

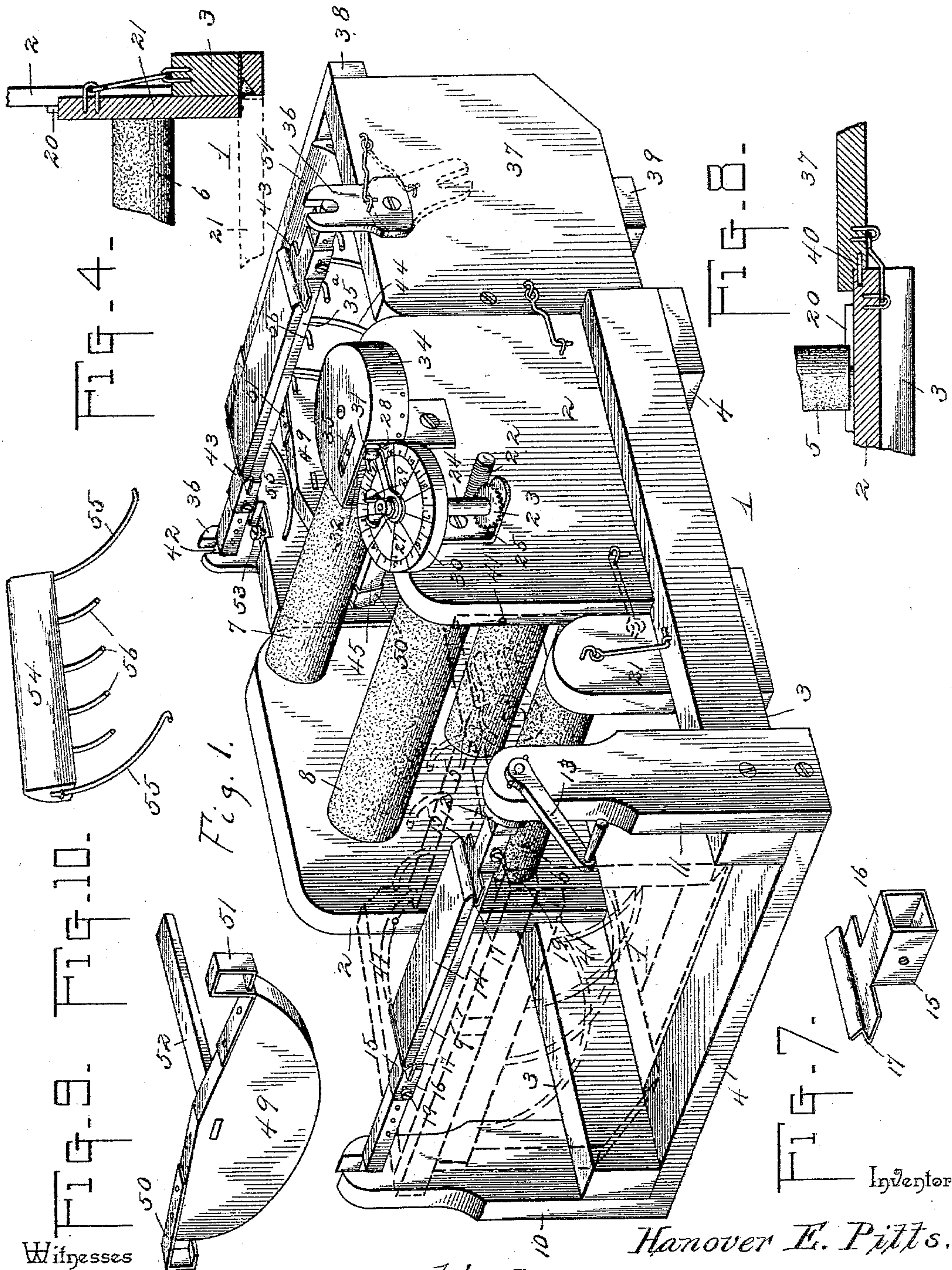
(No Model.)

2 Sheets—Sheet 1.

H. E. PITTS.
CLOTH MEASURING MACHINE.

No. 597,824.

Patented Jan. 25, 1898.



Witnesses

Harry L. Ames.
J. J. Riley

By *his* Attorneys,

Harover E. Pitts.

C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

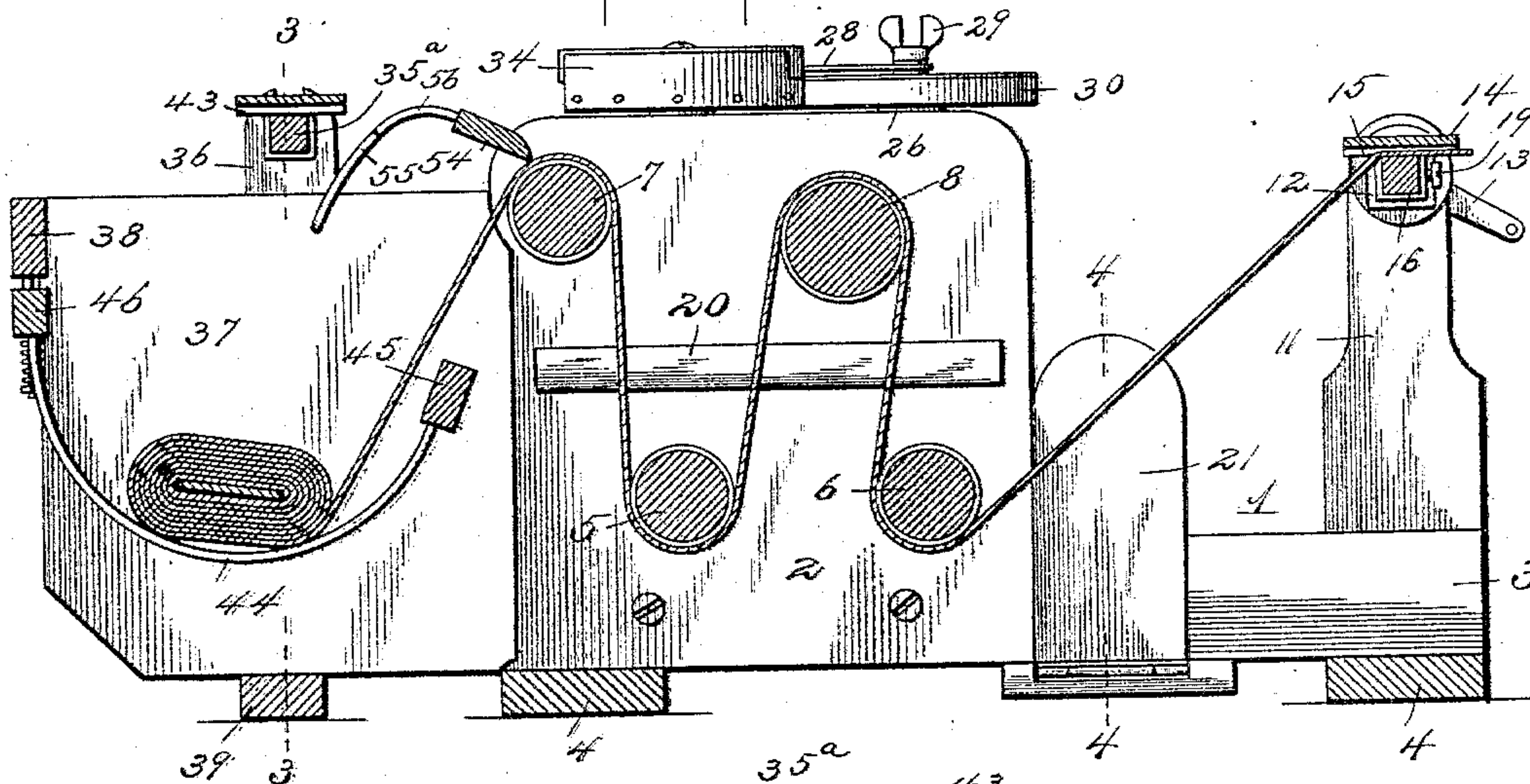


FIG. 3.

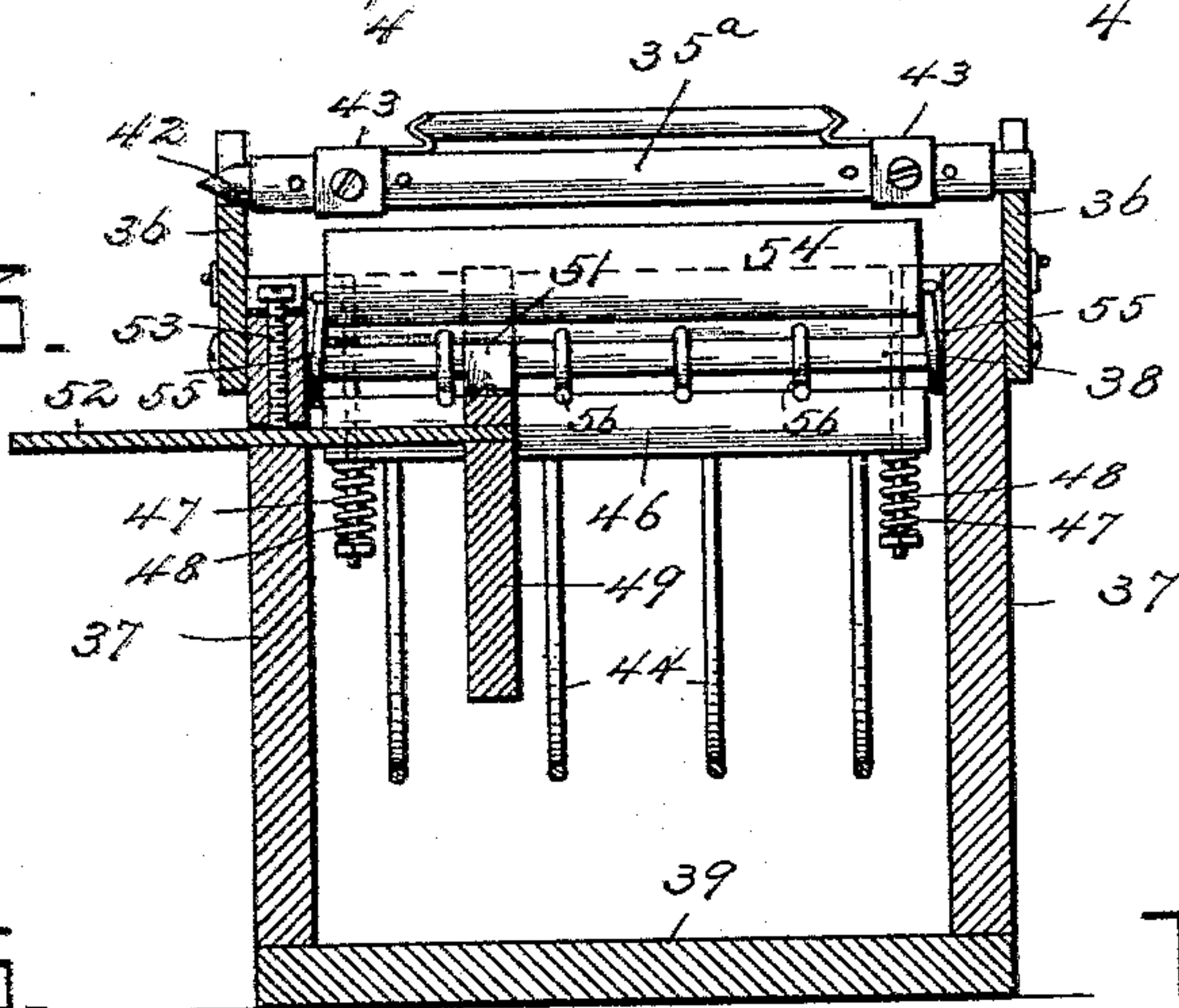


FIG. 11.

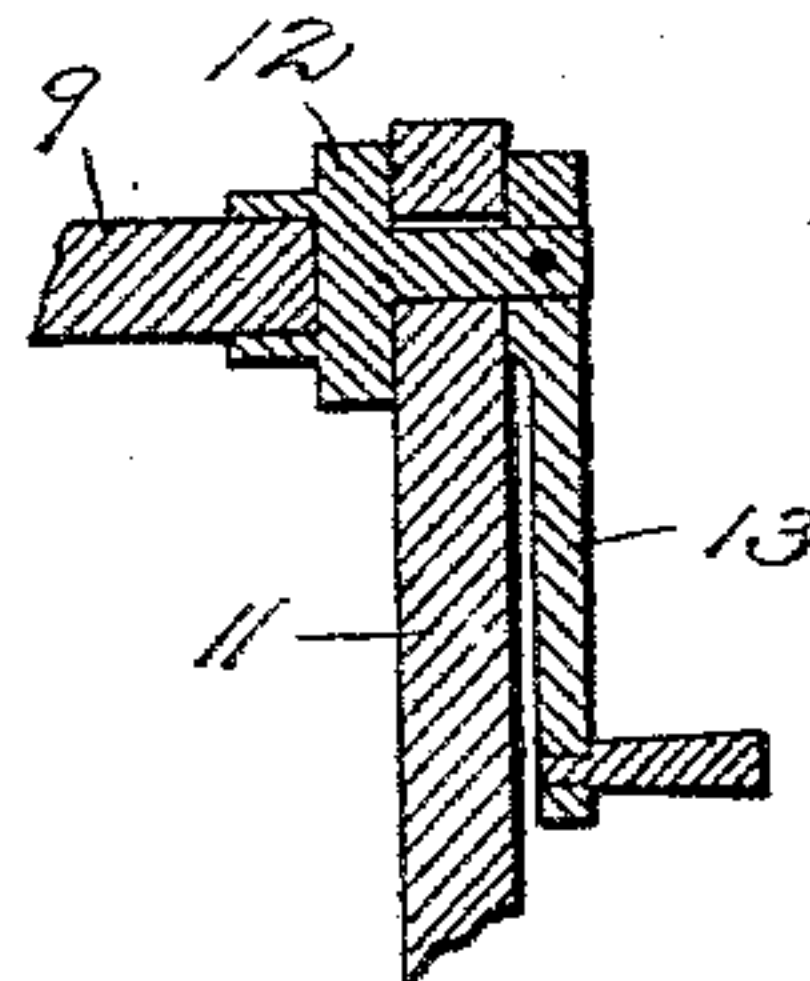


FIG. 5.

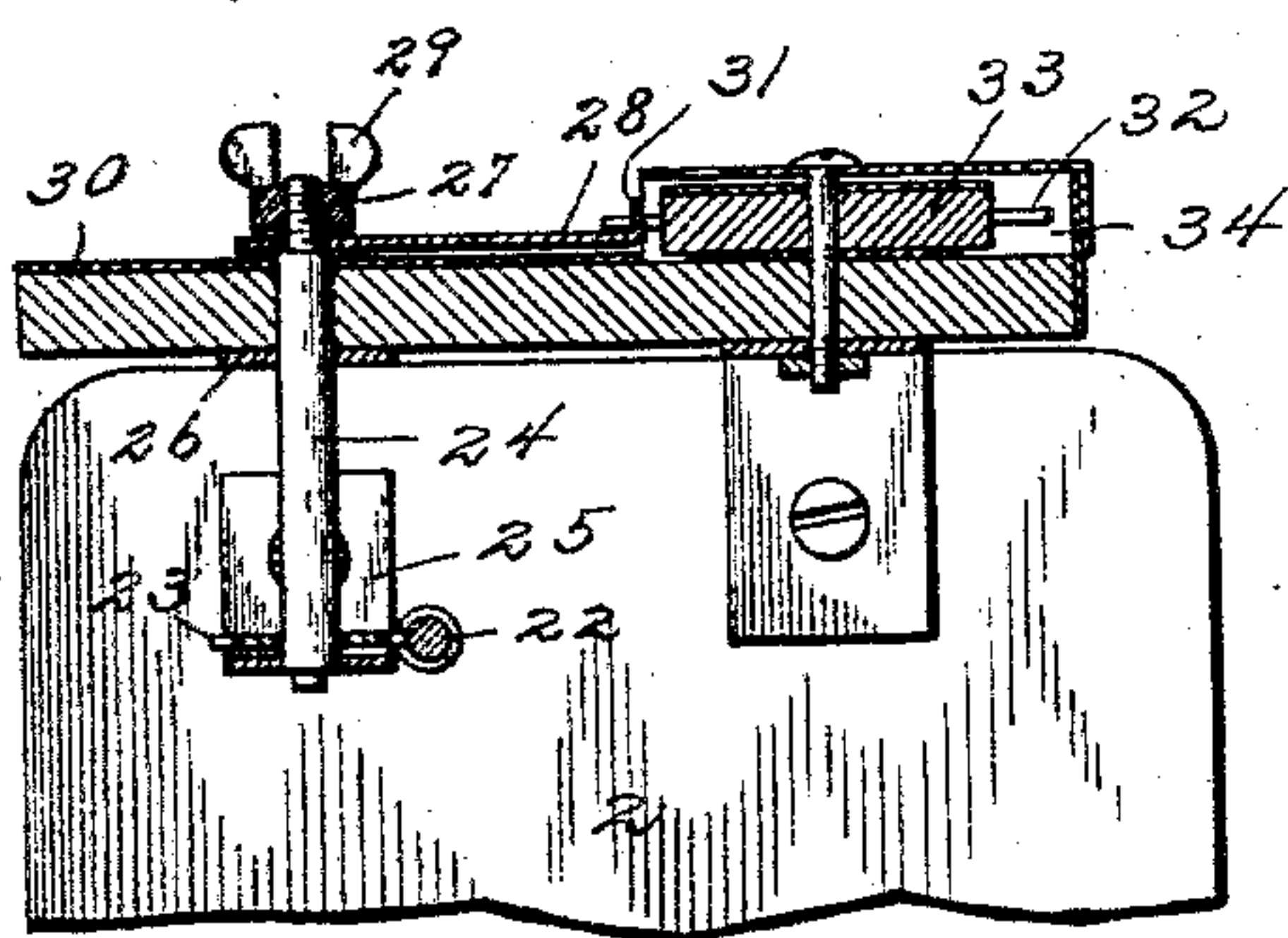
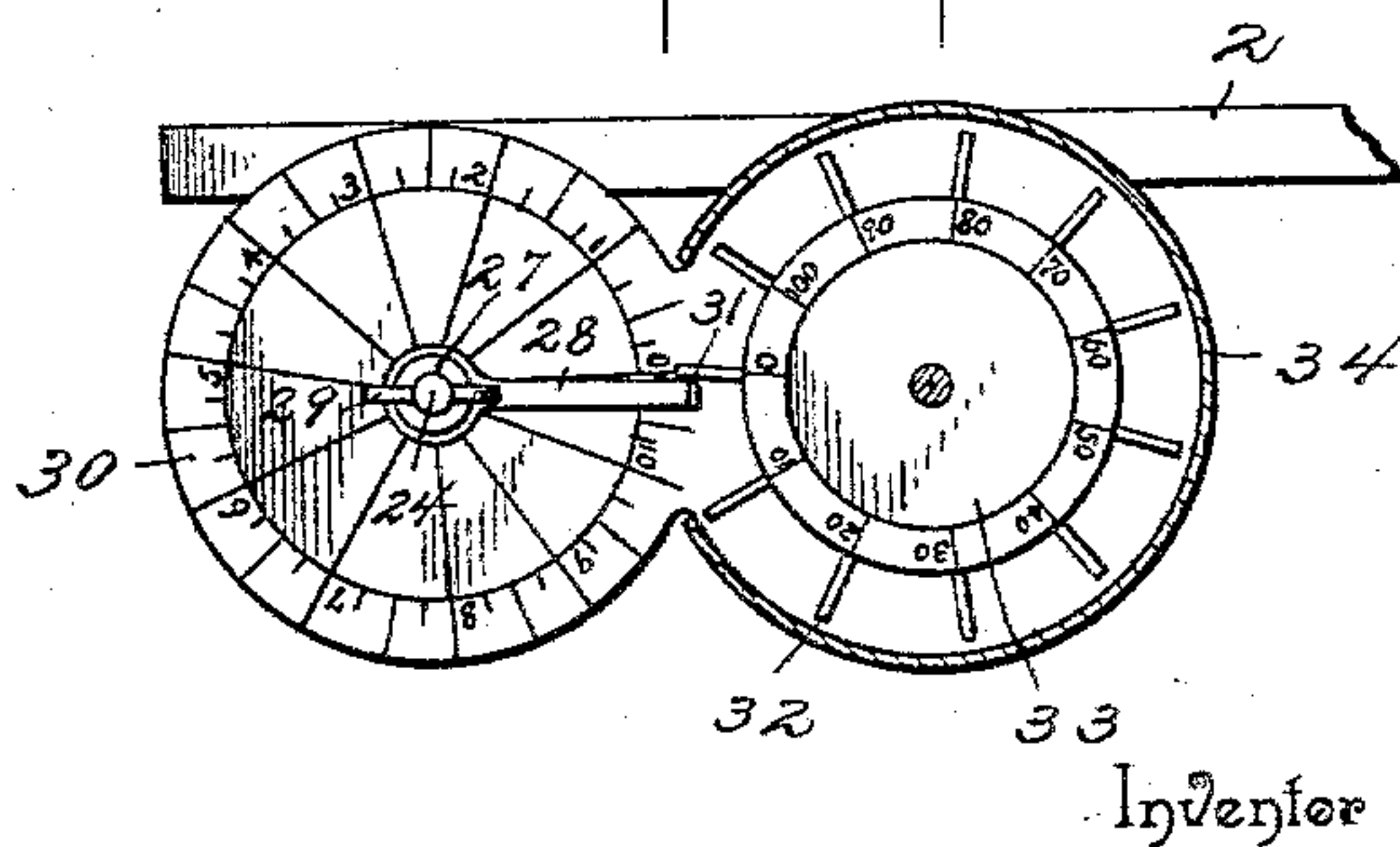


FIG. 6.



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UNITED STATES PATENT OFFICE.

HANOVER E. PITTS, OF NORA SPRINGS, IOWA.

CLOTH-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 597,824, dated January 25, 1898.

Application filed May 5, 1896. Serial No. 590,350. (No model.)

To all whom it may concern:

Be it known that I, HANOVER E. PITTS, a citizen of the United States, residing at Nora Springs, in the county of Floyd and State of Iowa, have invented a new and useful Cloth-Measuring Machine, of which the following is a specification.

The invention relates to improvements in cloth-measuring machines.

10 The object of the present invention is to improve the construction of cloth-measuring machines and to provide a simple, efficient, and comparatively inexpensive one adapted to receive bolts of cloth or other material and
15 capable of unwinding, accurately measuring, and rewinding the same with great rapidity.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated
20 in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a cloth-measuring machine constructed in accordance with this invention.
25 Fig. 2 is a central longitudinal sectional view. Fig. 3 is a transverse sectional view on line 3 3 of Fig. 2. Fig. 4 is a detail sectional view on line 4 4 of Fig. 2. Fig. 5 is a vertical sectional view of the registering mechanism. Fig. 6 is
30 a horizontal sectional view of the same. Fig. 7 is a detail perspective view of one of the adjustable clamps of the winding-spindles. Fig. 8 is a detail sectional view illustrating the manner of connecting the supplemental
35 frame to the main frame. Fig. 9 is a detail perspective view of the adjustable guide of the supplemental frame. Fig. 10 is a detail perspective view of the hinged friction device. Fig. 11 is a detail sectional view illustrating
40 the manner of mounting one end of the front spindle or shaft.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

45 1 designates a main frame composed of sides 2, provided with longitudinal bars or sills 3 and cross-bars 4, connecting the sides at the front and rear of the main frame, located at the bottom thereof, and forming the base of
50 the same. The sides 2 have journaled on them a pair of lower guide-rolls 5 and 6, an upper guide-roll 7, and a registering-roll 8, and dur-

ing the operation of the measuring-machine the cloth or other fabric to be measured is arranged on said rolls and in passing over the
55 same rotates the measuring-roll, which actuates the registering mechanism, hereinafter described.

The cloth is introduced at the back of the machine and is passed over the upper guide-
60 roll 7 and under the adjacent lower guide-roll 5 and is carried upward to the registering-roll 8 and placed centrally on the top thereof. The latter is then rotated by hand to move
65 the cloth forward and operate the registering mechanism, and the cloth is then passed under the lower guide-roll 6 and is carried forward to a winding-spindle 9. The winding-spindle
70 9 is mounted on posts or supports 10 and 11, located at the front of the main frame. The post or support 10 is provided with an open bearing-recess to receive the adjacent end of
75 the spindle, which is rounded at that point, and the other post or support is provided with a bearing-opening, in which is journaled a spindle of a socket 12, which has a rectangular
80 opening and which receives a squared end of a spindle or shaft 9 detachably and permits the shaft or spindle to be readily removed when desired.

The socket 12 is permanently mounted on the post or support 11, and it is provided at the outer end of its journal with a crank-handle 13, by means of which the measuring-
85 machine is operated. After the cloth has been properly arranged on the rollers and connected with the shaft or spindle 9 the latter is adapted to be rapidly rotated to effect a quick measuring of the material.

The shaft or spindle 9 is designed to carry
90 a board 14, on which the material to be measured is wound, and it is adapted to receive boards of various lengths to accommodate materials of different widths, and for this purpose it is provided with a pair of adjustable
95 clamps 15. The shaft or spindle is preferably square or polygonal, and each clamp comprises a sleeve 16, conforming to the configuration of the shaft and adapted to slide thereon, and a jaw 17, which consists of a
100 plate bent to form substantially a V-shaped recess and which is adapted to receive one end of the board 14 and firmly engage the same. The clamps are secured at any de-

sired adjustment by set-screws 19, mounted on the sleeves and adapted to engage perforations of the shaft or spindle 9.

One of the sides of the main frame is provided on its inner face with a horizontal strip or cleat 20, located between the upper and lower rolls and adapted to hold the cloth or other fabric clear of the adjacent side of the frame, and a hinged guide 21 is mounted at the same side of the frame in advance of the rolls and is adapted to be arranged vertically when in operative position and to be swung downward in a plane parallel with the cross-bars 4 when not in use. The guide 21 prevents the cloth or material from moving laterally and causes it to move in a straightline to the shaft or spindle 9. It is secured in its vertical position by a hook and eye, and its downward movement is limited by a block secured to the lower edge of the adjacent beam or sill 3 and forming a stop.

The rolls are designed to be covered with cloth or a similar material to prevent the cloth or other fabric being measured from slipping over the rolls without rotating them, and the measuring-roll 8 is preferably nine inches in circumference in order that it may make one complete revolution at every quarter of a yard passing over it. The measuring-roll is provided at one of its journals or gudgeons with a horizontally-disposed worm 22, meshing with a gear-wheel 23 of a vertical shaft 24, and the latter is journaled in suitable bearings of brackets or supports 25 and 26. The gear-wheel 23 is fixed to the vertical shaft 24 at the lower end thereof, and the upper end 27 of the shaft is reduced and threaded for the reception of an index-arm 28, which is adjustably secured to the shaft by means of a thumb-nut 29.

The rotation of the measuring-roll communicates motion to the arm 28, which moves over a stationary disk or dial 30, which is graduated, being preferably divided into yards and quarters. Each revolution of the measuring-roll moves the index-arm from one graduation of the disk or dial 30 to another and indicates a quarter of a yard, and one complete revolution of the index-arm may indicate five, ten, or any other desired number of yards. The outer end 31 of the index-arm is bent upward at an angle and is arranged to engage one of a series of radially-disposed pins 32 of a wheel 33 at each revolution. The wheel 33 is graduated, preferably indicating one hundred yards when it has made a complete revolution, and it is arranged in a casing 34, which is provided with an opening 35 to enable the condition of the registering mechanism to be ascertained at a glance. The pins 32 extend radially from the circumference of the wheel and are arranged to be engaged by the index-arm at the end of each complete revolution of the same, so that the wheel 33 is rotated one point or the distance between the pins. By this construction if the dial 30 is divided off into ten yards the

wheel 33 will register ten yards at each revolution of the index-arm. After a piece of cloth has been measured the thumb-screw of the shaft 23 will enable the index-arm to be readily adjusted on the dial to its initial position, or at "0," and the wheel may be readily set by hand.

The main frame may be clamped or otherwise secured to a counter or other support, and the bolt of material may be arranged at the back of the machine, and the operation thereof will unwind the material from the bolt, measure and rewind it on the board 14, and in rewinding the board may or may not be employed, accordingly as an oblong or round roll or bolt is desired.

Instead of allowing the bolt to fall loosely at the back of the main frame it may be mounted on a shaft or spindle 35^a, detachably journaled in bearings 36 of a supplemental cloth-holding frame 37. The cloth-holding frame 37 is composed of opposite sides and connecting cross-bars 38 and 39, arranged at the top and bottom of the sides. The inner vertical edges of the sides are recessed or rabbeted to fit between the sides of the main frame, and one of the rabbeted edges is provided with openings or dowel-pins 40, which fit in perforations or sockets of the adjacent edges of the sides of the main frame, and the two arms are secured together by means of hooks and eyes. The sides of the main frame are provided at their front and rear edges with perforations or sockets 41 for the reception of the dowel-pins 40, and when the cloth-measuring machine is not in use the auxiliary or cloth-holding frame is adapted to be compactly arranged at the front of the main frame between the uprights or posts and adjacent to the front edges of the sides, the latter being provided on the outer faces adjacent to their front and rear edges with eyes to be engaged by hooks carried by the supplemental or cloth-holding frame.

By arranging the cloth-holding frame at the front of the main frame the measuring-machine has its length materially shortened, so that it will occupy but a small area when it is stored away.

The bearings 36 are pivoted to the outer faces of the sides of the supplemental or cloth-holding frame. When in use, they extend above the upper edges of the sides, and they are locked in this position by hooks mounted on the sides of the cloth-holding frame and engaging eyes of the bearings. The bearings have open recesses to receive the ends of the shaft or spindle 35^a and enable the same to be readily removed when desired, and one journal 42 of the shaft or spindle 35^a is oppositely beveled to enable the shaft or spindle to be readily inserted through the center of a roll or bolt. Adjustable clamps 43, which are constructed similar to those heretofore described, are mounted on the shaft or spindle 35^a and are adapted to engage a board of a bolt of material. When the shaft or spin-

dle 35^a is not employed, it is removed from the bearings 36 and the latter are swung downward below the upper edges of the sides of the frame 37, and are held in that position by the hooks which secure them in their operative position.

The cloth or other material to be measured may be loosely arranged within the cloth-holding frame 37, which is provided with a yielding-mounted basket 44, composed of a series of curved bars arranged longitudinally of the machine, secured at their front terminals to a cross-bar 45 and at their rear ends to a transverse bar 46. The cross-bar 45 is fixed to the sides of the frame, and the transverse bar 46 is supported by spiral springs 47, mounted on vertical pins or rods 48, which depend from the cross-bar 38 of the frame 36, the spiral springs being interposed between the lower edge of the transverse bar 46 and disks or heads of the bolts or pins 48. The springs form cushions and take up the jars incident to the unrolling of a bolt which is loosely placed within the basket.

When the bolt is placed within the basket, it is held against movement laterally of the frame by an adjustable guide 49, arranged within the basket at one side of the cloth-holding frame, having a curved lower edge to conform to the configuration of the basket and supported by angularly-bent arms 50 and 51, which embrace the cross-bars 45 and 38. The arms 50 and 51 are arranged to slide on the cross-bars which they embrace, and the guide 49 is operated by a shank or stem 52, extending outward through an opening of the adjacent side of the cloth-holding frame and adapted to be engaged by a clamping-screw 53, mounted in a threaded perforation of the side of the frame, at the top thereof, whereby the guide is held at any desired adjustment.

During the unwinding of the cloth or other material it is engaged by a hingedly-mounted friction device 54, comprising a transverse bar which engages the cloth and a pair of curved arms 55, located at the ends of the bar 54, secured to the same and pivotally mounted on the sides of the cloth-holding frame to permit the bar to be swung forward against the upper guide-roll 7 to engage the cloth and to be swung rearward against the cross-bar 38 to enable the cloth to be readily placed in the basket. The friction device 54 is provided with a series of curved fingers 56, depending from the rear edge of the transverse bar of the friction device and adapted to engage a bolt of cloth or other material when it is drawn upward through the operation of the machine and to limit the upward movement thereof to facilitate the unwinding of the same, and the front edge of the transverse bar of the brake is beveled. The friction device holds the cloth or other material against the roll 7 and maintains the same perfectly smooth.

It will be seen that the cloth-measuring

machine is simple and comparatively inexpensive in construction, that it is capable of unwinding, accurately measuring, and rewinding cloth and other fabrics, and that the parts may be compactly arranged when not in use. It will also be apparent that the machine is especially adapted for use in taking stock and the like and that it will enable a large stock of goods to be rapidly handled.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a machine of the class described, the combination of a main frame having opposite sides and provided in advance of the same with posts forming a space between them and the sides, rolls journaled between the sides of the main frame, the supplemental frame detachably secured to the back of the main frame and adapted to be arranged in the said space between the sides of the main frame and the posts, and a vertical guide hinged to the main frame and arranged in the said space and adapted to be folded down to a horizontal position to permit the supplemental frame to be arranged in such space, substantially as described.

2. In a machine of the class described, the combination of a main frame having opposite sides provided at their front and rear edges with sockets 41, posts mounted on the main frame and located in advance of the sides and forming an intervening space between them and the same, eyes mounted on the sides of the main frame and located adjacent to the front and rear edges thereof, rolls mounted between the sides of the main frame, a supplemental frame provided with pins adapted to fit in the sockets 41, said supplemental frame being designed to be arranged at the back of the main frame when the machine is in use and to be located in the intervening space between the posts and the sides of the main frame when not in use, hooks mounted on the supplemental frame and adapted to engage the front or rear eyes of the main frame, and a folding support arranged vertically in the said space and adapted to be folded down to a horizontal position to permit the supplemental frame to fit in such space, substantially as described.

3. In a machine of the class described, the combination of a frame, rolls, a basket arranged in rear of the rolls, and a pivotally-mounted friction device arranged adjacent to one of the rolls, adapted to engage the material passing over the same and provided with fingers rearwardly extending for engaging a roll or bolt and assisting in unwinding the same, substantially as described.

4. In a machine of the class described, the combination of a frame, a roll, a friction device comprising a transverse bar arranged

adjacent to the roll and adapted to arrange material passing over the same, rearwardly-extending arms 55 secured to the ends of the bar and pivotally mounted on the frame, and
5 a series of fingers 56 extending rearward and downward from the transverse bar, substantially as described.

5. In a machine of the class described, the combination of a frame, a basket arranged
10 within the frame and composed of a series of rods and cross-bars connecting the rear ends of the rods, and spiral springs supporting one of the cross-bars and yieldingly mounting the basket and cushioning the same when mate-
15 rial is being unwound from a bolt, substantially as described.

6. In a machine of the class described, the combination of a frame, a cloth-holding basket, a guide arranged at one side of the frame
20 and having its lower edge conforming to the configuration of the basket, a shank or stem fixed to the guide and passing through an opening in the adjacent side of the arm, and a fastening device engaging the stem or shank

and securing the guide at the desired adjustment, substantially as described. 25

7. In a machine of the class described, the combination of a frame, rolls, a cloth-holding basket arranged within the frame and adapted to receive a bolt or roll, a guide conform-
30 ing to the configuration of the basket and adapted to be moved across the same, the angularly-bent arms 50 and 51 secured to the guide at the front and back thereof and arranged to slide on the frame and on the basket, the shank or stem secured to the guide,
35 disposed transversely of the frame and slidingly arranged thereon, and means for securing the shank or stem to the frame, whereby the guide is held at the desired adjustment.
40 substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HANOVER E. PITTS.

Witnesses:

CHARLES F. MILLER,
W. K. SLATER.