

No. 841,037.

PATENTED JAN. 8, 1907.

M. McKINLEY.  
SLITTING MACHINE.  
APPLICATION FILED MAR. 21, 1906.

3 SHEETS—SHEET 1.

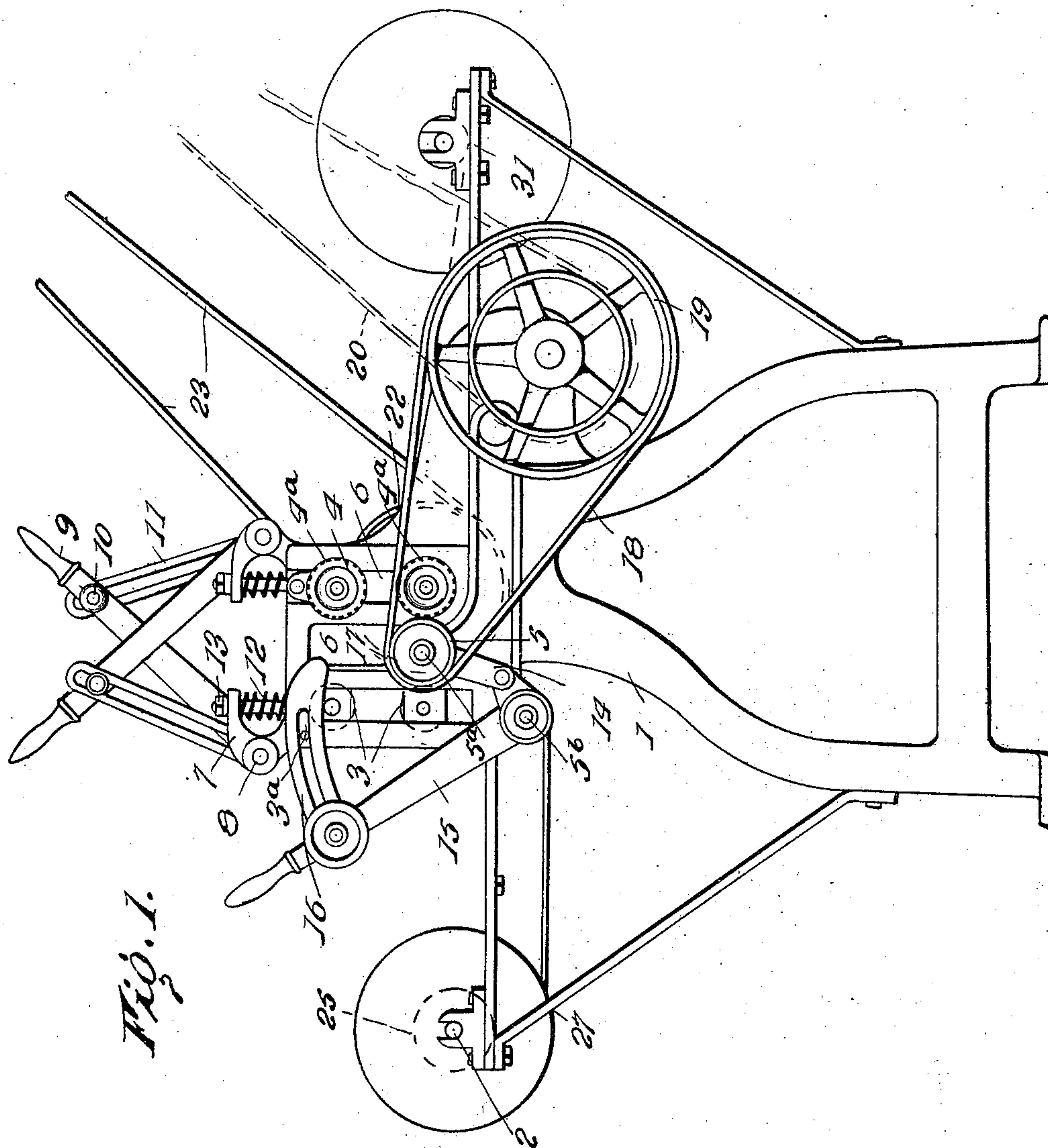


Fig. 1.

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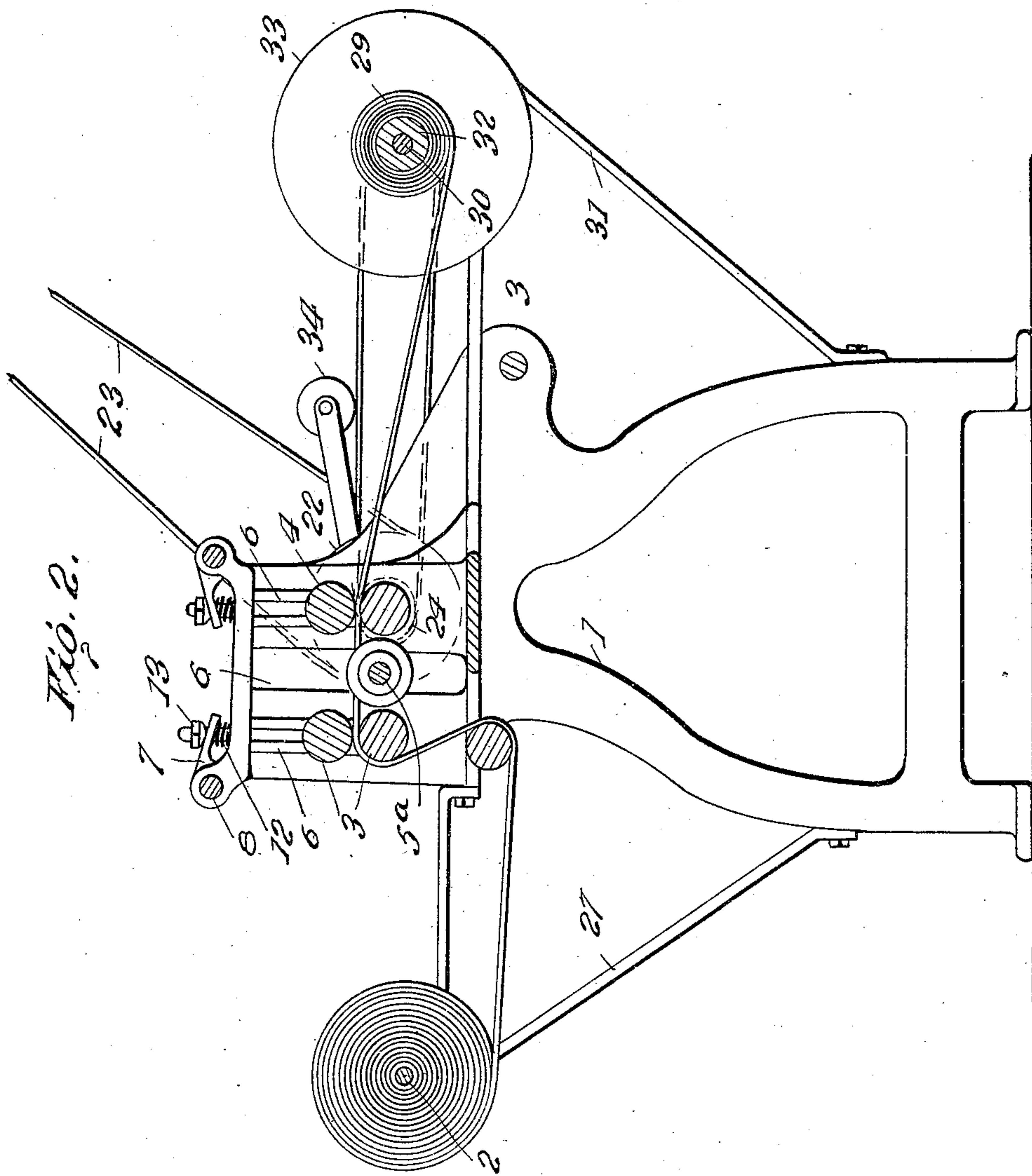
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

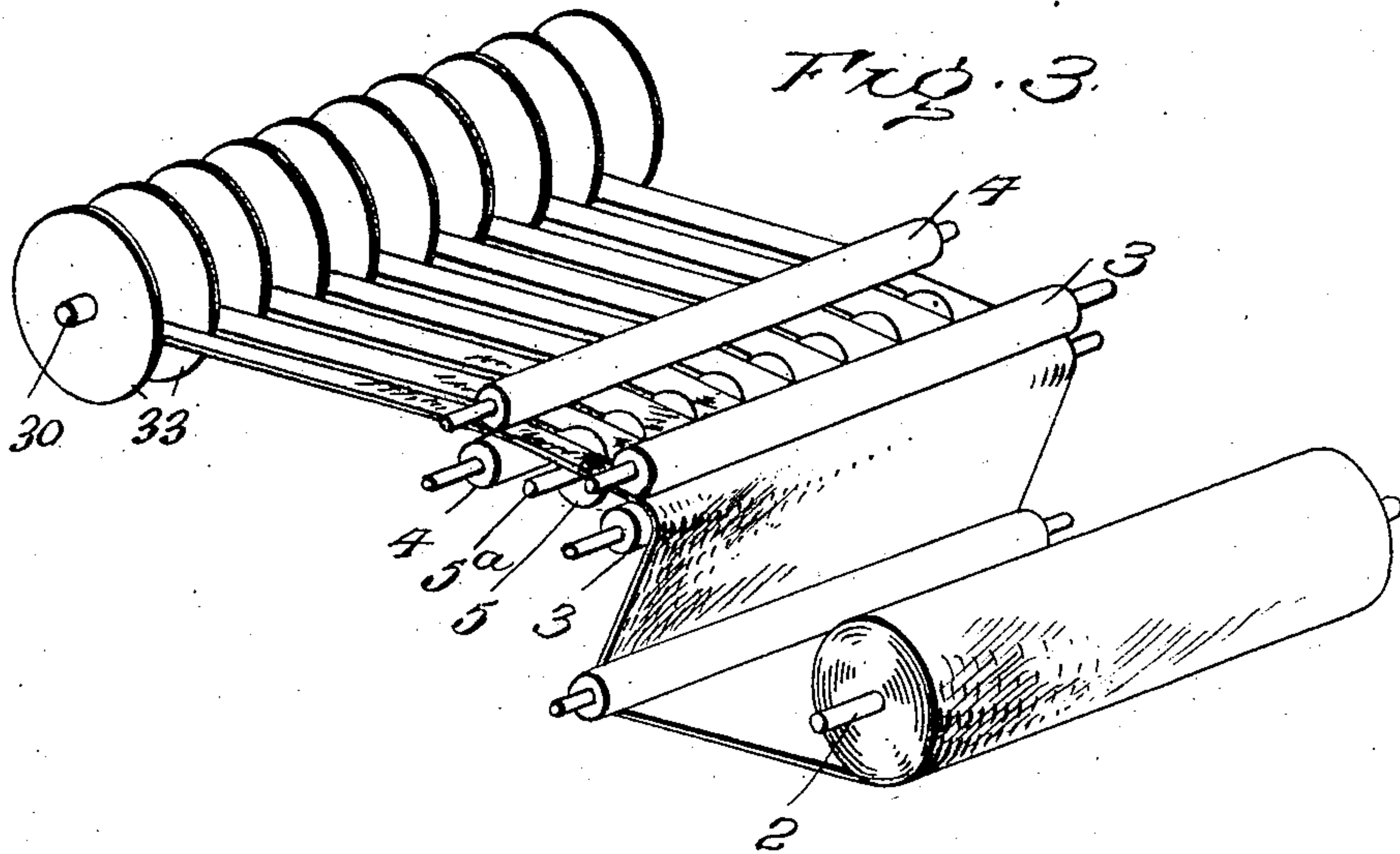


Fig. 4.

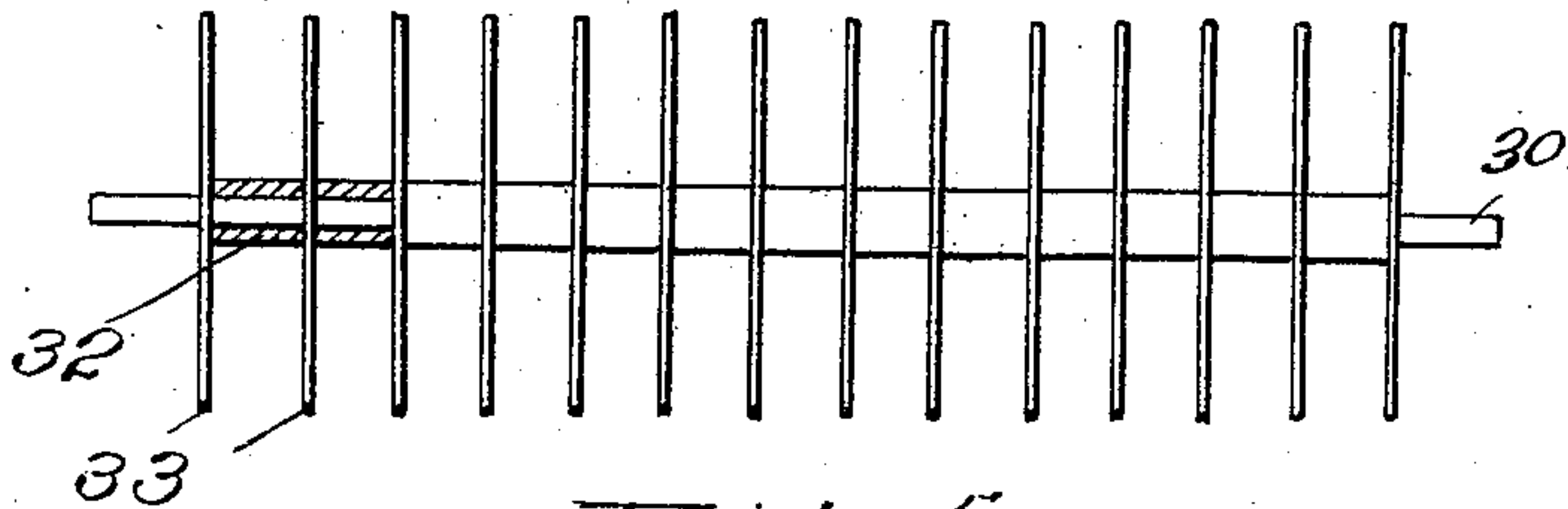


Fig. 5.

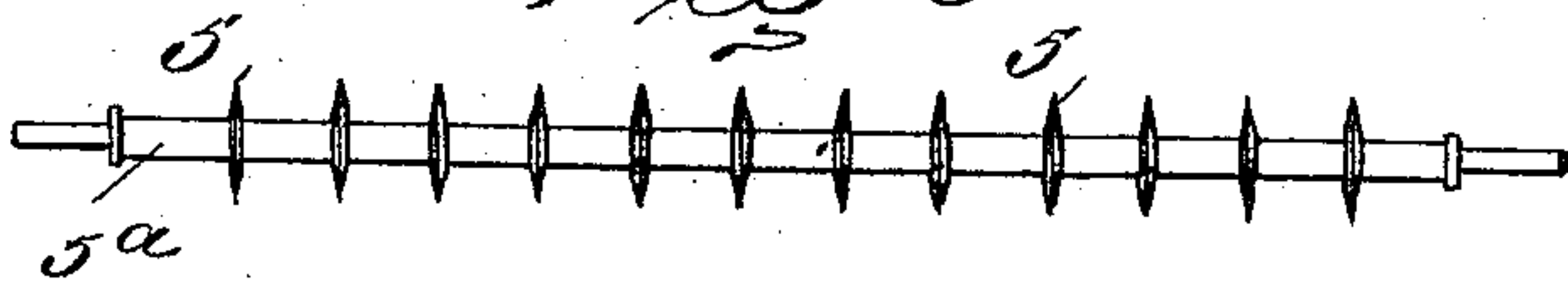
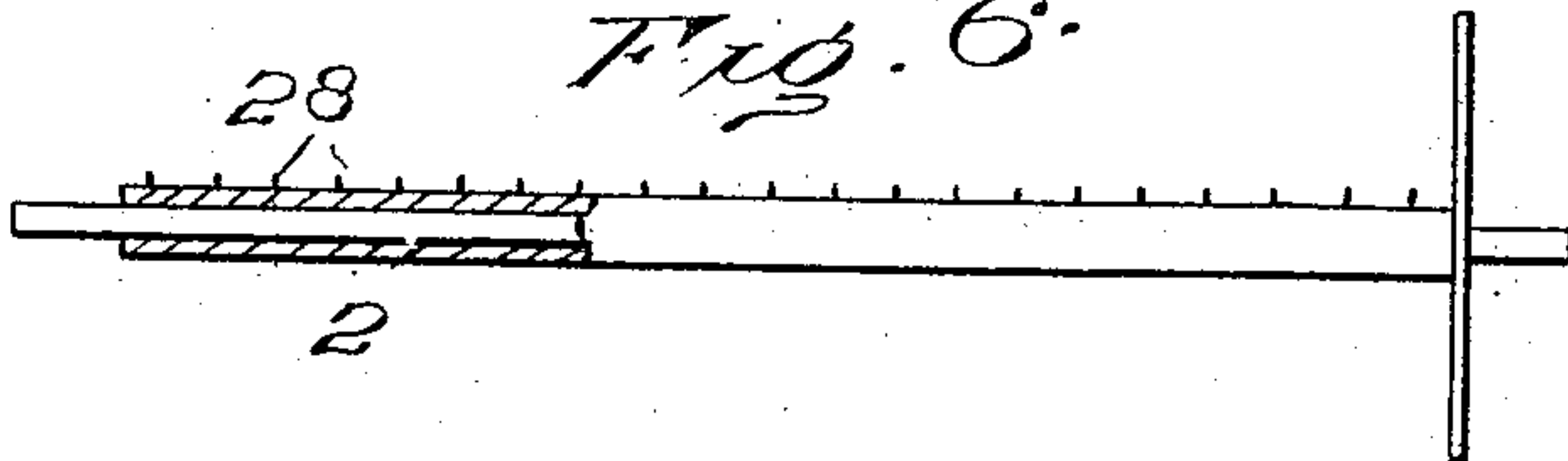


Fig. 6.



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# UNITED STATES PATENT OFFICE.

MELVIN McKINLEY, OF COSHOCTON, OHIO, ASSIGNOR OF ONE-HALF TO  
R. F. TIMMONS, OF COSHOCTON, OHIO.

## SLITTING-MACHINE.

No. 841,037.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed March 21, 1906. Serial No. 307,283.

*To all whom it may concern:*

Be it known that I, MELVIN McKINLEY, a citizen of the United States, residing at Coshocton, in the county of Coshocton and State of Ohio, have invented certain new and useful Improvements in Slitting-Machines, of which the following is a specification.

The object of my invention is to provide an improved machine for slitting cloth and the like, the cloth being wound in a roll upon a suitable shaft and fed therefrom between tension-rolls and feed-rolls located at opposite sides of a series of slitting-disks which act upon the cloth in its travel, the slitted cloth being finally wound upon spools arranged in a series with separating-disks between them.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation of my improved slitting-machine. Fig. 2 is a transverse sectional view. Fig. 3 is a perspective view in the nature of a diagrammatic view. Figs. 4, 5, and 6 are detail views of the rewind-spool, the series of slitting-disks, and the shaft to support the cloth to be cut, respectively.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the framework of my improved slitting-machine.

2 designates the supporting-shaft for a roll of cloth or the like. 3 designates tension-rolls, 4 feed-rolls, and 5 knives that are in the form of disks arranged side by side between the tension-rolls and the feed-rolls.

The framework 1 of the machine is provided in each side with three vertically-extending guideways 6. The tension-rolls 3 are mounted in one pair of said guideways, and the upper boxings 3<sup>a</sup> for the upper rollers are vertically adjustable therein, so that the position of the uppermost tension-roll may be changed whenever desired. The boxings 3<sup>a</sup> have a yielding connection with the cranks 7 on the opposite ends of a transverse shaft 8, which is provided with a hand-lever 9, so that the said shaft may be partially rotated to carry the uppermost tension-roll upwardly

and downwardly. To hold the shaft at the proper adjustment to the uppermost tension-roll, the lever is provided with a set-nut 10, designed for engagement with a slotted bracket 11, so that the lever, and consequently the tension-roll, may be maintained at the adjusted position. The connection between the cranks 7 and the uppermost tension-roll is, as has been before stated, a yielding one, and it preferably consists of a pin encircled by a spring 12 and working through the crank and held from downward movement therein by means of a cotter-pin or a nut 13. Thus it will be seen that the upper tension-roll, in addition to being adjusted in different vertical positions with respect to the lower tension-roll, is mounted to yield in an upward direction only to compensate for the different thicknesses of cloth or similar material passed between said rolls. The tension-rolls are preferably idlers. The feed-rolls 4 are also mounted in a pair of the vertical guideways 6, and the uppermost feed-roll is arranged to be vertically adjusted and to yield in an upward direction by a similar crank-shaft and spring connection as that previously described with respect to the tension-roll. The feed-rolls 4 are provided at their outer ends with spur-pinions 4<sup>a</sup>, geared together.

The knives 5, which are a series of sharpened disks, are mounted upon a transverse shaft 5<sup>a</sup>, suitably journaled in the intermediate pair of guideways 6 in the framework and carried from a supporting-shaft 5<sup>b</sup>, that has a toggle-joint connection 14 with the shaft 5<sup>a</sup>. The shaft 5<sup>b</sup> is provided with a handle 15, that may be held at different adjustments by means of a set-nut and slotted guide 16, so that by manipulation of the lever or handle the shaft which carries the cutting-disks may be lowered or raised against the cloth to cut the same. At one end the shaft 5<sup>a</sup> carries a pinion or pulley 17 and is driven by a belt 18, passing over said pulley and over a larger pulley 19. The pulley 19 is driven, preferably, by a belt 20, actuated by means of a counter-shaft operated from any suitable source of power. At the opposite side of the machine from that where the pulley 19 and parts just before described are located one of the shafts of the feed-rolls is extended and provided with a pulley 22, operated by a belt 23, deriving its motion from any suitable source of power whereby to



drive the feed-rolls and draw the material through the tension-rolls and across the knives 5 to slit the material. On the same shaft as the pulley 22 is a smaller pulley 24, which has a belt connection with a pulley 25 on an extension of shaft 2. The shaft 2 is mounted in suitable brackets 27 at one end of the machine-framework and is intended to carry the roll of material that is to be cut, and for this purpose it is preferably provided with a series of small pins 28 to take into the cloth, so that by the rotation of the pulley 24 and pulley 25 the cloth may be wound upon the shaft 2 before cutting. After the cloth has been wound upon the shaft 2 the belt may be slipped from the pulley 25 and engaged with a pulley 29 on a shaft 30. The shaft 30 is detachably mounted in brackets 31 at the opposite end of the machine-framework from the brackets 27. The shaft 30 is a rewind-shaft and carries a series of small wooden spools 32, with disks 33, preferably of sheet-iron, between every two spools, so that the slitted material will be prevented from running together while winding.

34 designates a gravity idler for the rewind-belt, as such belt is run very loose, so as to allow it to slip in case the machine should get caught in any way.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a machine for cutting cloth and the like in which the cloth may be readily wound upon the shaft 2 in position for cutting and then fed between the tension-rolls 3 across the knives 5 and between the feed-rolls 4, and finally the strips may be wound upon the spools carried by the shaft 30.

The machine of my invention provides means whereby the various parts may be adjusted and held in adjusted position, this applying to the series of knives and both sets of rollers. After the material has been wound upon the series of spools the shaft carrying the spools can be taken from the brackets which carry it, and the spools can be slipped off at the end of the shaft.

Having thus described the invention, what is claimed as new is—

1. In a machine of the character described, the combination of a shaft designed to support a roll of the material to be slit, tension-rolls and feed-rolls, a slitter-shaft between the two sets of rolls, a series of disk knives on said shaft, a rocking supporting-shaft and means for rocking the same, and a toggle connection between said shaft and the cutter-shaft, as and for the purpose set forth.

2. A cloth-slitting machine comprising a framework provided with three pairs of vertically-extending guideways, an upper and a lower tension-roll in one pair of guideways, an upper and a lower feed-roll in another pair of guideways, a cutter-shaft in the intermediate pair of guideways and provided with a series of slitting-disks, two transverse shafts in the framework provided with cranks at their ends, and with operating-handles, means for holding said handles at different inclinations whereby to turn said transverse shafts and hold the same in different positions, pins supporting the uppermost feed-roll and tension-roll, and mounted in the cranks of said shafts, and supported thereby, and springs encircling said pins, and bearing underneath said cranks, as and for the purpose set forth.

3. In a machine of the character described, the combination of an upper and a lower extension-roll and an upper and a lower feed-roll and slitting mechanism between said two sets of rolls, pins supporting the uppermost feed-roll and extension-roll, cranks in which said pins are mounted and from which they are suspended, means for adjusting said cranks whereby to hold said pins and the upper rolls at different elevations, and springs encircling said pins and bearing underneath said cranks as and for the purpose set forth.

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

MELVIN MCKINLEY. [L. S.]

Witnesses:

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