

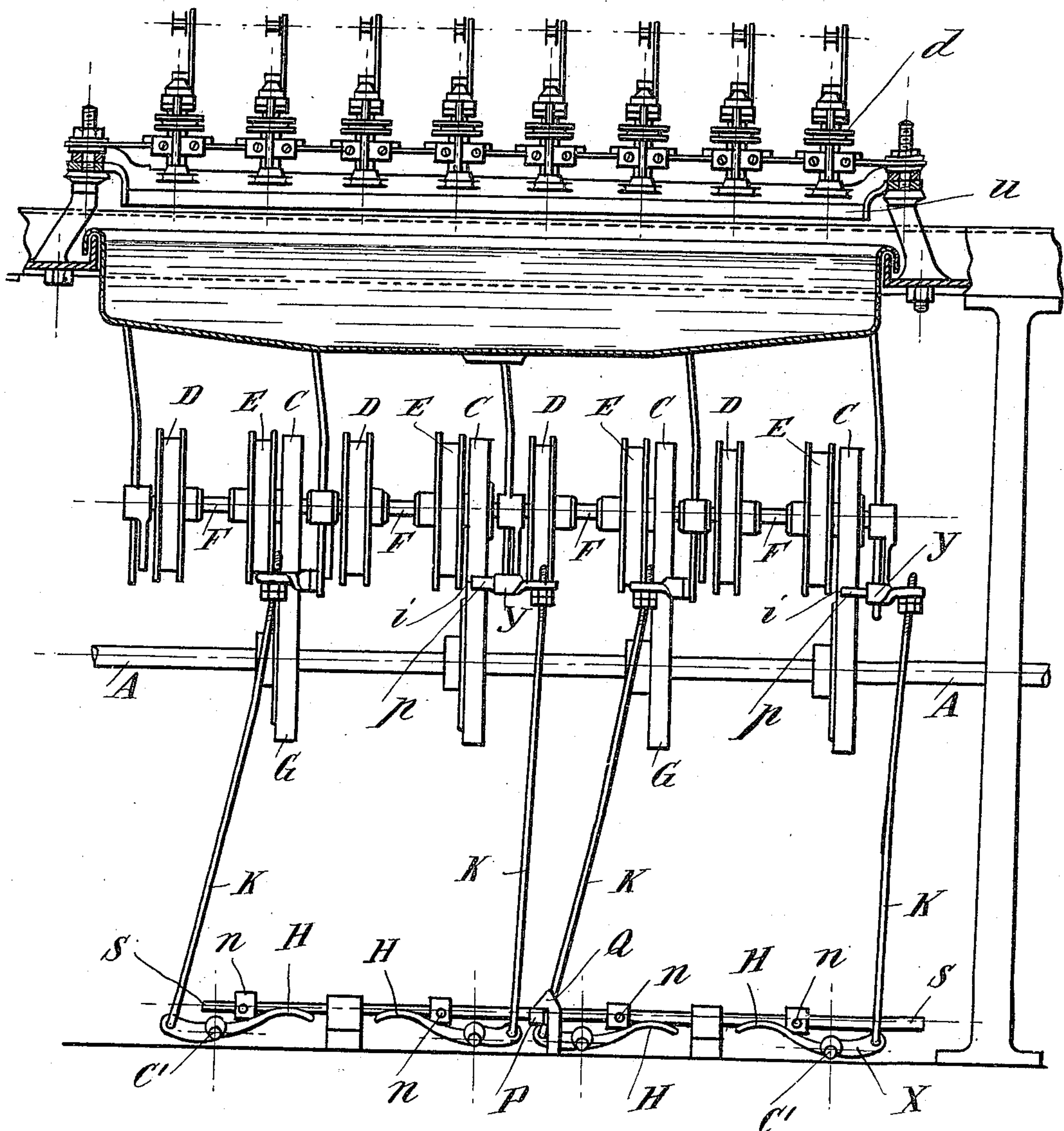
V. V. WEBER.  
MACHINE FOR REELING COCOONS.  
APPLICATION FILED SEPT. 5, 1906.

962,279.

Patented June 21, 1910.

5 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses  
*J. B. Keeler*  
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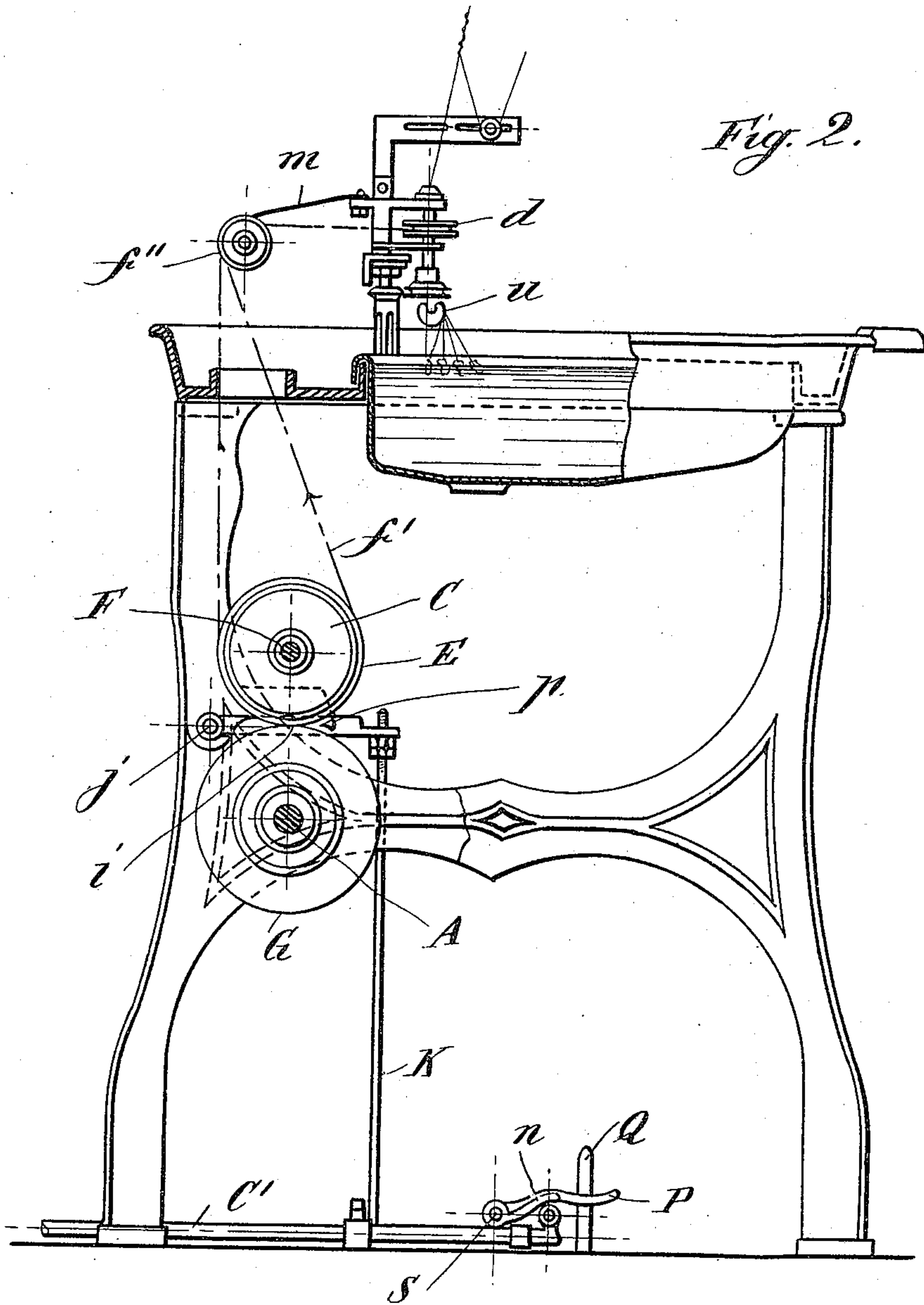
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Witnesses:

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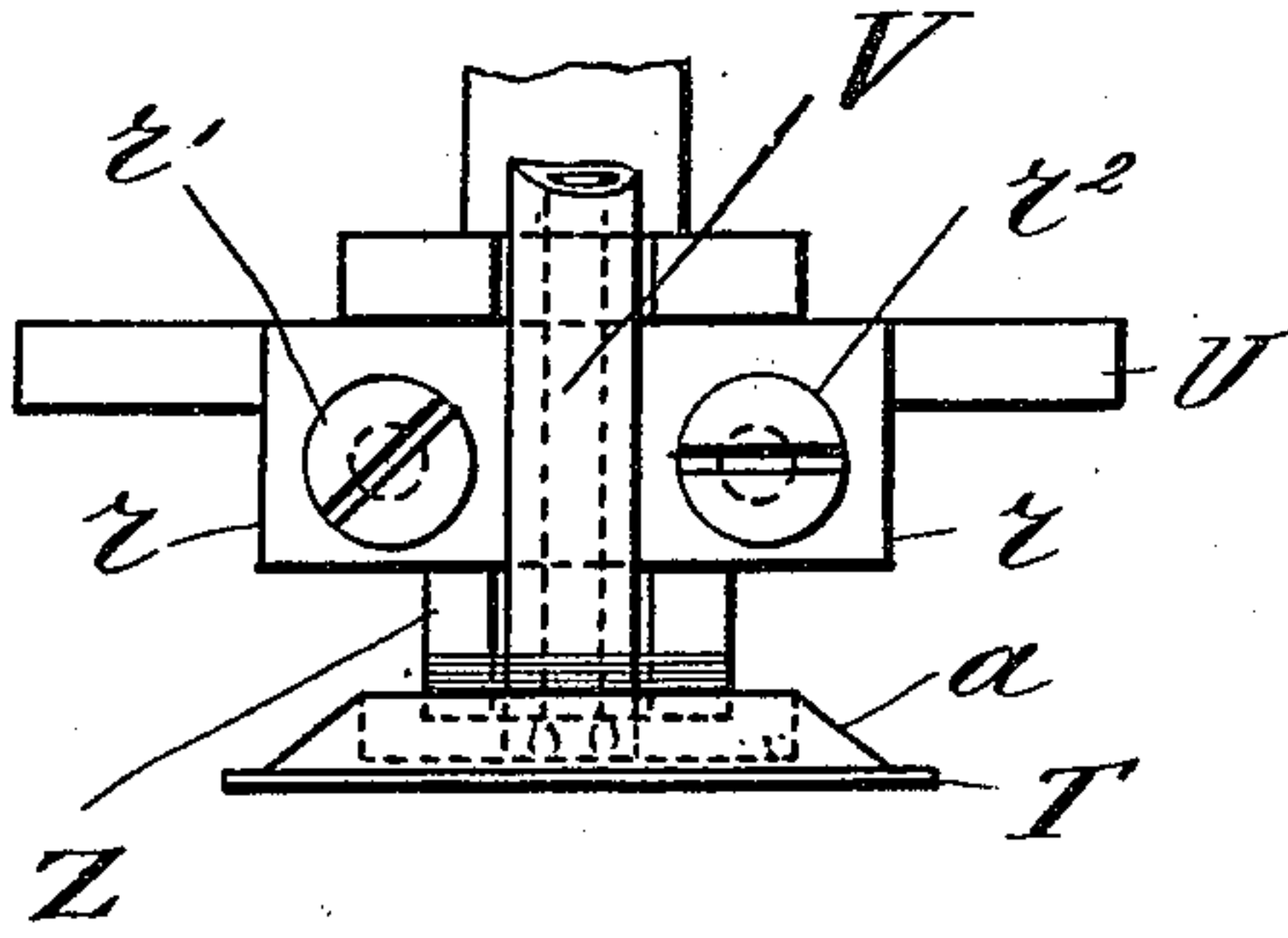


Fig. 3.

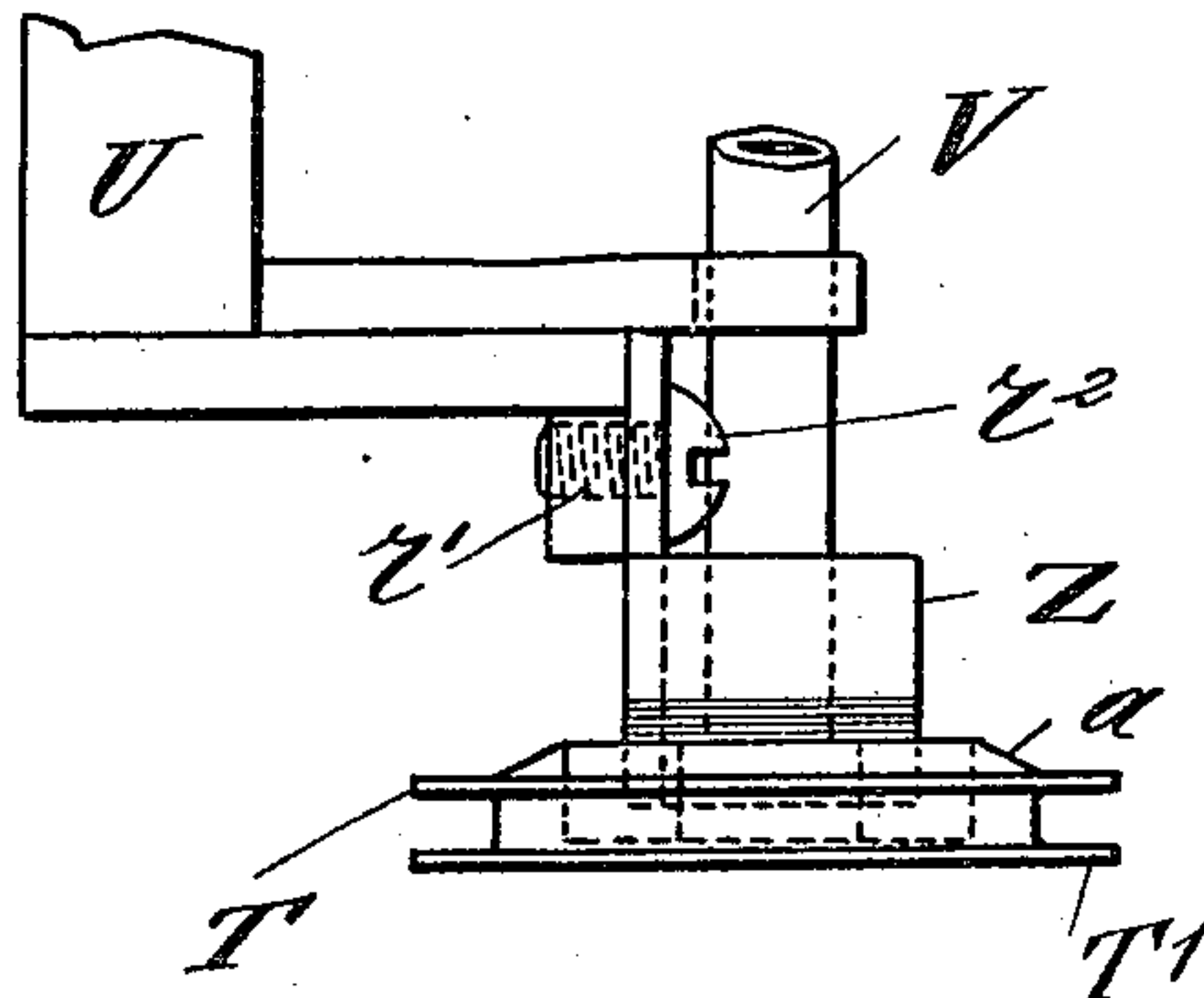


Fig. 4.

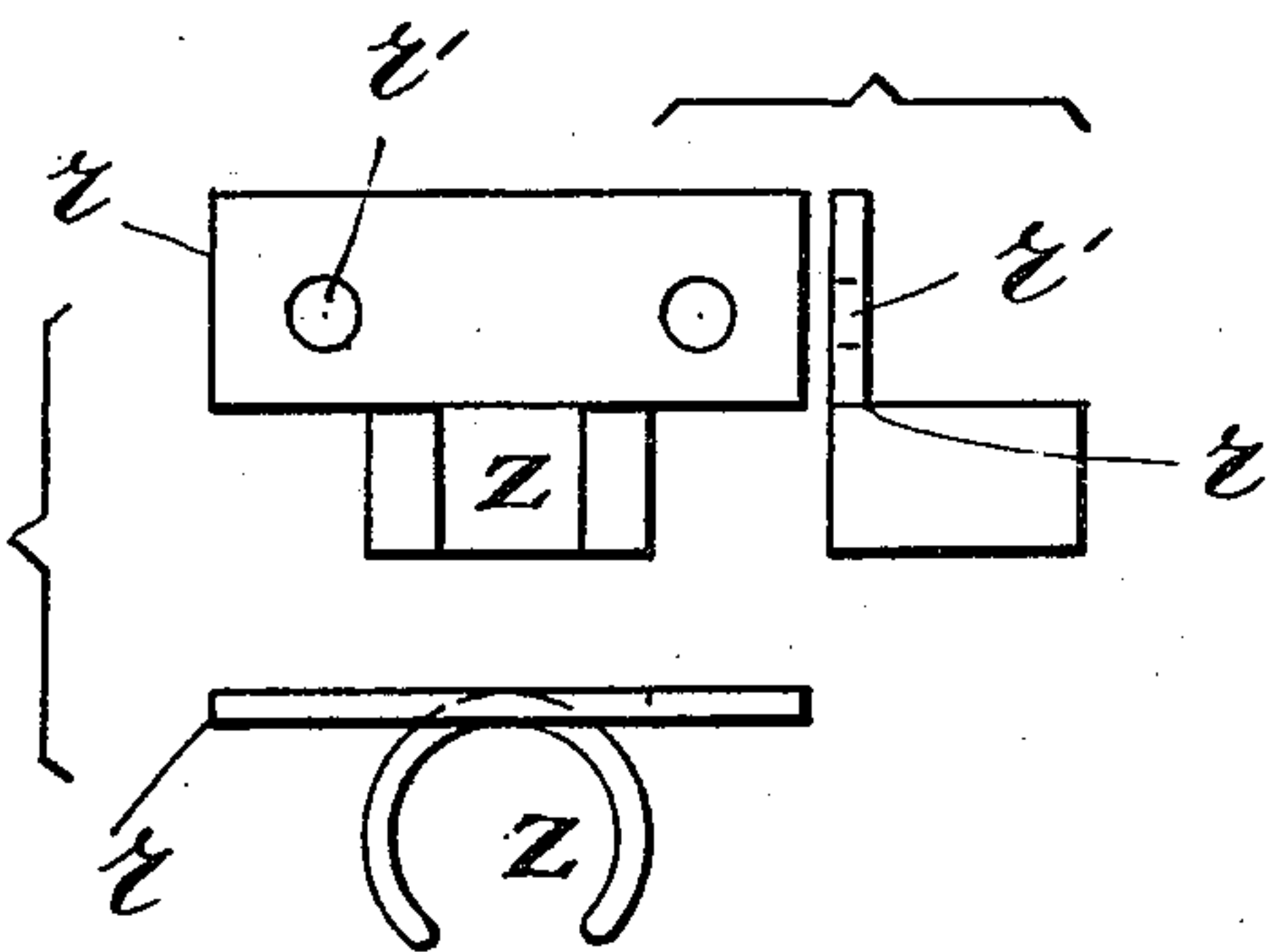


Fig. 6.

Fig. 7.

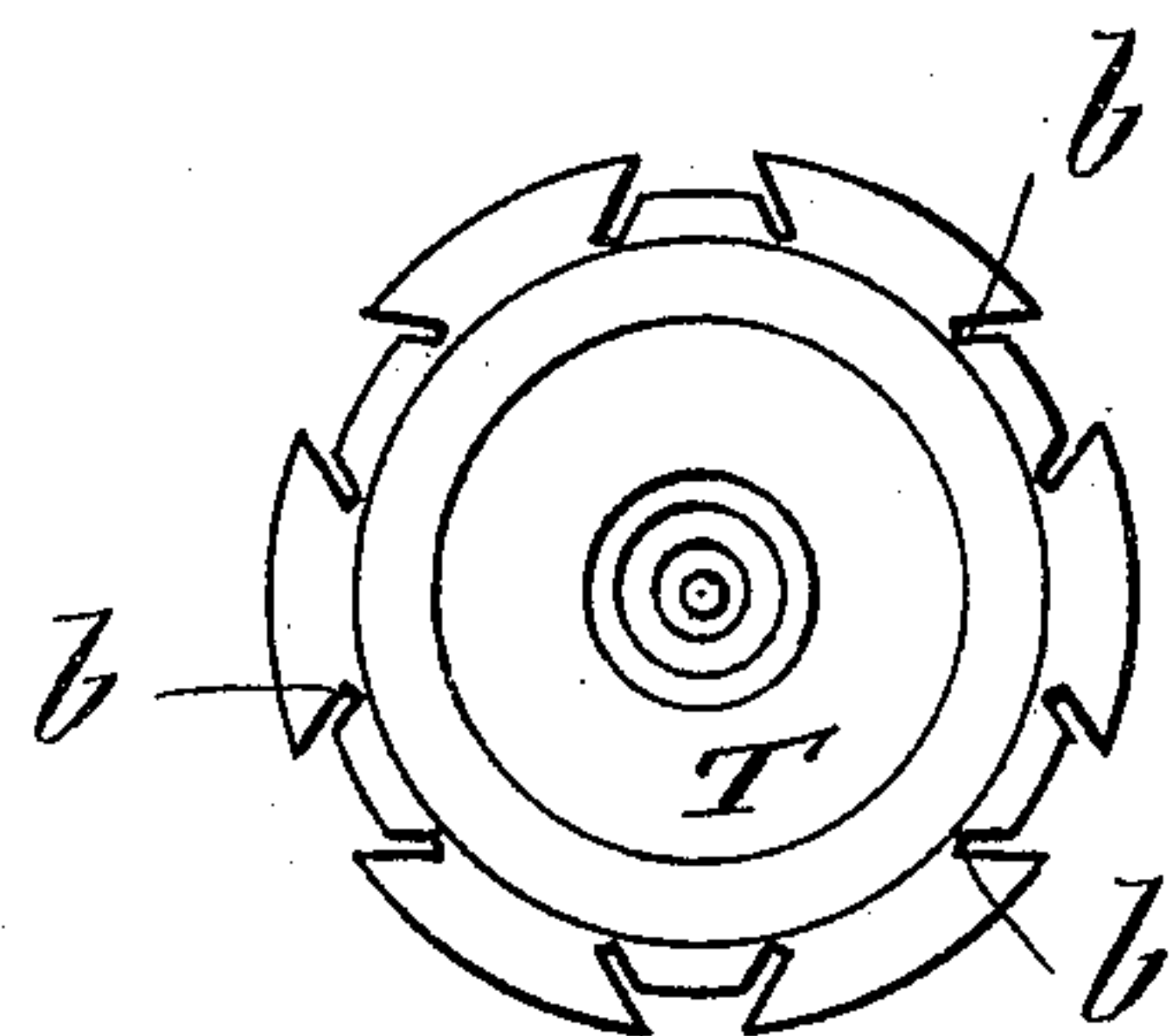
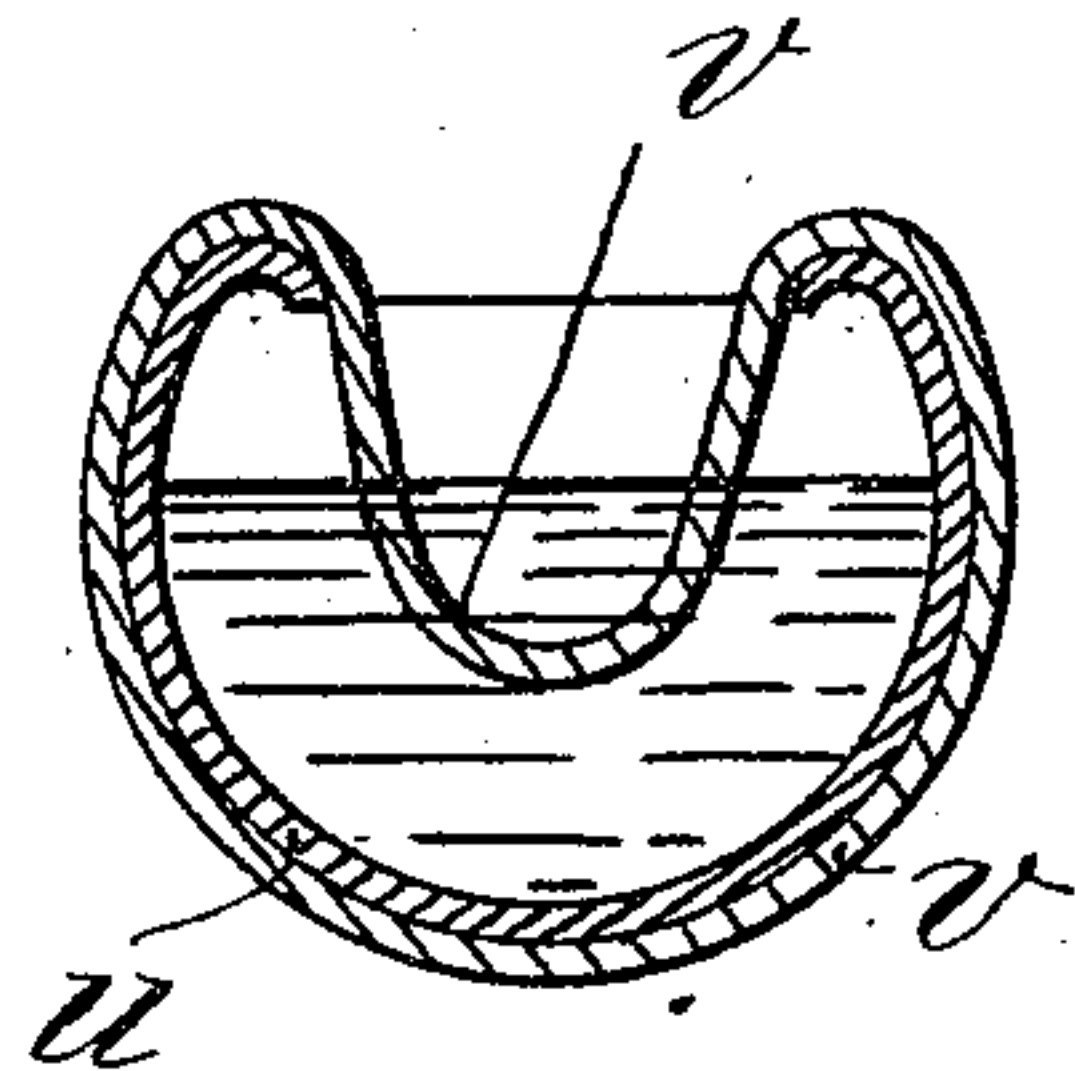


Fig. 5.

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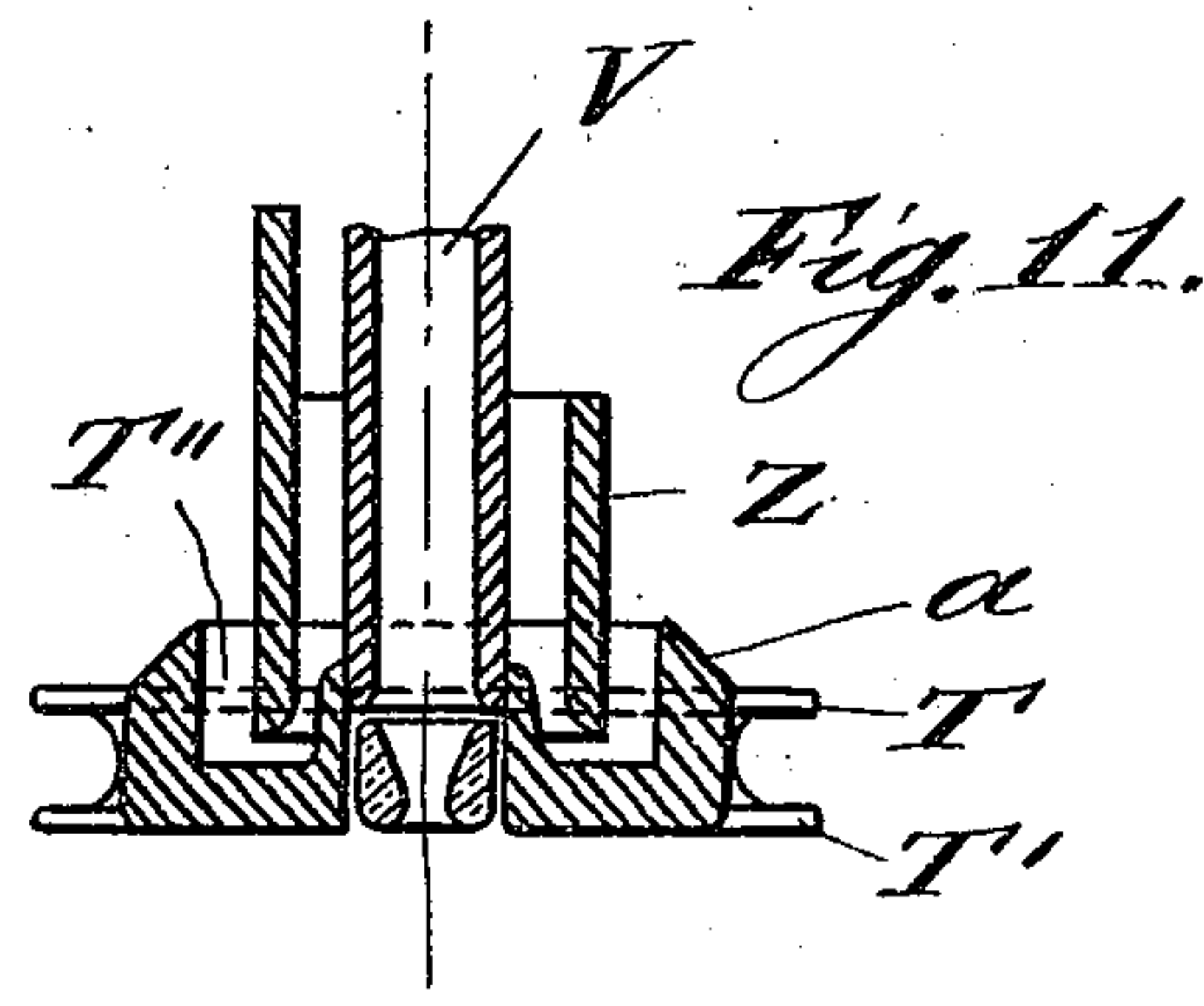
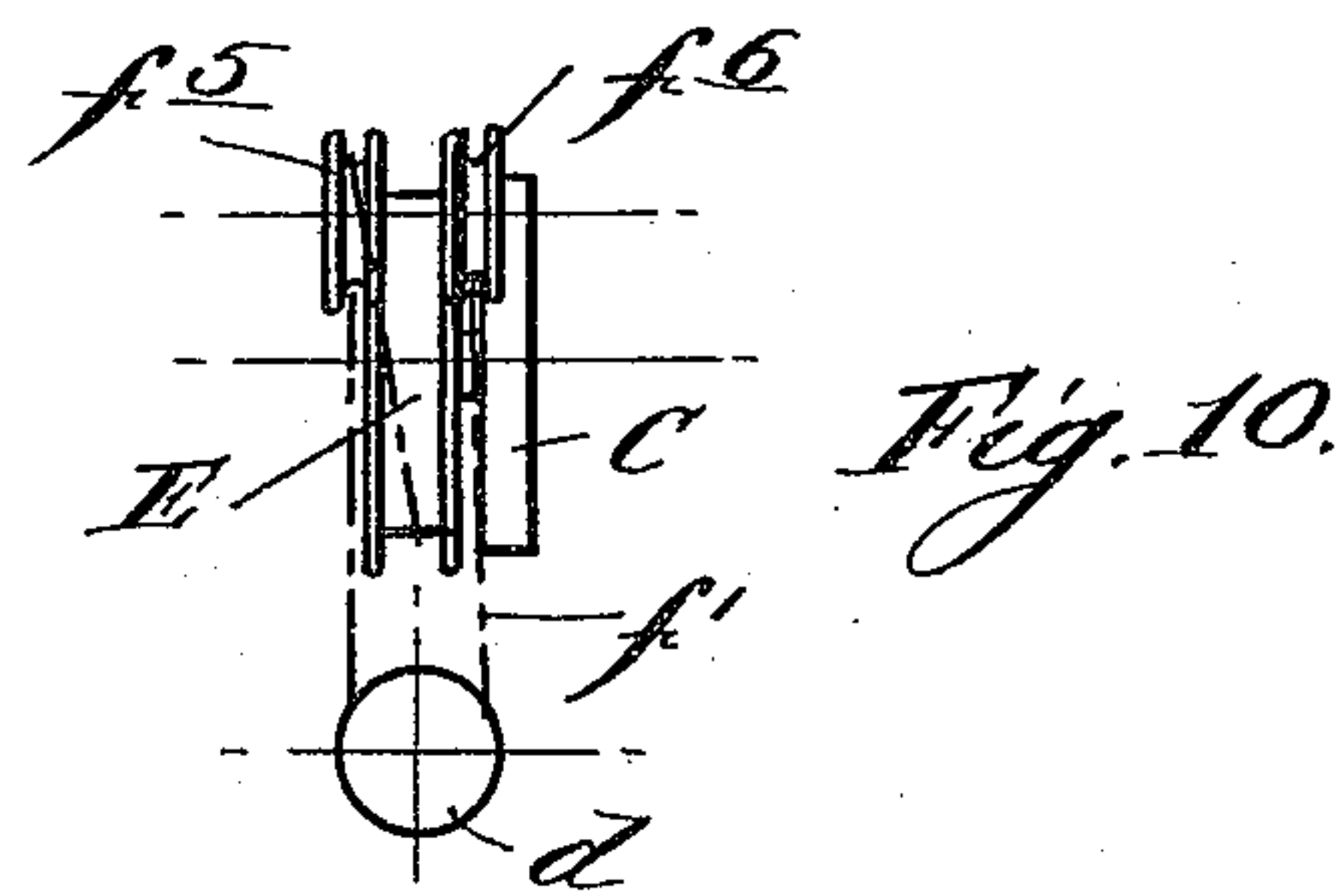
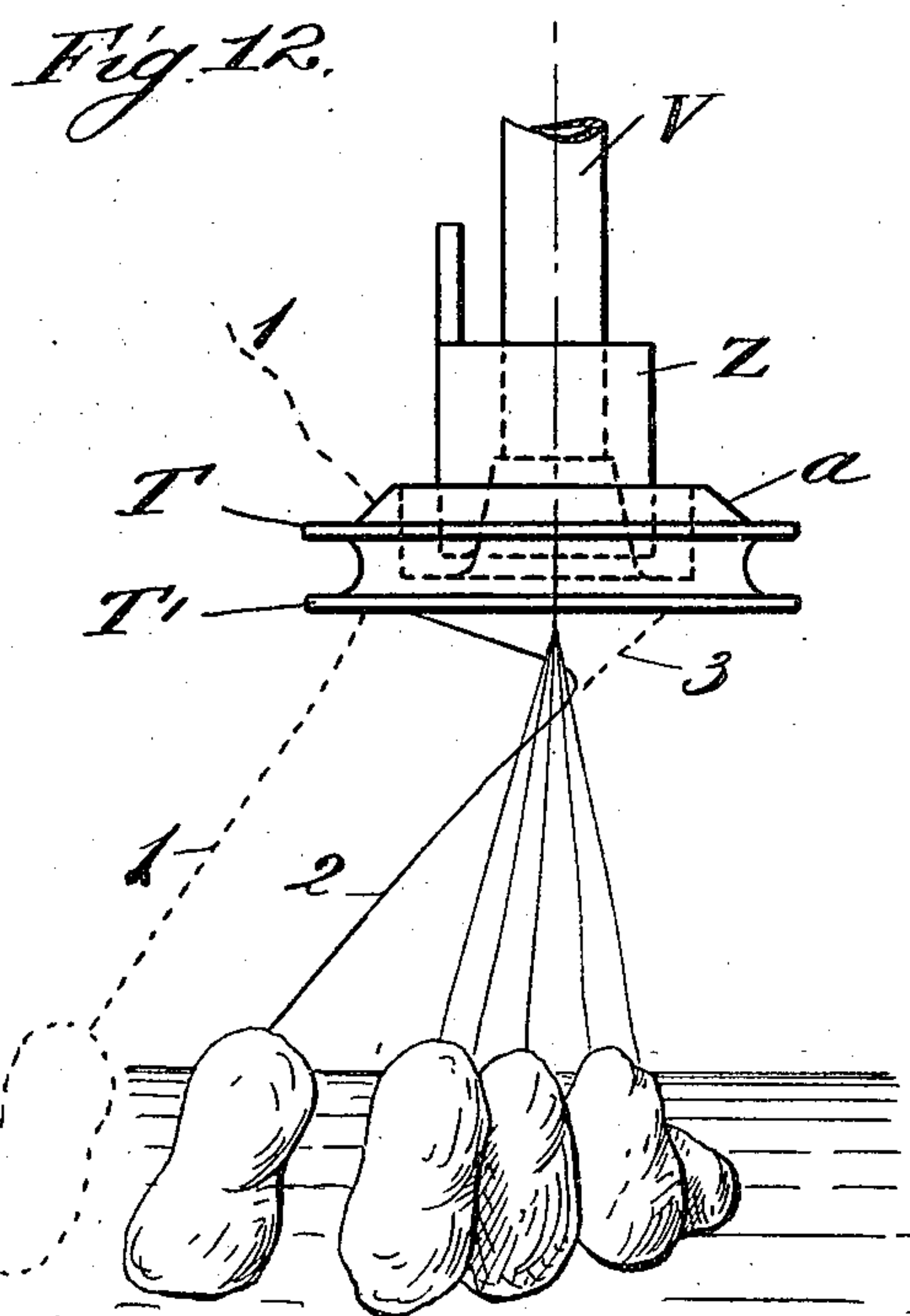
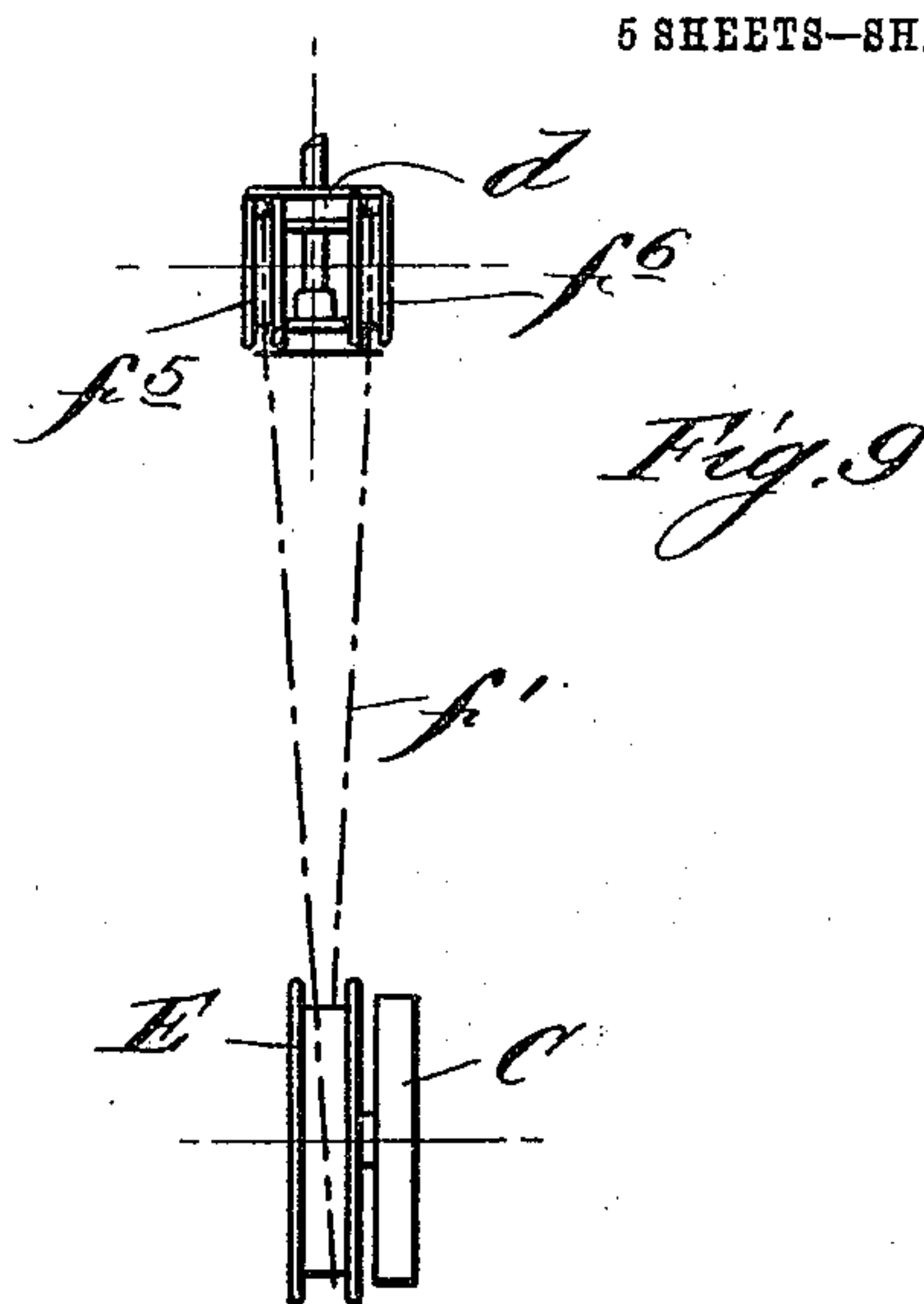
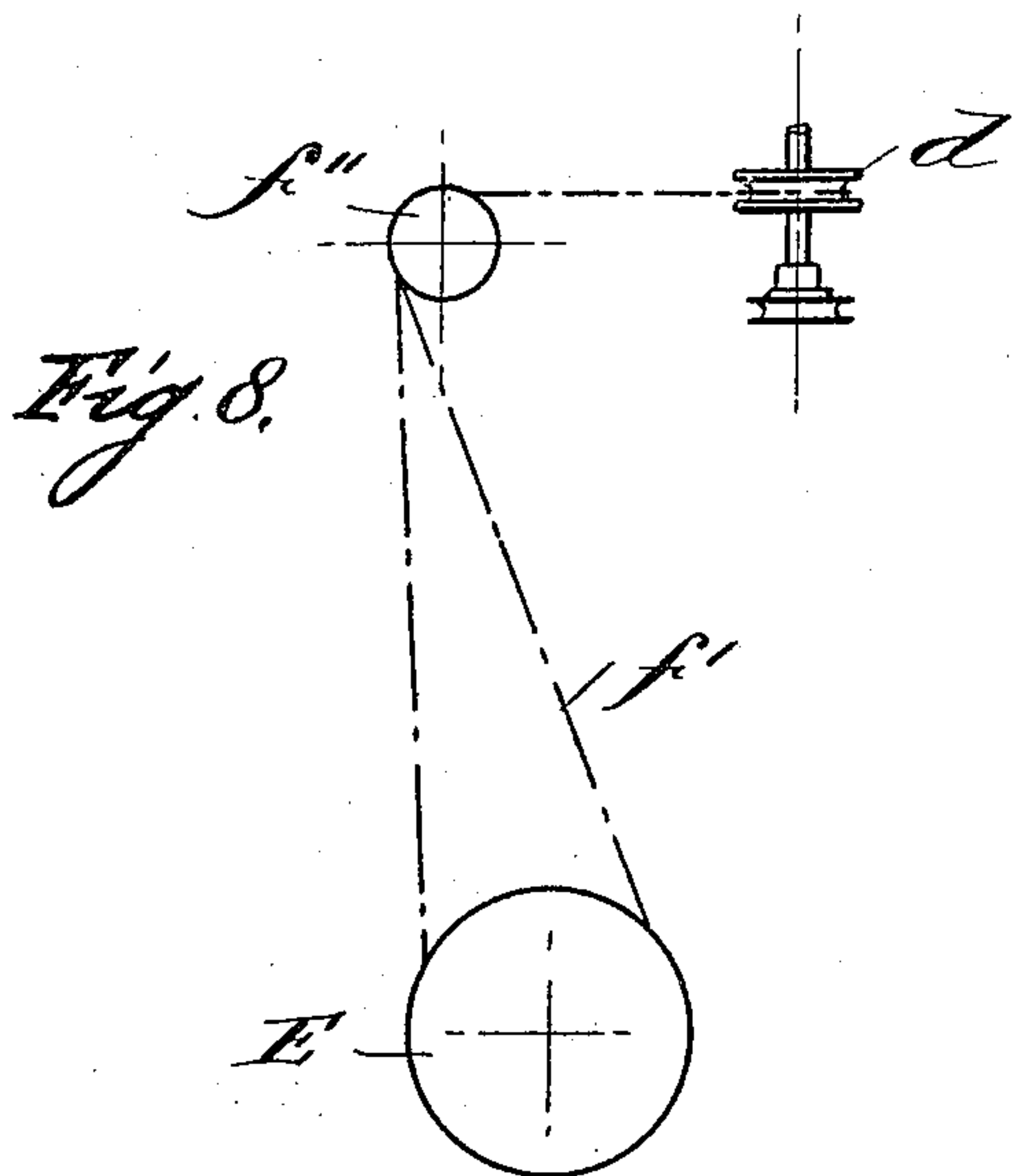


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5 SHEETS—SHEET 4.



Witnesses:  
Ed. Mesler  
Arthur Everett.

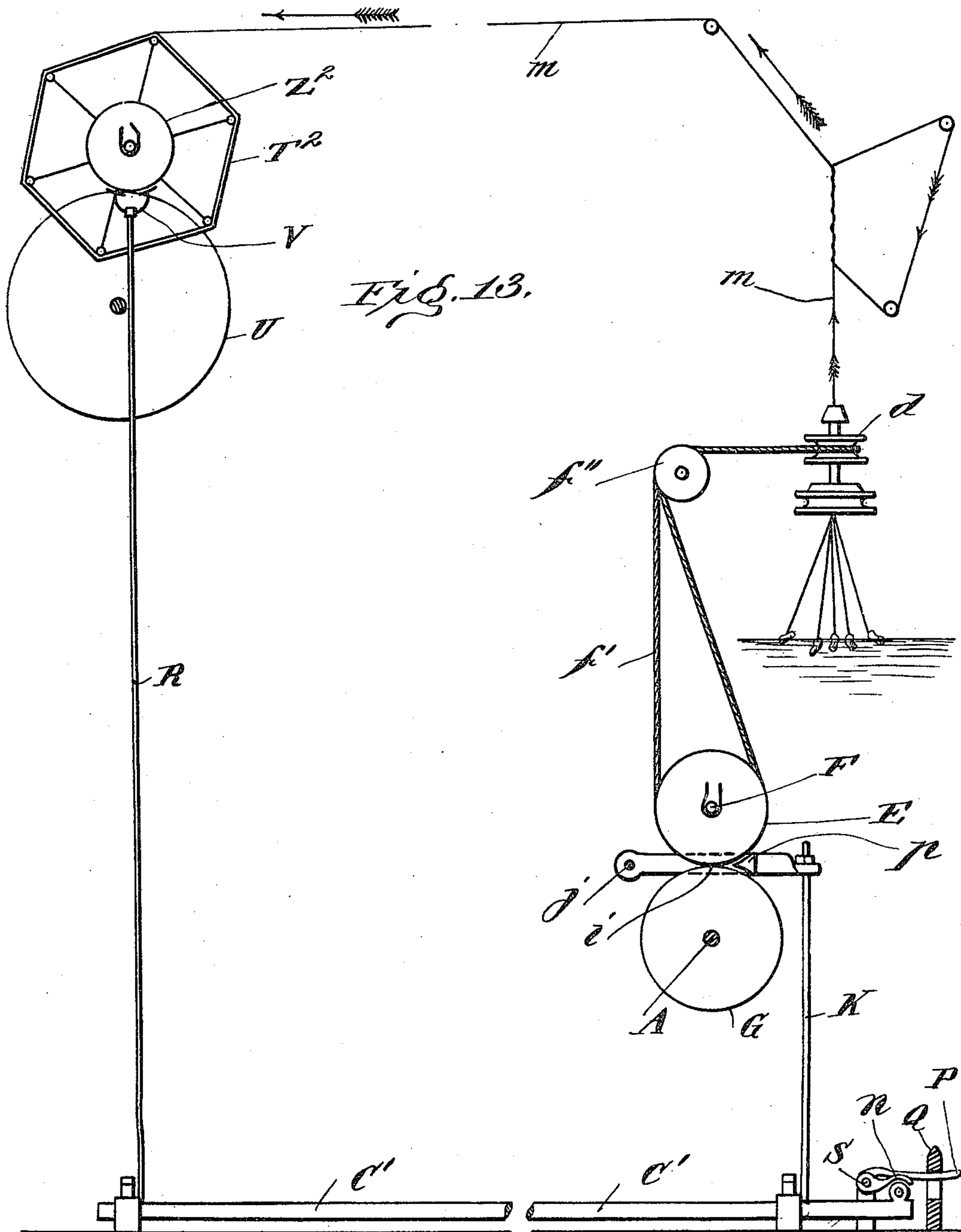
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5 SHEETS—SHEET 5.



Witnesses:

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*[Signature]*

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Vittorio Vitali Weber

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# UNITED STATES PATENT OFFICE.

VITTORIO VITALI WEBER, OF MILAN, ITALY.

MACHINE FOR REELING COCOONS.

962,279.

Specification of Letters Patent. Patented June 21, 1910.

Application filed September 5, 1906. Serial No. 333,402.

To all whom it may concern:

Be it known that I, VITTORIO VITALI WEBER, engineer, a subject of the King of Italy, and a resident of Milan, Italy, have invented certain new and useful Improvements in Machines for Reeling Cocoons, of which the following is 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.

This invention relates to improvements in means for controlling the reeling of cocoons and refers particularly to an apparatus which in French is termed *jette-bouts*, intended to replace cocoons which have broken down and keep the number of filaments composing the thread always the same, an operation which, up to some years ago, was exclusively intrusted to the hand of the reeler and required the employment of exceptionally skilled labor.

In the drawings, Figures 1 and 2 are respectively a front and an end elevation of a cocoon reeling frame embodying the features of the invention. Figs. 3 to 6, inclusive, are detail views of the mechanism and particularly pertaining to the *jette-bouts*. Fig. 7 is a detail cross-sectional view of the heating container. Figs. 8, 9 and 10 are respectively a side view, a front view, and a top plan view of the driving means for the end catchers. Figs. 11 and 12 are an axial section and an elevation, respectively, showing the device illustrated in Figs. 3, 4 and 6 in operation. Fig. 13 is a sectional view transversely through the machine and showing the manner of effecting a coöperation between the end catchers and reels and embodying well known devices.

The reels are shown in the drawings by Fig. 13, and their construction is well known and understood in the art of cocoon reeling. In order that the *jette-bouts*, which will be hereinafter termed "end catchers", operate advantageously and give good results, they must at once stop when the reeler or attendant, for any reason whatever, puts to rest the swift or reel on which the silk thread supplied by the end catcher is being wound. It is further necessary and the invention provides means for discontinuing the operation of the end catchers as soon as the reels come to rest.

The shaft A constituting the driving means or prime actuating device of the machine, carries a plurality of drums G in en-

gagement with and frictionally driving pulleys C for actuating the end catchers, the said pulleys being connected up by means of cords  $f'$ . The reels  $T^2$ , Fig. 13, are actuated by friction pulleys U,  $Z^2$ , the shaft of pulley U being driven by the general shafting of the factory. The reels are stopped in their operation by the rods R which are connected to other parts of the mechanism, as will be hereinafter specified. The pulleys C are mounted on independently operating shafts F which also carry pulleys E adjacent to said pulleys C, and a pulley D is also included in the groups of pulleys and mounted on the shafts F common to each group. In other words, each group of pulleys consists of the friction pulley C and grooved pulleys E and D, each friction pulley C, through the drum G and contact therewith, controlling the operation of its group of pulleys and the shaft F carrying the same. The shafts F are suspended from the frame or bed of the machine by any suitable means and held continuously in parallel relation to the driving shaft A. The pulleys D, E actuate the end catchers through the medium of cords  $f'$  trained thereover and engaging guide pulleys  $f''$  held by the spring support  $m$ , and from these guide or direction pulleys  $f''$  the cords  $f'$  pass around pulleys  $d$  on the spindles of the end catchers, as clearly shown by Fig. 2, for instance. Figs. 8, 9 and 10 clearly illustrate the travel of the cord  $f'$  from the pulley E, and it will be seen that the said cord runs from the left-side pulley  $f^5$ , then to pulley  $d$  of the end catcher, and from the latter pulley back to the right-side pulley  $f^6$ , and thence to pulley E.

At the base of the machine a pedal organization is located, by means of which the end catchers and reels may be independently stopped, or caused to unitedly cease operation, as may be desired, and under the control of the operator. This pedal organization includes a plurality of transversely extending oscillating rods or shafts  $C'$  each having a crank arm X movable therewith, and to the crank arms connecting rods K are attached and extend upwardly to and are secured at one extremity of what may be termed separating clutches  $y$  in the form of plates, fulcrumed as at  $j$ , and move upwardly, the said separating clutches having laterally projecting members  $i$  carrying wedge projections  $p$ , one projection on each



member to enter between the drums G and friction pulleys or disks C to raise the latter out of contact from the said drums and also to instantly check the rotation of the pulleys C. The rods or shafts C' connect the 5 reel stopping rods R with the rods K for stopping the end catchers. Each rod or shaft C' is also provided with a laterally projecting pedal H whereby the individual rods or shafts may be oscillated to elevate 10 the crank arms X in order to separate the drums G and friction pulleys or disks C, as just explained. Extending over the rods or shafts C' is a longitudinally disposed oscillating rod or shaft S supported in suitable bearings and having a forwardly projecting 15 pedal P and crank arms  $n$  at intervals to engage the pedals H. When the shaft or rod S is depressed through the operation of the pedal P, the crank arms  $n$  simultaneously contact with and equally depress all of the pedals H so as to instantly disengage all of the drums G and friction pulleys or disks C and stop all of the reels and end catchers 20 pertaining to the same basin, and to maintain all the mechanism in inactive condition as just stated, the pedal P is caught under and held by the hook Q. Thus it will be seen that the end catchers and cooperating reels 30 may be stopped in individual groups without affecting the remaining groups, or all of the groups may be simultaneously stopped without pursuing the manual operation usually necessary in the old form of analogous mechanisms. The shaft F and the pulleys C, 35 D and E comprised in each group are so supported that they will, when raised, assume an inclined position, or be so disposed when elevated as to quickly gravitate when the separating clutches in each instance are released through the treadle organization at the lower portion of the machine. This operation is readily attained owing to the sectional structure of the shaft or in view of 45 the fact that each shaft F and its group of pulleys is independently elevatable and hence when each shaft section and its group of pulleys is elevated the remaining shaft sections and group of pulleys may continue to run or remain active without the least interference or without requiring stoppage of 50 the entire machine. On pressing down the pedal H in each instance, the crank X is raised and the connecting rod K is correspondingly elevated and the separating clutch  $y$  with its projecting member  $i$  and the edge of the wedge  $p$  will raise the pulley C out of contact with the corresponding friction drum G, the shaft F on which the pulley C is mounted being free for slight movement vertically in the means for supporting the same. This operation may be effected 60 in relation to all of the shafts and pulleys.

The end catchers preferably employed in 65 connection with the controlling and driving

mechanism hereinbefore described and particularly shown by Figs. 3 to 6, inclusive, embody special features of construction. These catchers are each provided with a stationary socket or bushing Z having a suitable 70 slit and adapted for catching and winding the free upper end of the filament thrown by the hand of the operator. These stationary sockets or bushings are provided with saddles  $r$  having openings  $r'$  to receive suitable 75 fastenings to attach the sockets or bushings to the brackets U which carry the spindles V on which are mounted notched disks T, T', the latter revolving with the spindles. The sockets or bushings Z do not come into contact with the revolving disks T, T', but the 80 lower terminals of the sockets or bushings are situated somewhat below the upper edge of the circular rim  $a$  of said revolving disks. The disks T, T' of the end catchers 85 are therefore free to revolve without in any way interfering with the bushings or sockets Z, the latter being preferably secured by means of screws  $r^2$  to the bracket U. It will be assumed that an attendant throws an end 90 of a filament against the revolving disks T, T'. The filament is caused to partake of the motion of the disks and successively takes the position, 1, 2, 3, see Fig. 12. During such motion the free end of the filament is 95 caused by the eddying movement of the surrounding air to approach the stationary socket Z and to adhere thereto. The part of the filament situated below the disks T, T' is driven around the filaments of the other cocoons, while the upper part of the said filament adheres to the stationary socket Z, and a great frictional tension is exerted upon the filament which breaks above the disks, the waste collecting in the channel T'', Fig. 11, 105 while the lower part is free to follow the filaments ascending along the tube V and traveling toward the winding reel. The edge of one of the notches with which the disks T, T' are provided will sever the upper end adhering to the bushing or socket from the remainder of the filament, which is to weld with the thread to be reeled. The notches in the disks T, T' are provided with recesses  $b$ , as particularly shown by Fig. 5, 115 and the employment of two superposed disks instead of one as usually adopted, the disks being recessed as explained, greatly facilitates the cutting of the new filament without leaving any knots on the thread, the gummy 120 impurities being retained in the interval between the two disks T, T' as well as in the recesses  $b$ . By slitting the stationary bushings or sockets Z as at Z' at the front as shown, a ready withdrawal or replacement 125 of the revolving spindles V is permitted.

A tightening device as shown by Fig. 7 is sometimes inserted between the basin and the revolving spindles of the end catchers. This tightening device aims to suppress the 130



down and consists of a trough *u* of any convenient form open at the top and filled with a liquid such as water. The outer wall of this trough is covered with a piece *v* of fabric of any suitable nature, such as felt, and which is depressed into the open top of the trough in contact with the liquid. The fabric covering *v* becomes saturated by capillary action and serves as a very effective tension or tightening means for the filaments supplied by the cocoons and which are to be welded into one thread, the said trough or tension device being positioned as shown by Fig. 2 or so that the filaments will be drawn over one of the upper edges thereof.

What is claimed is:

1. In a cocoon reeling apparatus, the combination with groups of end catchers, of mechanism for individually stopping the motion of the end catchers, and mechanism for unitedly stopping the motion of the end catchers.

2. In a cocoon reeling apparatus, the combination with reels and groups of end catchers adapted to coöperate with the reels, of mechanism for stopping the movement of all the groups of catchers pertaining to the same basin.

3. In a cocoon reeling apparatus, the combination with groups of end catchers and winding reels with which said catchers coöperate, of independent shaft sections operatively associated with the individual groups of end catchers, means for actuating the said shafts, mechanism for stopping the movement of a portion of said actuating means of the individual groups of end catchers, and

mechanism for simultaneously stopping the movement of a portion of the actuating means of all of the groups of end catchers.

4. A cocoon reeling apparatus comprising end catchers involving two superposed revolving disks provided with notches, a socket having a spindle therein carrying said disks, and operating mechanism for the end catchers.

5. A cocoon reeling apparatus having end catchers consisting of two superposed revolving disks formed with notches and recesses and having a spindle, a socket in which the spindle is removably mounted, and means for supporting the socket.

6. A cocoon reeling apparatus comprising end catchers consisting of a spindle having two superposed revolving disks thereon having notches and recesses, a slitted socket in which the spindle is removably mounted, and a bracket to which the socket is attached.

7. In a cocoon reeling apparatus, the combination of end-catchers each comprising two superposed revolving disks formed with peripheral notches and recesses for retaining impurities, and a spindle carrying the said disks, a socket having a front slit to removably receive the spindle, and a stationary bracket to which the socket is secured.

This specification signed and witnessed this twenty-fifth day of August, 1906.

VITTORIO VITALI WEBER. [L. s.]

Witnesses:

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