

No. 795,540.

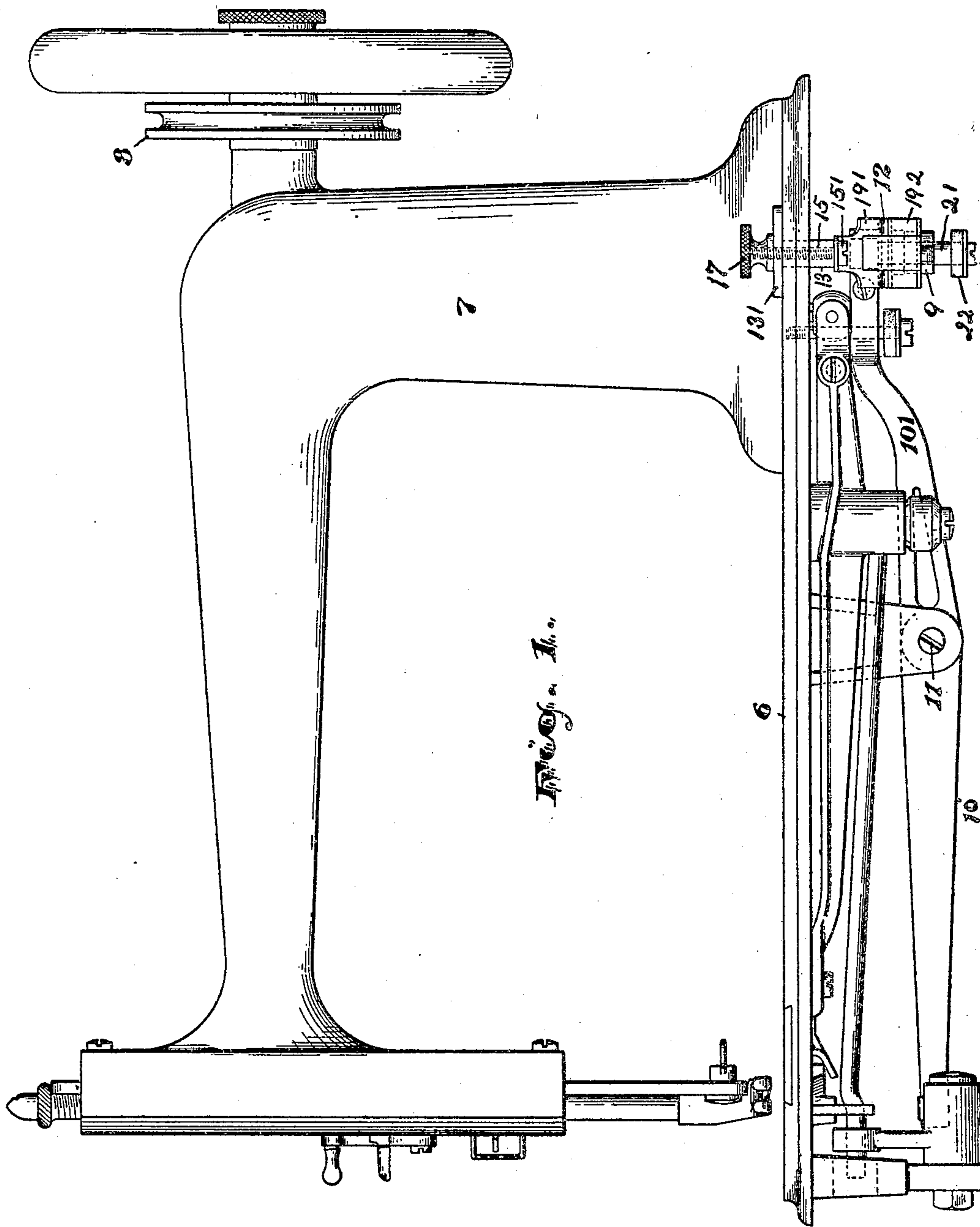
PATENTED JULY 25, 1905.

R. N. PEARSALL.

# STITCH REGULATING ATTACHMENT FOR SEWING MACHINES.

APPLICATION FILED NOV. 8, 1904.

4 SHEETS--SHEET 1.



WITNESSES:

Ralph Lancaster  
Russell M. Everett.

INVENTOR:

Richard W. Pearson,  
BY  
Charles H. Bell  
ATTORNEY.

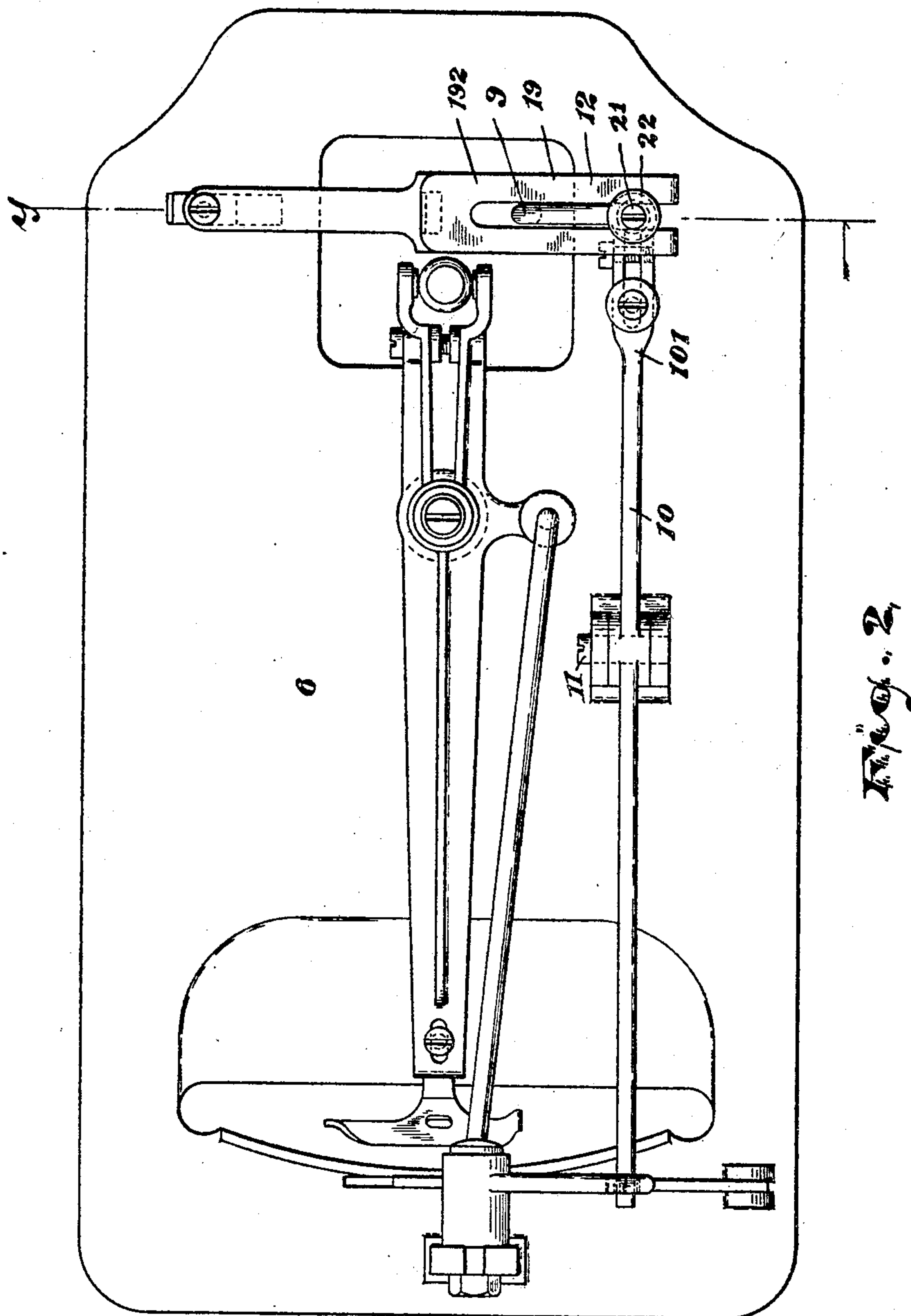
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WITNESSES:

*Ralph Lancaster*  
*Russell M. Everett*

INVENTOR:

*Richard N. Pearsall*

BY

*Charles H. Bell*

ATTORNEY.

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4 SHEETS—SHEET 3.

Fig. 3.

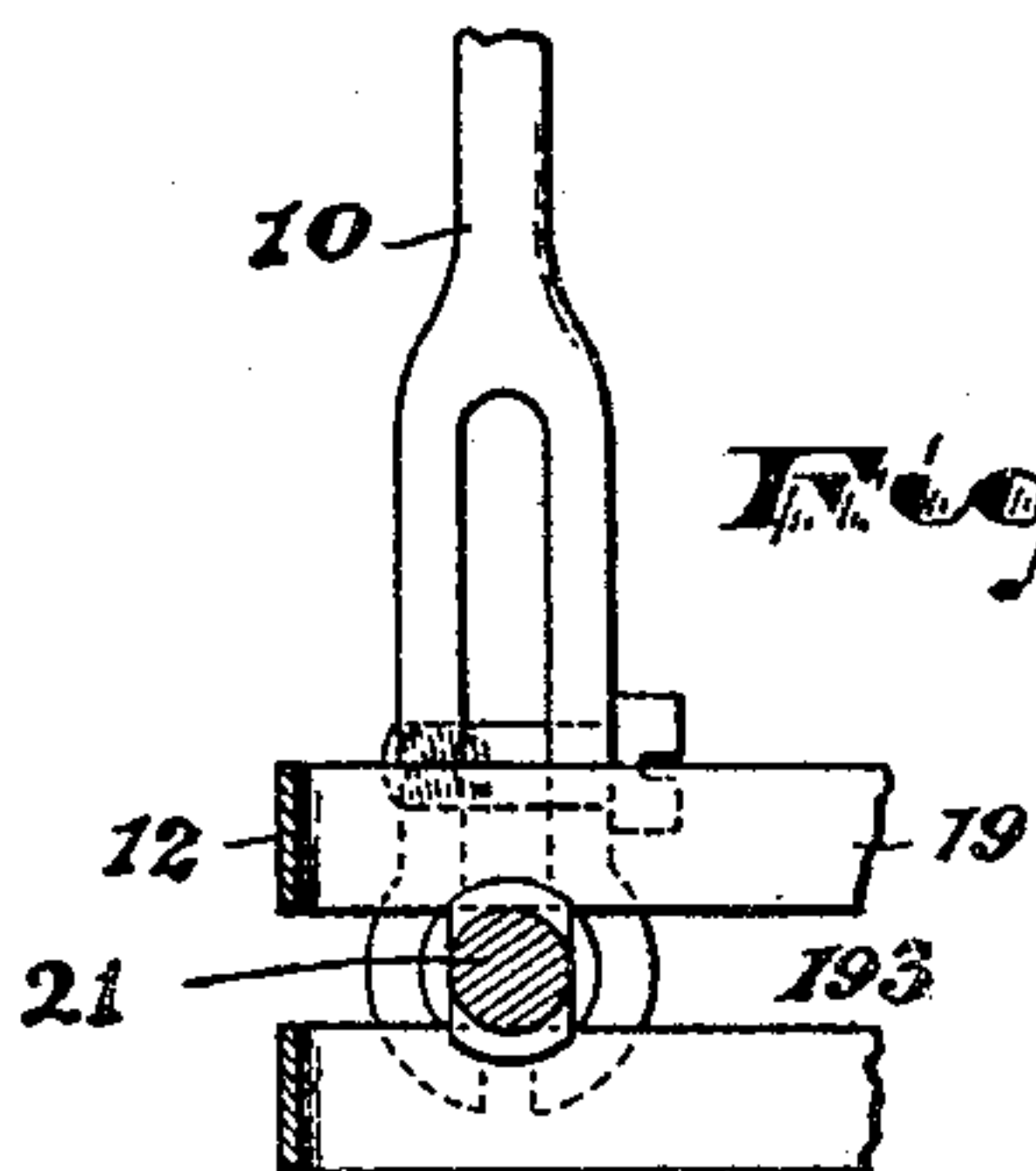
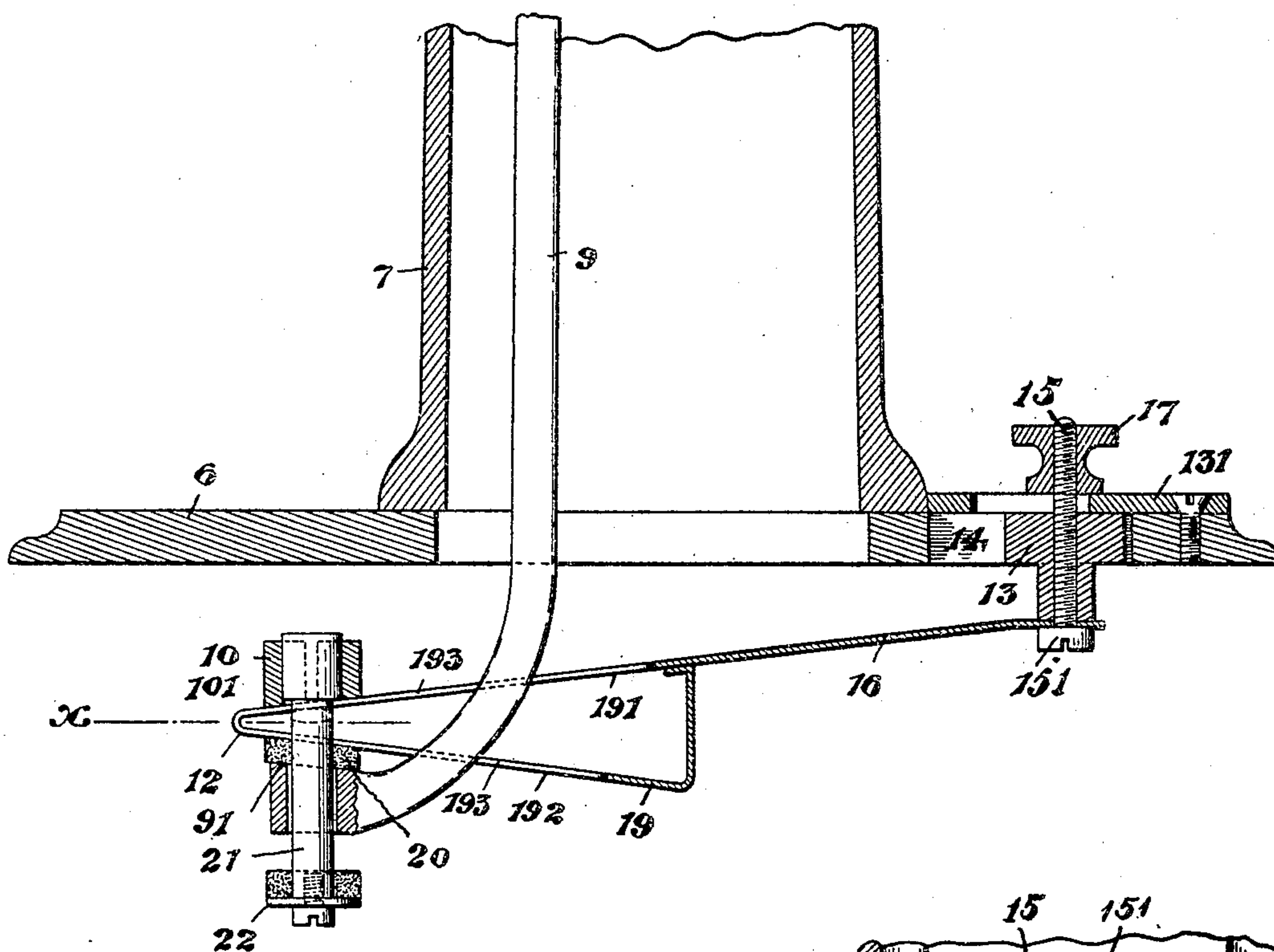


Fig. 4.

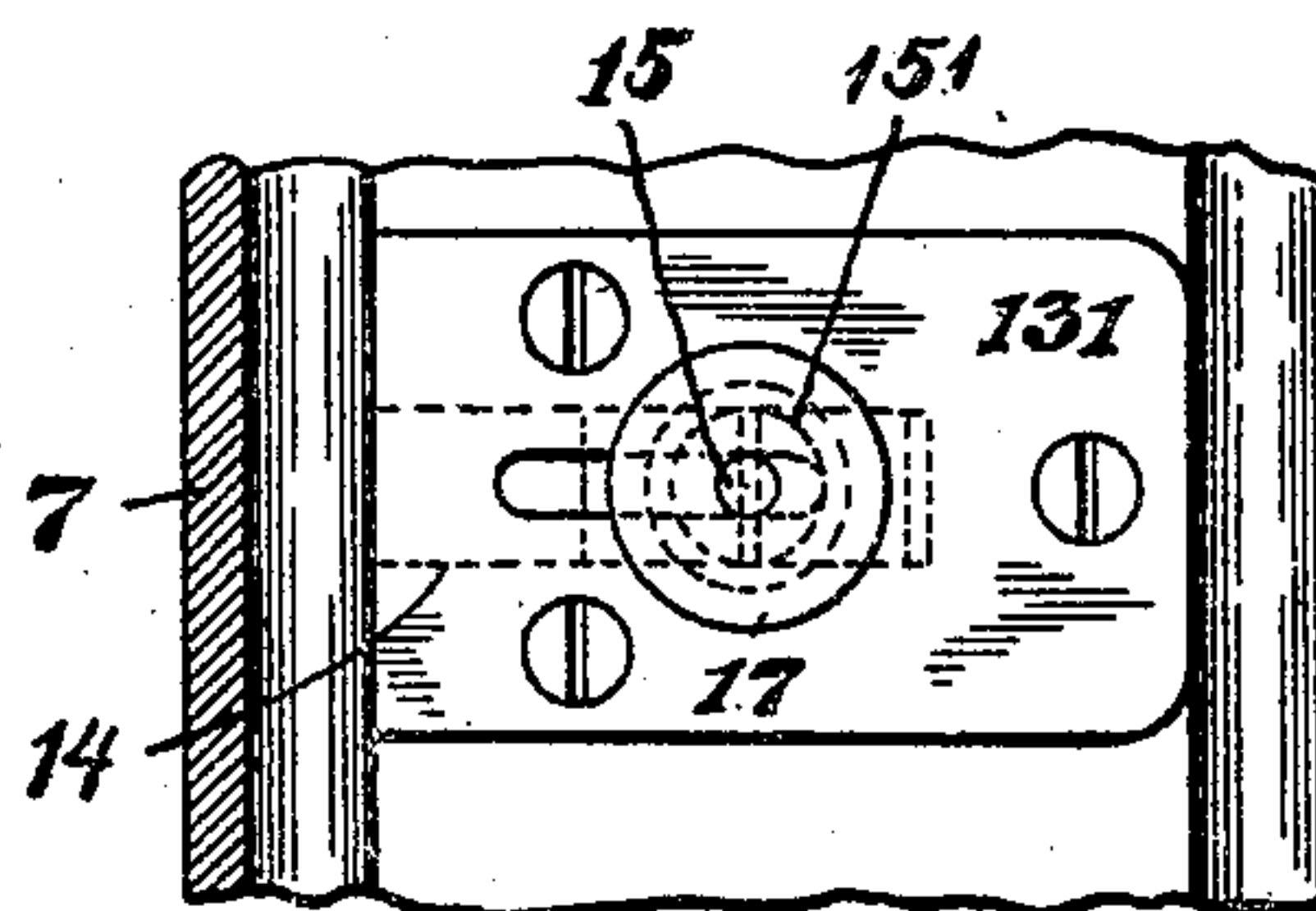


Fig. 5.

WITNESSES:

Ralph Lancaster  
Russell M. Everett

INVENTOR:  
Richard N. Pearsall

BY  
Charles N. Bell,  
ATTORNEY.

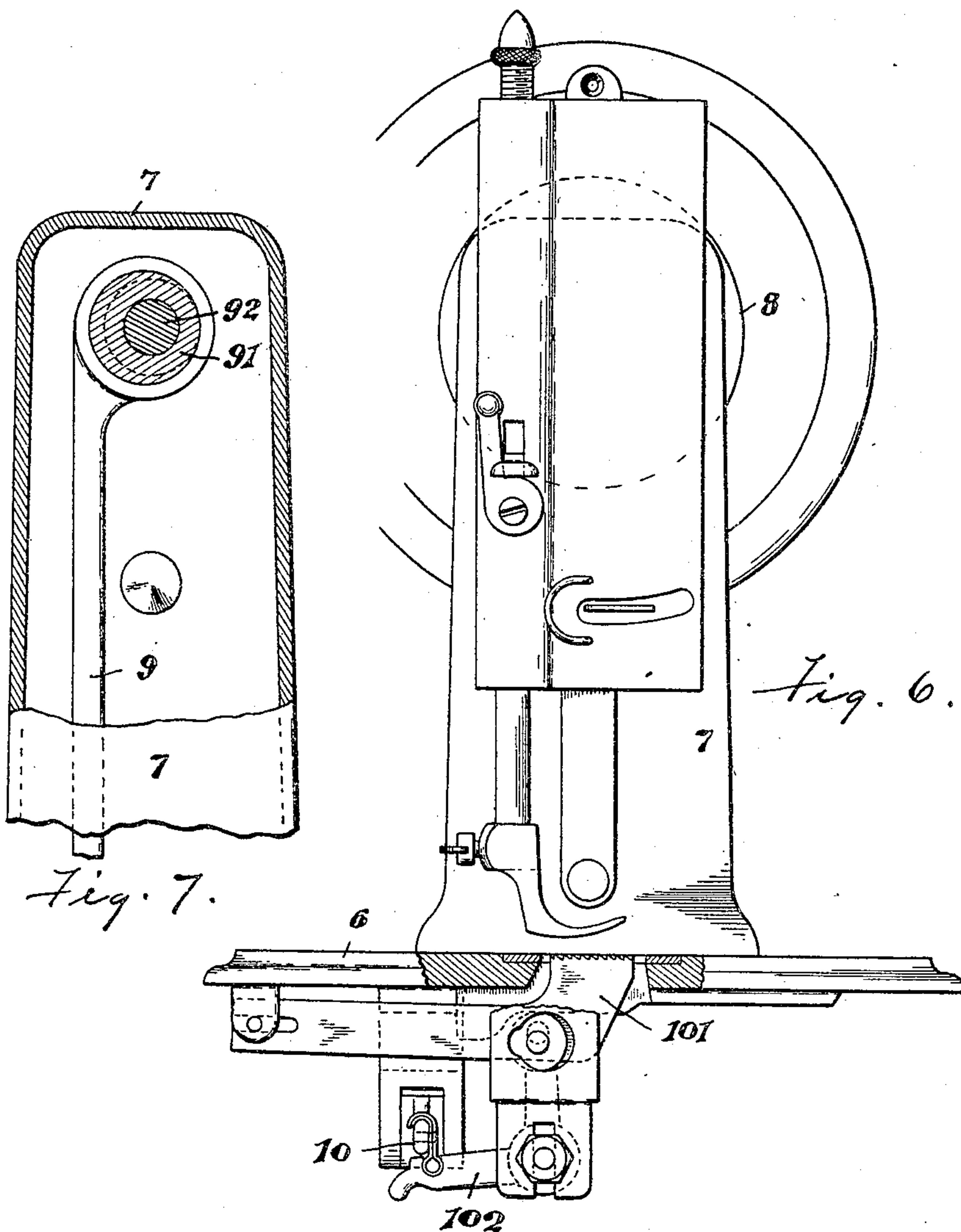
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4 SHEETS—SHEET 4.



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*Russell M. Everett*

INVENTOR:

*Richard N. Pearsall,*  
BY  
*Charles H. Pell*  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

RICHARD N. PEARSALL, OF NEWARK, NEW JERSEY.

## STITCH-REGULATING ATTACHMENT FOR SEWING-MACHINES.

No. 795,540.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed November 8, 1904. Serial No. 231,897.

*To all whom it may concern:*

Be it known that I, RICHARD N. PEARSALL, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Stitch-Regulating Attachments for Sewing-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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The objects of this invention are to enable the formation of stitches by a sewing-machine to be increased or diminished in length with greater facility and convenience, to reduce the cost of stitch-regulating devices or attachments in sewing-machines, to secure a more regular and uniform line of stitching, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved stitch-regulating attachment for sewing-machine and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like figures of reference indicate corresponding parts in each of the several figures, Figure 1 is a front elevation of my improved machine. Fig. 2 is a plan of the under side of the same. Fig. 3 is a vertical section taken on line *y* of Fig. 2, showing in enlarged detail my features of improvement. Fig. 4 is a section of the same, taken at line *x* of Fig. 3, and Fig. 5 is a top plan in detail of the attachment holding or fastening device in connection with the bed-plate. Fig. 6 is a side elevation showing the common connections of the feed-dog and the long operating feed-lever beneath the bed-plate, and Fig. 7 is a detail view showing more clearly the usual means for giving up-and-down movement to the said feed-lever.

In said drawings, 6 indicates an ordinary bed-plate of a sewing-machine, and 7 is an arm mounted thereon and adapted to carry the pressure-foot, needle-operating devices, &c., in any usual manner, the said needle-operating devices taking their power and

movement from the driving-pulley 8 and its shaft (not shown) and connecting-rod 9 in any usual manner, the said connecting-rod operating the feed-lever 10, and the said feed-lever serving to regulate the stitch and movement of the cloth, as usual, by being connected with the feed-dog 101 by any suitable connecting means 102.

The movement of the feed-lever 10 on its fulcrum 11 is controlled by an adjusting-wedge 12, by means of which the scope of the free end of the said feed-lever is increased or diminished at the will of the operator, the said wedge 12 serving to limit the movement of the lever to a greater or less degree, as may be desired. With this end in view the said wedge 12 is attached at one end to a sliding plate 13, arranged in connection with the bed-plate in a slot 14 at the front thereof, the said sliding plate thus being easily accessible to the hand of the operator. Said plate 13 is provided with a clamping-screw 15, the head 151 of which lies on the under side of the extension 16 of the wedge 12 and clamps said extension to the sliding plate. The clamping-screw extends from the sliding plate 13 up through a slotted keeper-plate 131, secured to the top of the bed-plate, and at the top of said keeper-plate is provided with a thumb-nut 17, which bears upon the keeper-plate in the clamping operation. By loosening the nut 17 the nut, screw, sliding plate, and wedge may be moved together in the slots to change the relation of said wedge to the feed-lever. By screwing up said nut the sliding plate and wedge are fixed in their relation to the bed-plate so far as longitudinal movement of the wedge and extension is concerned, and said wedge is prevented from displacement due to the movement of the contiguous parts. The said wedge 12 comprises, preferably, a sheet-steel piece bent into the form indicated in Fig. 3, the body 19 of the wedge being formed by doubling the sheet metal and bending it into triangular form. The body of the wedge is thus hollow, and the inclined sides 191 192 thereof are somewhat resilient to provide a little give or accommodation to the moving parts, to render the wedge less weighty, and to avoid other objections which need not now be amplified.

The connecting-rod 9 extends vertically downward through the longitudinal slots 193 in said wedge, which slots are of sufficient length to permit of longitudinal adjustment without interference.



The longitudinal movement of the wedge effected by loosening the screw 15 and pushing it and the sliding plate 13 in the slots tends to throw said wedge toward or back from the feed-lever and to thus limit the movement of the said lever as follows: The upperside of the said wedge rests hard against the under side of the short arm 101 of the feed-lever, and the lower side of said wedge serves as a bearing to receive an upper bearing 91 on the turned lower extremity of the connecting-rod, the latter bearing being cushioned by a felt washer 20. Upon the end of the feed-lever is fixed a depending rod 21, which extends downward through the slot or slots in the wedge and through a perforation in the bent or turned connecting-rod. Said depending rod 21 at its lower end is provided with a cushioned bearing 22, adapted to engage the under side of the connecting-rod. Said connecting-rod has its usual vertical movement induced by a cam (shown at 91 in Fig. 7) on the shaft 92 of the driving-pulley, and this movement is communicated to the feed-lever, the latter, however, being to some extent independent of the connecting-rod because of the peculiar connection of said parts. The vertically-movable connecting-rod slides on the said depending rod 21 between the bottom bearing 22 and the under side of the wedge, and thus when the wedge is engaged movement in one direction is communicated to the feed-lever 10, and when the said bottom bearing is engaged movement in the opposite direction is imparted. Between said bearings the connecting-rod moves independently, the feed-lever remaining at rest, so that the feeding devices remain at rest for a moment while the needle enters the fabric being sewed.

It is of course clear that by forcing the large end of the wedge toward the connecting-rod and feed-lever the vertical movement of the said connecting-rod on the depending rod is limited, thereby reducing the movement of the feed-lever and of the feed therewith connected, and consequently the length of the stitches are correspondingly reduced in length.

The construction thus described is of great simplicity, and the parts may, as will be obvious, be made with but inconsiderable expense, and the said device or attachment can be applied to any ordinary machine of the type described without materially changing the construction thereof.

I am aware that various changes may be made in the construction without departing from the spirit or scope of the invention, and I do not wish to be understood as limiting myself by any of the positive expressions above employed excepting as the state of the art may require.

Having thus described the invention, what I claim as new is—

1. In a sewing-machine, the combination with the bed-plate and feed-lever fulcrumed thereon, a feed-dog and connections of said feed lever and dog, said feed-lever having a depending rod with a bottom bearing, of a connecting-rod for imparting motion to said lever, and a wedge interposed between said connecting-rod and one of said bearings, substantially as set forth.

2. In a sewing-machine, the combination with the bed-plate and feed-lever fulcrumed thereon, a feed-dog and connections of said feed lever and dog, said feed-lever having a depending rod with a cushioned bottom bearing for the connecting-rod at its lower end, of said connecting-rod operating on the depending rod and a wedge interposed between said connecting-rod and lever and transmitting motion from the connecting-rod to said lever, substantially as set forth.

3. In a sewing-machine, the combination with the bed-plate and feed-lever fulcrumed thereon, a feed-dog and connections of said feed lever and dog, said feed-lever having a depending rod with a bottom bearing, of a connecting-rod extending into engagement with said depending rod and imparting motion thereto and the lever with which it is associated, means for operating said connecting-rod, and an adjustable wedge interposed between said connecting-rod and the said feed-lever, substantially as set forth.

4. In a sewing-machine, the combination with the bed-plate, feed-dog and feed-lever fulcrumed on said bed-plate, said feed-lever having a rod depending therefrom with a bearing at its lower end for a connecting-rod, of said connecting-rod adapted to impart motion to said lever and a wedge interposed between the said connecting-rod and lever and having an extension adapted to be fixed in its relation to the bed-plate and means for fixing said extension in its relation to the bed-plate, substantially as set forth.

5. In a sewing-machine, the combination with the bed-plate feed-dog, and feed-lever fulcrumed on said plate, said feed-lever having a depending rod with a bottom bearing, of a connecting-rod for imparting motion to said lever and a wedge interposed between said connecting-rod and lever, and means for fixing said wedge in its relation to the bed-plate, substantially as set forth.

6. In a sewing-machine, the combination with the bed-plate feed-dog and feed-lever fulcrumed on said plate, said feed-lever having a depending rod with a bottom bearing, of a curved and perforated connecting-rod for imparting motion to said lever and a wedge interposed between said connecting-rod and lever, substantially as set forth.

7. In a sewing-machine, the combination with the bed-plate, feed-dog and feed-lever fulcrumed on said bed-plate and adapted to operate said feed-dog, said feed-lever having

a depending rod with a bottom bearing, of a connecting-rod adapted to impart motion to said feed-lever, means for operating said connecting-rod and a wedge constructed of bent sheet metal and having a slot therein for said depending rod, the said wedge being interposed between said connecting-rod and lever, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of November, 1904.

RICHARD N. PEARSALL.

Witnesses:

CHARLES H. PELL,  
RUSSELL M. EVERETT.