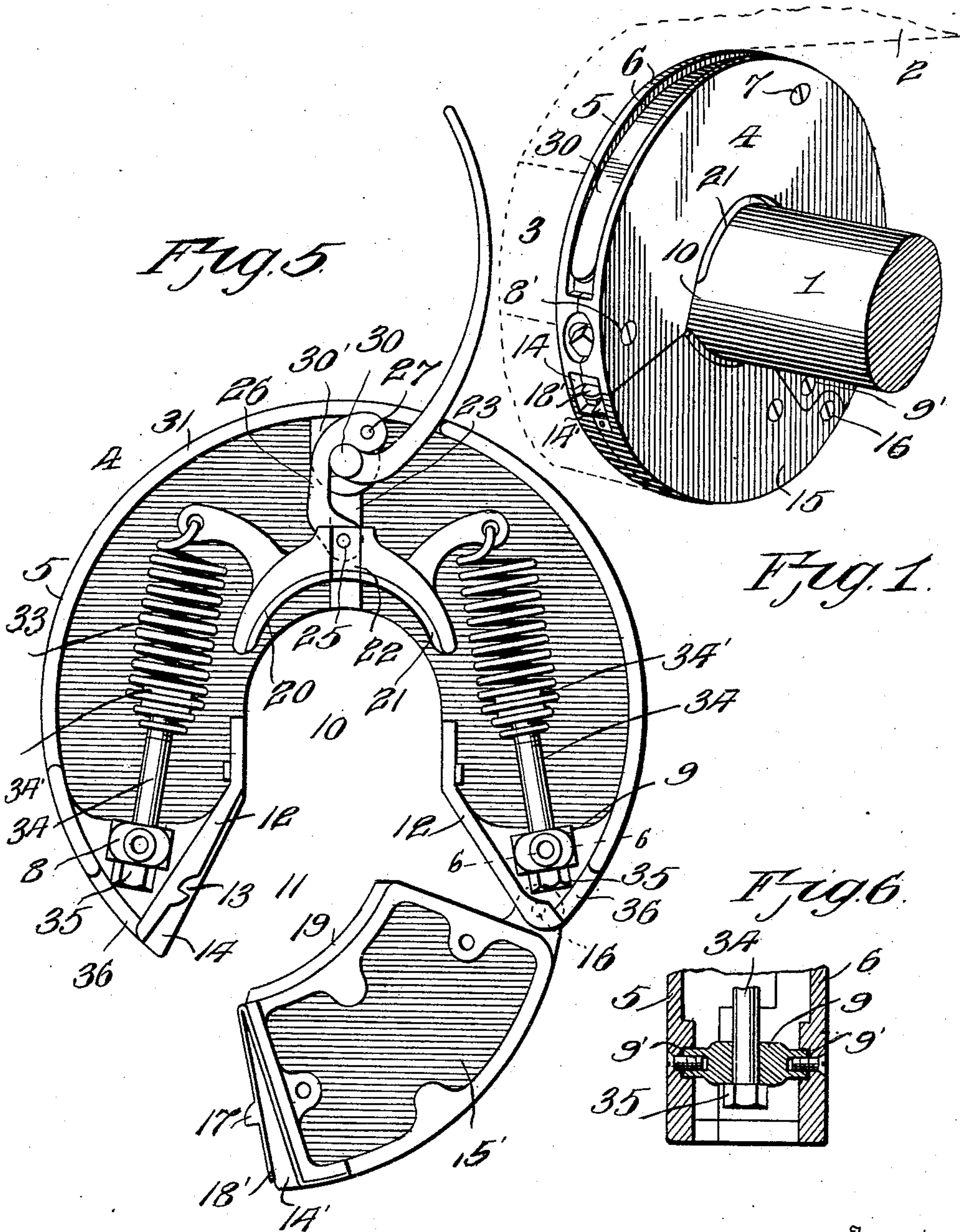


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APPLICATION FILED NOV. 27, 1909.

969,268.

Patented Sept. 6, 1910.

2 SHEETS—SHEET 1.



Witnesses

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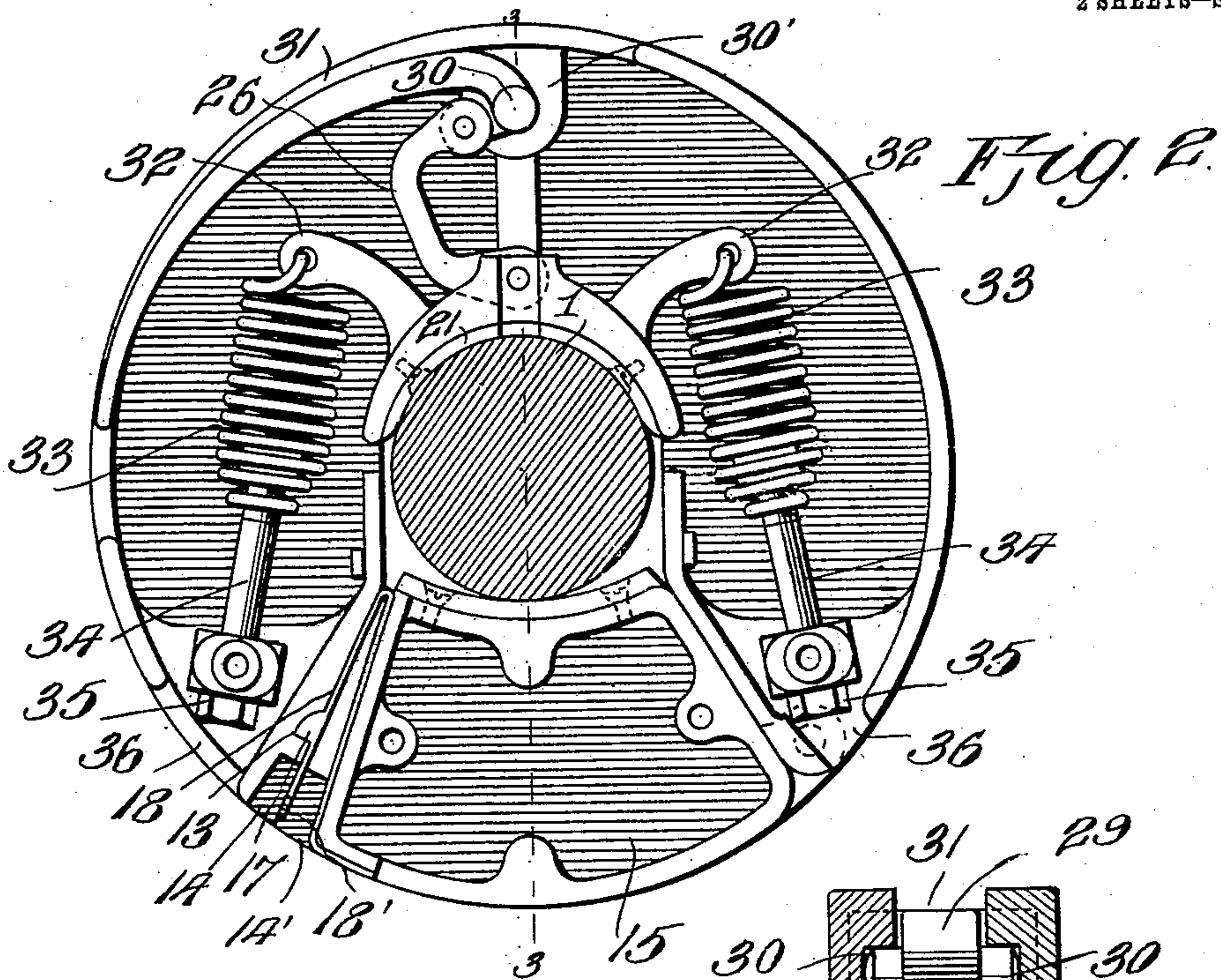


Fig. 4

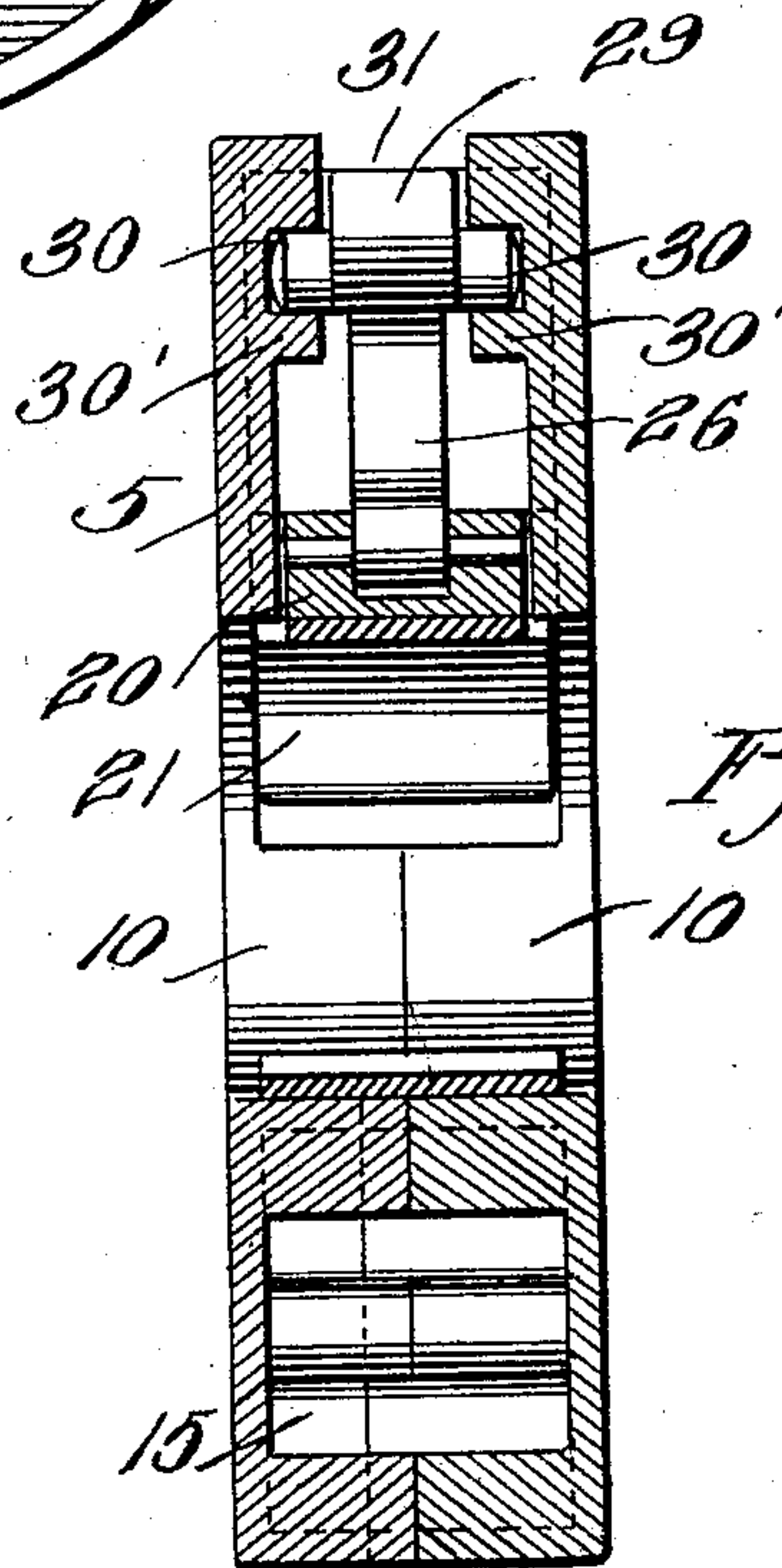
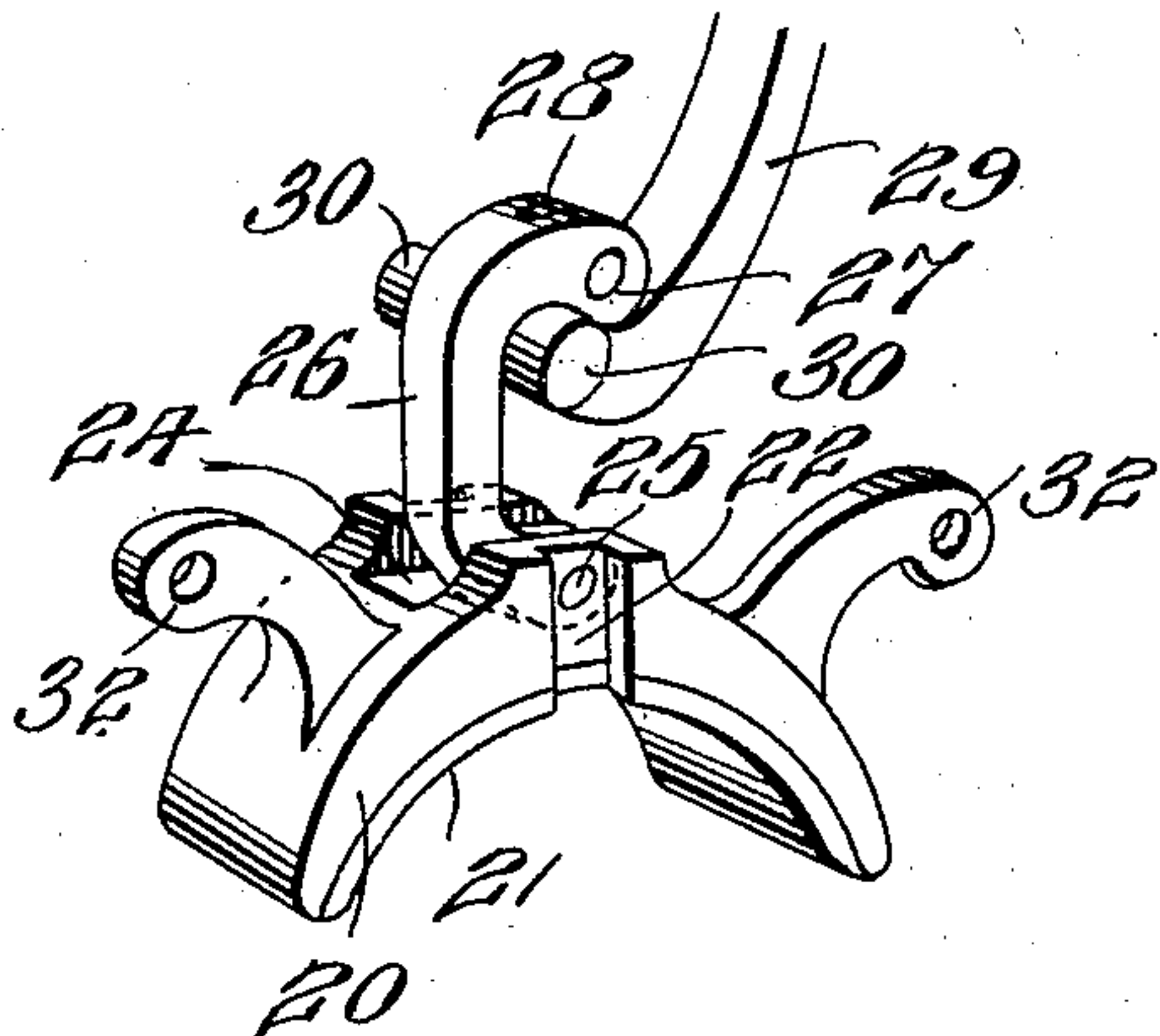


Fig. 3

Witnesses  
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# UNITED STATES PATENT OFFICE.

ERNEST T. GOWING, OF WATERTOWN, NEW YORK, ASSIGNOR OF ONE-HALF TO  
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## STOP-COLLAR FOR WINDING-SHAFTS.

969,268.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed November 27, 1909. Serial No. 530,170.

*To all whom it may concern:*

Be it known that I, ERNEST T. GOWING, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented new and useful Improvements in Stop-Collars for Winding-Shafts, of which the following is a specification.

This invention relates to a stop collar for use on shafts on which paper is wound into rolls, the object of the invention being to provide a collar which may be readily applied to and removed from the shaft and arranged to bear upon the roll to prevent the same from slipping on the shaft and the paper from winding unevenly.

A further object of the invention is to provide a simple and inexpensive construction of collar having means to firmly fix it to the shaft while permitting of its ready removal or adjustment along the shaft as occasion requires.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a fragmentary perspective view of a winding shaft and roll and showing the application of the invention thereto. Fig. 2 is a cross section through the shaft and showing an interior view of one of the sections of the collar and applied parts, the other section of the collar being removed. Fig. 3 is a section on line 3—3 of Fig. 2 omitting the shaft. Fig. 4 is a perspective view of the clamping shoe and lever. Fig. 5 is a view similar to Fig. 2 showing the collar open for application or removal. Fig. 6 is a detail transverse section.

One of the greatest difficulties which the paper manufacturer has to contend with in making paper is in winding his paper into rolls from the reel. In the act of winding, the paper is liable to slip or creep longitudinally of the shaft, causing the paper to be wound unevenly at the ends on the reel. To avoid this, it has been customary, when an unevenness in winding occurs, to stop the winder, apply clamps, which have to be tightened, and then start up the machinery again. This causes considerable labor and lost time. In order to prevent this loss of time, the expedient of winding a long rope

upon the winder shaft to serve as a guide for the paper is often employed. In the operation of applying this rope, one end of the rope is attached by a half hitch to the shaft and the rope held by the workman while it winds on the moving shaft. This is but a makeshift at best, and in winding the rope the workman is often injured.

My invention is intended to overcome these objections and to provide a guide collar which can be easily and quickly applied, removed and adjusted as required.

Referring to the drawings for a more particular description of my invention, 1 designates a winding shaft, and 2 a strip of paper or other material to be wound thereon in the form of a roll 3.

The stop collar 4 comprises a hollow body or casing shell preferably diametrically divided to form sections 5 and 6 united at equal radial points by a transverse screw 7 and transverse bars 8 and 9, which bars are seated in sockets in bosses formed on the inner faces of the sections and detachably secured to the latter by set screws 8' and 9'. By this construction the hollow body, casing or shell may be readily and conveniently taken apart to clean, repair or replace the parts contained therein. The body, casing or shell as thus constructed is formed in its sections with central openings 10 for passage of the shaft 1, and is provided at one side with a wedge-shaped slot or recess 11 extending from the circumference of said shell to said openings 10. The walls of the slot on the shell sections are formed on their inner faces with ribs or flanges 12, the ribs of one of the walls being formed to provide a keeper recess 13 and a notch or recess 14 disposed outwardly beyond the same.

A wedge-shaped clamping plate or jaw 15 is provided to fit within and close the slot, and is hinged or pivoted at one of its outer corners to the shell, as indicated at 16, so that it may be swung into and out of the slot. At its free side the plate or jaw is provided with a beveled latch 17 carried by a leaf spring 18 fixed at one end to the jaw and adapted on the inward movement of the plate to snap into the keeper 13 and thus lock the plate in position to close the slot. The outer or free end 18' of the spring forms a finger piece by which the spring and latch may be forced back into a recess 14', the recesses 14 and 14' being arranged op-



posite each other to form a socket for the insertion of a finger, whereby the latch may be released to permit the plate or jaw to be swung open. When said jaw is open the collar may be readily applied to or removed from the shaft, the latter entering or leaving the openings 10 through the slot 11, as will be readily understood. The inner edge of the jaw or plate is concaved to receive a segmental friction plate 19 to bear upon one side of the shaft 1.

Arranged within the shell at the side diametrically opposite the wedge-shaped slot is a radially movable clamping jaw or shoe 20 provided with a friction lining 21 to bear upon the shaft. The central portion of this shoe is formed with vertical slots 22 receiving and engaging ribs 23 on the shell by which the shoe is guided in a true path, and between these slots said shoe is formed with a flaring recess or slot 24 across which extends a pivot pin 25. An angular eccentric link 26 has its lower end fitted in said recess 24 and pivoted on the pin and is pivoted at its upper end, as at 27, to a crank arm 28 on the inner end of a curved lever 29 provided with trunnions 30 pivotally mounting said lever in bearing sockets 30' on the shaft sections. The lever 29 is movable in a slot 31 formed in the circumference of the shell by mating recesses in the edges of the shell sections. When the lever is swung inwardly the shoe is forced into engagement with the shaft, and when it is thrown outwardly the shoe is moved away from the shaft, thus loosening the collar so that it may be slipped along the shaft.

The shoe is provided on opposite sides of its center with a pair of oppositely inclined or outwardly curved arms 32, each connected with one end of a coiled contractile spring 33. The opposite ends of the springs are contracted to receive and grip nuts 34' upon the threaded ends of rods or bolts 34, the opposite ends of which pass through transverse openings in the respective blocks 8 and 9 and have heads 35 to retain them in position against the pull of the springs. The heads 35 are exposed through openings 36 in the shell, which permit of the insertion of a socket wrench or tool, by which the rods may be gripped and turned to adjust the nuts and regulate the tension of the springs. The springs serve to draw the shoe 20 toward the shaft 1, so that the shaft will be clamped between the opposing friction surfaces 19 and 21 to fix the collar thereto. This operation is effected when the lever is swung or folded inwardly, the springs drawing the shoe 20 against the surface of the shaft. When the lever is pulled outwardly, outward radial motion will be imparted to said shoe through the connecting link 26, by which the shoe will be retracted against resistance of the springs. When the

lever is thrown rearwardly beyond center; the crank 28 will also pass beyond center over the journals 30, by which the lever and shoe will be locked in a retracted position against the action of the springs, thus enabling the collar to be applied to or slidably adjusted along the length of the shaft, as occasion may require.

It will be understood from the foregoing description that when the jaw 15 is opened and the jaw 20 retracted the collar may be conveniently slipped onto the shaft and held in position by closing the jaw 15. While the jaw 20 is still retracted the collar may then be slid along the shaft until it bears against one end of the paper roll 3. Upon then tripping the lever 30 forwardly past center the jaw 20 will be projected by the springs to clamp the collar against both rotary and sliding movement. As the collar will then bear squarely against the end of the roll the latter will be held from shifting longitudinally on the shaft and consequently the paper will wind easily and smoothly at its ends.

From the foregoing description the construction and mode of use of my improved stop collar will be readily understood and its advantages appreciated. It may be manufactured and sold at a low cost, is effective for its intended purposes, and entirely obviates the objections and dangers incident to the use of the devices commonly employed.

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

1. A stop collar for use on paper winding shafts, comprising a casing having a transverse opening for passage of the shaft and a radial slot communicating with said opening, a jaw for closing the slot, said jaw being adapted to be opened to permit the collar to be applied and removed, a co-acting jaw within the casing, and means for actuating the latter-named jaw.

2. A stop collar for use upon paper winding shafts, comprising a casing having a transverse opening for the passage of the shaft, and provided with a radial slot, a removable jaw for closing the said slot, a co-operating jaw within the casing, spring means for holding said co-operating jaw in clamping position, and operated means for retracting the said jaw.

3. A stop collar for use upon paper winding shafts, comprising a casing having a transverse opening for passage of the shaft, and provided with a radial slot communicating with said opening, a hinged jaw for closing said slot and bearing against the shaft, a latch for holding said jaw in closed position, a co-operating spring-actuated jaw within the casing, and a lever mechanism for retracting the latter-named jaw.

4. A stop collar for use upon paper wind-



ing shafts comprising a casing having a transverse opening for passage of the shaft, and provided with a radial slot communicating with said opening, an outwardly movable jaw for closing the slot and bearing against the shaft, a cooperating clamp jaw within the casing, spring means for actuating said clamp jaw, a lever and a link connecting the lever with the jaw whereby the latter may be retracted.

5. A stop collar for paper winding shafts, comprising a casing having a transverse opening and a radial slot, a closure for said slot, a clamp jaw within the casing, spring means for projecting said jaw, and means for retracting the same.

6. A stop collar for paper winding rolls, comprising a sectional casing having a transverse opening and a radial slot communicat-

ing therewith, a pivoted closure for the slot, latch mechanism for holding said closure in closed position, a spring actuated jaw within the casing opposite said slot, an outwardly movable operating lever, and a link connecting said lever with said jaw.

7. A stop collar for paper winding shafts comprising a body or casing having a transverse passage and a radial slot communicating therewith, a clamping jaw for closing the slot, a coacting clamping jaw, and means for projecting and retracting said jaw.

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

ERNEST T. GOWING.

Witnesses:

MYRTLE BOWLES,  
W. A. TIMMS.