

No. 690,895.

Patented Jan. 7, 1902.

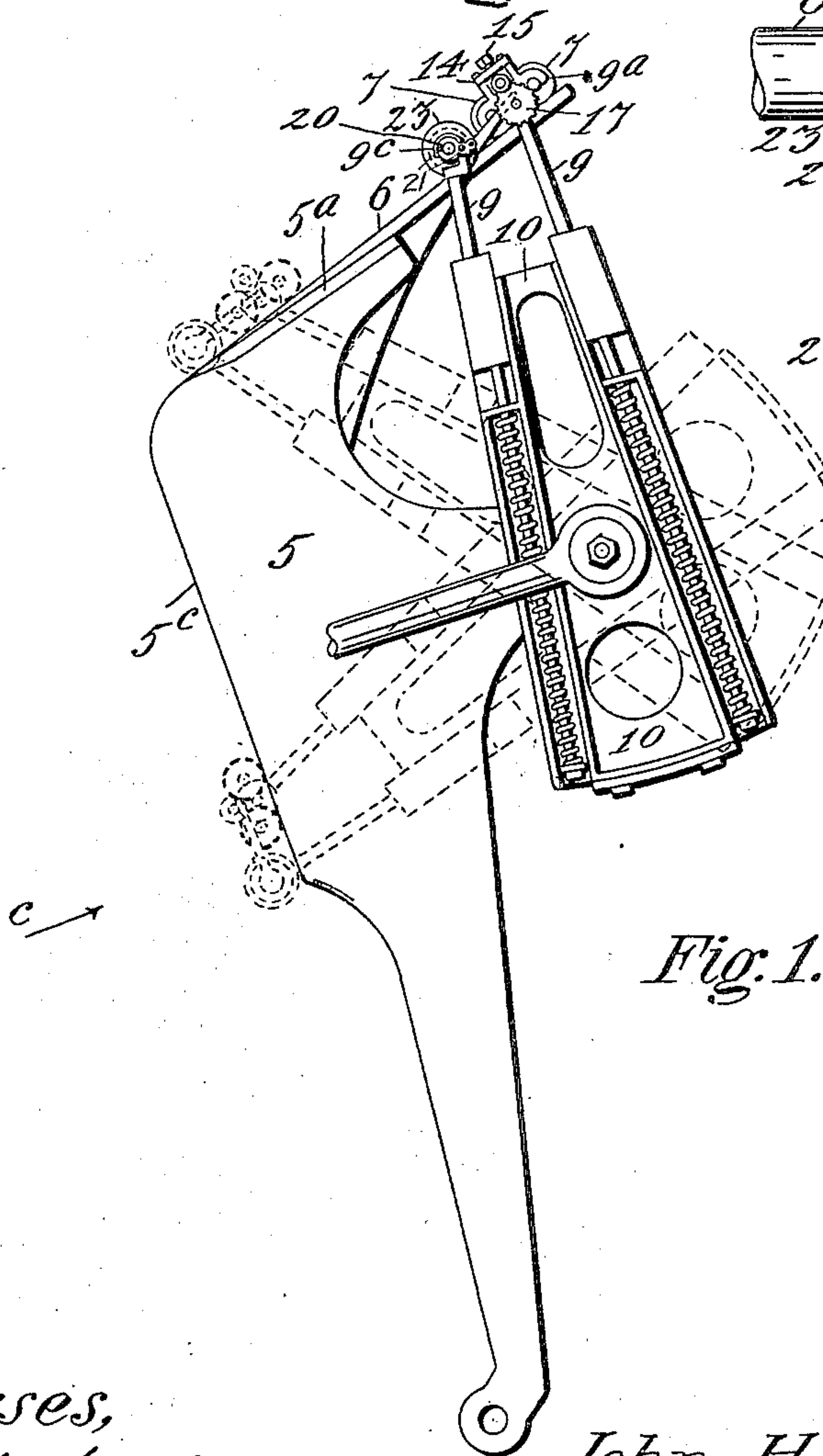
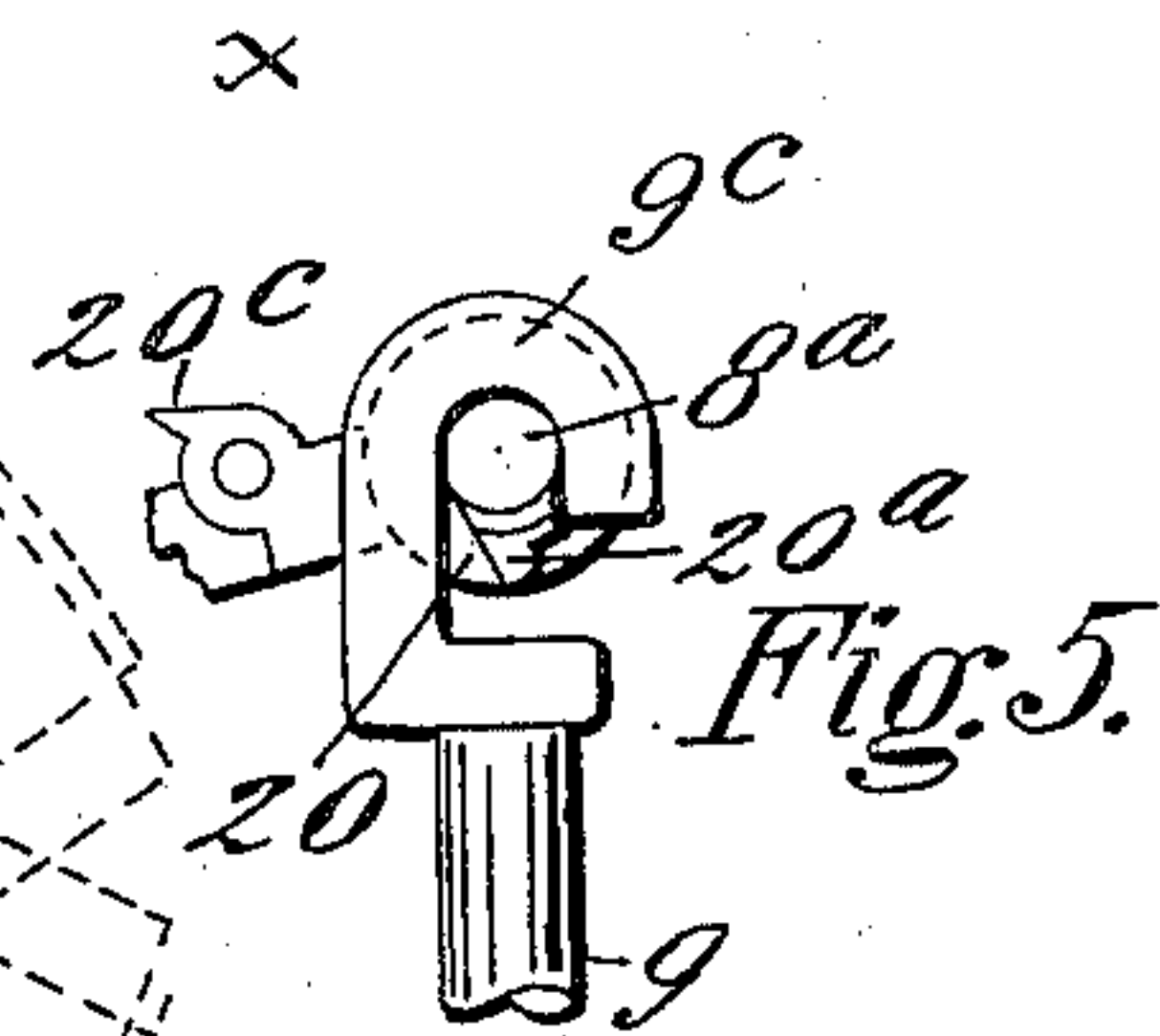
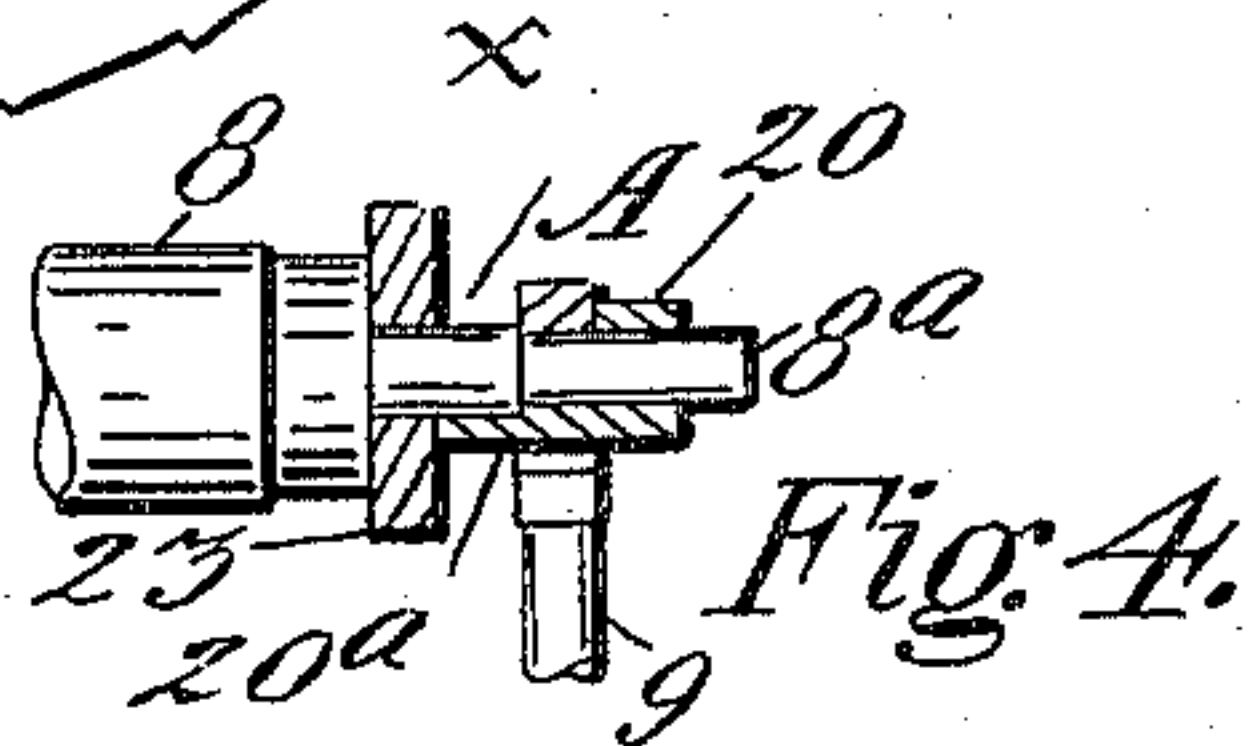
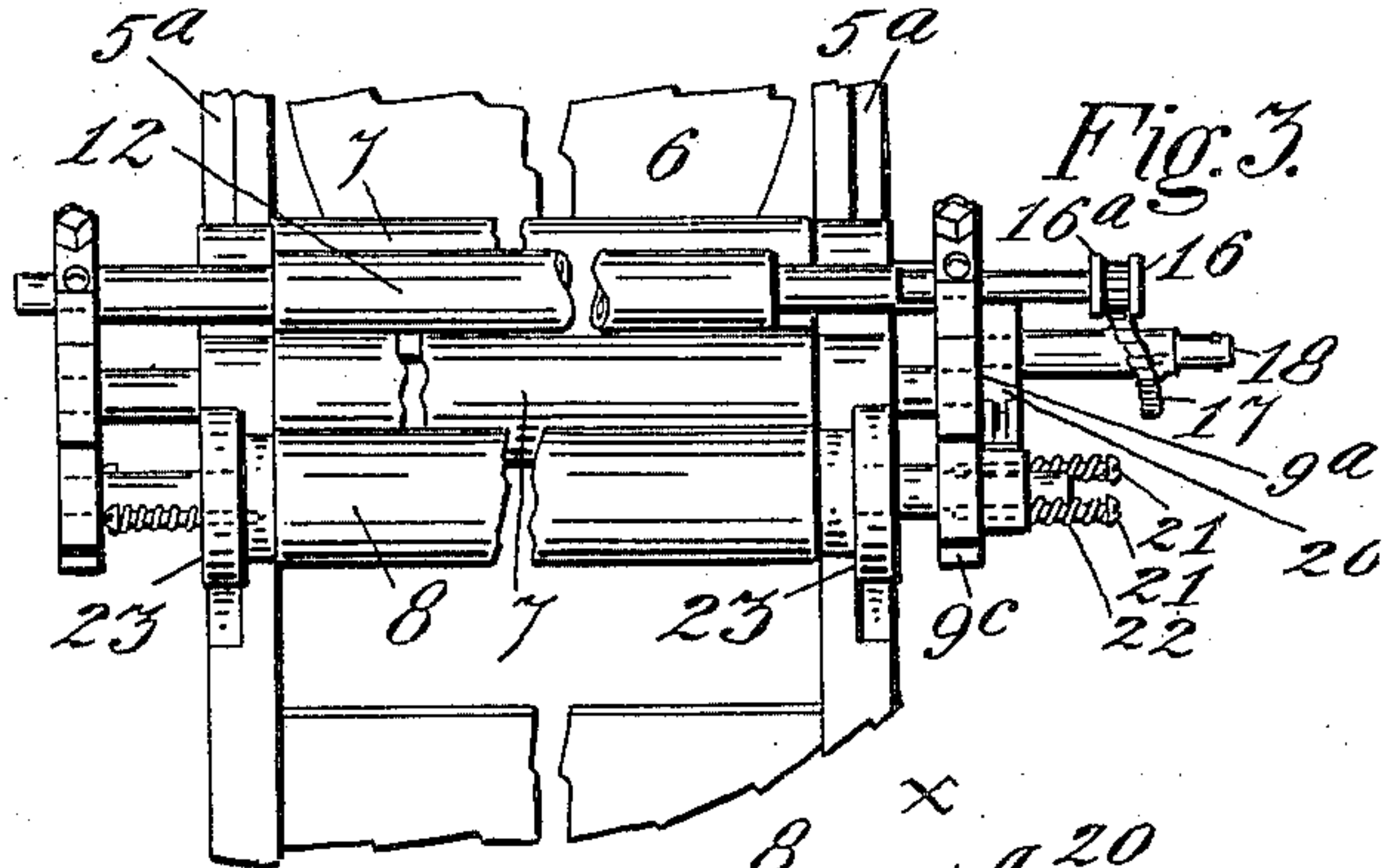
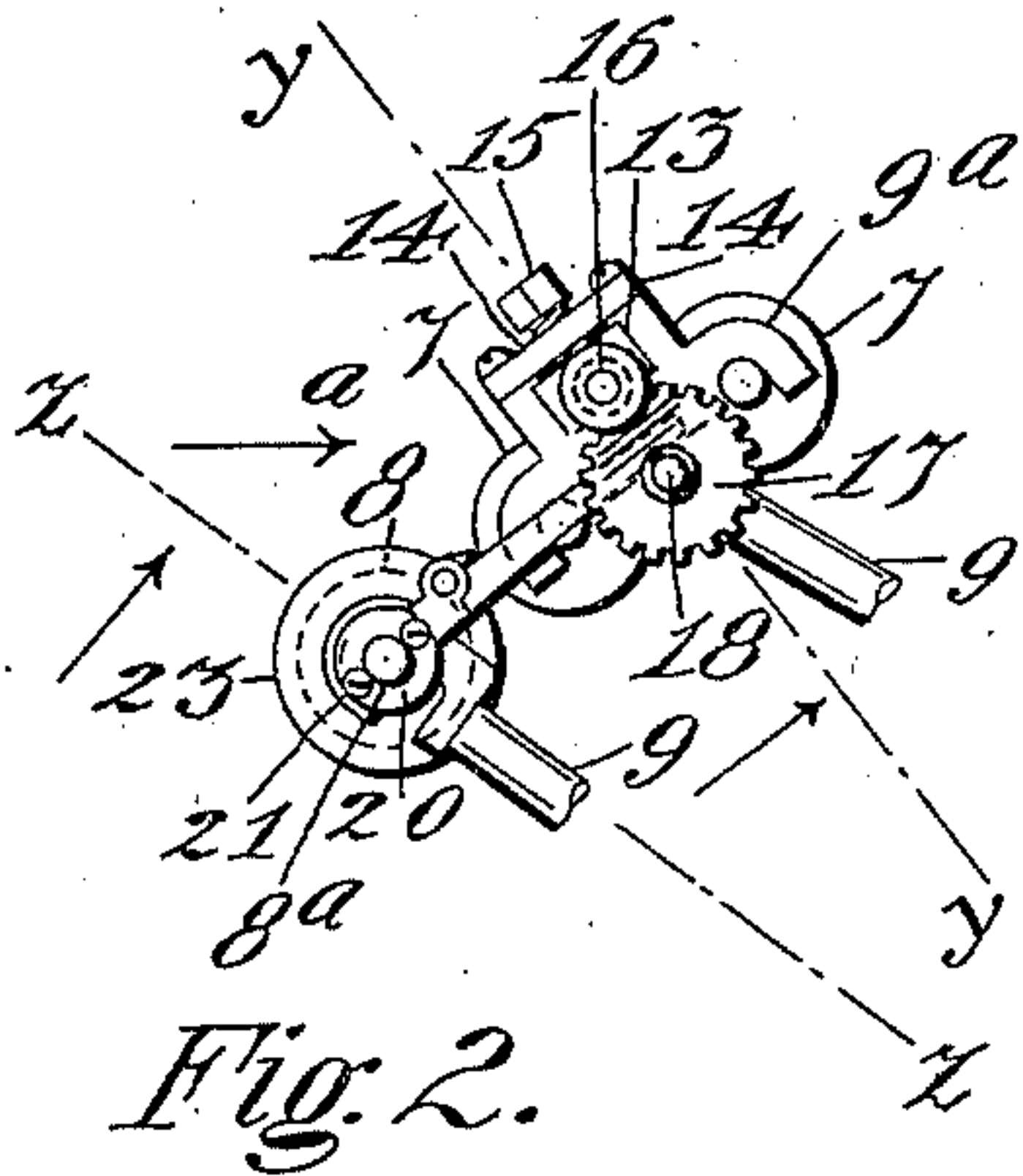
J. H. SCHUSSLER.

MEANS FOR INKING PRINTING PRESS ROLLS.

(Application filed Feb. 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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By *[Signature]*
Attorney.

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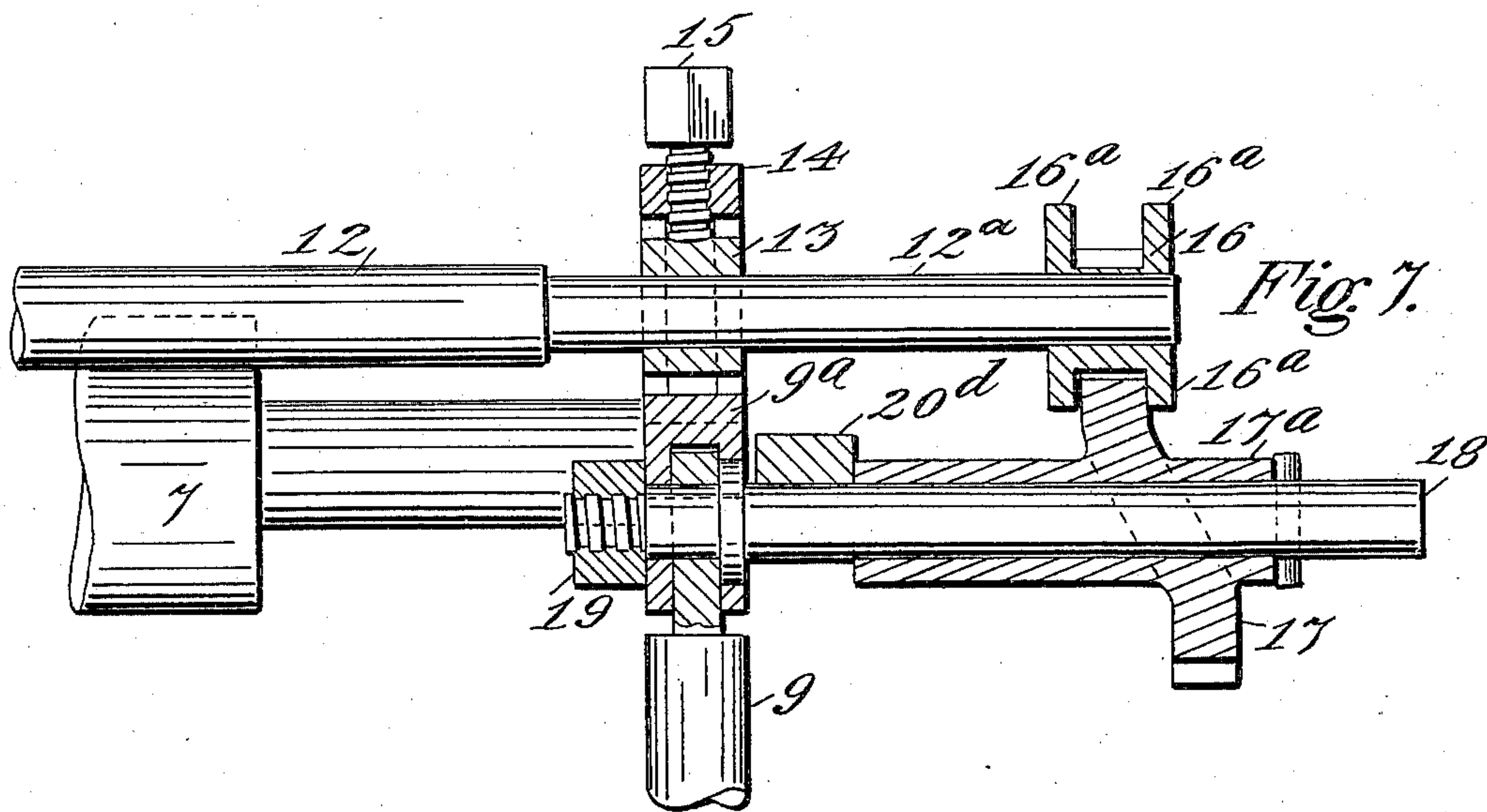
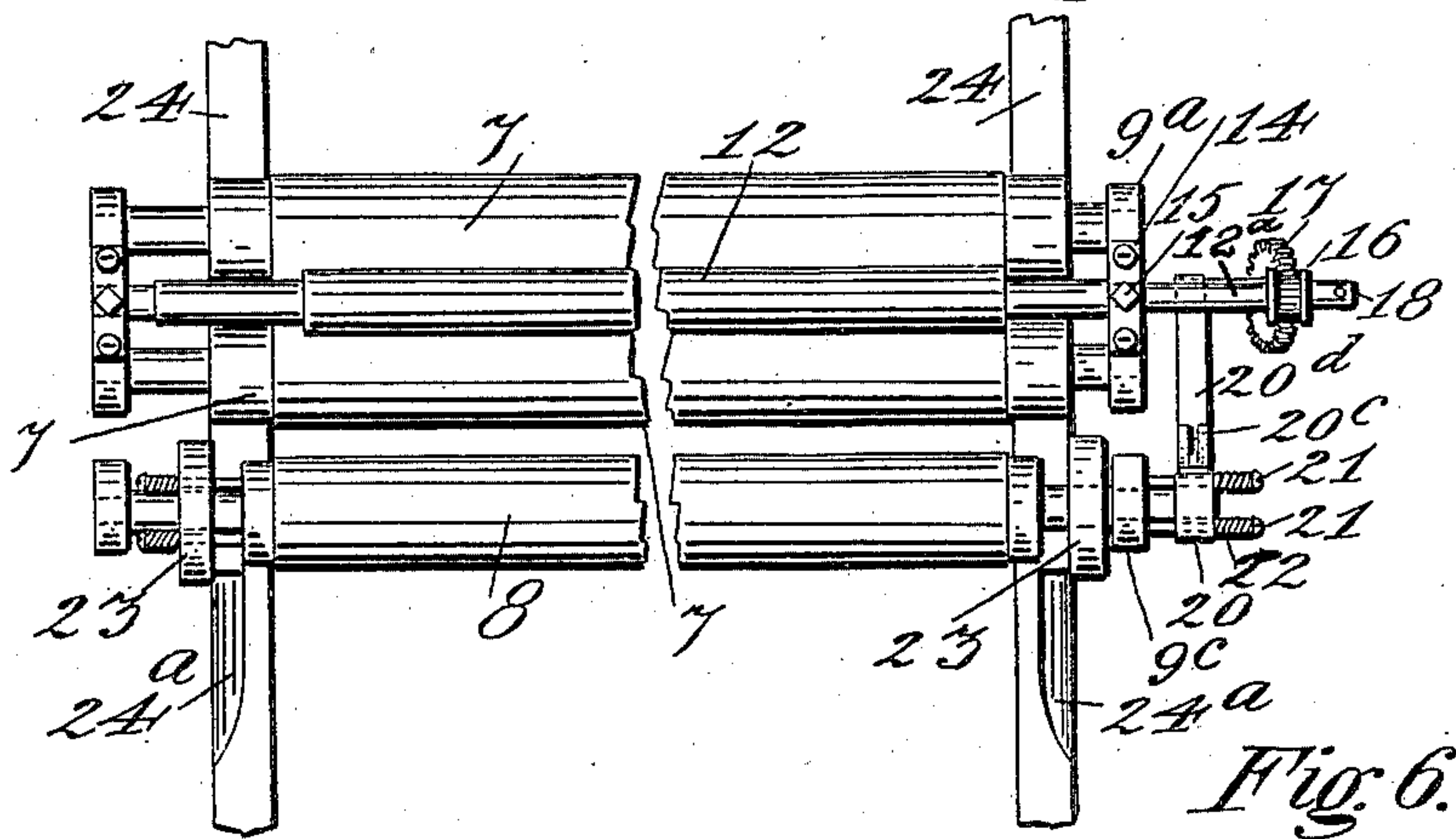
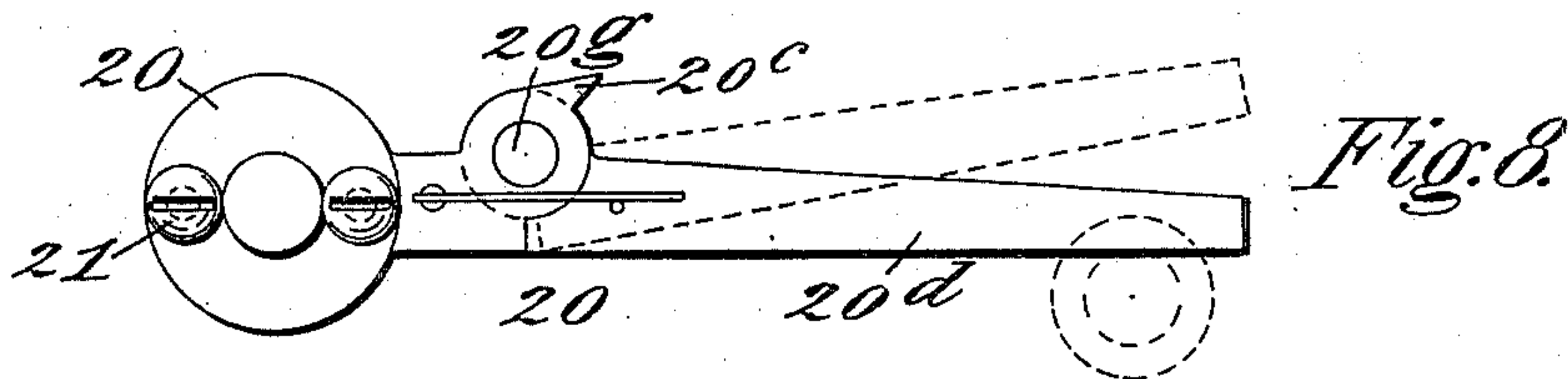
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

JOHN H. SCHUSSLER, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF TO
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MEANS FOR INKING PRINTING-PRESS ROLLS.

SPECIFICATION forming part of Letters Patent No. 690,895, dated January 7, 1902.

Application filed February 4, 1901. Serial No. 45,869. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SCHUSSLER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Means for Inking Printing-Press Rolls; and I do 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 the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in ink-distributing means for the inking-rolls of printing-presses; and it consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of a portion of a printing-press equipped with my improvements. Fig. 2 is a fragmentary detail view illustrating my improved feature shown in connection with the inking-rolls and on a larger scale. Fig. 3 is a front view of the same viewed in the direction of arrow *a*, Fig. 2. In this view the ink-disk and truck are shown, the rolls being in the position indicated by the upper dotted lines in Fig. 1. Fig. 4 is a detail view, partly in section, of one of the inking-rolls. Fig. 5 is an end view of the detail shown in Fig. 4. Fig. 6 is a front view of the inking-rolls shown in the position indicated by dotted lines in Fig. 1 and viewed in the direction of arrow *c* and shown on a larger scale. Fig. 7 is a section taken on the line *y y*, Fig. 2, viewed in the direction of the arrow and on a larger scale. Fig. 8 is a detail view of an arm constituting an important feature of my improved construction, shown on a larger scale.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the frame of the machine; 6, the ink-disk; 7, each of two of the rolls for inking the type; 8, the third or supplemental inking-roll; 9, the spring-held rods connected with the rolls, and 10 the pivoted frame upon which the rods are mounted. Mounted

above and engaging both rolls 7 is a distributing-roll 12, journaled at each extremity in a box 13, held in place by a frame 14, attached to a hook 9^a of one of the rods 9. The box 13 is adjustable by means of a bolt 15, threaded in the top piece of a frame 14. Mounted on one extremity of the distributing-roll journal, which is extended for the purpose, as shown at 12^a, is a pinion 16, having flanges 16^a, extending beyond the cogged periphery and forming a circumferential groove, into which projects and meshes with the cogs of the pinion a cam or spiral gear 17, provided with a sleeve 17^a, mounted on a spindle 18, secured to the hook 9^a by a nut 19, screwed upon the threaded extremity of the spindle. This nut is only a convenient fastening means, and the end of the spindle may be upset to hold the nut in place after the latter is applied, or the nut and threaded spindle extremity may be dispensed with altogether and the spindle upset to hold it in place on the hook 9^a.

Mounted upon the protruding reduced extremity 8^a of the journal of the roll 8 is an arm 20, having a collar through which screws 21 are passed into the hook 9^c. The shanks of these screws are plain, and they pass through plain openings in the collar of the arm, whereby the latter is permitted a sliding movement on the screws, which protrude beyond the arm and are surrounded by coil-springs 22, which normally hold the arm against the hook 9^c. The collar of the arm 20 is provided with a projection 20^a, which passes through the hook to engagement with the high-tread part 23 of the truck of the roller 8. This projection extends on one side only of the collar—that is, on the side where the hook is open. Thus the projection does not interfere with the direct engagement of the hook with the journal 8^a of the roller 8. This truck part 23 is longitudinally movable on the roller-journal within certain limits, the range of movement being indicated by the space *A* in Fig. 4 between the part 23 and the hook 9^c. The truck part 23 is normally held in the position shown in Figs. 3 and 4 by the springs 22, which act on the said part through the medium of the arm 20 and the projection 20^a. Each extremity of the roller 8 is equipped with a spring-actuated slidable truck part 23;

but only one of these truck parts acts in conjunction with the arm 20, as only one arm of this character is necessary. The arm 20 is provided with a joint 20^s, which allows its upper part 20^a a certain range of movement, which becomes necessary, since its collar or lower part is prevented from turning except with the hook 9^c, to which it is fastened by the screws 21, as aforesaid.

The function of the cam or spiral gear 17 and the pinion 16 is to impart an endwise movement to the roll 12 while the rolls 7 are passing over the ink plate or disk 6, whereby the ink is evenly distributed on the rollers 7.

The frame is cut away, as shown at 5^a, for the high-tread part 23 to allow the roll 8 to engage the ink-disk. Just before the inking-rolls pass to the type-surface 5^c of the frame the truck parts 23 move upwardly out of the grooves 5^a, (see upper dotted-line position in Fig. 1,) whereby the roll 8 is raised sufficiently to clear the type-surface while the rolls are moved downwardly. While the rolls are passing over the ink-plate the upper extremity of the arm 20 engages the spindle 18 between the hook 9^a and the inner extremity of the sleeve 17^a, whereby the sleeve is prevented from sliding endwise on the spindle 18, and causing the endwise movement of the roll 12 through the instrumentality of the cam-gear and pinion. As soon, however, as the roll 8 is raised by reason of the truck parts 23 traveling upwardly out of the grooves 5^a the arm 20 is carried upwardly sufficiently to disengage its upper extremity from the spindle 18, thus allowing the sleeve 17^a to slide endwise on the spindle 18. This result is brought about to a certain extent by virtue of the angular relation of the rods 9 to the inking-disk and type-form. The variation of the angle formed by the rods to the surface of the ink-disk and type-form changes the position of bar 20, since the bar is connected with the hook of one of the rods 9, as aforesaid. The joint 20^s of the bar allows the arm 20^a independent movement within certain limits. During this time the roll 12 has no endwise movement, but simply a rotary movement on the rolls 7, since the endwise movement of the distributing-roll is not desirable while the rolls 7 are passing over the type-surface 5^c. As the three rolls pass downwardly over the type-surface the high truck parts 23 engage the tracks 24 on opposite sides of the type-surface, whereby the roll 8 is raised from said surface, while the rolls 7 both engage the printing-surface. (See lower dotted-line position of the rolls in Fig. 1.) When, however, the rolls have traveled beyond the printing-surface 5^c in their downward movement, the track is outwardly beveled, as shown at 24^a, whereby the truck parts 23 are thrown outwardly beyond the track. This action is facilitated by the spring-actuated rods 9, which pull the truck parts 23 inwardly and force them off the track, acting in conjunction with the beveled portions 24^a of the track parts.

This movement is substantially the same as set forth in my previous patent, No. 662,880, dated November 27, 1900. As the truck parts 23 slip off the track the one at the right (referring to Fig. 6) moves outwardly and acting on the projection 20^a imparts a corresponding movement to the arm 20 and moves it to the position shown in Fig. 6, so that as the roll 8 moves to the plane of the printing-surface the arm 20 will be raised upon the sleeve 17^a, thus allowing the sleeve 17^a and the gear 17 to continue their endwise movement the same as when the arm was supported in the raised position by the truck parts 23 when in their raised position on the track. Hence as the rolls move upwardly over the type-surface the high-tread truck parts 23 are in the position shown in Fig. 6, and the roll 8 is brought into contact with the type-surface in order to perform its proper function.

It is evident from the foregoing explanation that during the upward movement of the rolls on the type-surface the sleeve 17^a will move endwise on the spindle 18, and there will be no endwise movement of the roller 12, which will have only its normal rotary action, the same as when moving downwardly over the type-surface. After the roll 8 leaves the upper edge of the type-surface the truck parts 23 are allowed to move inwardly by virtue of the grooved or cut-away feature 5^a of the frame on each side, and the said truck parts are forced inwardly by the springs 22, which were placed under tension by the outward movement of the truck parts. As the truck part 23 at the right (referring to Figs. 3 and 6) is moved inwardly the arm 20 will be returned to its normal position and drop into place between the hook 9^a and the inner extremity of the sleeve 17^a, thus stopping the endwise movement of the sleeve. As soon as this occurs the roll 12 will begin its endwise distributing movement by virtue of the cooperative action of the cam or spiral gear and the pinion 16, and this movement of the distributing-roll will continue until the rolls 7 and 8 have moved up and down on the ink-disk, after which the action heretofore described will be repeated.

The lower rigid part of the arm 20 is provided at the joint 20^s with a projection 20^c, which limits the upward movement of the part 20^a and prevents it from coming in contact with the pinion 16 during the endwise movement of the roll 12. As shown in Fig. 8, one part of the arm 20 may be provided with a leaf-spring B, rigidly attached to one part of the arm and engaging a pin C on the other part, the tendency of the spring being to hold the joint closed.

Having thus described my invention, what I claim is—

1. The combination with the inking-rolls of a printing-press, of a distributing-roll mounted to engage the two inking-rolls, a pinion fast on the distributing-roll, a cam-gear mounted to engage said pinion and impart an end-

wise movement to the distributing-roll, a spindle upon which said gear is loosely mounted, an arm for locking the cam-gear against endwise movement while the rolls are passing over the ink-disk, and means for disengaging said arm from the gear whereby the latter is permitted to move endwise, and the endwise movement of the distributing-roll stopped as the rolls are passing over the type-surface.

2. The combination with the inking-rolls of a printing-press, of a distributing-roll mounted to engage two of the inking-rolls, a pinion fast on the distributing-roll, a spindle mounted to travel with the rolls, a cam-gear loosely mounted on said spindle and provided with a sleeve, the connection between the gear and the spindle being such that the distributing-roll or the gear and its sleeve, must move endwise, an arm mounted to travel with the rolls and normally locking the sleeve against endwise movement, means for automatically disengaging said arm from the sleeve to allow the latter to move endwise whereby the endwise movement of the distributing-roll ceases, and means for automatically returning said arm to its locking position.

3. The combination with the inking-rolls of a printing-press, of an endwise-movable distributing-roll mounted to engage two of said inking-rolls, a spindle mounted to travel with the rolls, a sleeve loose on said spindle, a cam-gear connection between the distributing-roll and the sleeve of the spindle, whereby the one or the other must move endwise during the operation of the rolls, a device for locking the sleeve against endwise movement, and means for automatically unlocking the said device and returning it to the locking position at predetermined intervals, whereby the endwise movement is alternately imparted to the sleeve and distributing-roll.

4. The combination with the inking-rolls of a printing-press, of an endwise-movable distributing-roll engaging two of the inking-rolls, an endwise-movable sleeve mounted to travel with the inking-rolls, a cam-gear connection between the sleeve and the distribut-

ing-roll whereby the one or the other moves endwise during the travel of the rolls, an arm mounted to travel with the rolls and arranged to lock the sleeve against endwise movement, a high-tread truck part mounted on the third inking-roll and movable longitudinally thereon, and a connection between the said locking-arm and the said high-tread truck part whereby the position of the locking-arm is automatically changed by the action of the high-tread truck part of the roll, to control the action of the distributing-roll.

5. The combination with the inking-rolls of a printing-press, of an endwise-movable distributing-roll engaging two of the inking-rolls, and a third inking-roll provided with a movable high-tread truck part, and a connection between the distributing-roll and the high-tread truck part, whereby the endwise movement of the distributing-roll is regulated and controlled by the said truck part.

6. The combination with the inking-rolls of a printing-press, of an endwise-movable distributing-roll mounted to engage two of the inking-rolls, a spindle mounted to travel with the inking-rolls, an endwise-movable sleeve mounted on said spindle, a cam-gear connection between the sleeve and the distributing-roll whereby one of them must move endwise, a jointed spring-held arm mounted on the hook of the third inking-roll, and normally arranged to engage the spindle and lock the sleeve against endwise movement, a spring-held high-tread truck part mounted on the third inking-roll, a projection extending from the locking-arm to engagement with the said truck part, whereby as the said truck part moves in a direction parallel with the axis of the roll, the locking-arm is shifted for the purpose set forth.

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

JOHN H. SCHUSSLER.

Witnesses:

DORA C. SHICK,
MARY C. LAMB.