

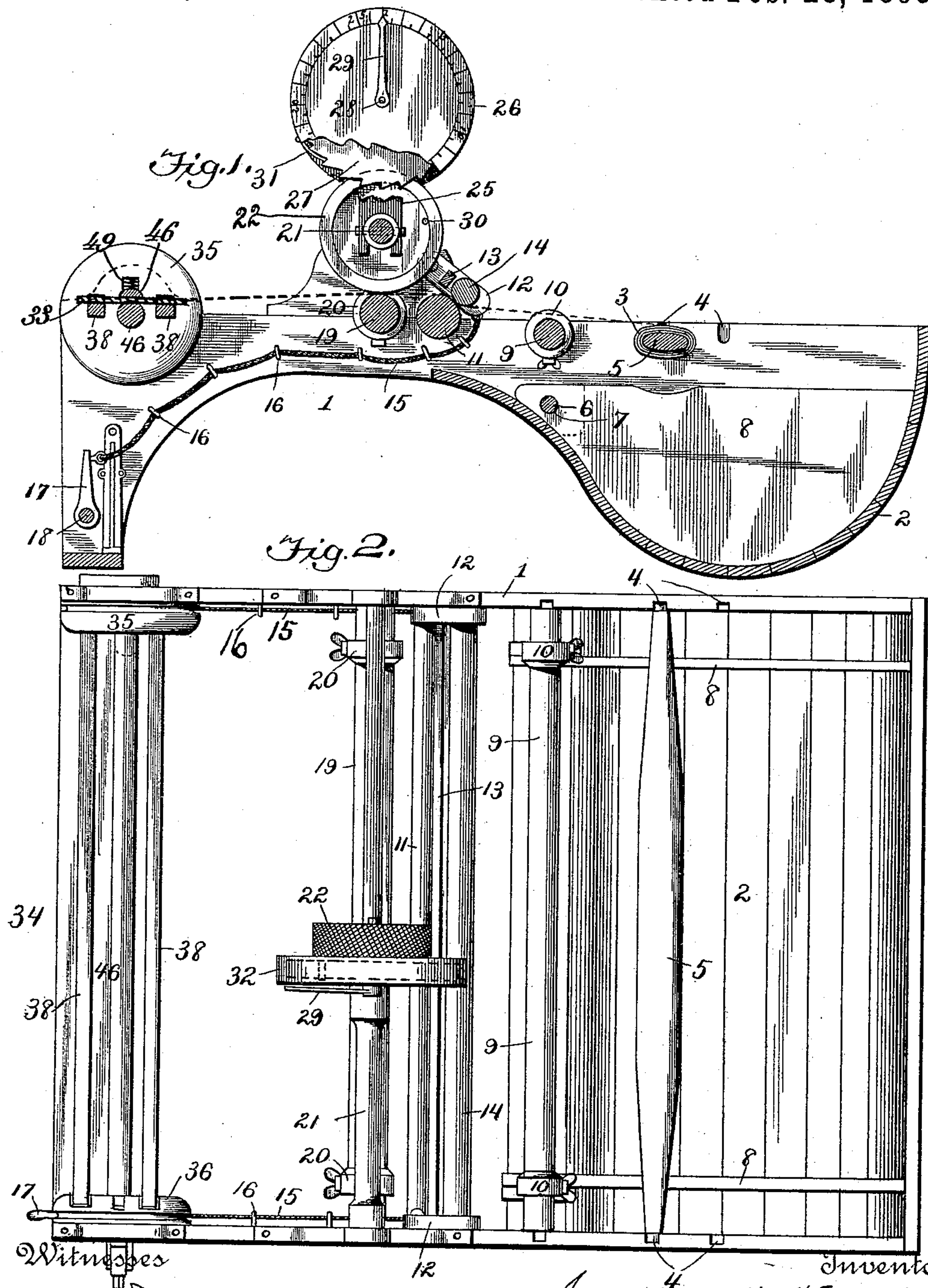
(No Model.)

2 Sheets—Sheet 1.

J. M. MEREDITH, Jr.  
CLOTH MEASURING MACHINE.

No. 492,734.

Patented Feb. 28, 1893.



Witnesses  
John Durie  
George H. Rea.

Inventor  
Jaquelin M. Meredith Jr.  
By his Attorney  
James L. Norris.

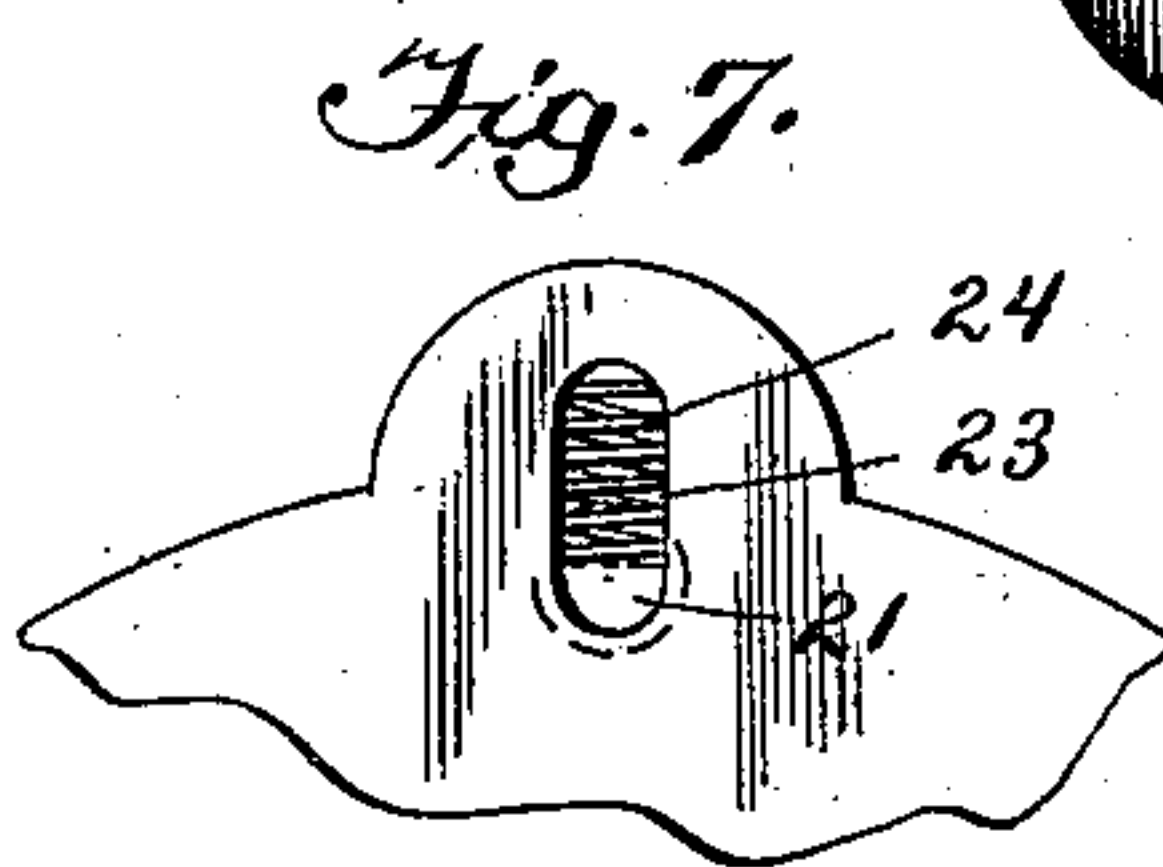
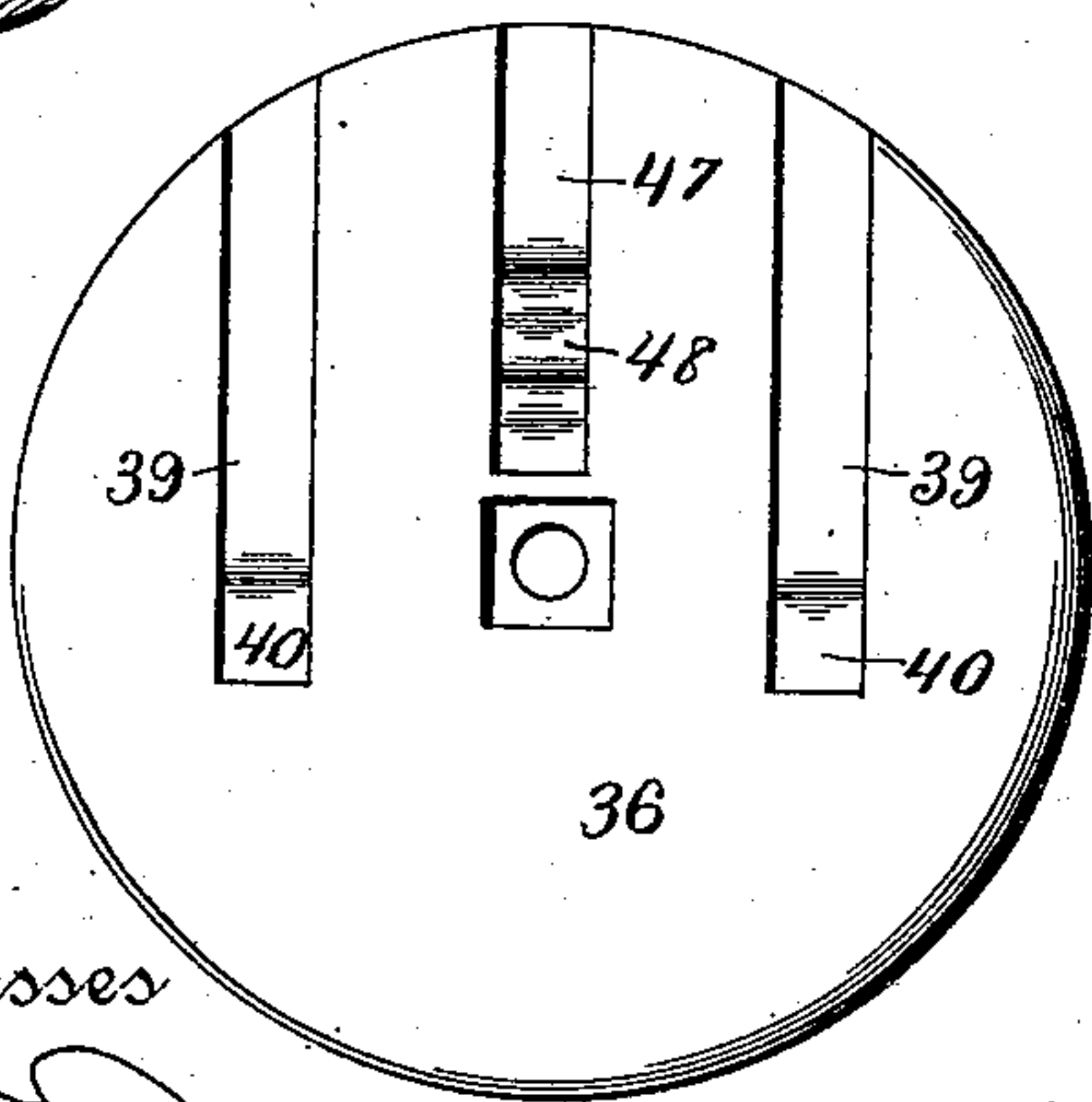
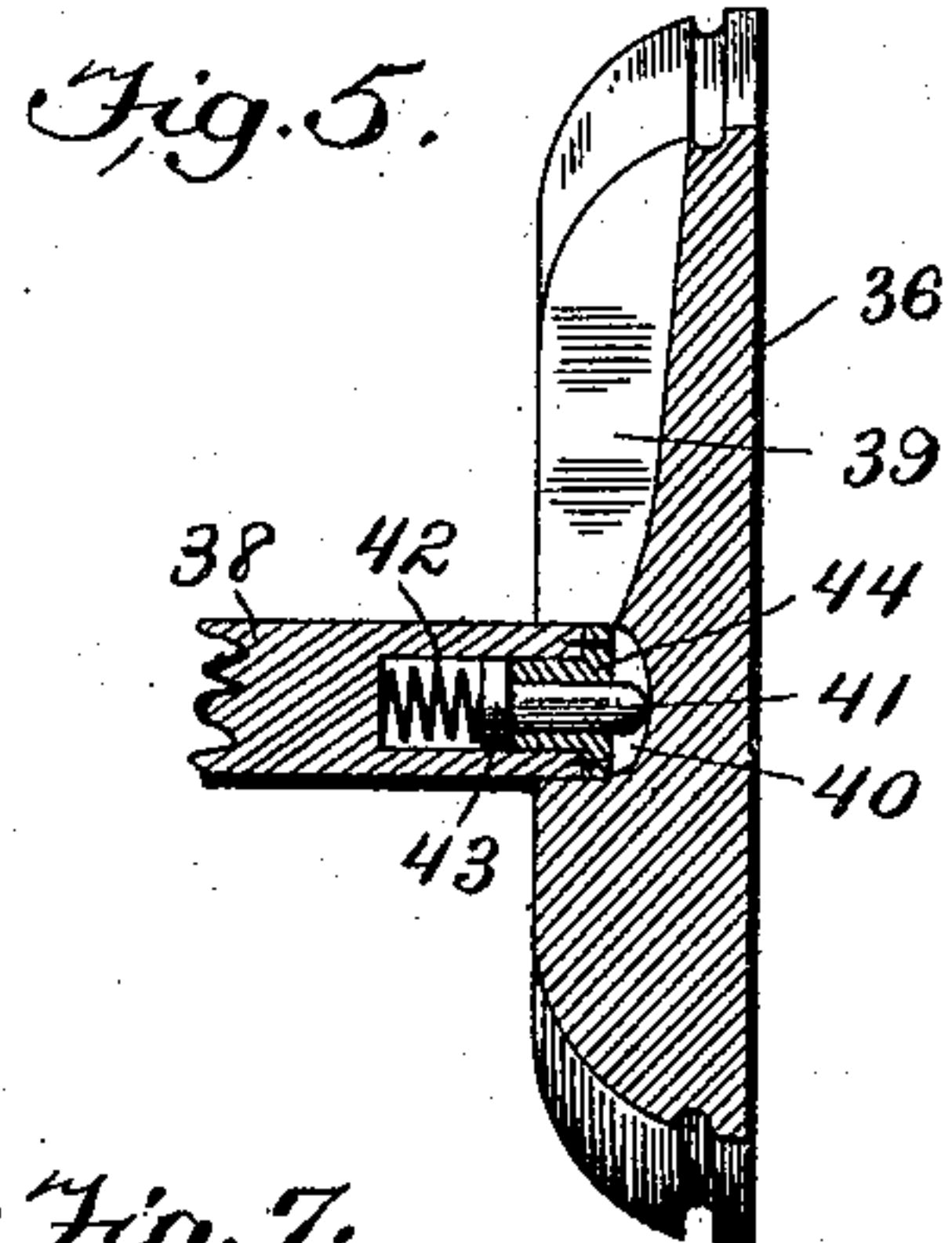
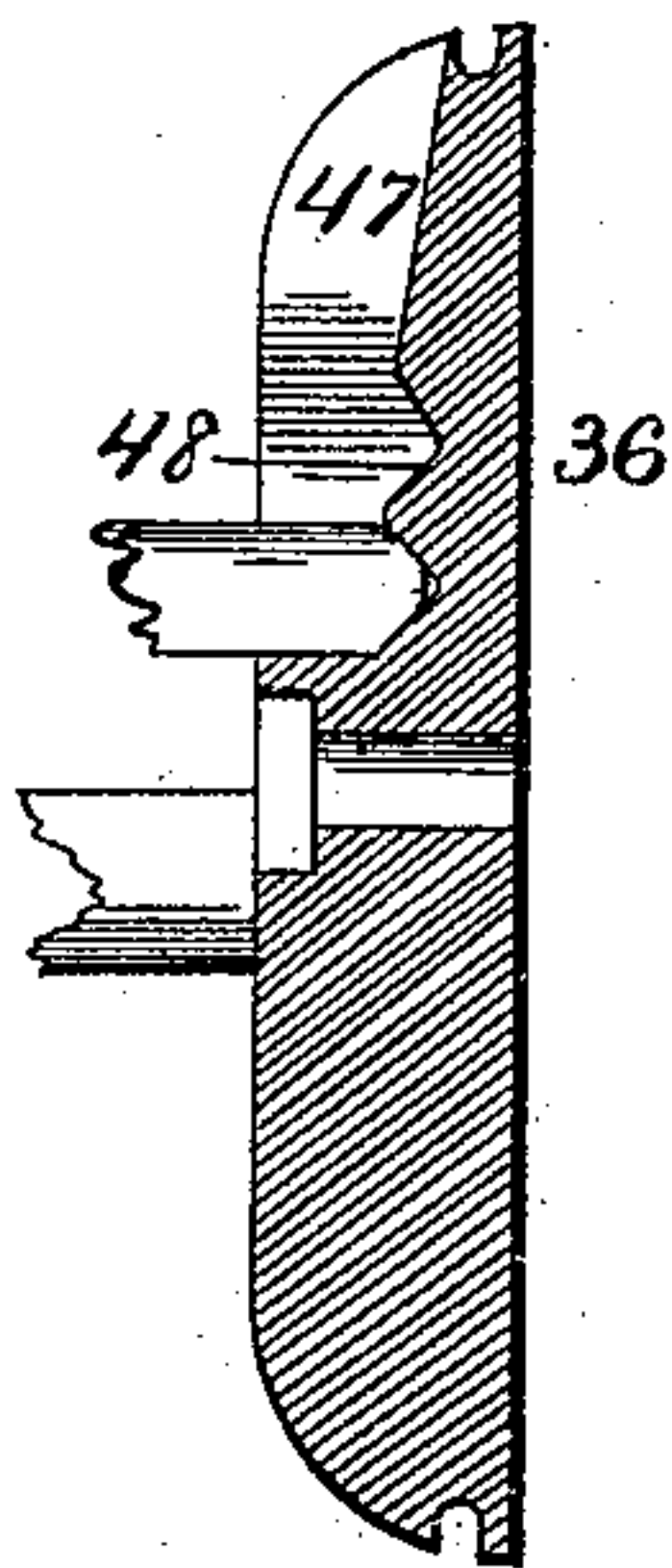
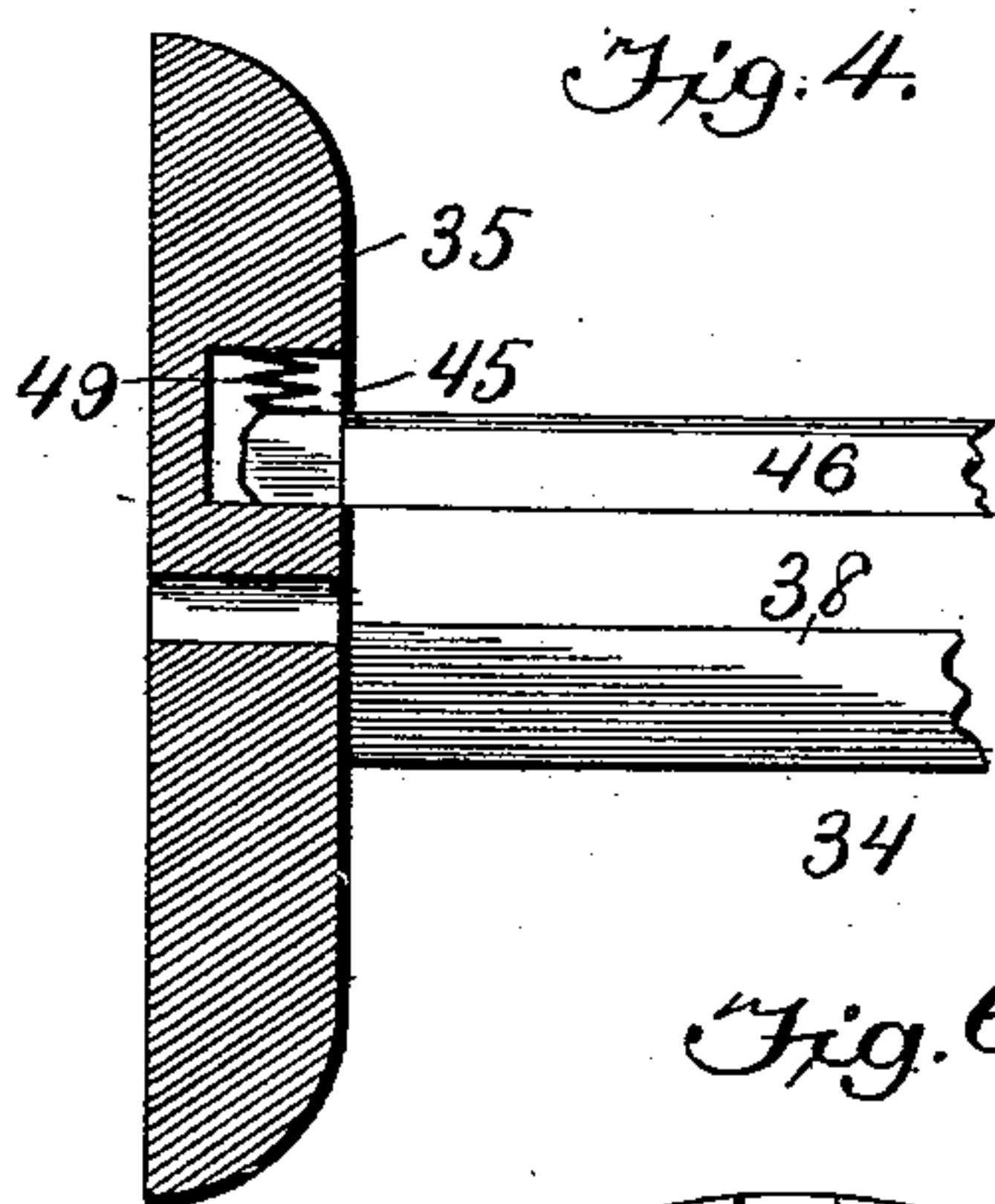
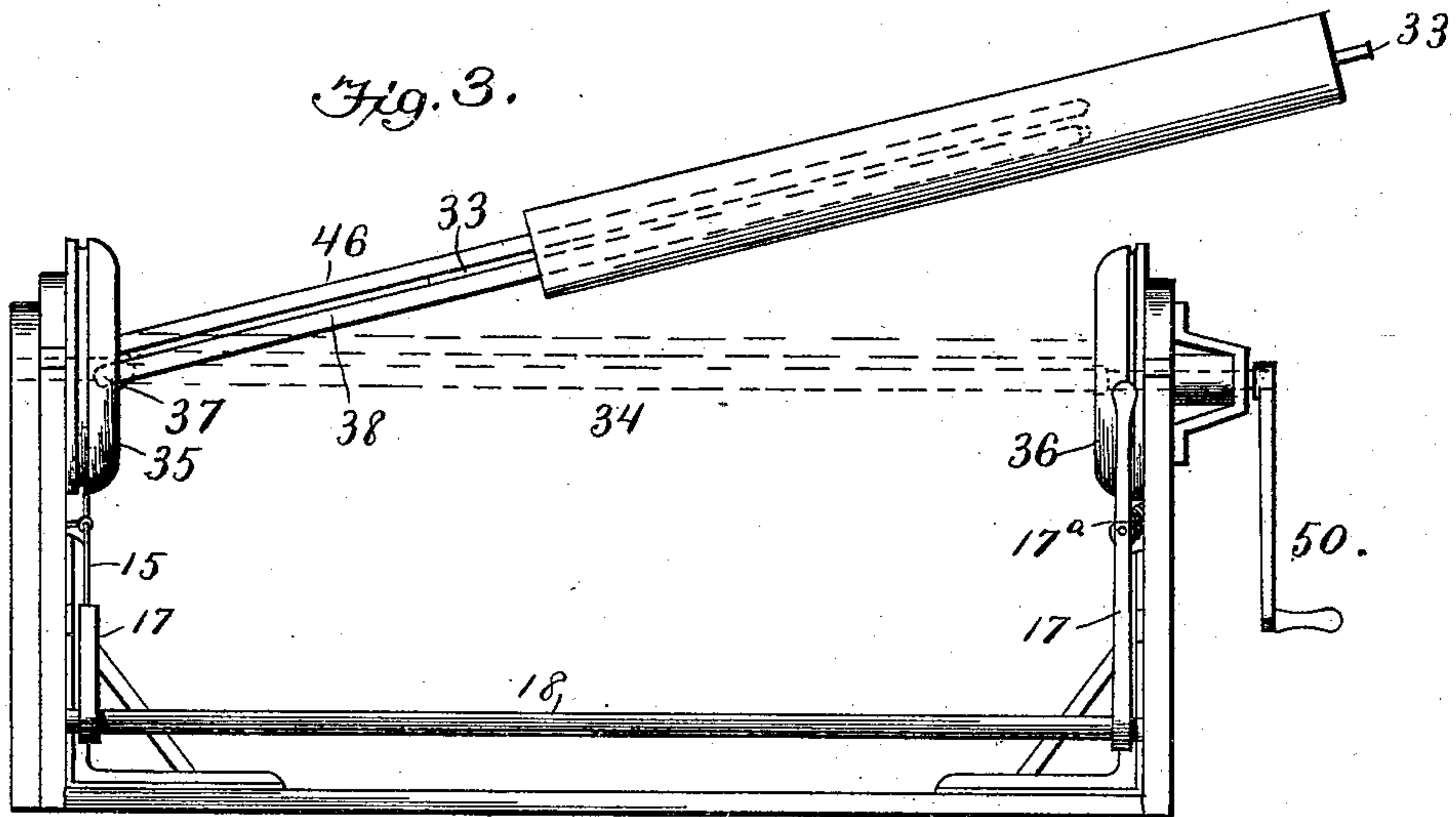
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2 Sheets—Sheet 2.

J. M. MEREDITH, Jr.  
CLOTH MEASURING MACHINE.

No. 492,734.

Patented Feb. 28, 1893.



Witnesses

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George H. Rea

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By his Attorney

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# UNITED STATES PATENT OFFICE.

JAQUELIN M. MEREDITH, JR., OF NORFOLK, VIRGINIA.

## CLOTH-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 492,734, dated February 28, 1893.

Application filed April 23, 1892. Serial No. 430,358. (No model.)

*To all whom it may concern:*

Be it known that I, JAQUELIN M. MEREDITH, Jr., a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented new and useful Improvements in Cloth-Measuring Machines, of which the following is a specification.

The object of my invention is to provide a simple, convenient and easily operated machine for use in reeling cloth and other fabrics from a roll or bolt of the same and at the same time automatically measuring the goods without subjecting the fabric to handling.

The machine is especially adapted for use in taking account of stock on hand and will facilitate a large economy of time and labor besides avoiding liability of injury to the goods.

My invention consists in the peculiarities of construction and novel combinations of devices in a cloth measuring and reeling machine, as will be hereinafter described and claimed.

In the annexed drawings illustrating the invention—Figure 1 is a vertical longitudinal section of my improved cloth measuring machine. Fig. 2 is a plan of the same. Fig. 3 is an elevation of the reel showing how the roll of cloth may be removed therefrom. Fig. 4 is a sectional detail view of the reel. Fig. 5 is a similar view illustrating the spring lock or catch for one end of a reel bar. Fig. 6 is a face view of one of the reel heads. Fig. 7 is a detail view.

Referring to the drawings, the numeral 1 designates the frame of the machine. At one end of the machine is a trough or receptacle 2 in which is placed the bolt or roll 3 of cloth or other material to be unwound, measured and reeled. This trough is preferably semi-cylindrical in form and may be of any suitable dimensions. In the opposite ends of the trough 2 at or near the top are recesses 4 to receive the ends of a loosely fitting removable bar 5 on which a bolt or roll of goods may be supported while being unwound. Within the trough 2 is fastened a horizontally arranged cylindrical bar 6 which is extended through openings 7 in the ends of the two semi-circular guide boards 8 that extend across the opposite ends of the trough. These guides 8 have a loose engagement with the bar or rod 6 and

are movable along said rod toward and from each other according to the length of the bolt or roll of cloth to be measured. After the roll of goods has been placed in the trough 2 between the guides 8 the said guides should be moved in contact with the opposite ends of the roll or bolt to hold the same in place while being unwound. Journaled in the opposite ends of the trough 2, above the rod 6, is a guide roller 9 over which the cloth or other fabric is carried as it is unwound from the roll or bolt. This guide roller 9 may be provided with adjustable collars 10 that can be set to correspond with the width of the cloth and serve as guides for the same in passing over the roller. If preferred the roller 9 may be made removable.

In the frame of the machine, adjacent to the trough 2 is journaled a smoothing roller 11 and above the opposite ends of this roller are pivoted two depending arms 12 connected by a brace bar 13 and having journaled in their lower ends a smoothing and tension roller 14 which is adapted to exert a tension on the cloth as it passes under said roller 14 and over the roller 11, so that by the joint action of the two rollers 11 and 14 the cloth or other fabric will be held taut as it is moved along and will have any wrinkles smoothed out. To the lower ends of the pivoted arms 12 are attached cords 15 that are carried down beneath the roller 11 and then through guide eyes or staples 16 and have their other ends secured to levers 17 that are rigidly fastened to a rock-shaft 18 supported in one end of the machine frame. By means of these levers 17 and cords 15 acting on the pivoted arms 12 the tension roller 14 can be drawn down onto the smoothing roller 11 with any desired force according to the degree of tension required. One or both of the levers 17 may have a spring 17<sup>a</sup> by which the levers are returned to a normally vertical position when relieved from pressure. Next to the smoothing roller 11 is journaled a supporting or guide roller 19 over which the cloth or other fabric is drawn after it passes from between the rollers 11 and 14. On this roller 19 are mounted adjustable collars 20 to serve as guides for the opposite edges of the cloth.

Above the roller 19 is supported a transversely arranged rod or bar 21 that serves as



a stationary shaft for a rotary friction wheel 22 which is loosely mounted on said rod. The periphery of the friction wheel 22 is nearly in contact with the cloth supporting roller 19 and is preferably corrugated or roughened so as to be engaged and actuated by the moving cloth. It is preferable to support one or both ends of the rod 21 in the machine frame in such a manner that said rod can be adjusted to slightly raise or lower the friction wheel according to the thickness of the fabric to be measured and thus insure a proper rotation of the friction wheel in unison with the movement of the fabric. For this purpose one or both ends of the rod or bar 21 may be supported in a slot or slots 23 and may be provided with a spring, a screw or other adjusting device 24 to hold the rod 21 in place in such a manner as to cause the friction wheel to exert the required pressure or friction on the fabric.

Secured to the rod 21 adjacent to one side of the friction wheel 22 is a bracket 25 which supports a dial plate 26 having its face graduated to indicate yards and half-yards or other fractions of a yard. On the back of the dial is a ratchet wheel 27 having a shaft 28 which is passed through the dial plate and carries an index 29 in front of the dial face. The ratchet wheel 27 should be provided with a number of teeth equal to the number of divisions marked on the dial face, that is, if the dial is graduated to twenty-five yards and half-yards the ratchet wheel will have fifty teeth or one for each half-yard so that each movement of the ratchet wheel for the space of one tooth will cause the index 29 to advance the distance requisite to indicate a half yard on the dial, and so on at each movement of the ratchet wheel. When the dial is graduated to half yards the friction wheel 22 will have a circumference of half a yard. One side of this friction wheel 22, adjacent to the ratchet wheel 27, is provided with a horizontally projecting pin or stud 30 that will come in contact with one of the teeth of the ratchet wheel, and thus move said wheel the space of one tooth every time the friction wheel makes a complete revolution. To prevent backlash of the ratchet wheel 27 a spring pawl 31 may be arranged in a convenient operative position on the dial plate. If desired the dial plate may be provided with a housing 32 for the upper portion of the ratchet wheel. It will be seen that by means of the friction wheel 22 having a pin 30, the ratchet wheel 27, the dial plate 26 and the movable index 29 an automatic measuring mechanism is provided for ascertaining with ease and accuracy the quantity of goods unrolled from a bolt or roll by use of this machine.

As the cloth or other fabric is drawn off or unwound from the roll or bolt and measured by the automatic measuring mechanism it is reeled or rolled upon a flat board 33 clamped to a reel 34 arranged in one end of the machine frame.

The reel 34 comprises two rotary heads 35 and 36 suitably mounted or journaled, as shown. The inner face of the head 35 is provided with two recesses 37 in which are pivoted the ends of two reel bars 38, the other ends of which are received in two parallel grooves 39 formed in the inner face of the other head 36 and extended from its periphery to points slightly beyond the center. In the inner ends of these grooves 39 are concaved recesses or mortises 40 to receive yielding catches 41 on the ends of the pivoted reel bars. The free end of each of these pivoted reel bars is recessed or socketed to receive a spring 42 by which the catch 41 is normally projected. The catch or bolt may be in the form of a dowel having a rounded or beveled outer end and provided on its inner end with a shoulder 43 that affords a bearing for one end of the spring. The catch or bolt 41 may be held in place by a bushing 44 in the end of the reel bar. This form of catch, by reason of its rounded or beveled outer end facilitates engagement and disengagement of the pivoted reel bars 38 and the head 36 but it is obvious that any other suitable catch may be employed. In the central line of the inner face of the head 35 is a recess 45 to receive the rabbeted and beveled end of a removable reel bar 46 the other end of which is rabbeted and beveled, as shown, to engage a groove 47 formed in the central line of the head 36 but of less length than the other grooves 39, before described. In the inner end of this groove 47 are formed two or more beveled depressions 48 to afford a frictional engagement for one end of the removable reel bar 46 and thus assist in holding the same firmly in place when adjusted in position. The pivoted reel bars 38 and removable reel bar 46 serve to clamp the board 33 upon which the cloth or other fabric is to be rolled as it is measured; and in order to accommodate boards of varying thickness it is preferred to arrange a spring 49 in the upper part of the recess 45 of the reel head 35 and to provide the groove 47 of the head 36 with several beveled depressions 48 so that the removable reel bar 46 can be firmly seated in the opposite rotary heads 35 and 36 without regard to the thickness of the board 33 clamped between the reel bars. For the purpose of rotating the reel one of its heads will be provided with a crank handle 50, as shown.

The faces of the reel heads 35 and 36 are preferably convexed to prevent binding of the cloth thereon in case it is of such width as to extend the entire length of the reel bars.

The cloth, ribbon or other fabric to be measured and reeled is drawn out from off the bolt or roll in the trough 2 and is carried over the guide rollers 9 and 19, and between the smoothing roller 11 and tension roller 14, to the board 33 carried by the reel. In passing beneath the friction wheel 22 the moving cloth will actuate the automatic measuring mechanism. The reel bars 38 and 46 will not



only firmly support the board 33 onto which the fabric is to be rolled but will also serve to camp one end of the fabric to said board. Having thus secured the board 33 and one end of the fabric together between the reel bars the operator will grasp one of the levers 17 with one hand while with the other hand he turns the crank 50 attached to the reel, and in this manner the tension on the fabric can be readily regulated as it is unwound, measured and reeled. When it is desired to remove the fabric from the reel the reel bars can be readily disengaged and lifted from the reel head 36 so as to enable the roll of cloth to be slipped off at one end. The reel bars 38 form a base on which to support the board 33 which, by means of the bar 46, is firmly clamped in position as shown in Fig. 1, to have the cloth wound thereon outside the reel bars. After the cloth has been measured and wound the bars 38 and 46 will be disengaged from the reel head 36 and raised to the inclined position shown in Fig. 3 which will permit the board 33, carrying the cloth therewith, to be slipped out from between the free ends of said bars. It is obvious that, if desired, the board 33 can be dispensed with and the cloth be wound directly onto the reel bars from which it can be removed by disengaging the reel bars at one end as before described.

What I claim as my invention is—

1. In a cloth measuring machine, the combination of means for supporting a bolt or roll of cloth or other fabric while being unwound, a reel on which the fabric is to be rolled, a smoothing roller, a tension roller journaled in pivoted supporting arms adjacent to the smoothing roller, cords attached to said arms, levers connected with said cords to actuate the tension roller and draw it toward the smoothing roller, a guide roller intermediate the smoothing roller and reel, and

an automatic measuring mechanism supported above said guide roller, substantially as described.

2. In a cloth measuring machine, the combination of a smoothing roller, two pivotally supported and depending arms connected by a brace bar, a tension roller journaled in said arms and adapted to have bearing contact with the smoothing roller, cords attached to said arms, and levers connected with said cords to actuate the tension roller, substantially as described.

3. In a cloth measuring machine, a reel comprising a rotary head having recesses in which are pivoted the ends of two pivotally attached reel bars and a recess to receive one end of a removable reel bar, a rotary head having parallel grooves to receive the opposite ends of said reel bars, and a crank attached to one of said rotary heads, substantially as described.

4. In a cloth measuring machine, a reel comprising two rotary heads one of which is provided with a crank, two reel bars pivotally connected at one end to the inner face of one of said rotary heads and having their opposite ends adapted to engage parallel grooves in the inner face of the other rotary head, and a removable reel bar having one end adapted to engage a recess in the inner face of one of said heads and its other end adapted to engage a groove in the inner face of the other head, said reel bars being adapted and arranged to clamp between them a board on which the goods are to be rolled, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

J. M. MEREDITH, JR.

Witnesses:

ALBERT H. NORRIS,  
GEO. W. REA.