatus.

O is the outwardly-traveling carrier supported by supplemental uprights *u*.

A is the adjusting mechanism for regulating the height of the cutting apparatus.

H is the reel.

S are the spring-cushions, M the main lever, D the driver's seat, and T the tongue, all these parts being of the following specific construction:

The main supporting-wheels 1 1 are mounted on the axle 2, which is provided with a sleeve 3, turning loosely thereon and having notches or teeth 4 at one end. Splined on the axle is a ring 5, having teeth 4', adapted to mesh with those on the collar, thereby forming a movable clutch member, and the latter

is engaged by a roller 6, turning loosely between ribs 7 on the ring 5, the said roller being connected by a rod 8 with the lower end of the main lever M, which is pivoted, as at 9, to the frame F, and which rises through the same adjacent the driver's seat D. By this construction the driver by manipulating the lever M may throw the sliding clutch member into or out of engagement with the sleeve 3, and thereby start or stop the operation of the entire machine.

Rising from the right side of the framework F are the main uprights U U, through which move vertically rack-bars 11 11, that are raised and lowered by the adjusting mechanism A, hereinafter described, and the upper ends of these rack-bars are connected to the frame I of the inwardly-traveling carrier, this frame having a horizontal portion 12 and an inclined inner portion 13. The supplemental uprights *u* are pivotally connected, as at 14, to the left side of the framework F and rise therefrom through blocks 15, which are connected by a swivel with the frame O of the outwardly-traveling carrier, the uprights being adjustably secured in said blocks by set-screws 16. The inner end of this carrier O passes beneath the inner end of the other carrier I, and such ends are connected by pivoted connecting-rods 17.

The spring-cushions S comprise tubes 18, rising from the frame F and surrounded by expansible springs 19, and depending rods from the inner end of the carrier-frame O pass into these tubes and through the springs, and by this mechanism the inner ends of the two carriers are supported and cushioned by the frame.

21 are lugs projecting forwardly and rearwardly from the inner ends of the carrier-frames, and 22 are guides rising from the frame F and between which said lugs move vertically, as will be clear. When the rack-bars above mentioned are elevated so as to raise the horizontal portion 12 of the carrier I, the latter naturally draws its lugs 21 upwardly between the guides 22, and through the pivoted connecting-rods 17 the inner end of the carrier O is also raised, the outer end of this carrier swinging outwardly over the pivoted uprights *u*, and the swiveled blocks 15 turning in the frame of this carrier, as will

be clear. If greater adjustment is desired, the uprights *u* are adjusted through the blocks by means of the set-screws 16; but the lugs on both the carriers always move between the guides, and the spring-cushions *S* assist in supporting them.

The mechanism for driving the carriers is as follows: The sleeve 3 carries a bevel-gear 30, meshing with another one 30' on a short shaft 31, journaled in the frame, and this shaft has a sprocket-wheel 32 on its other end. The carriers are endless belts moving over suitable rollers journaled in the frames, as will be clearly understood, and on the shaft of the upper roller of the carrier *O* is a sprocket-wheel 32', connected by an endless chain 32'' with the sprocket-wheel 32. The other end of the shaft has a sprocket-wheel 33, connected with another sprocket-wheel 33' on the shaft of the roller at the other—that is, the inner or lower—end of the carrier *O* by a chain belt 33''. This shaft has another sprocket-wheel 34, connected with a sprocket-wheel 34' on the shaft of the inner roller of the carrier *I* by a chain belt 34'', and this shaft has another sprocket-wheel 35 connected with a sprocket-wheel 35' on the shaft of the roller at the outer end of the carrier *I* by an endless chain 35''. By this means when the main lever *M* is properly manipulated to engage the two clutch members, and the sleeve 3 is then rotated by the axle, power will be transmitted to the outer end of the carrier *O*, thence to its inner end, thence to the inner end of the carrier *I*, and thence to the outer end of this carrier, and yet the vertical adjustment of these carriers will not be interfered with. Hence I consider this system of belts and sprocket-wheels highly advantageous in the present connection, because it permits the adjustment of the carriers in the manner set forth above.

The cutting apparatus *C* is of the following construction: The sprocket-wheel 35', as above stated, drives the outer roller of the inwardly-traveling carrier *I*, and on the front end of this shaft is a beveled gear 36, which engages another 36', also carrying a plain gear 36'', and this gear intermeshes with the first of a train of intermeshing gears 37, mounted on stub-shafts at the lower side of the finger-bar 38. The said bar carries fingers 39, which project forwardly in the usual manner, except that they are quite large, as shown, and on the upper end of the shaft of each of the wheels 37 is a star-wheel 37', whose blades are ground so as to form knives, which move through the fingers 39, as shown, and serve to cut the stalks as they rapidly revolve with their faces in contact.

The reel *H* comprises a vertical shaft 40, mounted in bearings at the inner end of the finger-bar 38 and having a gear 41, engaging the last of the train 37, by which the shaft is rotated. On the said shaft is mounted a hub 42, which is adjustable vertically by means of a set-screw 43, whereby the height of the

reel above the cutting apparatus can be regulated, as desired, and in this hub are seated radially-projecting reel-arms 44, as shown, the rotation of the hub being in the direction to move these bars to the rear across the cutting apparatus, and hence to drive the heads of the cornstalks rearwardly onto the inwardly-traveling carrier. It will be understood that this reel may be adjusted relatively to the cutting apparatus and that both will be adjusted by the adjusting devices *A*. The said devices for adjusting the height of the cutting apparatus and reel are constructed as follows: 11 11 are rack-bars moving through guides in the uprights *U* of the frame, and these rack-bars are connected at their upper ends with the frame *I* of the inwardly-traveling carrier. 51 is a horizontal shaft journaled in bearings in said uprights and having toothed wheels 52 engaging said rack-bars, and the front end of this shaft carries a bevel-gear 53, engaging another 53' on the shaft 54, mounted in suitable brackets rising from the frame *F* and carrying at its inner end a toothed wheel 55. 56 is a lever pivoted on the shaft 54 and having a spring-actuated pawl 57 adapted to engage the teeth of the wheel 55, and 58 is a spring-actuated retaining-pawl sliding in guides or eyes 58' in the framework and having a foot-piece 59, projecting laterally therefrom, as shown. With this construction, the driver, sitting in his seat *D*, can push forward on the foot-piece 59 and disengage the pawl 58 from the wheel 55, and then by reciprocating the lever 56 he can turn the horizontal shaft 51 in the proper direction to raise or lower the rack-bars 11 and with them the outer end of the inwardly-traveling carrier. The cutting apparatus and the reel, and hence the height at which the stalks are cut, can be regulated by the driver without leaving his seat.

With a machine of this construction, the team being hitched to the tongue *T* and driven over the ground, the cutting apparatus will cut the heads from any grain desired, and is hence highly useful for cutting broom-corn. The heads so cut are knocked to the rear by the reel *H*, and fall on the inwardly-traveling carrier *I*, whence they are conducted to and dropped upon the outwardly-traveling carrier *O*, and from the discharge end of the latter they may be dropped into a receptacle—such as a wagon-box—carried or moved alongside the machine. The driver can adjust the height of the cut and can stop or start the motion of the machine at will without leaving his seat.

I do not limit myself to the exact details of construction, as considerable change may be made therein without departing from the spirit of my invention.

What is claimed as new is—

1. In a corn-harvester, the combination, with the main frame having uprights, bars vertically adjustable in said uprights, an endless carrier whose frame is connected with said

bars, a delivery-carrier to which said first carrier delivers, means for operating these carriers, and means for adjusting said bars vertically, of a cutting apparatus mounted on the outer end of said first-named endless carrier, connections between this cutting apparatus and a shaft of the carrier, a reel above the cutting apparatus, and connections between the reel-shaft and the cutting apparatus, as and for the purpose set forth.

2. In a corn-harvester, the combination, with the axle, the main frame mounted on the axle, a sleeve turning thereon and having teeth at one end and a gear at its other end, a ring splined on the axle and having teeth adapted to engage those on the sleeve, and a main lever for moving this ring longitudinally, of a pair of vertically-adjustable uprights, and a pair of supplemental uprights located at opposite sides of the frame, an inwardly-traveling and an outwardly-traveling carrier mounted, respectively, on the adjustable uprights and supplemental uprights, connections between said gear and the shaft of one carrier, connections between the adjacent shafts of the two carriers, a cutting apparatus supported at one side of and by the frame of the inwardly-traveling carrier, and connections between the roll thereof and the cutting apparatus, substantially as specified.

3. In a harvester, the combination, with the main frame having vertical guides rising therefrom, the cutting apparatus, and spring-cushions between said guides, of an endless carrier having lugs on its frame moving in said guides and supported by the cushions, and means for raising and lowering said elevator, as and for the purpose set forth.

4. In a harvester, the combination, with a main frame having vertical guides rising therefrom, stationary uprights at one side and pivoted supplemental uprights at the other side of the guides, and the cutting apparatus, of bars moving through said stationary uprights, an inwardly-traveling carrier mounted in a frame on these bars and having lugs at the inner ends of its frame moving in the guides, an outwardly-traveling carrier whose frame is pivotally connected to said supplemental uprights and having lugs at its inner end moving in the guides beneath those of the other carrier, pivoted connecting-rods connecting the inner ends of the carrier-frame, means for driving the carriers, and means for adjusting said bars vertically, as and for the purpose set forth.

5. In a harvester, the combination, with an endless carrier moving in a frame and operating in conjunction with the cutting apparatus, its frame having a depending rod, of a tube rising from the main frame and embracing said rod loosely and an expansible spring surrounding the tube and pressing the carrier-frame upwardly, substantially as described.

6. In a corn-harvester, the combination, with the main frame, uprights thereon, an outwardly-traveling carrier whose frame is sup-

ported by one pair of uprights, an inwardly-traveling carrier whose frame is supported by the other pair, this frame having a horizontal outer portion and an inclined inner portion leading over the inner end of the outwardly-traveling carrier, and means for driving said carriers, of a cutting apparatus mounted at one side of and supported by said horizontal portion of the carrier-frame, connections between such apparatus and one of the shafts of the carrier, and a reel located at one end of the cutting apparatus, and driving connections between it and the cutting apparatus, as and for the purpose set forth.

7. In a harvester, the combination, with the main frame having the main uprights at one side and the pivoted supplemental uprights at the other side thereof, the adjusting-bars passing through said main uprights, a carrier whose frame is supported by said bars, and another carrier whose frame is pivotally supported by the supplemental uprights, of pivoted connecting-rods connecting the inner ends of said carrier-frames, a wheel driven by the axle, a belt connecting this wheel with the outer shaft of one carrier, pulleys on the shafts at the adjacent ends of the carriers, and a belt connecting said pulleys, substantially as described.

8. In a harvester, the combination, with the main frame having the main uprights at one side and the pivoted supplemental uprights at the other side thereof, the adjusting-bars passing through said main uprights, a carrier whose frame is supported by said bars, another carrier whose frame is pivotally supported by the supplemental uprights, and pivoted connecting-rods connecting the inner ends of said carriers, of a wheel driven by the axle, belts connecting this wheel with the outer shaft of one carrier, said shaft with the inner shaft of this carrier, said inner shaft with the inner shaft of the other carrier, and the latter inner shaft with the outer shaft of its carrier, a cutting apparatus, and connection between said apparatus and the last-mentioned shaft, as and for the purpose set forth.

9. In a corn-harvester, the combination, with the frame, the main uprights at one side thereof, the adjusting-bars passing through said uprights, the supplemental uprights pivoted to the other side of the main frame, the blocks on the supplemental uprights, and set-screws through said blocks, of an inwardly-traveling carrier whose frame is supported by said bars, an outwardly-traveling carrier whose frame is loosely connected to the inner end of the other carrier-frame, swivel connections between said blocks and the outer end of the outwardly-traveling carrier-frame, and means for driving the carriers, substantially as described.

10. In a harvester, the combination, with the main frame, an upright thereon, a rack-bar moving therethrough, a carrier whose frame is supported by the rack-bar, vertical guides on the main frame, and lugs on the

carrier-frame moving in said guides, of a shaft journaled in bearings in the upright and having a gear engaging said rack-bar, another shaft geared to the first and having a large gear, and an operating-lever for turning the latter gear, as and for the purpose set forth.

11. In a harvester, the combination, with the rotary cutting apparatus, the reel driven thereby, and connections between said apparatus and the driving-wheels, of an inwardly-traveling carrier in rear of the cutting apparatus, an outwardly-traveling carrier to which the other delivers, guides on the main frame, lugs on both carrier-frames moving in said

guides, links connecting said carrier-frames, means for adjusting the inwardly-traveling carrier vertically, and means for adjusting the inner end of the outwardly-traveling carrier vertically and its outer end laterally, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE W. PETERSON.

Witnesses:

A. M. STORY,
R. A. DAKENS.