

No. 666,254.

Patented Jan. 22, 1901.

M. ANDERSON.

FLAX PULLER.

(Application filed Mar. 8, 1900.)

(No Model.)

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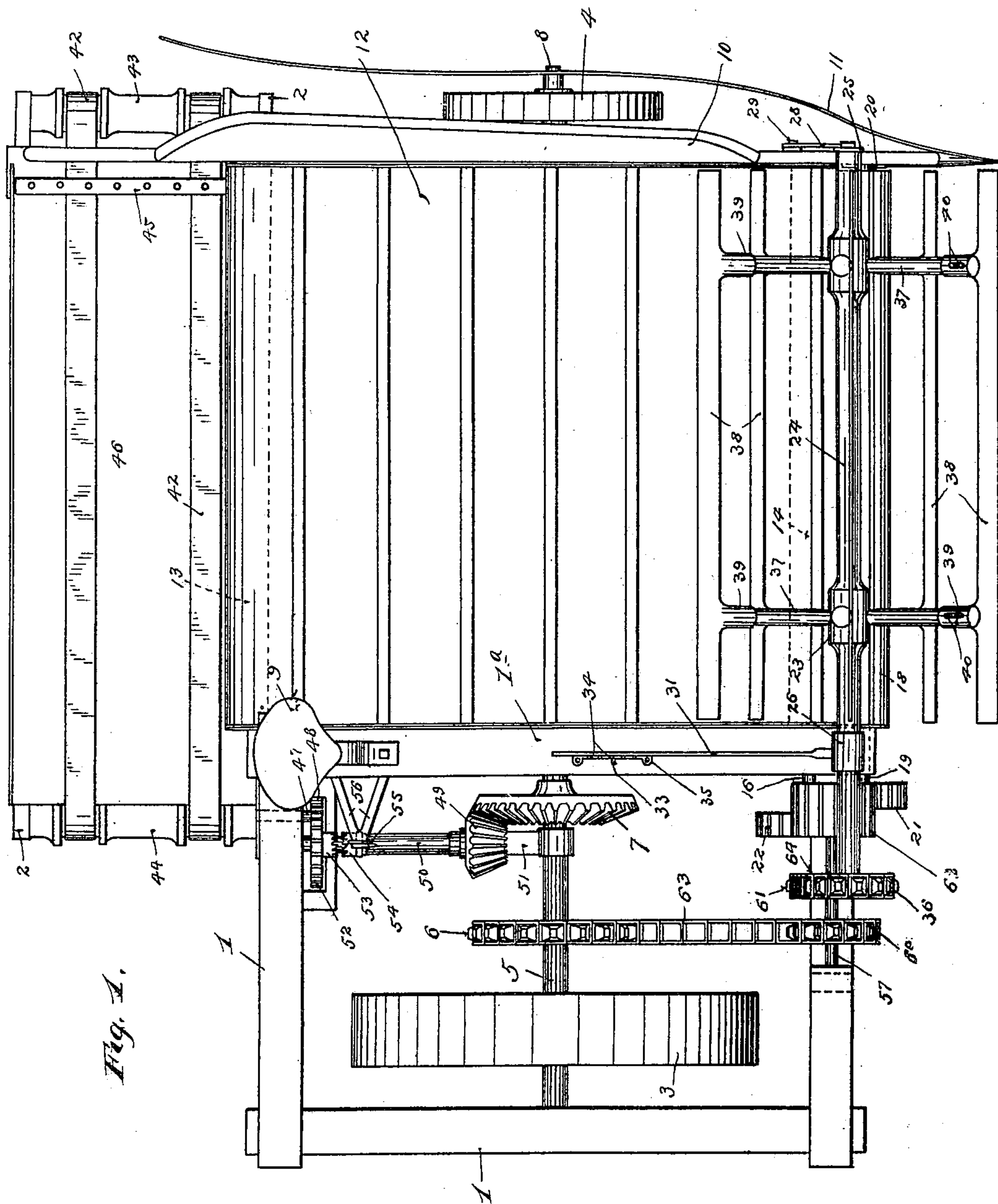


Fig. 1.

Witnesses.

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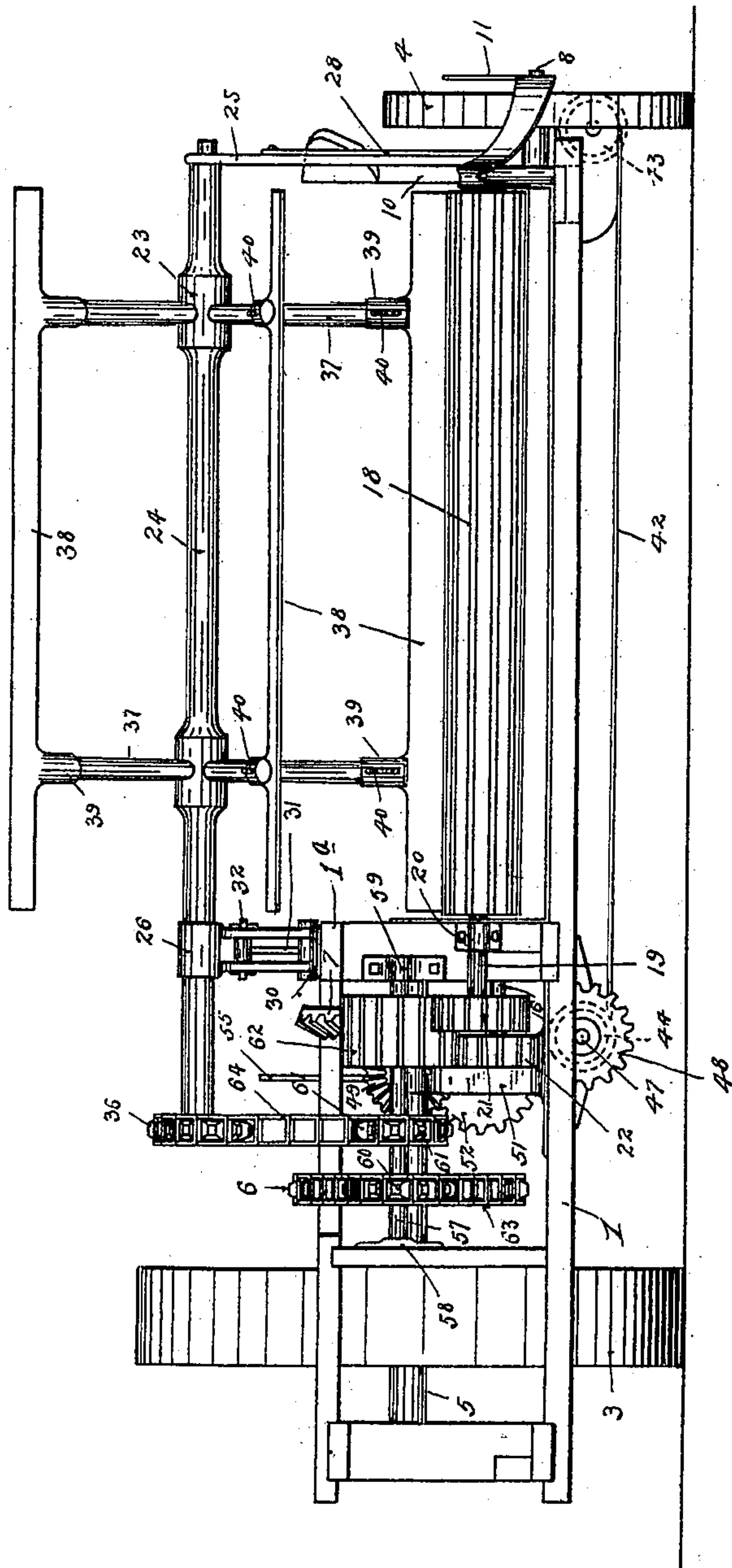
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Fig. 2.



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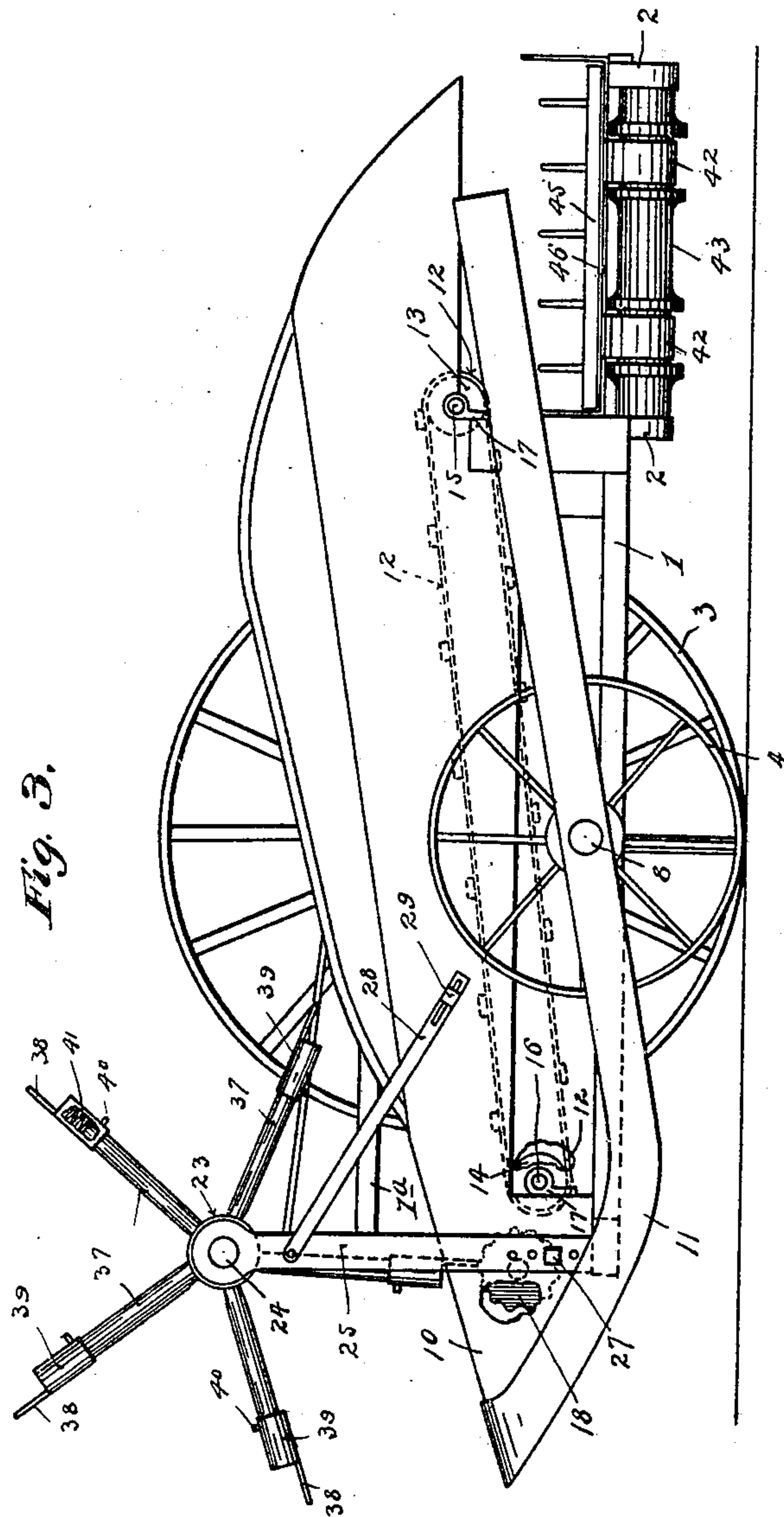
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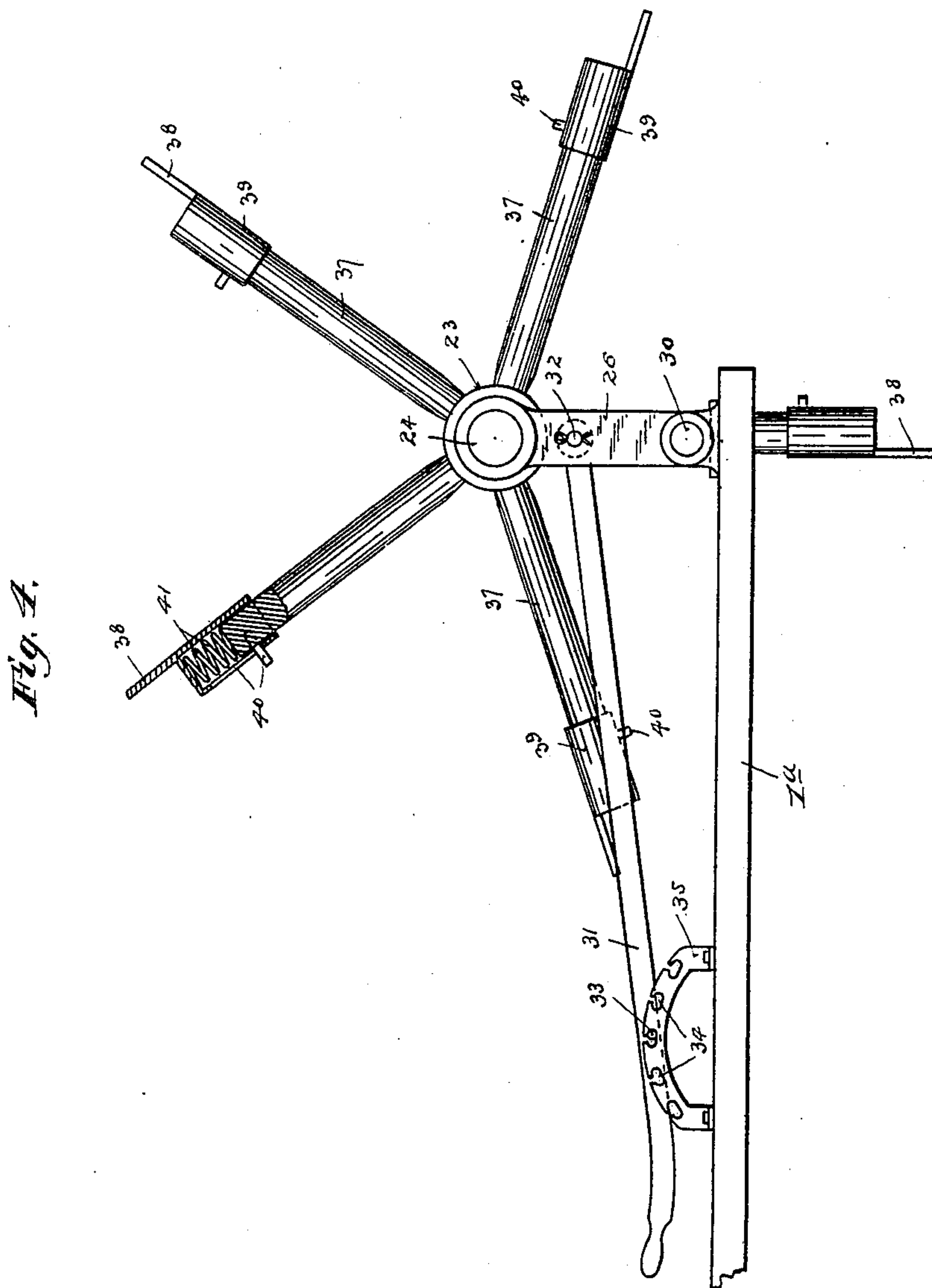
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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

MARTIN ANDERSON, OF BLANCHARD, NORTH DAKOTA.

FLAX-PULLER.

SPECIFICATION forming part of Letters Patent No. 666,254, dated January 22, 1901.

Application filed March 8, 1900. Serial No. 7,763. (No model.)

To all whom it may concern:

Be it known that I, MARTIN ANDERSON, a citizen of the United States, residing at Blanchard, in the county of Traill and State of North Dakota, have invented certain new and useful Improvements in Flax-Pullers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved flax harvester or machine for pulling flax and depositing the same in loose shocks or bundles.

To the above ends my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view showing the complete flax-harvester. Fig. 2 is a front elevation of said harvester. Fig. 3 is a side elevation of the harvester, and Fig. 4 is a detail showing a portion of the reel and a latch device for securing the reel in different positions.

The numeral 1 indicates the main frame of the machine as an entirety, and the numeral 2 indicates a supplemental frame secured to the rear portion of the same. The main frame 1 is mounted on a pair of wheels 3 and 4, the former of which is the large traction-wheel, which, as shown, is rigid on an axle 5, which is suitably mounted in the main frame 1 and, as shown, is provided with a sprocket-wheel 6 and a bevel-gear 7. The smaller wheel 4, which may be termed the "grain-wheel," is loosely mounted on a suitable bearing-trunnion 8.

The numeral 9 indicates the rider's seat, which is suitably supported from a longitudinal beam 1^a of the main frame 1.

The numerals 10 and 11 indicate, respectively, a grain-board and a divider of ordinary construction suitably secured to the main frame 1 at the grain-wheel end of the machine.

An endless slat and canvas conveyer 12 runs longitudinally of the machine over suitable guide-rollers 13 and 14, that are suitably

mounted by means of shafts 15 and 16, respectively, in bearings 17 on the main frame 1.

A pulling-roller 18, which is corrugated longitudinally, has a shaft 19, which is suitably journaled in bearings 20 on the forwardly-projecting portion of the main frame somewhat in advance of the forward guide-roller 14 heretofore noted. That end of the shaft 19 which projects toward the drive-wheel 3 is provided with a spur-pinion 21, and the correspondingly-projecting end of the shaft 16 of the said roller 14 is provided with a similar spur-pinion 22. For coöperating with the pulling-roller 18 is provided a coöperating puller in the form of a reel 23. The shaft or spindle 24 is mounted at its outer end in a standard 25 and at its inner portion in the free end of a shorter standard or support 26. The long standard 25 is preferably pivoted at 27 and is adjustably held where set by a brace 28, slotted at its projected end for coöperation with the bolt or set-screw 29 or similar device. The shorter standard 26 is pivoted on the timber 1^a of the main frame 1, as shown at 30, and it is adapted to be adjustably set by a lever 31, which is pivoted thereto at 32 and at its free end as a pin or stud 33, adapted for engagement with any one of several notches 34 of a latch-segment 35.

The reel-shaft 24 is provided at its extreme inner end with a sprocket-wheel 36, and the said reel has a plurality of radially-projecting reel-arms 37, to which reel-blades 38 are attached or secured. These reel-blades 38 have socket portions 39, which telescope with the ends of the reel-arms 37, their movements being limited by slot-and-pin connections 40. Springs 41, compressed between the ends of the reel-arms 37 and the bottoms of the sockets 39, normally yieldingly hold the blades 38 outward to their limits.

The reel above described is normally set in such relation to the pulling-roller 18 that the outer edges of its blades 38, when the reel is rotated, will engage the corrugations of the said roller or, if acting on the flax, will tightly press the engaged flax against the corrugations of the said roller, so that the movements of the reel and roller, as well as the advance movement of the machine, will pull by the roots the flax thus engaged, and the reel will deposit the pulled flax onto the endless apron

or canvas 12. The canvas or apron 12 will in turn deposit the pulled flax to the rear of the machine and preferably onto a transversely-movable endless carrier, presently to be described. This transversely-movable or supplemental carrier preferably comprises a pair of endless belts 42, that run over a pair of rollers 43 44 and mounted in suitable bearings in the supplemental frame 2. A rake or tooth bar 45, secured on the belts 42, serves to deposit at intervals the pulled flax in loose bundles or shocks approximately at the rear of the traction-wheel 3. Preferably the belts 42 run over a deck 46, which is also secured to the supplemental frame 2. The forwardly-projecting shaft 47 of the roller 44 is provided with a spur-pinion 48.

The bevel-gear 7 on the driving-axle 5 is in mesh with the bevel-pinion 49, carried by a counter-shaft 50, which is suitably mounted at one end in the main frame 1 and at its other end in a bracket 51, which is supported by the shaft 5. Near its rear end shaft 50 has a loose spur-gear 52, which meshes with the pinion 48 on the roller 44. The gear 52 has a half-clutch 53, which coöperates with the sliding half-clutch 54, that is rotated with the counter-shaft 50. The sliding half-clutch 54 is adapted to be operated in the ordinary manner by a shipper-lever 55, pivoted to a bracket 56, projected from the beam 1^a. This shipper-lever is not shown in detail, as it forms no part of my present invention and is of the ordinary construction. It is, however, indicated in Fig. 1. It will of course be understood that the engagement of the sliding half-clutch 54 with the coöperating half-clutch 53 will cause the supplemental carrier 42 45 to be driven from the traction-wheel 3 through the gearing described.

Motions are imparted to the reel and to the pulling-roller as follows: The numeral 57 indicates a short transversely-extended counter-shaft which is mounted in suitable bearings 58 59 on the main frame and is provided with a pair of sprockets 60 61 and with a wide-faced spur-pinion 62. The pinion 62 is in mesh with the pinions 21 22, respectively, of the pulling-roller shaft 19 and of the roller-shaft 16. A sprocket-chain 63 runs over the sprocket 6 on the driving-axle 5 and the sprocket 60 on the counter-shaft 57. Another sprocket-chain 64 runs over the sprocket 61 on the counter-shaft 57 and over the sprocket 36 on the reel-shaft 24. By means of these driving connections it is evident that under the

advance movements of the machine positive driving motions will be imparted to the reel, to the so-called "pulling-roller," to the endless apron or canvas 12, and to the endless carrier-belts 42. It is of course of great importance that the reel-blades and the pulling-roller be forced into engagement in the pulling action by springs or yielding devices, and the best results are obtained by applying the springs between the blades and reel-arms. The corrugations of the pulling-roller are of very great importance in the pulling action, for the reason that the reel-blades press the flax into the said corrugations and by kinking the same get an exceedingly-strong hold on the flax. Thus the pulling of the flax is insured under the advance movement of the machine.

In the drawings the draft devices for pulling the machine are not shown; but it will of course be understood that they may be of any ordinary or suitable construction. It will also be understood that the invention above described is capable of many other modifications in its details of construction.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a machine for pulling flax the combination with a horizontal reel and means for driving the same, of a corrugated horizontal pulling-roller arranged for coöperation with the reel-blades in the pulling action, substantially as described.

2. In a machine for pulling flax the combination with a horizontal reel having radially-movable blades, spring-pressed outward, of a coöperating horizontal pulling-roller with which the said blades coact in the pulling action, substantially as described.

3. In a machine for pulling flax the combination with a reel having radially-movable blades spring-pressed outward, of a coöperating pulling-roller positioned for coöperation with said reel and provided with longitudinal corrugations with which said reel-blades coact to kink the flax in the pulling action, and driving connections from a traction-wheel of the machine for imparting positive movements to said reel and pulling-roller, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN ANDERSON.

Witnesses:

IVAR SINN,
H. H. CARR.