

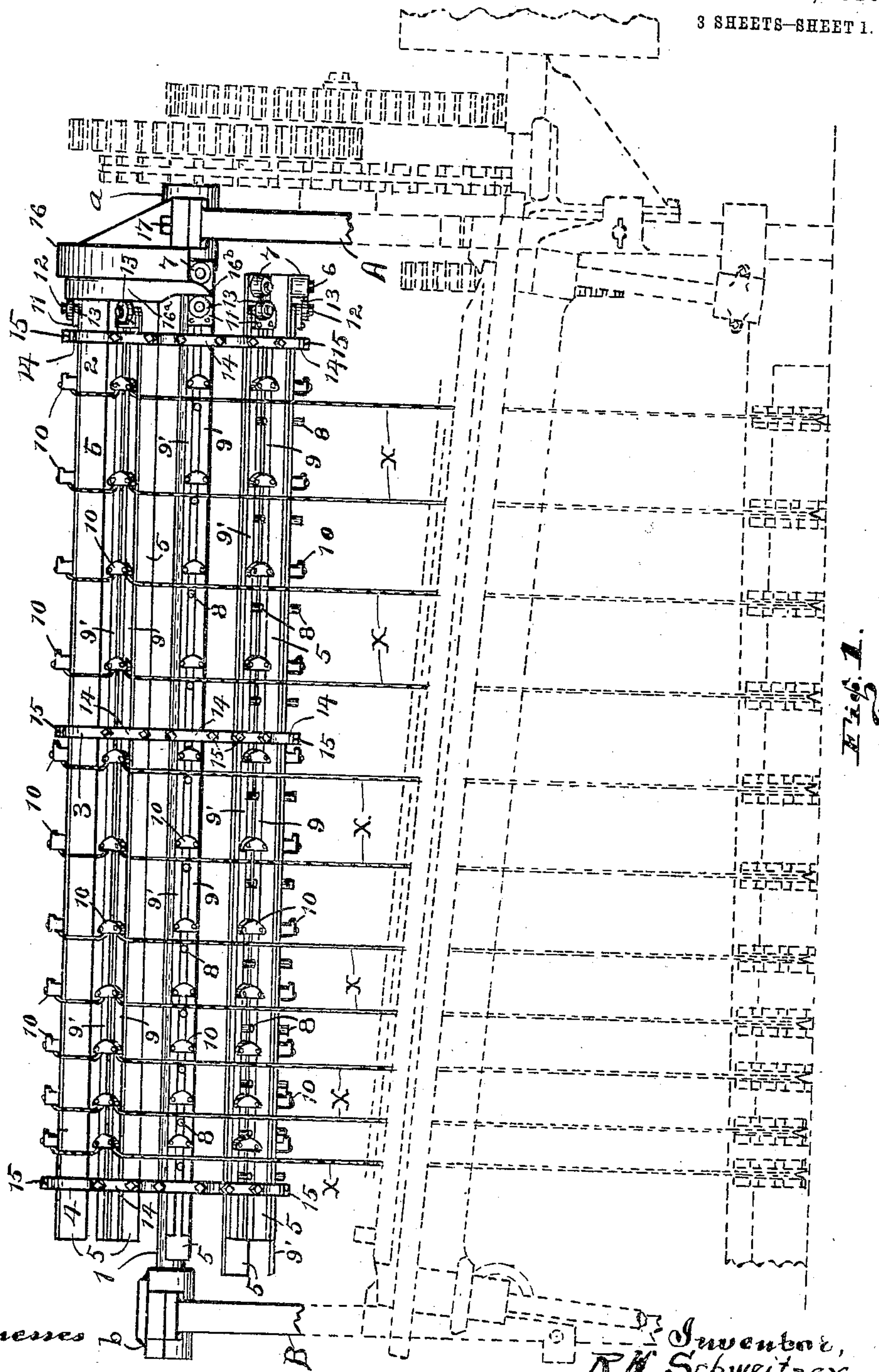
R. H. SCHWEITZER.
BULLDOZER.

APPLICATION FILED JULY 25, 1910.

Patented Dec. 20, 1910.

3 SHEETS-SHEET 1.

979,099.



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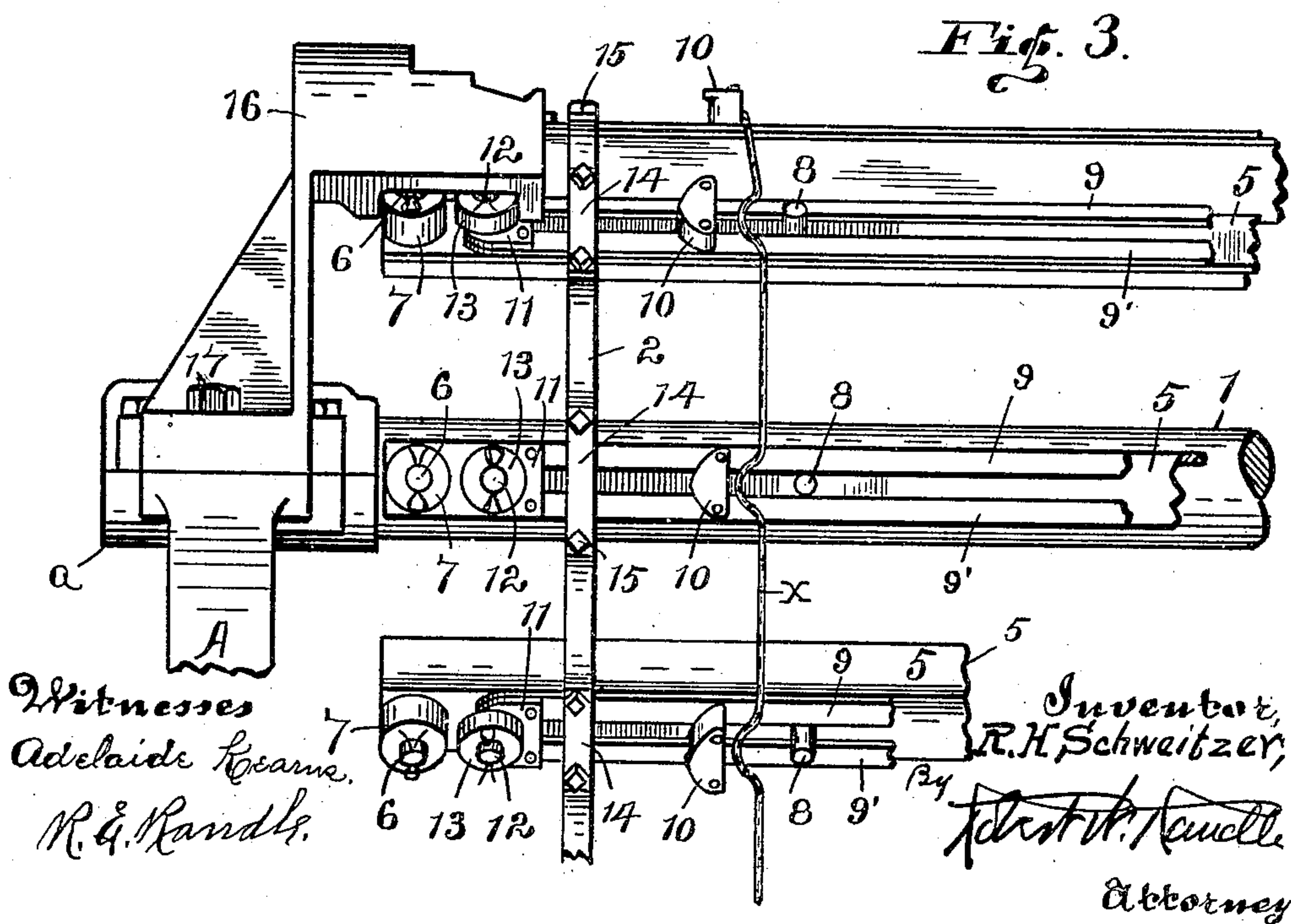
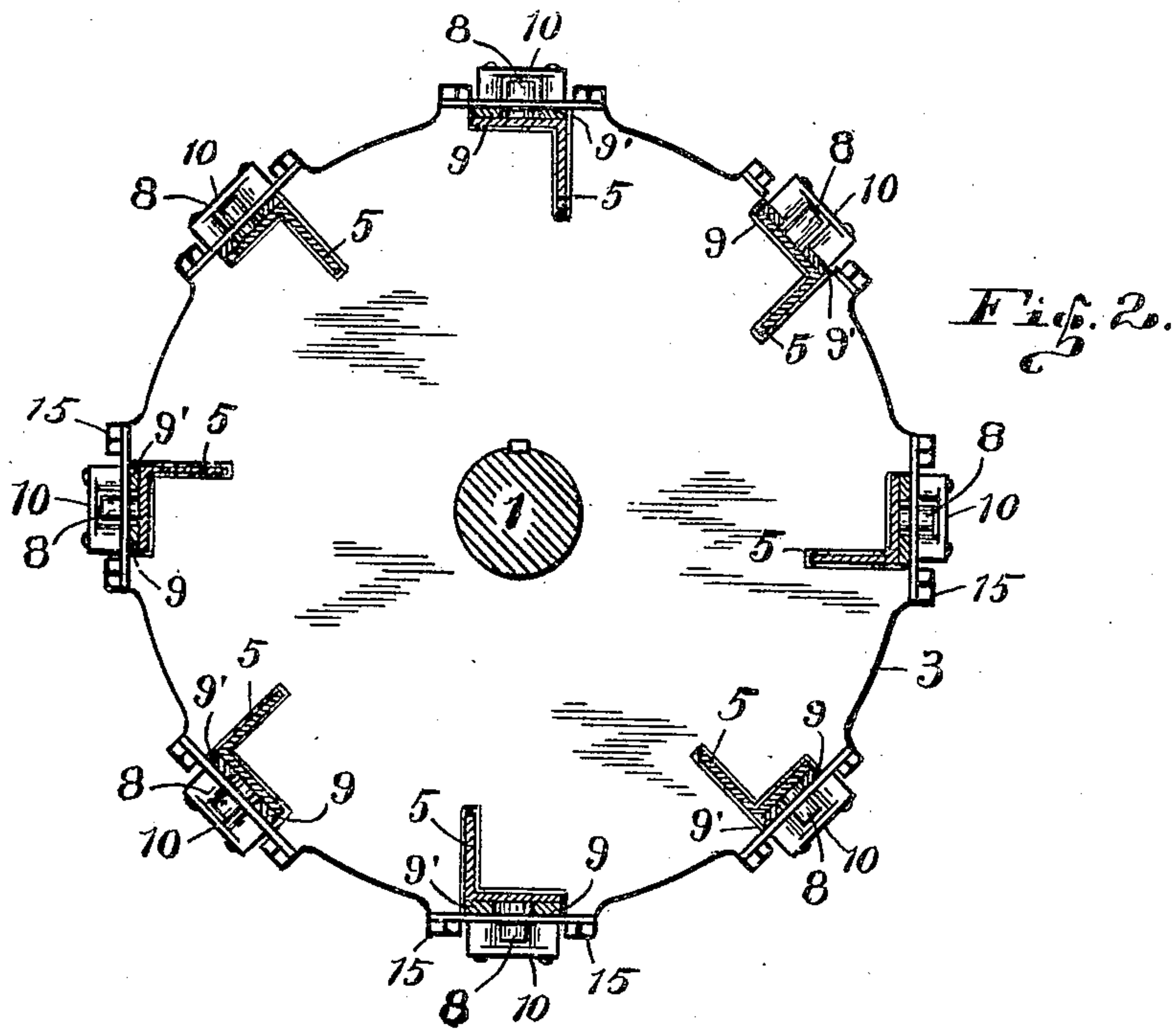
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3 SHEETS-SHEET 2.



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3 SHEETS-SHEET 3.

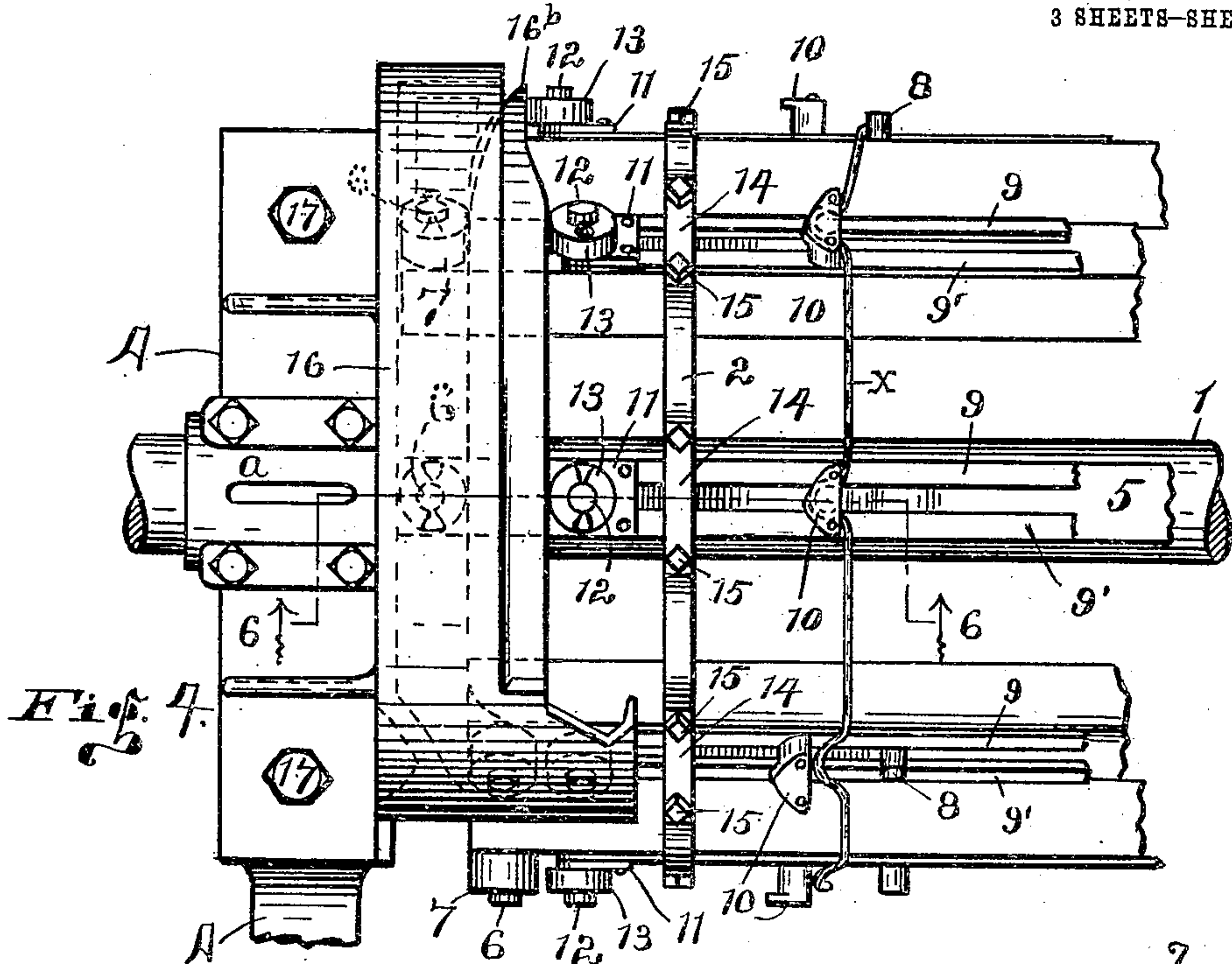


Fig. 4.

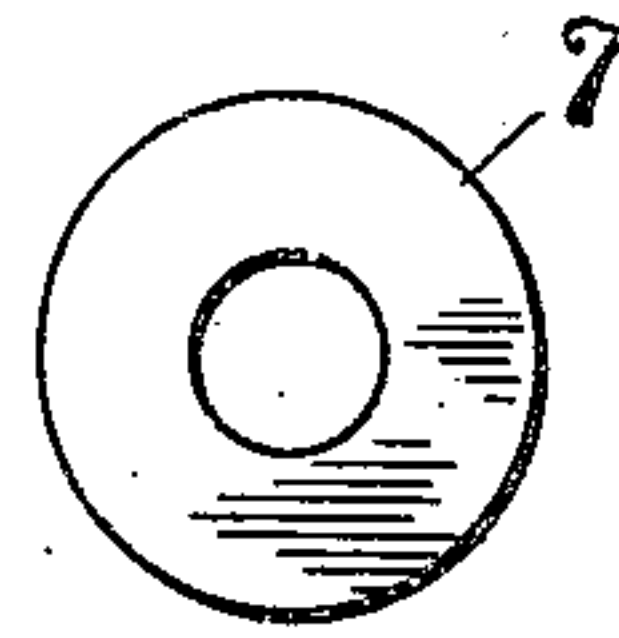


Fig. 7.

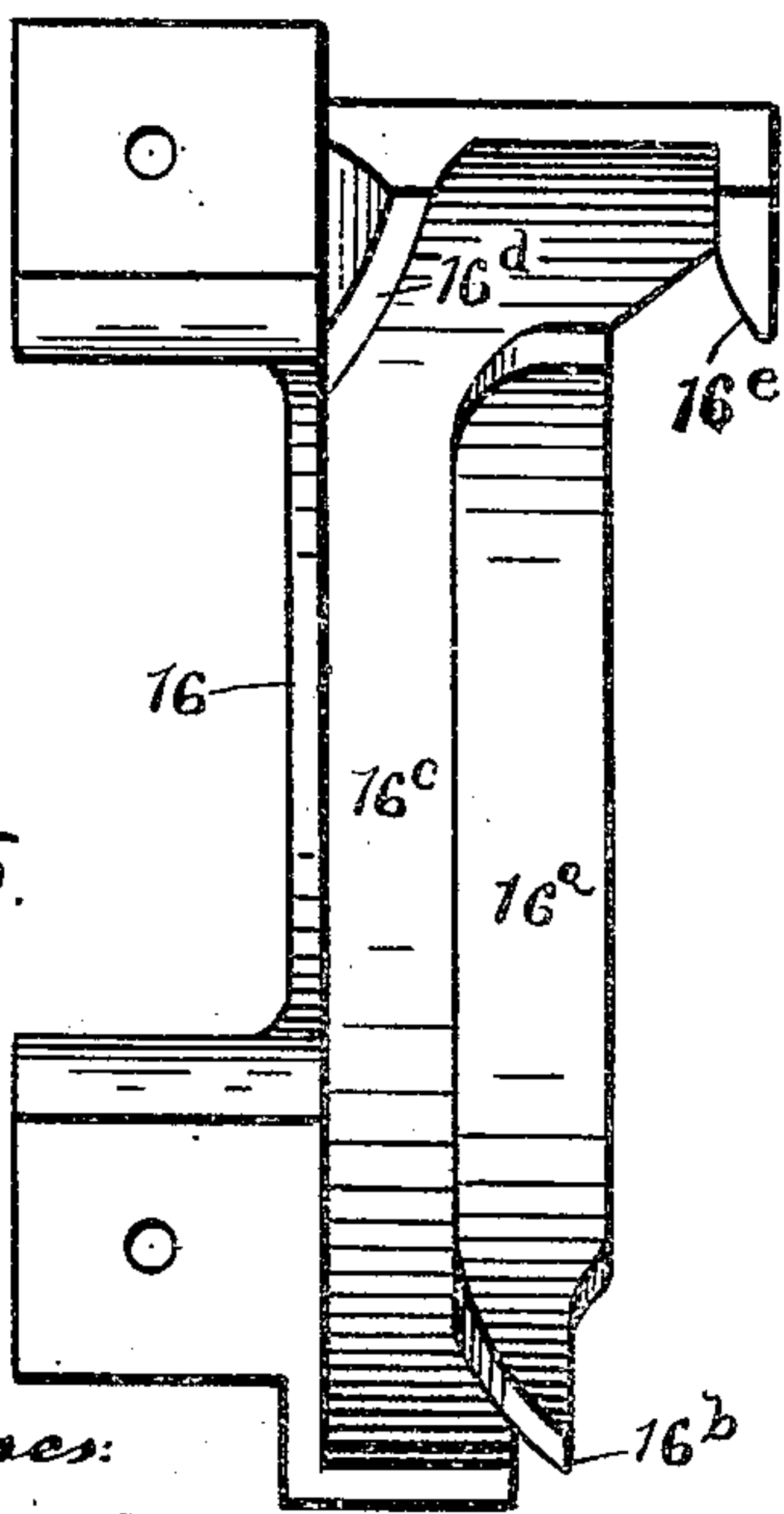


Fig. 5.

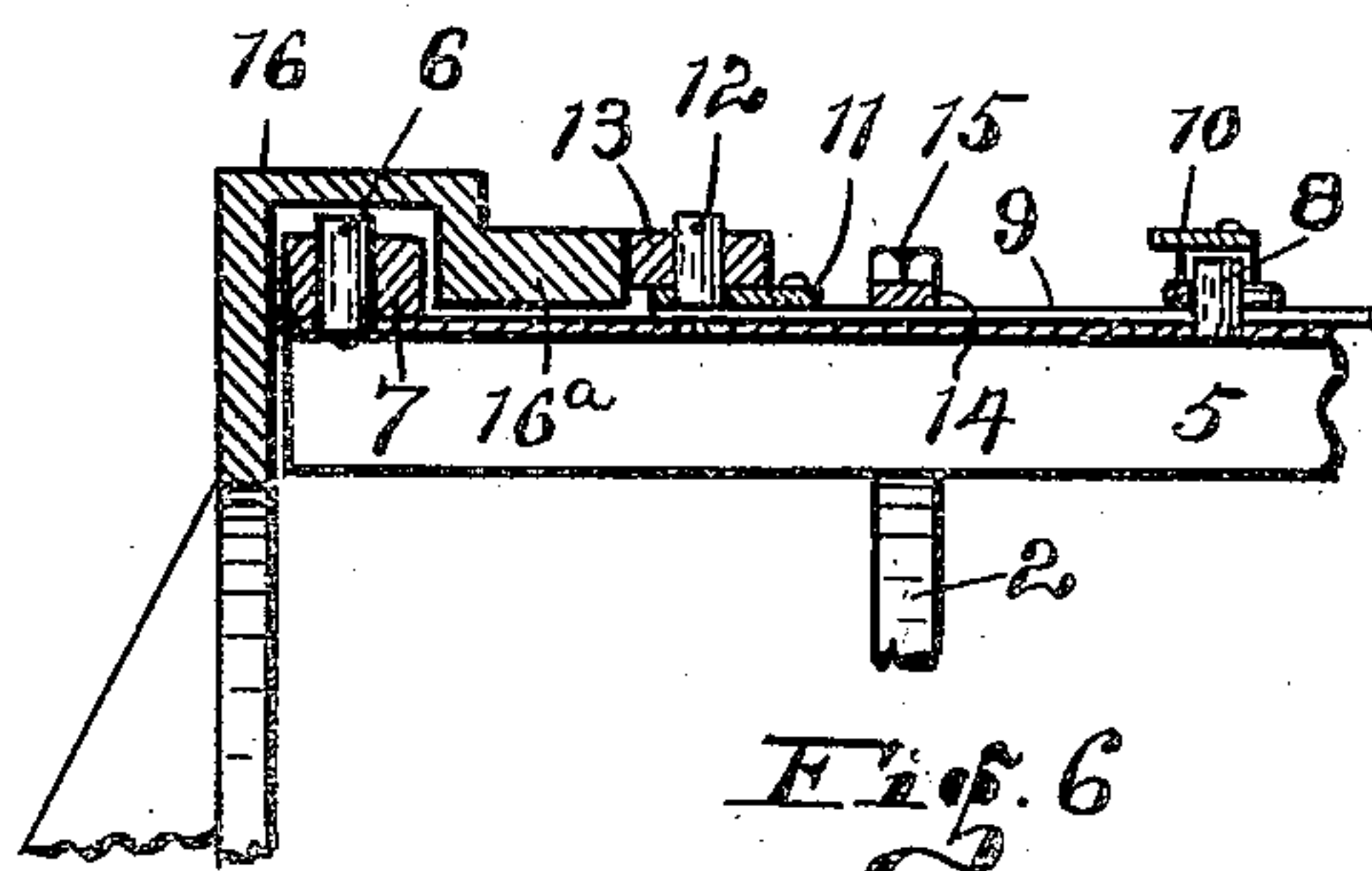


Fig. 6.

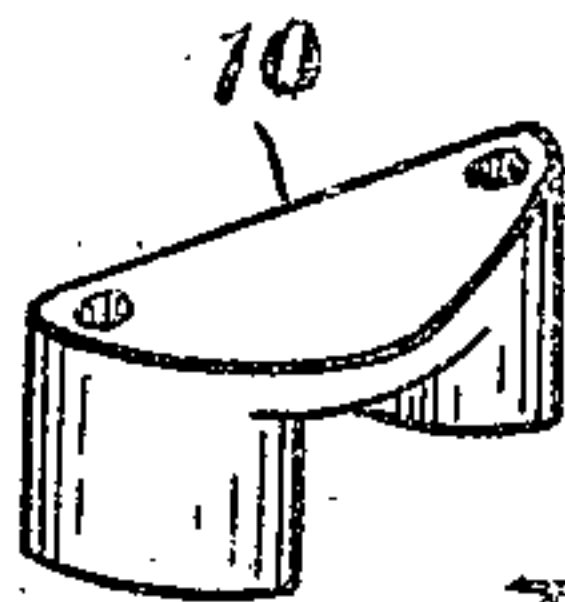


Fig. 8.

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UNITED STATES PATENT OFFICE.

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BULLDOZER.

979,099.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed July 25, 1910. Serial No. 573,789.

To all whom it may concern:

Be it known that I, RICHARD H. SCHWEITZER, a citizen of the United States, residing in Knightstown, in the county of Henry and State of Indiana, have made certain new and useful Improvements in Bulldozers, of which the following is a full, clear, and accurate specification.

The object of my present invention, broadly speaking, is to provide a bulldozer for a wire-fence machine, which will be strong and durable in construction, positive in action, easily operated and controlled, and which can be manufactured and sold at a comparatively low price.

More specifically stated my object is to provide a bulldozer adapted to be employed in connection with wire-fabric making machines, for the purpose of advancing and of crimping the wire fabric.

In this invention the bulldozer is constructed to automatically grasp the wire fabric as it is completed by the fence-machine and to crimp the fabric laterally, and at same time utilizing the same for pulling upward and advancing the line wires of the fence and drawing them across the face of the loop forming device, and afterward delivering the finished product to the reel there to be wound into rolls.

Other objects and particular advantages of my invention will be brought out and made apparent in the course of the following description, and that which is new and useful will be emphasized in the appended claims.

One manner for carrying out the objects of my invention, and that which in practice has been found to be practical and efficient is shown in the accompanying drawings, in which,—

Figure 1 is a front elevation of my invention mounted in connection with a wire-fence machine. Fig. 2 is a cross sectional view taken through the central portion of the device. Fig. 3 is a detail view, showing a rear elevation of the right-hand portion of the bulldozer. Fig. 4 is a detail view, showing a plan of the right-hand end of bulldozer. Fig. 5 is a detail of the underside of the cap or spacer. Fig. 6 is a detail sectional view, as taken on the line 6—6 of Fig. 4. Fig. 7 is a detail plan view of one of the rollers. And Fig. 8 is a perspective detail of one of the blocks or bridges.

Similar indices denote like parts throughout the several views.

In order that the construction, operation, and the advantages of my invention may be more fully understood I will now give a detail description thereof, in which I will set forth the invention as briefly and as comprehensively as I may.

It should be mentioned in passing that wire fence making machines in particular often require the employment of some kind of a bulldozer in connection therewith, the purpose of the bulldozer generally being to assist in drawing the product forward as it is being manufactured.

I desire to call attention to the fact that heretofore it has been customary to crimp the fencing forward and backward, whereby the finished product would show that it was crimped when it was viewed in cross-section or endwise; while my invention crimps the wire, or the fence, so that it will appear crimped when viewed from the front or rear, that is the fencing is crimped at right-angles to that first mentioned.

Another advantage of my mechanism is that it is inter-balanced, whereby the several movements thereof counterbalance each other, and when it is in operation there will be no strain upon the device or upon the machine with which it is employed.

Referring now to the drawings in detail: Letters A and B denote the respective right and left members of the frame of a fence machine on which my invention is mounted. Carried by the respective members A and B are suitable boxings *a* and *b* in which is revolubly mounted the main shaft 1. Said shaft 1 is geared to be revolved by the mechanism of the machine on which the bulldozer is mounted, substantially as indicated at the right-hand end of Fig. 1, said mechanism being indicated in dotted lines. Mounted rigidly on shaft 1 are the three disks 2, 3 and 4, the plan of each being as that shown in Fig. 2.

Numeral 5 denotes any one of a plurality of angle-bars, formed of comparatively heavy angle-iron, their lengths being slightly less than is the distance between the boxings *a* and *b*. As indicated most clearly in Fig. 2 there is a notch and channel formed in each of the disks for each of the said angle-bars to be slidably mounted longitudinally of the bulldozer.

Rigidly secured near the right-hand ends of the bars 5 and extending out from the outer face thereof is the small axle 6, on each of which axles is revolubly mounted a roller 7, the same being secured by suitable keys as indicated. Also secured at frequent distances apart and extending out from each of said bars 5 is a plurality of relatively stationary pins 8.

Slidably mounted in contact with the outer face of each of the bars 5 are two strips 9 and 9' which together form the main portion of a rack, one of said racks being slidably mounted on each of said bars 5. Said strips 9 and 9' are spaced apart with the pins 8 located therebetween, and they are rigidly connected together at frequent distances apart (corresponding to the same distance the pins 8 are spaced apart) by means of blocks 10. Said blocks are each in the nature of a bridge, the space between the two members 9 and 9' being arched over thereby, and allow the pins 8 to pass thereunder, as indicated in Fig. 6. As the pins 8 extend farther out than the face of the racks it is necessary for the central portion of the underside of the blocks 10 to be cut out or formed arched as stated, as shown in Fig. 8, thereby allowing the pins 8 to pass therethrough as indicated. Connecting the right-hand ends of the members 9 and 9' is a plate 11, in the center of which is rigidly mounted the outwardly projecting axle 12 on which is revolubly mounted the roller 13, the same being secured against inadvertent removal by means of a key as shown. It should be noticed that said racks do not extend as far to the right as do the angle-bars 5, thereby permitting each pair of rollers 7-13 to be arranged laterally with relation to each other and adapted to be moved apart or into contact with each other. Each pair of racks and bars is slidable endwise independent of each other, but in contact with each other as indicated, and they are retained in proper position in the peripheries of the disks by means of the caps 14 which are secured to the disks each by a pair of machine-screws 15.

Numeral 16 denotes the hood or spacer which is secured by the bolts 17 to the upper end of the member A on each side of the boxing *a* in such manner, and being of such shape, that it projects over the right-hand end of the bulldozer drum as shown in the drawings.

Formed in the underside of the hood 16, at right angles to shaft 1, is the spacer-rib 16^a whose forward end terminates in a point 16^b. By reason of the rib 16^a a channel 16^c is formed, between said rib and the right-hand edge of the hood, said channel being of proper width to allow the roller 7 to snugly travel therethrough. The rib 16^a terminates short of the rear end of the hood

16, as shown in Fig. 5, the rear end of said rib being curved inward, and across the space therefrom a curved shoulder 16^d is formed which is adapted to deflect the roller 7 to the left. The rear end portion of the hood 16 extends farther to the left than does the rib 16^a thereby forming a shoulder 16^e for the roller 13 to engage in order to throw the roller 13 to the right, there being just enough space between the shoulder 16^e and the rear end of rib 16^a for the roller 13 to pass therebetween. The space between shoulders 16^d and 16^e at the rear of the hood 16 is of proper size to allow the two rollers, 7 and 13, to pass therethrough at the same time, at which time the two rollers are almost in contact with each other.

The letter X denotes one or more line-wires forming a part of the fence or the like, the line-wires being carried upward from the bed-plate of the machine.

Now as to the operation I will first refer to Fig. 4 which will demonstrate the operation upon a single line-wire, it being understood that all of the line wires are operated upon in like manner simultaneously. As the line-wire extends up from the bed-plate it will rest between the pin 8 and the block 10, as at the upper part of Fig. 4, and as the bulldozer revolves the rollers 7 and 13 will be forced apart by reason of the point 16^b entering between the rollers, as indicated, and then they are forced to their farthest limits apart by reason of the width of the rib 16^a, which operation will of course result in the roller 7 moving the pin 8 to the right, and at same time roller 13 will move the block 10 to the left, thereby bringing the pin 8 underneath block 10, as shown in the central portion of Fig. 4, thereby forming a lateral crimp in the wire at each of the blocks 10, and in the same manner clear across the length of the bulldozer. Now as the bulldozer continues to revolve the line-wires being gripped between the pins 8 and the blocks 10 they will be carried with the bulldozer, but after the rollers impinge the shoulders 16^d and 16^e they will be forced toward each other which will manifestly result in spacing the pins 8 and the blocks 10 apart to their limits, as indicated in the lower portion of Fig. 4, thereby releasing the wires X as indicated.

From the above it is apparent that I accomplish the objects of my invention, thereby providing means for positively gripping each of the line-wires in a fence-fabric, and drawing them endwise in unison and under the desired tension; and at the same time forming lateral crimps in each of the line-wires which crimps are at frequent distances apart.

I desire that it be clearly understood that by reason of my construction I avoid the end thrust which would rack or shake the

machine, for the reason that the movements of the pins 8 in one direction exactly balance the movements of the blocks 10 in the opposite direction.

5 Various changes may be made in the details of construction, from that herein shown and described, without departing from the spirit of my invention or sacrificing any of the advantages thereof.

10 Having now fully shown and described my invention, what I claim and desire to secure by Letters Patent of the United States, is—

1. The combination with a wire-fence machine carrying a plurality of line-wires, of a bulldozer mounted on said machine and including a main-shaft adapted to be rotated by the machine, a plurality of disks secured on said shaft, a plurality of bars mounted around in the peripheries of said disks, said bars being slidable endwise in an axial direction, pins carried by said bars, each bar having a pin properly spaced for each line wire, a pair of strips slidable on the face of each of said bars, said strips being spaced apart on each side of said pins, blocks connecting said strips, the underside of said blocks being hollowed out in order to allow said pins to pass therethrough, and means for sliding said strips endwise simultaneously with and opposite to said bars, all substantially as shown and described.

2. In combination with a wire-fence machine carrying a plurality of line-wires, a bulldozer mounted on the machine and comprising in combination, a main-shaft adapt-

ed to be rotated by the machine, a plurality of disks secured on said shaft, a plurality of angle-bars adapted to slide endwise in the peripheries of said disks, a pin for each line-wire carried by each of said bars, a rack slidably mounted on top of each of said bars, the members of said rack being spaced apart by said pins, a plurality of blocks connecting the members of each rack, there being one of said blocks for each of said pins, the central portion of the underside of each of said blocks being hollowed out to allow the pin with a line-wire thereon to pass thereunder in order to grip the line-wires and form lateral crimps therein, all substantially as shown and described.

3. In a bulldozer comprising a drum, a plurality of bars mounted to slide in an axial direction in the periphery of the drum, a rack slidably mounted on said bar and adapted to operate parallel therewith but in directions opposite thereto, a plurality of means carried by said bar and said rack for gripping and crimping line-wires, and means for automatically revolving the bulldozer and operating said bars and rack at right angles to the direction of rotation, all substantially as shown and described.

In testimony whereof I have hereunto subscribed my name to this specification in the presence of two subscribing witnesses.

RICHARD H. SCHWEITZER.

Witnesses:

JOHN M. ROBERTS.

R. L. BELL.