

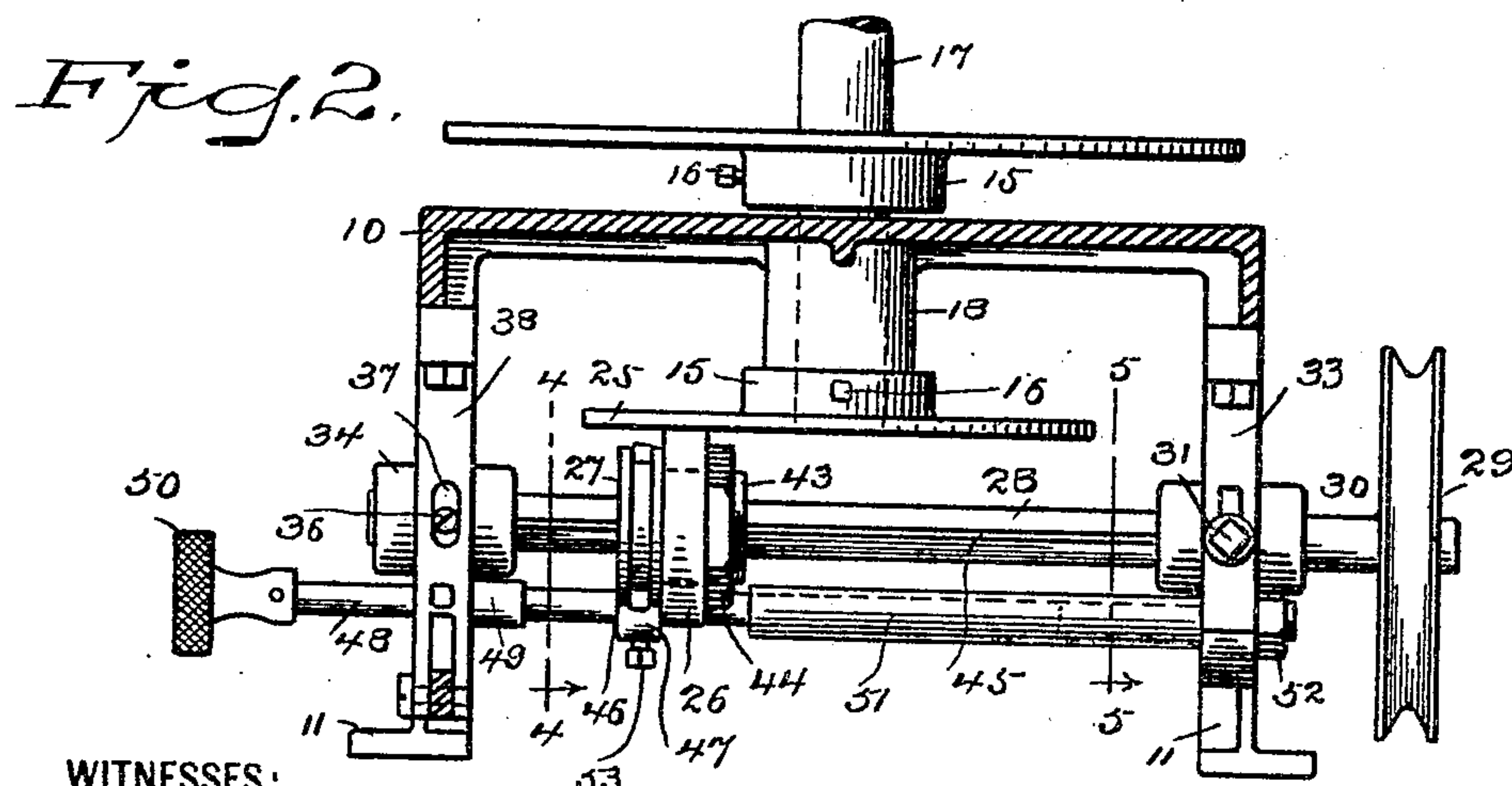
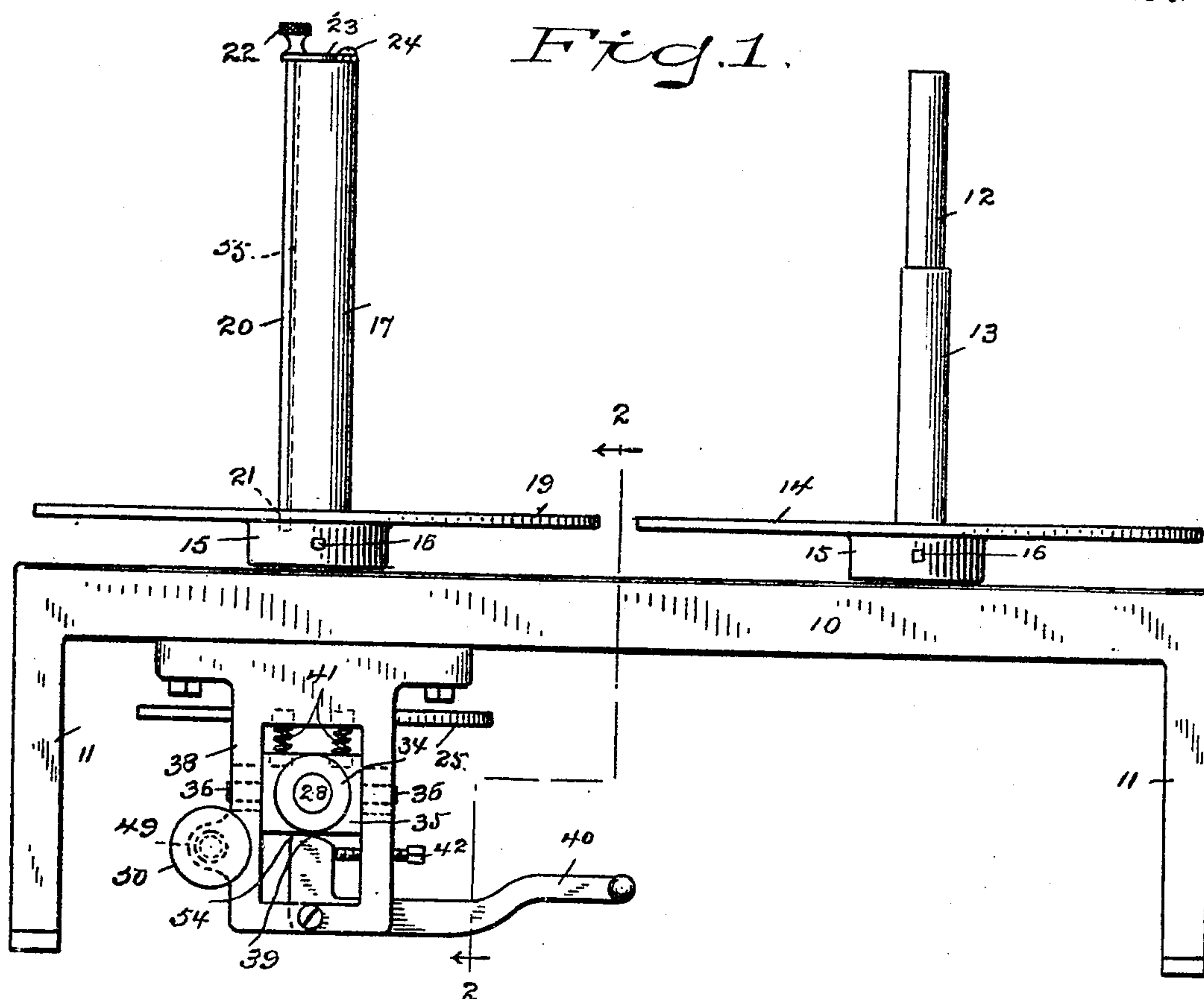
No. 795,507.

PATENTED JULY 25, 1905.

W. S. HATFIELD & W. R. THOMPSON.
CLOTH AND PAPER REWINDING MACHINE.

APPLICATION FILED MAY 18, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

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Fig. 3.

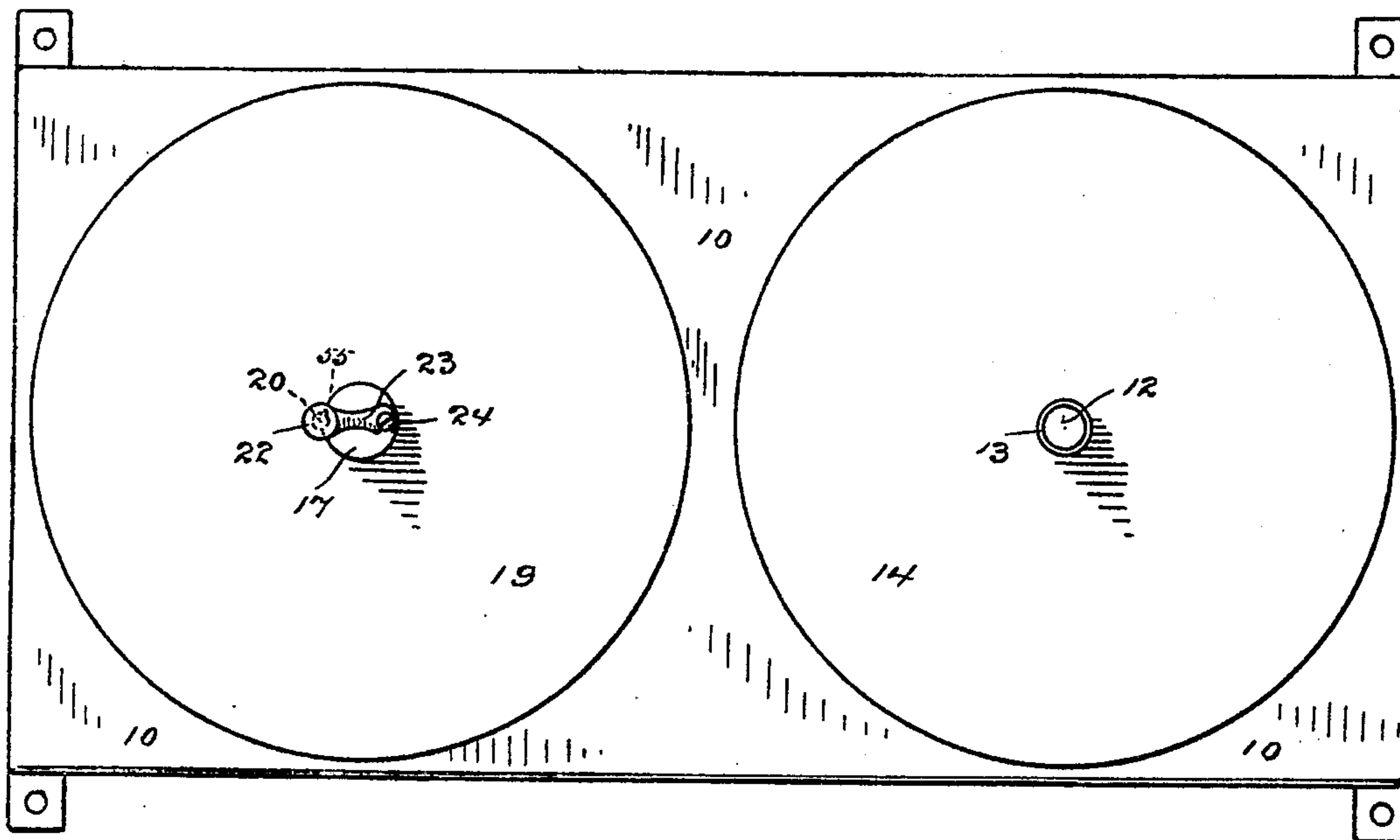


Fig. 4.

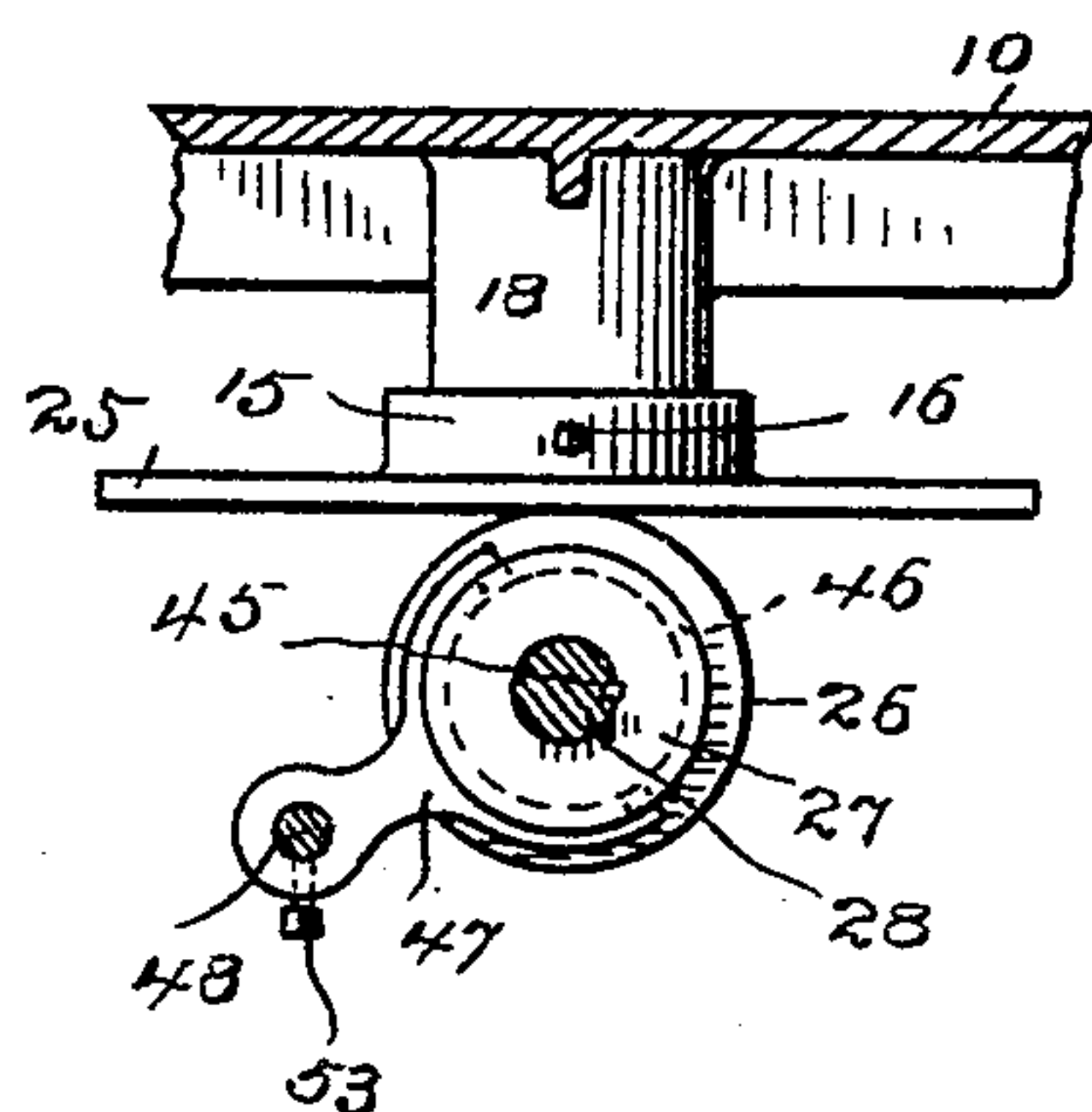
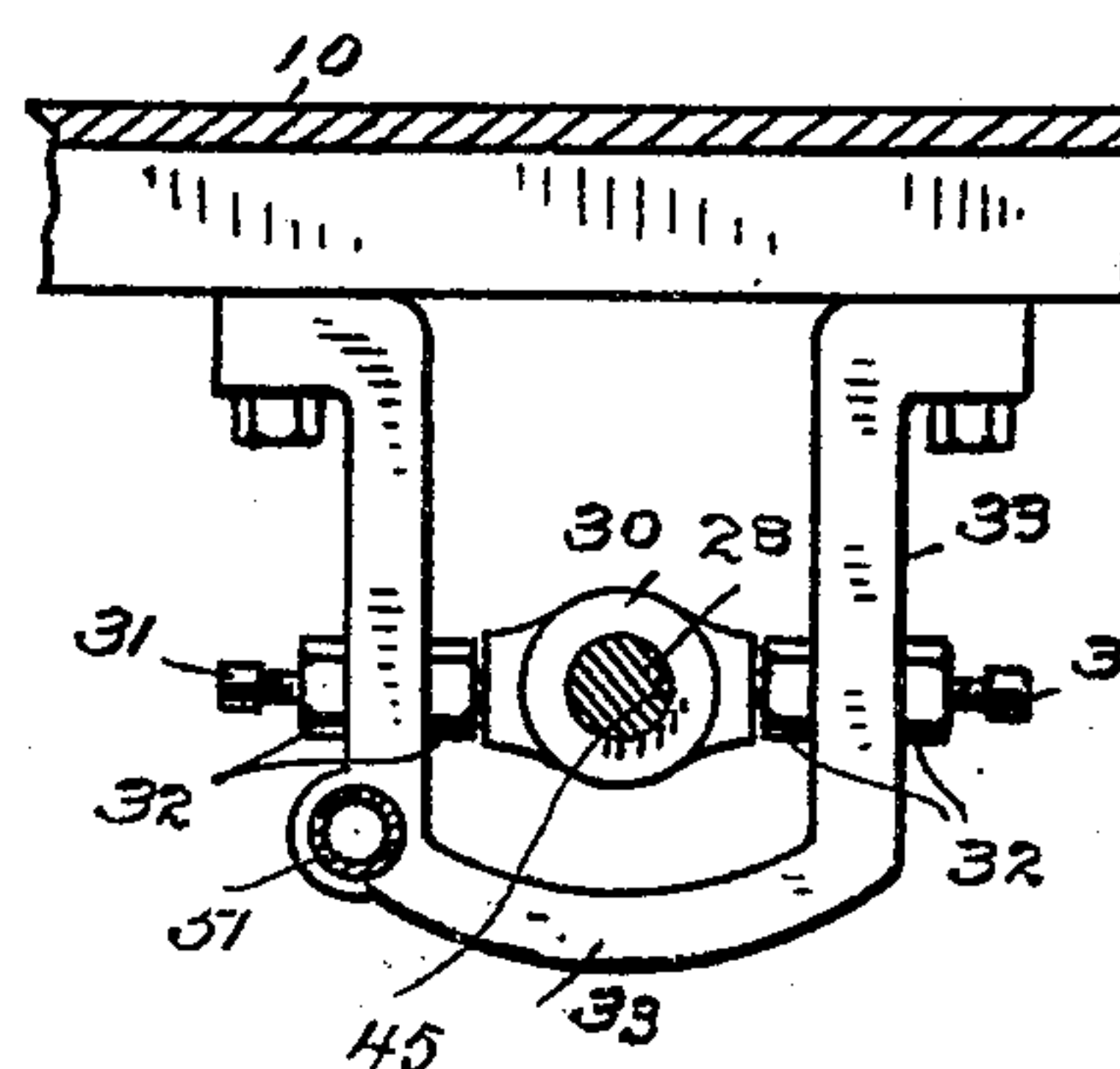


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM S. HATFIELD AND WILLIAM R. THOMPSON, OF SOUTH NORWALK, CONNECTICUT.

CLOTH OR PAPER REWINDING MACHINE.

No. 795,507.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed May 18, 1905. Serial No. 260,966.

To all whom it may concern:

Be it known that we, WILLIAM S. HATFIELD and WILLIAM R. THOMPSON, citizens of the United States, residing at South Norwalk, county of Fairfield, State of Connecticut, have invented a new and useful Cloth or Paper Rewinding Machine, of which the following is a specification.

This invention has for its object to provide a simple and inexpensive power-machine for rewinding the ends of strips or rolls of paper or cloth, as in the manufacture of paper boxes. We thus effect a great saving in the cost of production, as we are enabled to utilize by rewinding them into a large roll the butts or short ends of rolls that have usually been treated as waste.

With this end in view we have devised the novel rewinding-machine of which the following description, in connection with the accompanying drawings, is a specification, reference characters being used to indicate the several parts.

Figure 1 is an elevation of the machine complete and ready for use; Fig. 2, a section on the line 2 2 in Fig. 1 looking toward the left; Fig. 3, a plan view corresponding with Fig. 1; Fig. 4, a detail sectional view on the line 4 4 in Fig. 2 looking toward the right, and Fig. 5 is a detail sectional view on the line 5 5 in Fig. 2 looking toward the right.

10 denotes the frame of the machine, which may be of any ordinary or preferred construction, and is shown as provided with legs 11, adapted for attachment to a table or other suitable support. The butts or short rolls to be rewound are placed upon a holding-spindle 12, which is fixed in the frame.

13 denotes a sleeve which is passed into the open center of a roll to be rewound and which receives the spindle loosely. This sleeve and a roll to be rewound rest upon a supporting-disk 14, having a hub 15, which is shown as locked to the holding-spindle by a set-screw 16.

17 denotes the winding-spindle, which is journaled in a hub 18 on the under side of the frame. This spindle carries a supporting-disk 19, having a hub 15 and a set-screw 16, by which it is attached to the spindle. The end of the first roll of paper to be rewound is attached to the spindle by means of a rod 20, lying in a groove 55 in the spindle, the lower end of which engages a hole 21 in disk 19 registering with the groove and the up-

per end of which is provided with a finger-piece 22 for convenience in operation and a hook 23, which is adapted to engage a headed pin 24, projecting from the upper end of the spindle. At the lower end of the spindle is a driving-disk 25, having a hub 15, which is secured to the spindle by means of a set-screw 16. The winding-spindle is driven by means of a friction-collar 26, carried by a sliding collar 27 on a driving-shaft 28, provided with a pulley 29 to receive a belt. (Not shown.) The pulley end of shaft 28 is journaled in an oscillating hub 30, which is engaged by the points of screws 31, held by set-nuts 32 in a bracket 33, rigidly secured to the frame. The other end of the shaft is journaled in a sliding hub 34, carried by a block 35, having pins 36 extending from opposite ends thereof, which engage vertical slots 37 in a bracket 38, rigidly secured to the frame. Block 35 is engaged by a cam 39, carried by a lever 40, pivoted to the lower end of bracket 38. Springs 41, socketed in the block and in bracket 38, hold the block in engagement with the cam and act to force it downward when the lever is oscillated and the high portion of the cam (indicated by 54) is moved out of engagement with the block.

42 is a stop-screw which limits the movement of the cam when moved to the operative position. When the high portion of the cam is in engagement with the block, as in Fig. 1, the friction-collar is held in engagement with the driving-disk and movement is communicated to the driving-disk and the winding-spindle. When the lever is swung upward from the position shown in Fig. 1, the cam is oscillated and the high portion of the cam passes out of engagement with the block, so that the springs will act to press the block downward, which lowers that end of the driving-shaft, the pins extending from block 35 sliding in the slots in brackets 38 and the friction-collar dropping out of engagement with the driving-disk, and thus stopping the rotation of the winding-spindle.

The friction-collar is in practice made of vulcanized fiber or any suitable material and engages reduced portion 43 of sliding collar 37. The outer end of the reduced portion is threaded, and the friction-collar is held in place thereon by a nut 34. The shaft is provided with a longitudinal groove 45, and the sliding collar is provided with a key engaging the groove, which locks the collar against

rotation on the shaft, but permits it to slide longitudinally thereon. The sliding collar is provided with a circumferential groove 46, which is engaged by a yoke 47, carried by a rod 48, which slides in a hub 49, secured to bracket 38. The outer end of the rod is provided with a finger-piece 50, and the inner end of the rod slides in a suitable guide 51—in the present instance a tube—which is secured to bracket 33. We have shown the end of the tube as extending through the bracket and threaded for engagement by a nut 52. The yoke is adjustably secured to the rod by means of a set-screw 53. The rod slides in hub 49 with sufficient friction so that it will remain in any position in which it may be placed. By moving the sliding collar, and with it the friction-collar, toward or from the center of the driving-disk we are enabled to increase or diminish the speed of the driving-disk, and consequently to increase or diminish the speed of the winding-spindle, as may be required.

Having thus described our invention, we claim—

1. In a machine of the character described the combination with a winding-spindle, a driving-disk thereon and means for securing the end of a roll to be rewound thereto, of a driving-shaft, a friction-collar thereon engaging the driving-disk and means for raising and lowering the shaft to move the friction-disk into and out of engagement with the driving-disk.

2. In a machine of the character described the combination with a winding-spindle, a driving-disk thereon and means for securing the end of a roll to be rewound thereto, of a driving-shaft, a sliding collar thereon, a friction-collar carried by the sliding collar and adapted to engage the driving-disk and means for moving the sliding collar longitudinally on the shaft to increase or diminish the speed of the driving-disk and winding-spindle.

3. In a machine of the character described the combination with a winding-spindle, a driving-disk thereon and means for securing the end of a roll to be rewound thereto, of a driving-shaft having a longitudinal groove, a sliding collar keyed in said groove and having a circumferential groove, a friction-collar carried by the sliding collar, a yoke engaging the circumferential groove, a sliding rod by

which the yoke is carried and a guide by which the inner end of the rod is supported.

4. In a machine of the character described the combination with a winding-spindle, a driving-disk thereon and means for securing the end of a roll to be rewound thereto, of a driving-shaft one end of which is journaled in an oscillating hub and the other in a sliding hub, a friction-collar on said shaft and means for raising and lowering the sliding hub to move the friction-disk into and out of engagement with the driving-disk.

5. In a machine of the character described the combination with a winding-spindle, a driving-disk thereon and means for securing the end of a roll to be rewound thereto, of a driving-shaft, an oscillating hub in which one end of the shaft is journaled, a sliding block carrying a hub in which the other end of the shaft is journaled, a friction-collar on said shaft, a cam engaging the block, springs acting to force the sliding block and hub downward and a lever acting to move the high portion of the cam into and out of engagement with the sliding block, substantially as described, for the purpose specified.

6. In a machine of the character described the combination with a non-rotating holding-spindle, of a winding-spindle having a headed pin in its upper end and carrying a supporting-disk having a hole near the spindle and a rod engaging said hole and having at its upper end a hook adapted to engage the headed pin, whereby the end of a roll to be rewound may be secured to the spindle.

7. In a machine of the character described the combination with a non-rotating spindle, of a winding-spindle having a longitudinal groove and a headed pin at its upper end, a supporting-disk carried thereby and having a hole registering with the groove and a rod engaging said groove and said hole and having at its upper end a hook engaging the headed pin, substantially as shown, for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM S. HATFIELD.
WILLIAM R. THOMPSON.

Witnesses:

CHARLES E. HOYT,
SPENCER S. ADAMS.