

No. 641,307.

Patented Jan. 16, 1900.

J. LÉTOURNEAU.
RIBBON MEASURING MACHINE.

(Application filed May 19, 1898.)

(No Model.)

3 Sheets—Sheet 1.

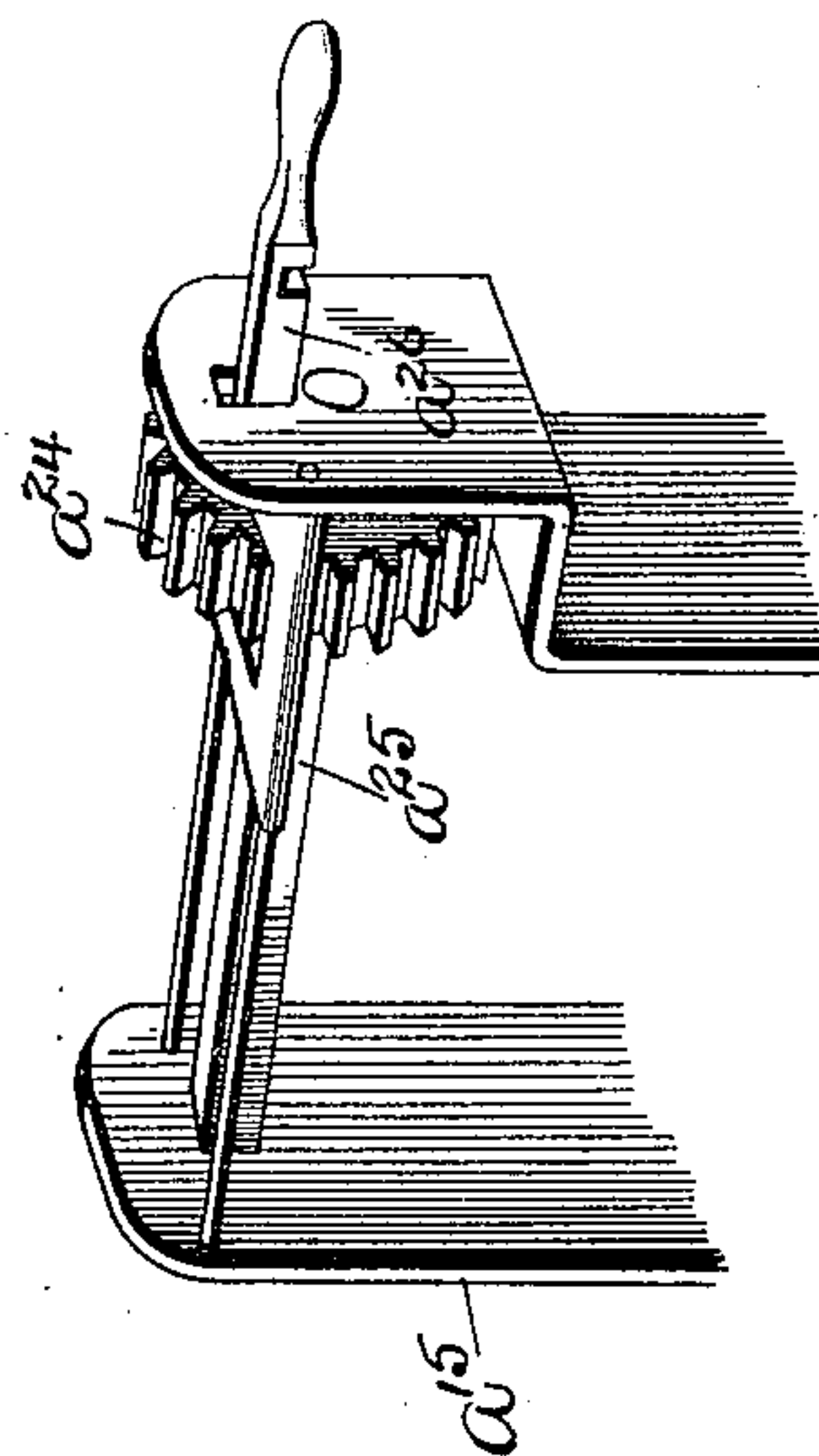
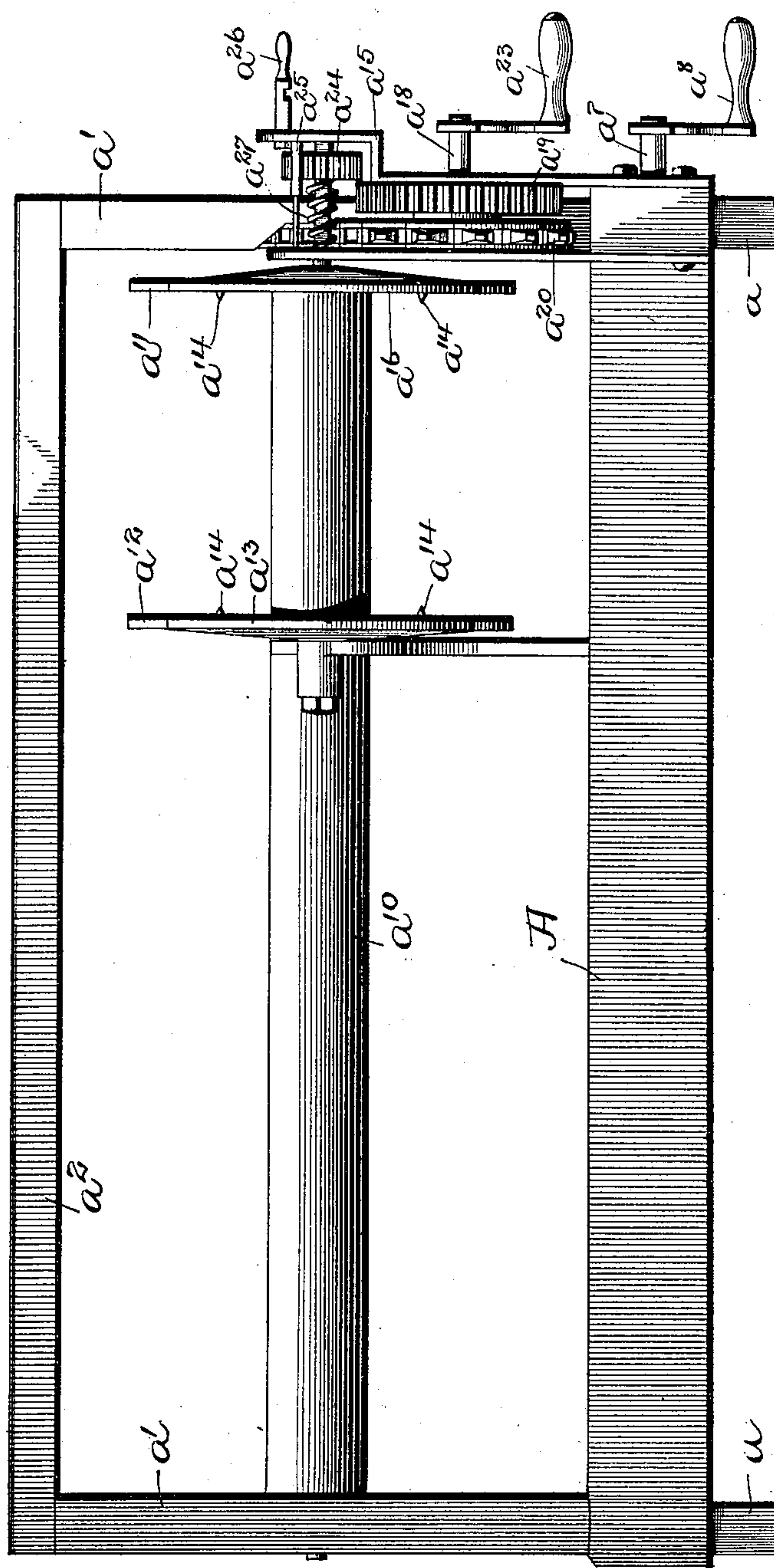


Fig. 4.

Fig. 1.



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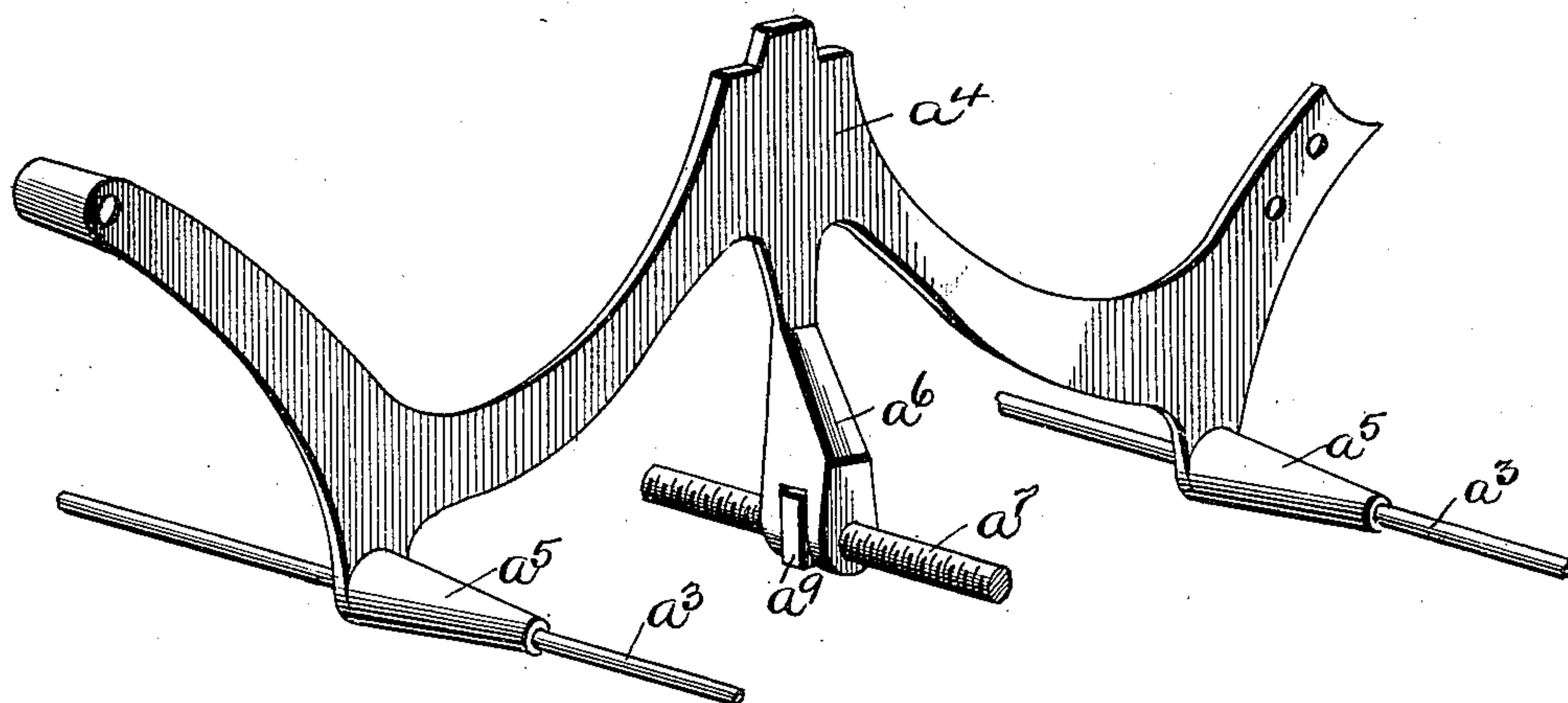
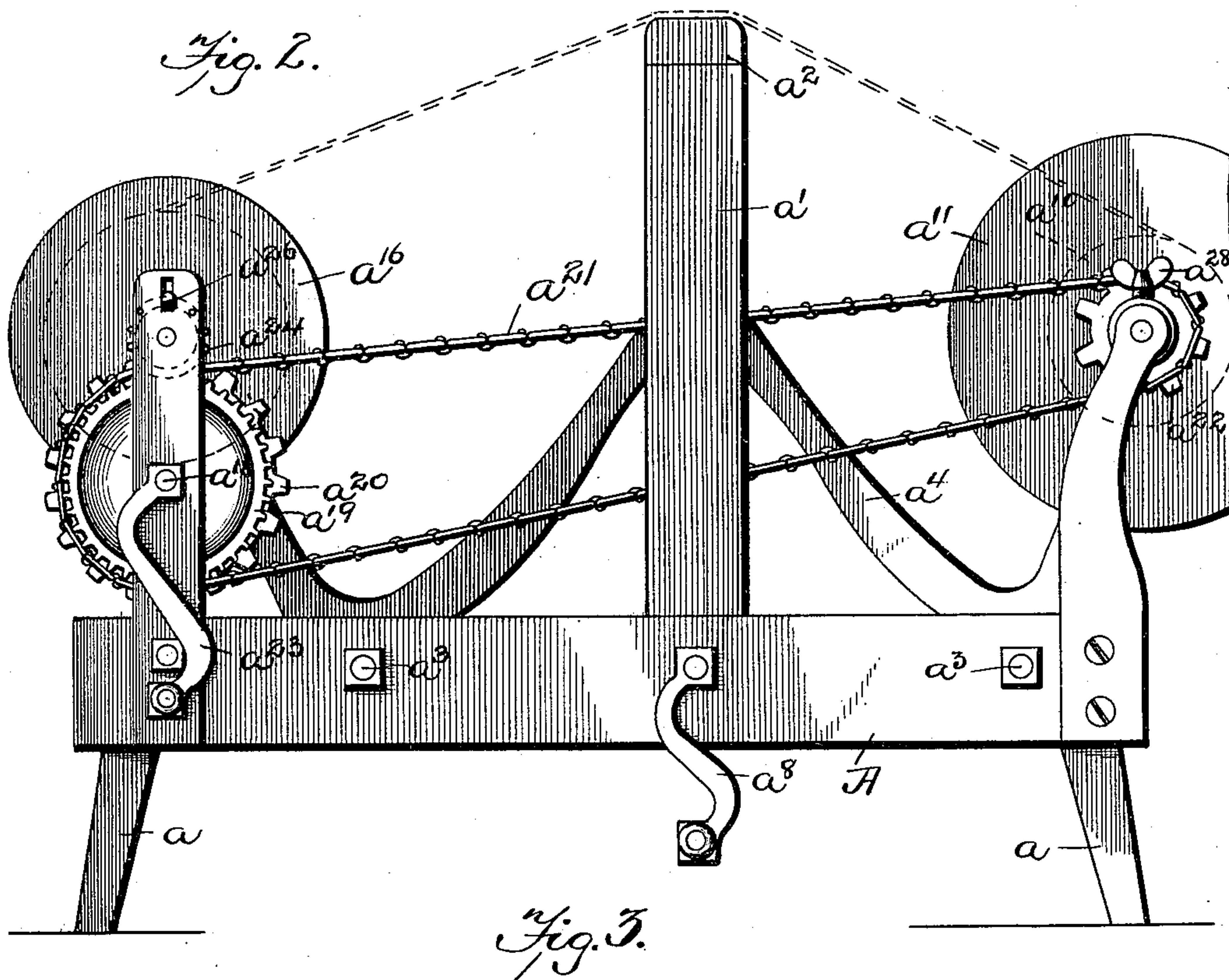
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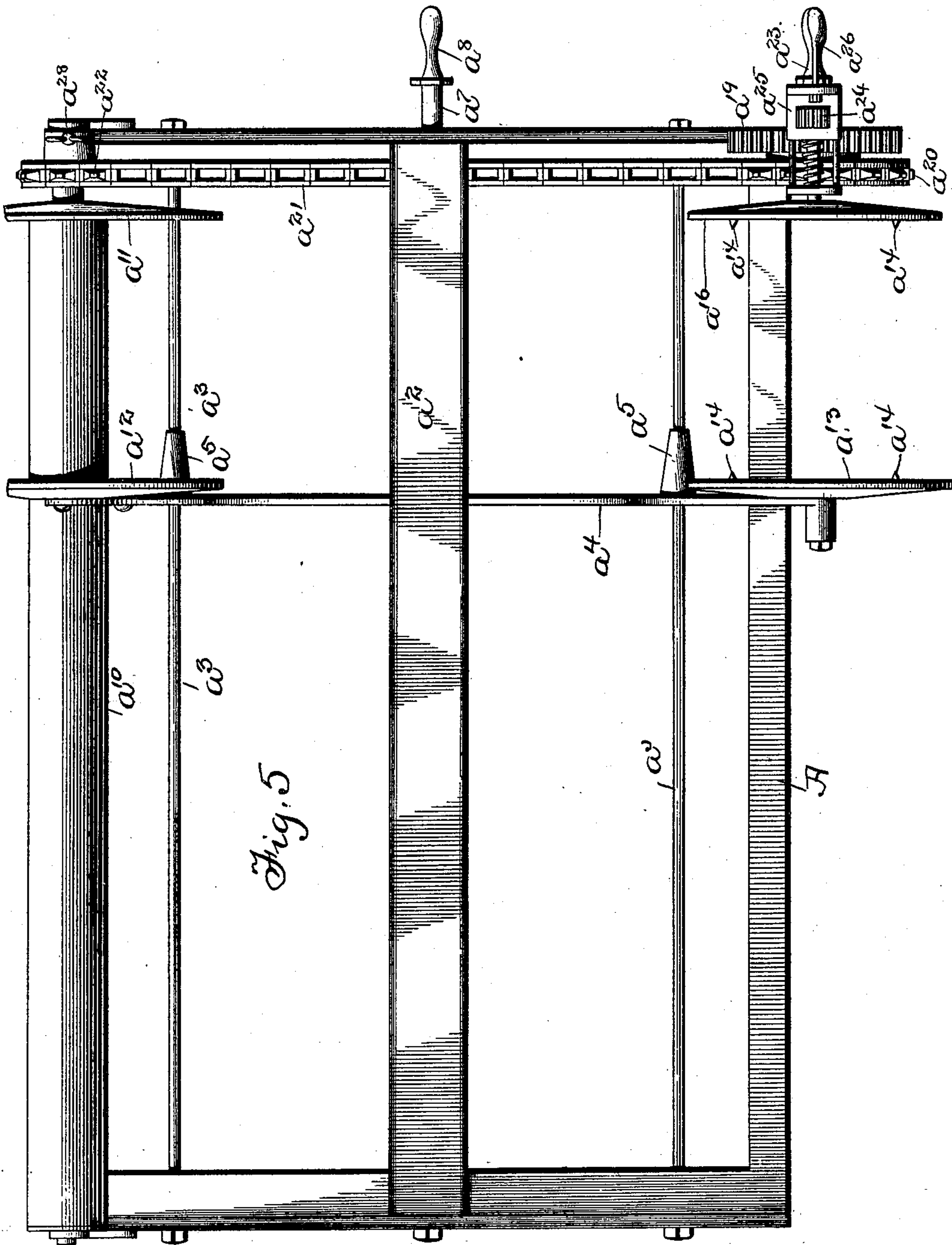
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE,

JANVIER LÉTOURNEAU, OF ST. HYACINTHE, CANADA.

RIBBON-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 641,307, dated January 16, 1900.

Application filed May 19, 1898. Serial No. 681,109. (No model.)

To all whom it may concern:

Be it known that I, JANVIER LÉTOURNEAU, a subject of Her Majesty the Queen of Great Britain, residing at St. Hyacinthe, in the county of St. Hyacinthe, Province of Quebec, Canada, have invented certain new and useful Improvements in Ribbon-Measuring Machines, (for which Letters Patent of the Dominion of Canada were granted July 20, 1898, No. 60,667, the application for which was filed May 18, 1898, Serial No. 81,834;) and I do hereby declare the following to be a clear, full, 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 relates to improvements in ribbon-measuring devices.

One object of my invention is to provide a device of this character in which the ribbon contained on a spool or drum can be readily measured, the measurement being taken directly upon the ribbon without the removal of the interposed paper.

A further object is to provide a device of this class in which spools or drums of various sizes can be used, the width of the ribbon determining the width of the spool or drum, the regulating of the position of the ribbon on the spool or drum being automatic.

A further object is to provide a device of this class in which the spool or drum containing the unmeasured ribbon can be readily placed in position, from which the ribbon and the paper are unwound, during which process the ribbon is measured, after which it is again wound on its original spool or drum in position ready for further use.

A further object is to provide a device of this character which is neat and attractive in appearance, durable in construction, simple in operation, and which can be made for a moderate cost.

To these ends my invention consists in the construction and combination of parts, as hereinafter fully described, and particularly pointed out in the appended claims.

In the drawings, in which similar letters of reference indicate similar parts in all of the views, Figure 1 is an end elevation of a machine constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the carrier.

Fig. 4 is a detail view of the means for throwing the winding mechanism into operation.

Fig. 5 is a top plan view of the device.

At the present time it is difficult to measure the contents of a spool or drum of ribbon by reason of the fact that the interposed paper prevents accurate measurement, and as it is generally the practice to do this measuring by hand a great deal of unnecessary time is wasted in the unwinding and winding of the spool or drum during the process of measuring the ribbon, the difficulties arising being generally the inability to rewind the ribbon and paper in a neat manner. To obviate this, I have constructed a device in which the ribbon after being spooled on the drum by the ordinary ribbon machinery is unwound and measured by means of a suitable measuring-machine, the ribbon during the unwinding process being wound on an adjoining spool, from which it is then rewound onto the spool or drum in its original position.

A designates a suitable rectangular frame mounted on legs a . While I have shown the frame as mounted on legs, yet it is to be understood that I may dispense with such legs and removably secure the frame to any suitable table or bench in an obvious manner.

Extending upwardly from the frame A are two vertical supports a' , connected together at their top by means of a suitable cross-piece a^2 , upon which a suitable measuring device (not shown, it not forming the subject-matter of this application) is secured, and over which cross-piece and in connection with said measuring device the ribbon and paper are adapted to be passed, as shown in dotted lines in Fig. 2. Suitable rods a^3 are secured in said frame, on which rods is slidably mounted a suitable carrying-frame a^4 , suitable extensions a^5 , formed on said carrying-frame, being adapted to hold said carrying-frame in a fixed position and eliminate any tendency of the frame to be rocked or tilted. A downwardly-projecting lug a^6 is formed on said carrying-frame intermediate of said rods a^3 , the lower end of which lug is bifurcated and is also provided with a suitable opening, through which extends a suitable screw-threaded rod a^7 , having at its forward end a handle a^8 . The bifurcated end of the lug a^6 is adapted to ride loosely on the rod a^7 , while

a suitable nut a^9 , secured within the bifurcated portion of the lug a^6 , is adapted to be operated by said rod a^7 , it being apparent that when the handle a^8 is rotated the nut a^9 will serve to move the carrying-frame a^4 backward and forward on said rods a^3 in an obvious manner.

At one end of the machine is secured a transverse shaft a^{10} , upon which is fixedly secured one side of a spool or drum a^{11} , while a similar side a^{12} is slidably mounted on the shaft a^{10} , said side a^{12} being similar to the side a^{11} , the space between said sides a^{11} a^{12} being adapted to receive the ribbon being unwound, the shaft a^{10} forming the center core of the spool or drum. The side a^{12} is secured to the carrying-frame a^4 in a suitable manner, by which construction it will be apparent that as the handle a^8 is rotated the side a^{12} will be moved backward and forward on the shaft a^{10} , and thus increase or decrease the distance between the sides a^{11} a^{12} to correspond to the width of the ribbon. At the opposite end of the carrying-frame a^4 is pivotally secured a side a^{13} , the inner face of which is provided with suitable spurs or engaging teeth a^{14} . Secured in a suitable frame a^{15} , opposite the sides a^{13} and in the same vertical plane with the side a^{11} , is a side a^{16} , provided with similar spurs or engaging points a^{14} . By referring to Fig. 5 it will be seen that the space between the sides a^{13} a^{16} is entirely unoccupied, and it is in this space that the spool or drum containing the unmeasured ribbon and paper is placed, the teeth a^{14} being adapted to engage with the sides of the spool or drum and hold it securely in position, the operating of the handle a^8 serving to bring the side a^{13} into engagement with the sides of the spool or drum.

It will be apparent that regardless of the width of the ribbon the distance between the two series of sides at the ends of the machine will always remain the same, by reason of the fact that the movement of the sides a^{13} a^{12} is governed entirely by the movement of the carrying-frame a^4 , which, being actuated at one point, will insure a true movement of the device.

To unwind and wind the ribbon from and on the ribbon spool or drum located between the sides a^{11} a^{12} , I have provided the following mechanism: In a suitable bearing is secured a shaft a^{18} , upon which are mounted a gear a^{19} and a suitable sprocket a^{20} , the latter being connected by a suitable sprocket-chain a^{21} with a similar sprocket a^{22} , secured on the shaft a^{10} , the construction being such that when the shaft a^{18} is rotated by means of a handle a^{23} the shaft a^{10} will be rotated in an obvious manner.

The frame a^{15} is provided with a shaft a^{30} , on which is slidably mounted a suitable pinion a^{24} , which is adapted to be placed into and brought out of mesh with the gear a^{19} by means of the sliding carriage a^{25} , operated by means of the pivoted pawl or latch a^{26} , as shown in

Fig. 4. A suitable spring a^{27} is interposed between said pinion and a portion of the frame of the machine, serving to hold said pinion a^{24} normally out of engagement with said gear a^{19} .

The operation of the device is as follows: After the spool or drum containing the ribbon has been secured between the sides a^{13} a^{16} , the pinion a^{24} being in the position shown in Fig. 1, thereby allowing the side a^{16} to have an independent movement, the free end of the ribbon is passed over the top of the cross-piece a^2 under the measuring device, and is then carried over and secured to the shaft a^{10} . The handle a^{23} is then rotated, which causes the ribbon to be unwound from the spool or drum onto the shaft a^{10} , it being measured during such unwinding. The pinion a^{24} is then brought into engagement with the gear a^{19} , and a thumb-screw a^{28} , which serves to form the locking means between the sprocket a^{22} and the shaft a^{10} , is unloosened, thereby allowing the sprocket a^{22} to run loose on the shaft a^{10} . With the parts in this position the free end of the ribbon is then secured on the ribbon spool or drum, located between the sides a^{11} and a^{12} , and the handle a^{23} rotated to wind the ribbon and paper back onto the spool or drum. The shaft a^{10} having a different movement from that of the sprocket a^{22} , it will be apparent that the paper and ribbon will both be wound forward and backward without either the paper or ribbon losing its position with reference to each other.

It will thus be seen that I have provided a device in which spools or drums of any size can be readily wound and unwound and their contents measured, while the contents themselves are not detached or handled by the operator, the whole being done in a simple manner and very quick.

The advantages are thought to have been clearly set forth and it is not thought necessary to set them forth in greater detail.

Having thus described my invention, what I claim as new is—

1. A ribbon-measuring machine, comprising a frame; a support for the measuring device; a ribbon-spool holder and a drum mounted in said frame, one side of said holder and said drum being adjustable, to vary the width of said holder and said drum; and means for simultaneously moving said adjustable sides to their adjusted positions, substantially as described.

2. A ribbon-measuring machine, comprising a frame; a support for the measuring device; a ribbon-spool holder and a drum mounted in said frame, one side of said holder and said drum being adjustable; a carrier-frame, slidably mounted in said frame, connected to said adjustable sides; and means for moving said carrier-frame adjustably within said frame, substantially as described.

3. A ribbon-measuring machine, comprising a frame; a measuring device support affixed thereto; a ribbon-spool holder secured at one end of said frame; a shaft mounted at

the opposite end of said frame, said shaft being provided with a disk at one end thereof, said disk having a movement with said shaft; a disk slidably mounted on said shaft, said disk being held against rotary movement; a carrier-frame slidably mounted in said frame, said carrier-frame being connected to said slidable disk and to one of the sides of said spool-holder; means for adjusting the position of said carrier-frame; and means for imparting movement to said spool-holder and to said shaft, substantially as described.

4. In a ribbon-measuring machine, the combination with a frame; a drive-gear mounted thereon; and means for imparting movement to said drive-gear; of a shaft pivotally mounted in said frame; a pinion slidably mounted on said shaft, said pinion being adapted to be intermittently brought into operative en-

gagement with said drive-gear; a spring mounted on said shaft and interposed between said frame and said pinion, said spring being adapted to hold said pinion normally out of engagement with said gear; a yoke slidably mounted on said shaft and adapted to embrace said pinion, said yoke serving to move said pinion into and out of engagement with said drive-gear; and an adjustable pawl pivotally connected to said yoke, said pawl serving to hold said yoke in its adjusted positions, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JANVIER LÉTOURNEAU.

Witnesses:

I. C. CHAFFERS. [L. S.]

J. E. LÉTOURNEAU. [L. S.]