

No. 865,612.

PATENTED SEPT. 10, 1907.

H. D. SAYLOR.
INSULATING MACHINE.

APPLICATION FILED AUG. 13, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

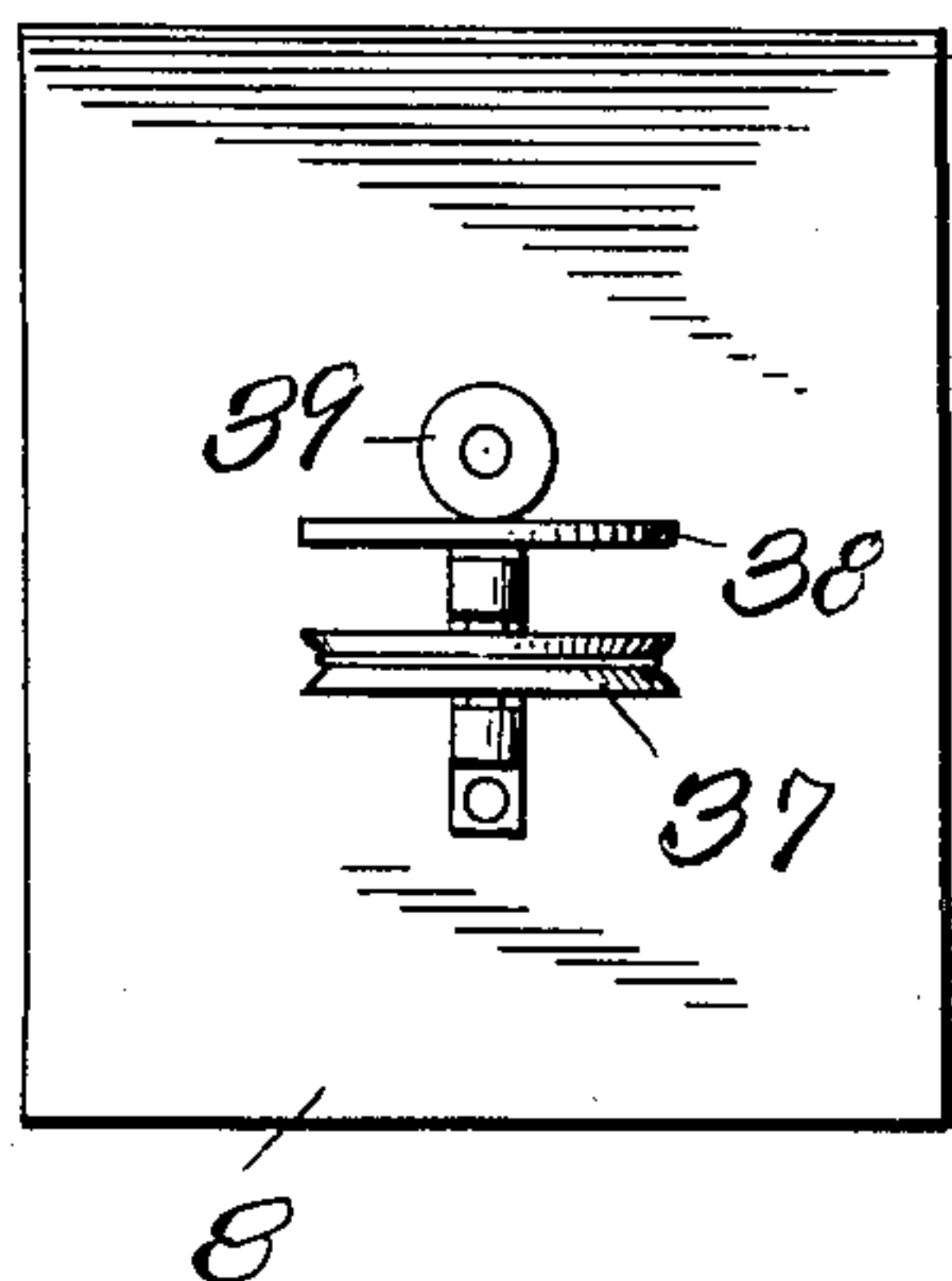
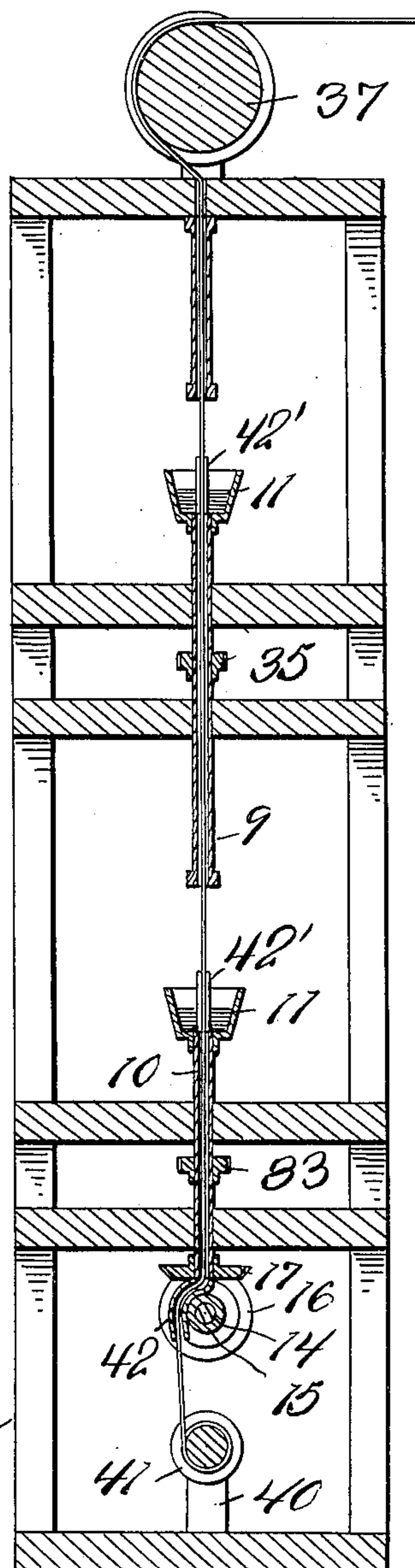


Fig. 2.



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3 SHEETS—SHEET 2.

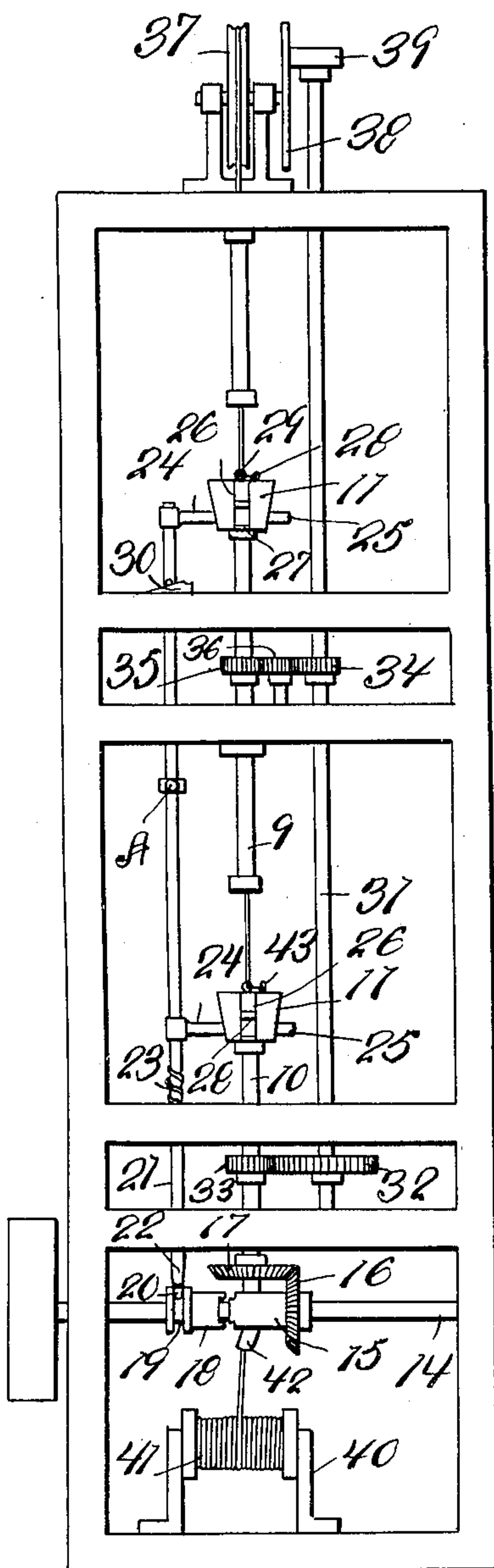


Fig. 3

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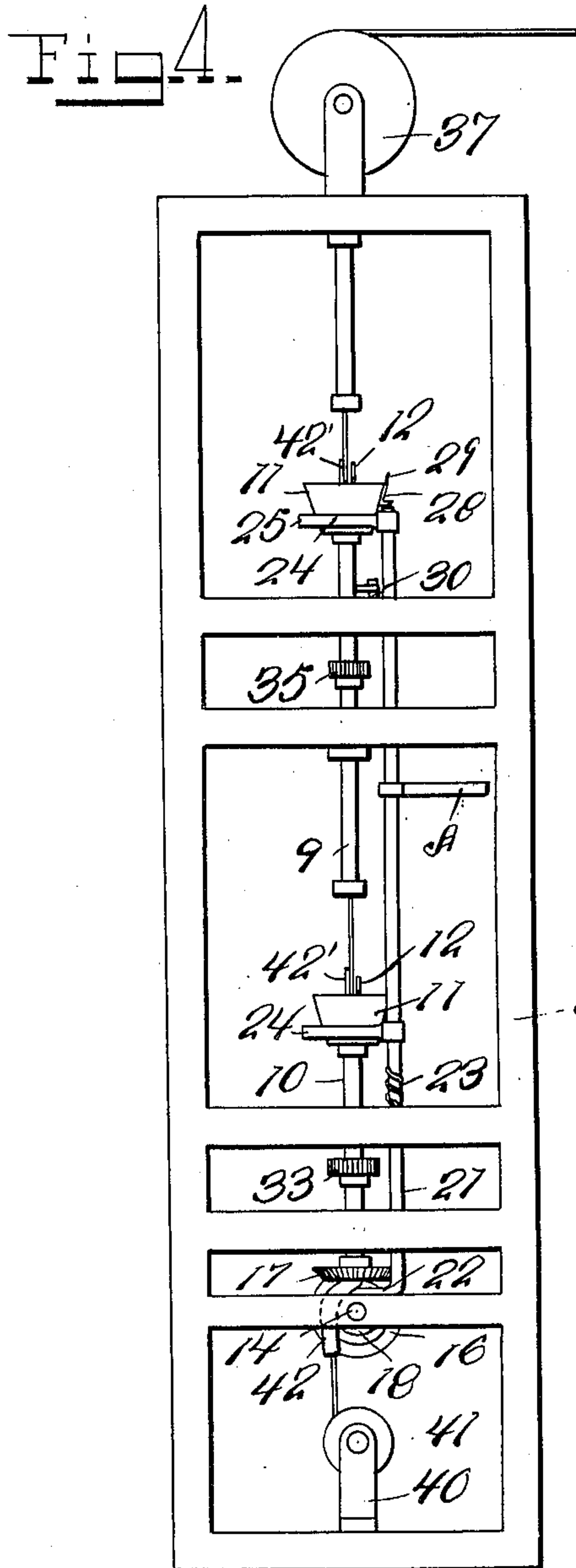


Fig. 4

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3 SHEETS—SHEET 3.

Fig. 5.

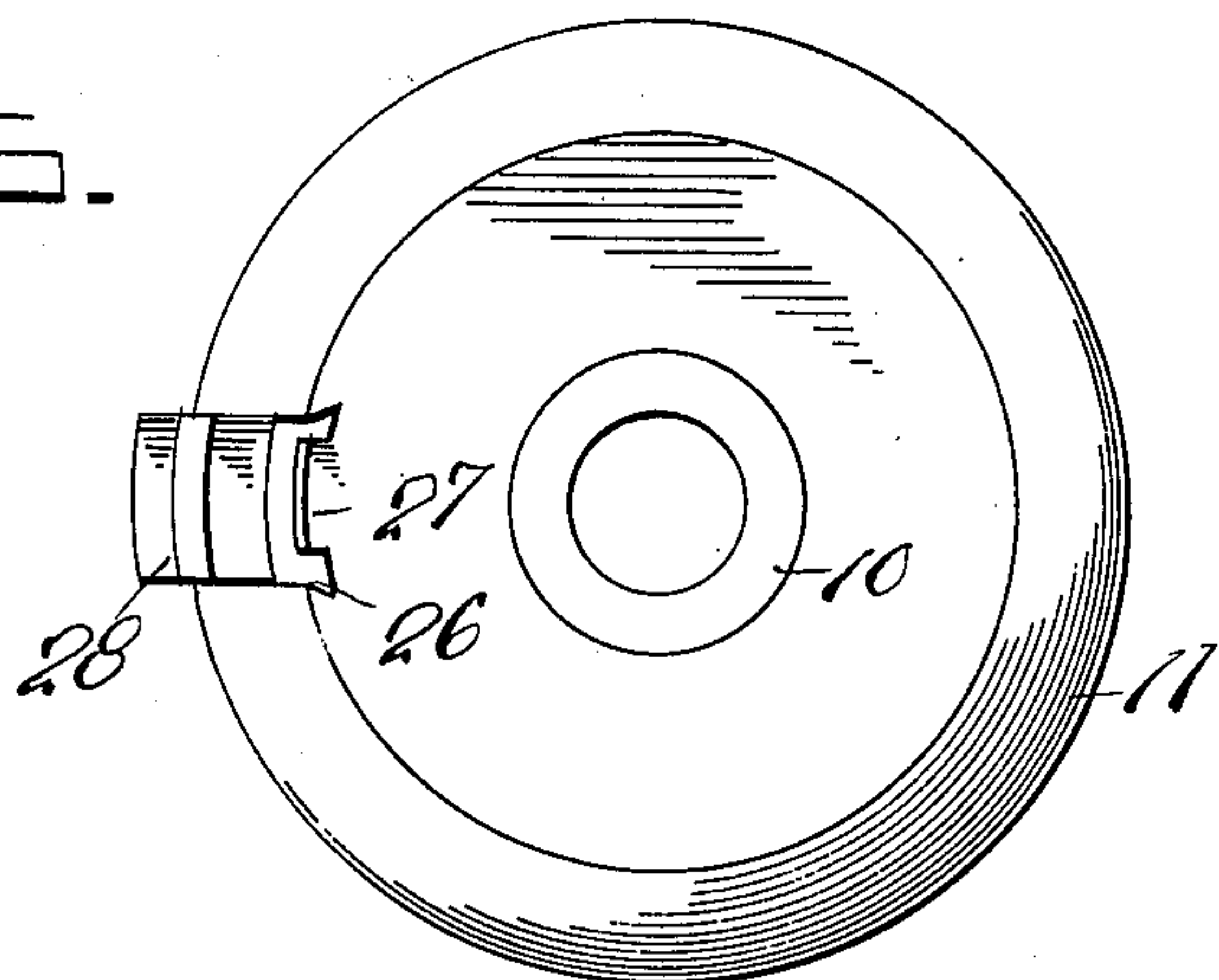


Fig. 6.

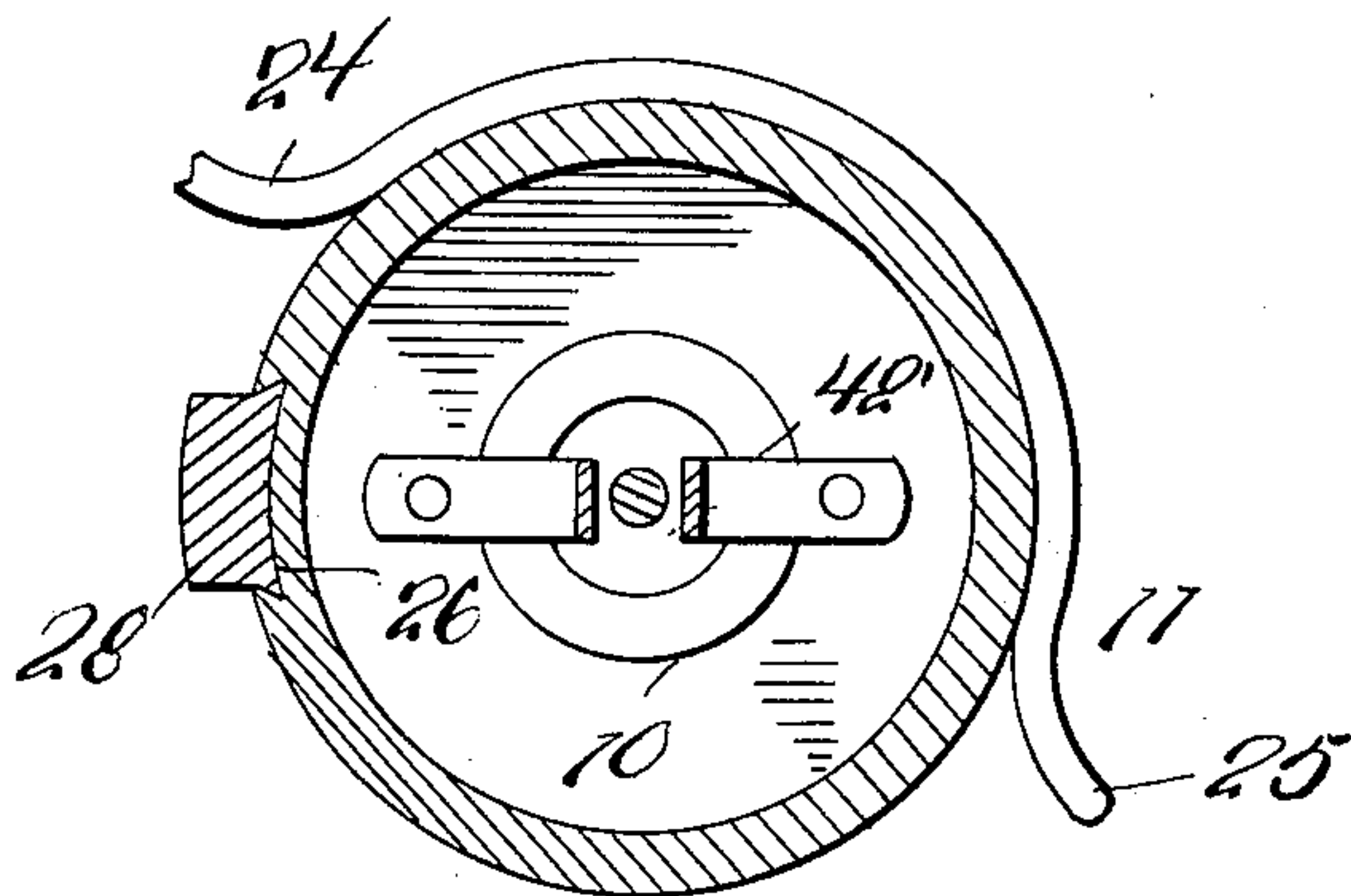
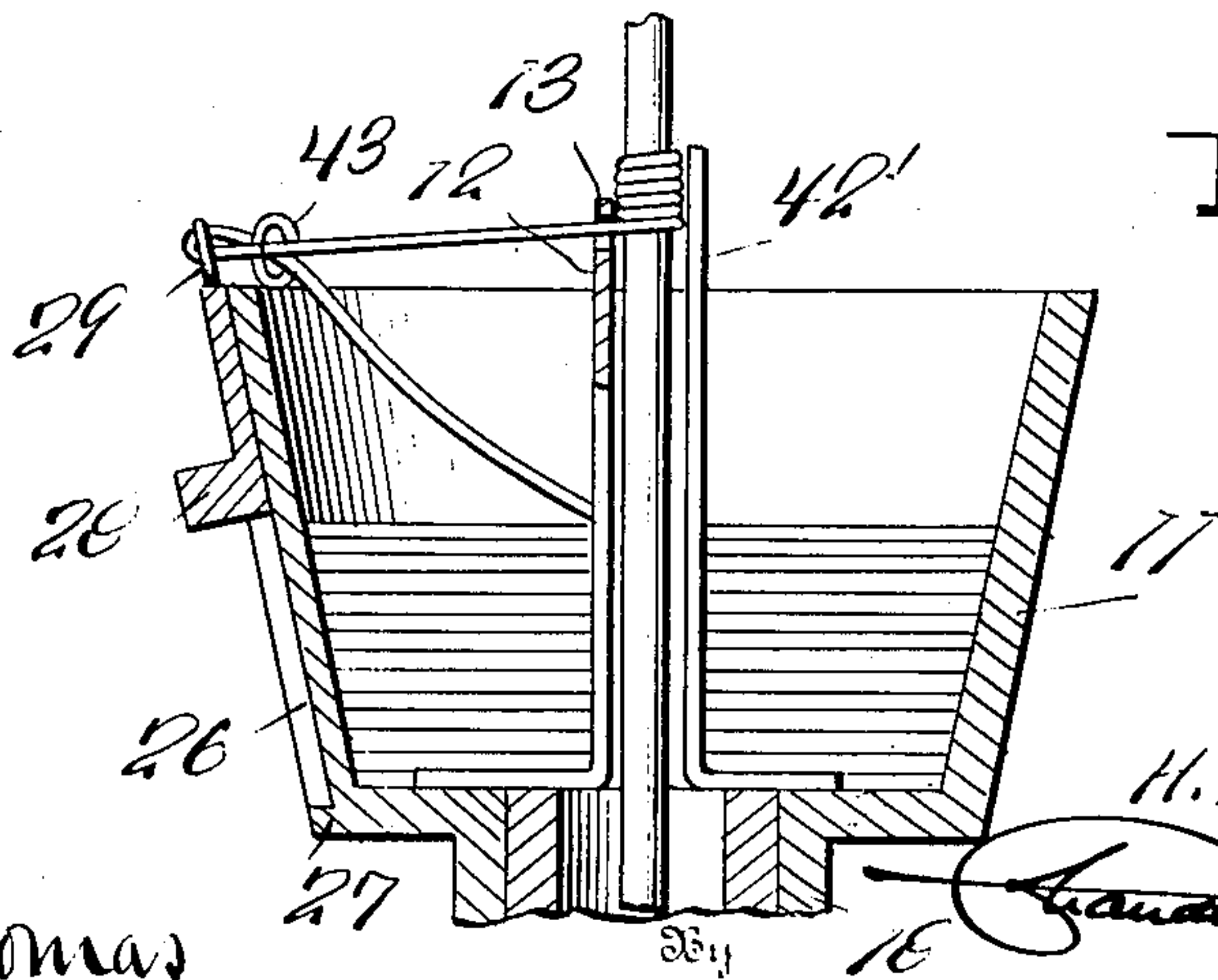


Fig. 7.



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UNITED STATES PATENT OFFICE.

HOWARD D. SAYLOR, OF PHILADELPHIA, PENNSYLVANIA.

INSULATING-MACHINE.

No. 865,612.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed August 13, 1906. Serial No. 330,430.

To all whom it may concern:

Be it known that I, HOWARD D. SAYLOR, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Insulating-Machines; 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.

10 This invention relates to insulating machines, and more particularly to stop mechanisms therefor, and has for its object to provide a thread-controlled mechanism for wire wrapping machines, arranged to stop the machine when the thread is broken.

15 Other objects and advantages will be apparent from the following description, and it is to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

20 In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view of the present invention. Fig. 2 is a longitudinal section through the hollow shaft. Fig. 3 is a rear elevation, the rearward portion of the frame being broken away. Fig. 4 is a side elevation. Fig. 5 is an enlarged detail view, showing one of the thread cups in bottom plan. Fig. 6 is an enlarged detail view taken through one of the cups, the slide being shown in lowered position. Fig. 7 is an enlarged vertical section through one of the cups, showing the arrangement of the thread.

Referring now to the drawings, there is shown a frame 8 in which there are journaled vertically, a pair of aligning revoluble sleeves 9 and 10 respectively, the former being the upper, while the latter is the lower sleeve. These sleeves are in spaced relation to each other, and upon the upper end of each sleeve there is mounted a cup 11, concentrically therewith and having an opening in its bottom communicating with the passage of the sleeve, and mounted vertically within each cup, at one side of its opening, there is a finger 12 having an eyelet 13 in its upper end.

A horizontal power shaft 14 is journaled in the lower portion of the frame 8, and has revolubly mounted thereupon a clutch member 15 carrying a bevel gear 16 which meshes with a similar gear 17 carried by the lower end of the sleeve 10, and splined upon the shaft 14, there is a movable clutch member 18 arranged for engagement with the clutch member 15 to rotate the latter with the shaft, at times. The movable member 18 has a peripheral groove 19 which receives a downwardly extending finger 20 carried by the outer end of a crank 22 located at the lower end of a vertical shaft 21 journaled in the frame, and this shaft is provided with a spring 23 arranged to hold it yieldably with the

clutch members in mutual engagement. It will thus be seen that rotation of the shaft 21 will move the member 18 into and out of engagement with the member 15.

Arms 24 extend laterally from the shaft 21 and are curved to extend around the cups 11, the outer ends of these arms being turned away from the cups, as shown at 25. Vertical guides 26 are formed upon the outer surfaces of the cups 11, and these guides have stops 27 at their lower ends. Vertically movable weighted members 28 are slidably mounted in the guides, and have eyes 29 at their upper portions, these members, when in the upper portions of the guides, lying above the arms 24, but lying in position for passage between these arms and the cups through rotation of the latter, when such members 28 are at the downward limits of their movements. When, however, the weighted members reach the lower ends of the guides, rotation of the cups will cause the laterally projecting ends of said members to contact with the inner faces of the arms 24 and push the same outwards, such movement of the arms causing the shaft 21, by which they are carried, to throw the clutch member 18 out of engagement with the clutch member 15, thus stopping the mechanism. To hold the shaft 21 against return movement under the action of the spring 23, a latch 30 is provided.

A counter shaft 31 is journaled vertically in the frame and carries a gear 32 meshing with a gear 33 on the sleeve 10, this shaft 31 having a second gear 34 connected with a gear 35 carried by the sleeve 9, by means of an intermediate gear 36, so that the two sleeves are revolved in opposite directions. A drum wheel 37 is mounted upon the upper portion of the frame in the vertical plane of the sleeves, and has a friction disk 38 connected therewith which receives a friction pinion 39 adjustably mounted upon the shaft 31, the drum being thus driven by the shaft 31 and arranged for variation of its speed with respect to this shaft. A bracket 40 is located at the bottom of the frame and receives revolubly therewithin, a wire spool 41, a guide 42 being provided to conduct wire from the spool to the sleeve 10, through which and the sleeve 9 it is passed, and is engaged around the drum 37, from which it passes to a reel, as will be readily understood. A presser spring 42' is secured within each cup 11 to bear against the wire, as shown, and an eye 43 is formed upon the upper edge of each cup.

In use, thread for insulating purposes is disposed in the cups 11, in the usual bolts, and the thread is passed through the eyes 43, then through the eyes 29, and finally through the eyelets 13 to the wire which extends between the fingers 12 and the springs 42', and the thread is wrapped around the wire to prevent slipping. The weighted members 28 are supported in raised position by the thread, as will be readily understood, so that the sleeves with their cups are free to

rotate with the shaft 14, when the latter is set in motion, to wrap the thread in opposite directions upon the wire, as will be readily understood. Should either thread break, the corresponding weighted member 28
 5 will immediately descend, and through rotation of the cup with which it is connected, will be brought into engagement with the inner surface of the corresponding arm 24 to move the latter outwardly and stop the mechanism, as will be readily understood. The handle A is carried by the shaft 21 for movement of the
 10 latter to stop the machine.

What is claimed is:

1. In a machine of the class described, the combination with a revoluble thread-receiving cup, of a throw-out mechanism for the machine, a member carried by the cup
 15 for movement into and out of position to operate the throw-out mechanism, said member being arranged to lie yieldably in operative position and to receive thread from the cup to hold it normally in inoperative position.
2. The combination with a winding machine including revoluble thread cups, of a throw-out mechanism for the machine including a movable operating shaft, arms carried by the shaft, and thread-controlled members mounted upon the cups for movement into and out of position to
 20 move the arms.
3. In a machine of the class described, the combination with a revoluble thread cup, of a throw-out mechanism for the machine including a movable operating shaft, an arm carried by the shaft and extending in relation to the
 25 cup, a member mounted upon the cup for movement into

and out of position to engage the arm for movement thereof, said member being arranged to receive thread from the cup and to be held thereby out of arm-engaging position.

4. In a machine of the class described, the combination with a revoluble thread cup, of a throw-out mechanism
 35 for the machine, an operating shaft for the throw-out mechanism, an arm carried by the shaft and extending in close relation to the cup, means for holding the arm at the limit of its movement in the direction of the cup and with the throw-out mechanism in position for operation of the machine, an eye finger mounted in the cup,
 40 and a member slidably mounted upon the cup for movement into and out of position for passage between the cup and the arm to move the arm, said member having a thread-receiving eye arranged to receive thread from the
 45 cup and to be held thereby out of arm-engaging position.

5. A machine of the class described comprising hollow alining sleeves adapted for the reception of wire there-
 50 through, means for moving wire through the sleeves, a drive shaft, operative connections between one of the sleeves and the drive shaft, reverse gear and shaft connections between the sleeves, a thread receptacle carried by each sleeve, and an eye member connected with each sleeve for movement around a wire passed therethrough
 55 and arranged to receive thread from the thread receptacles.

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

HOWARD D. SAYLOR.

Witnesses:

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 H. R. HEDRICK.