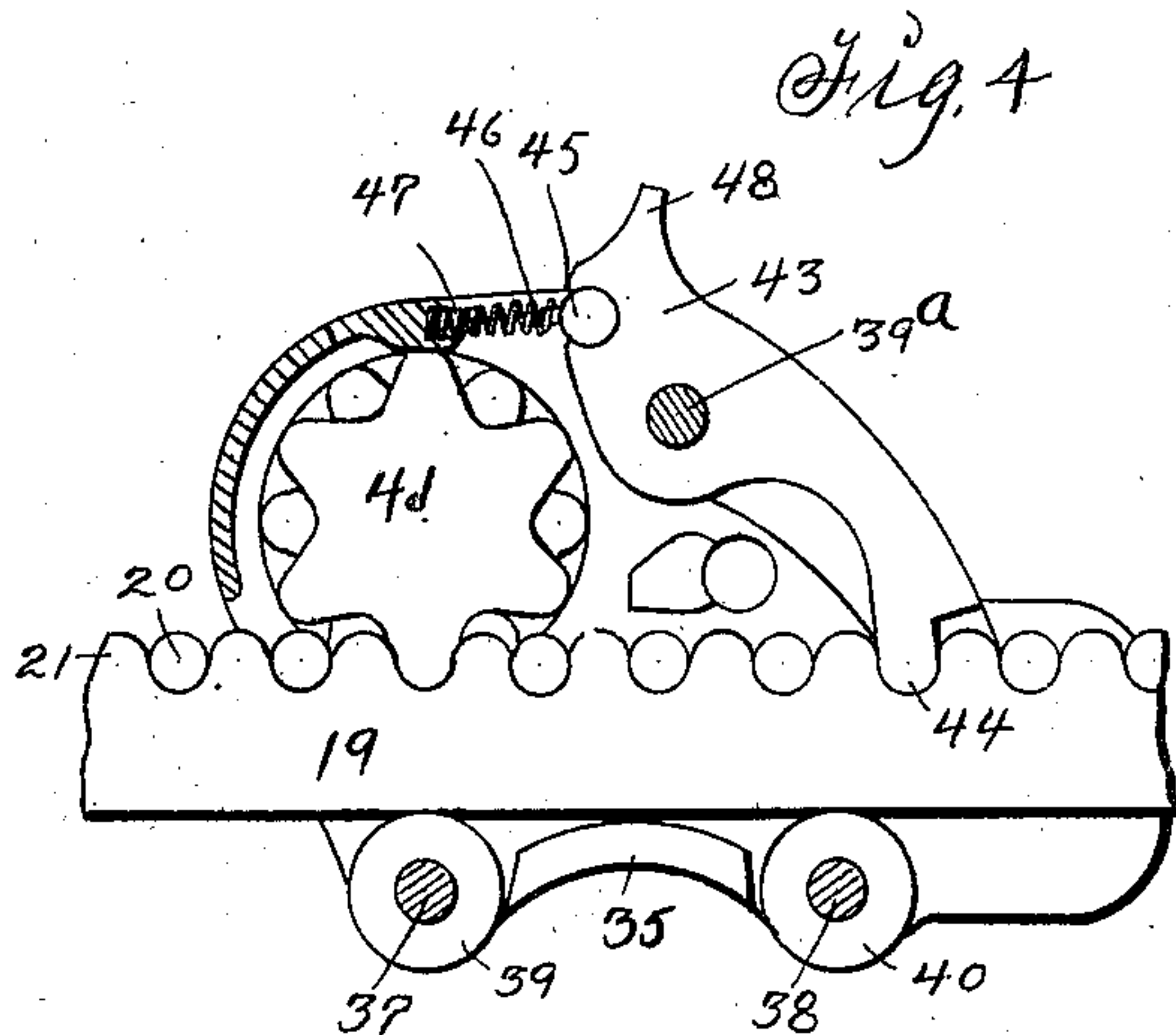
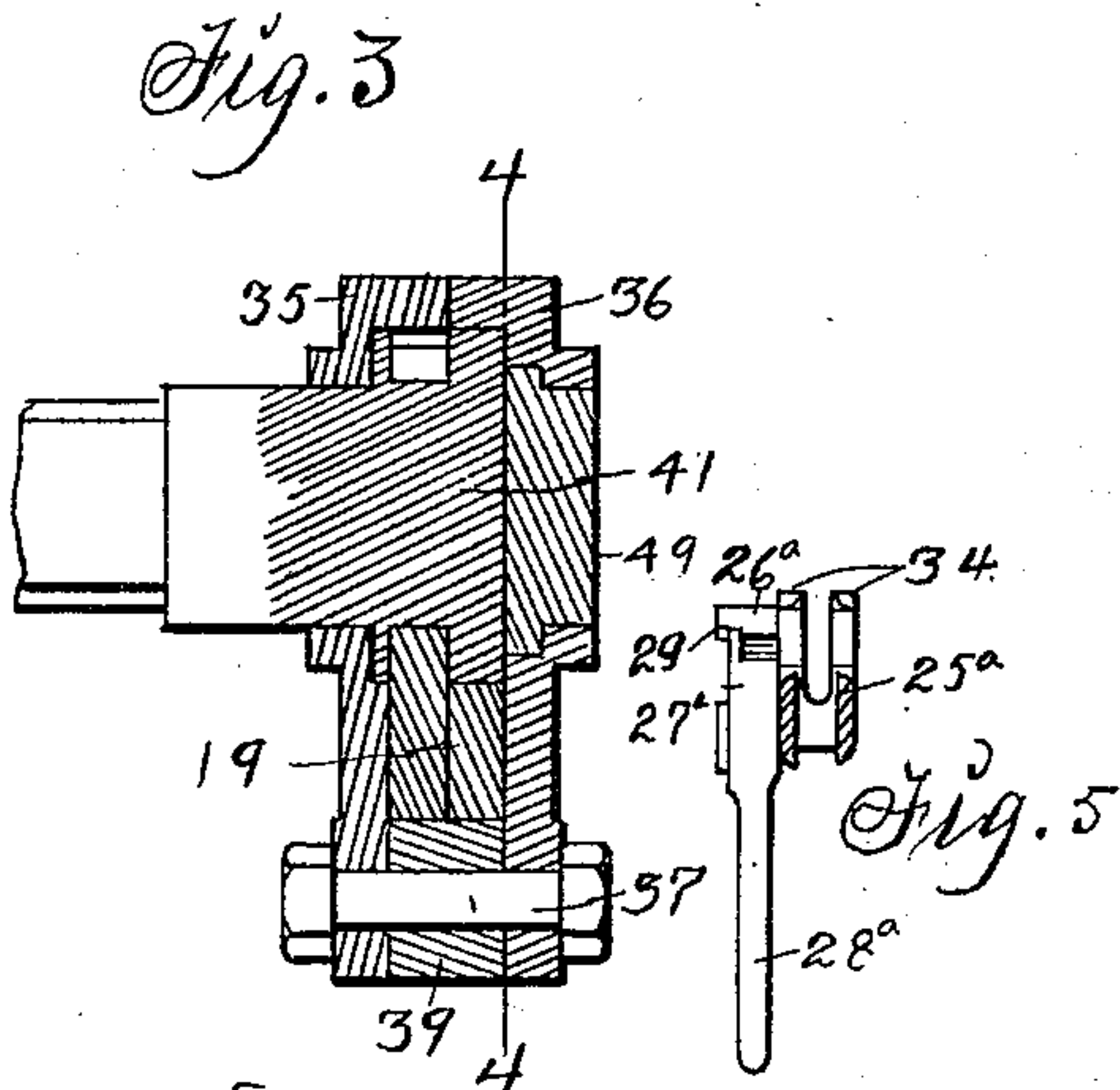
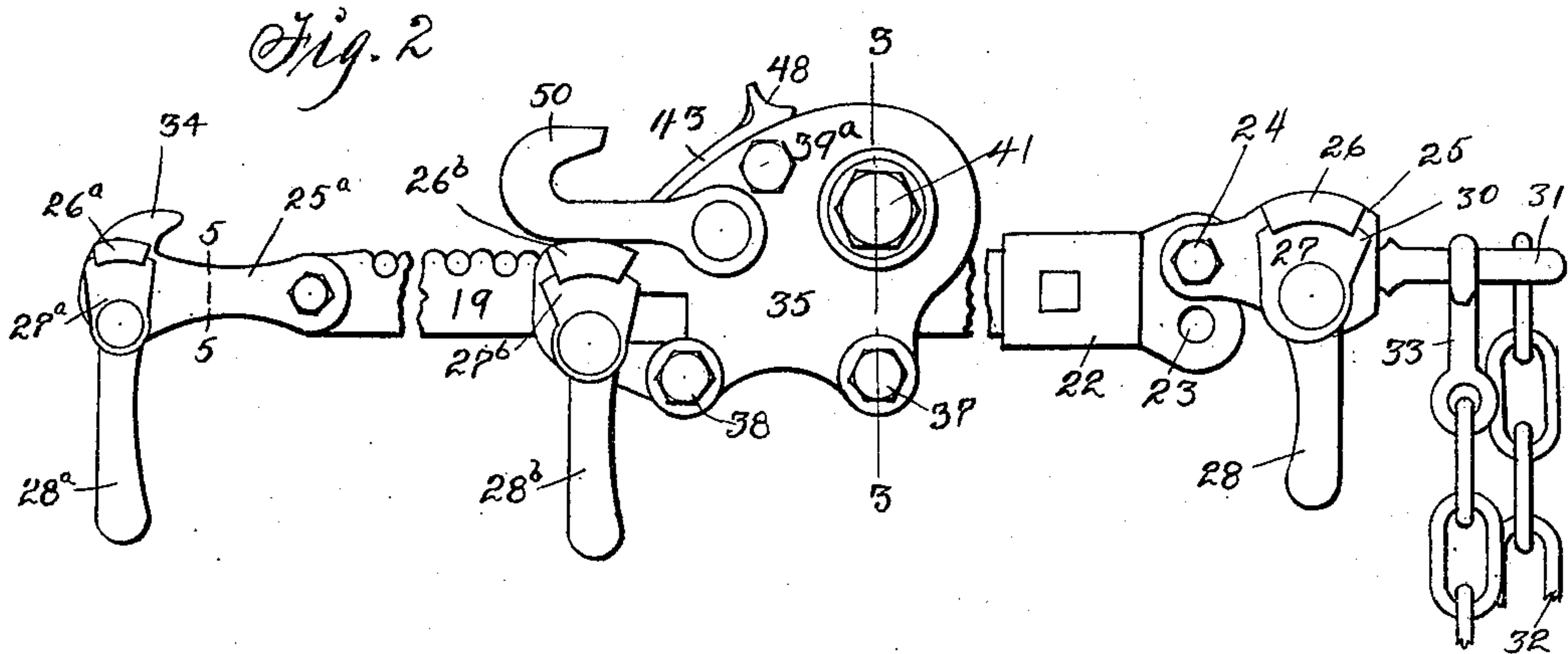
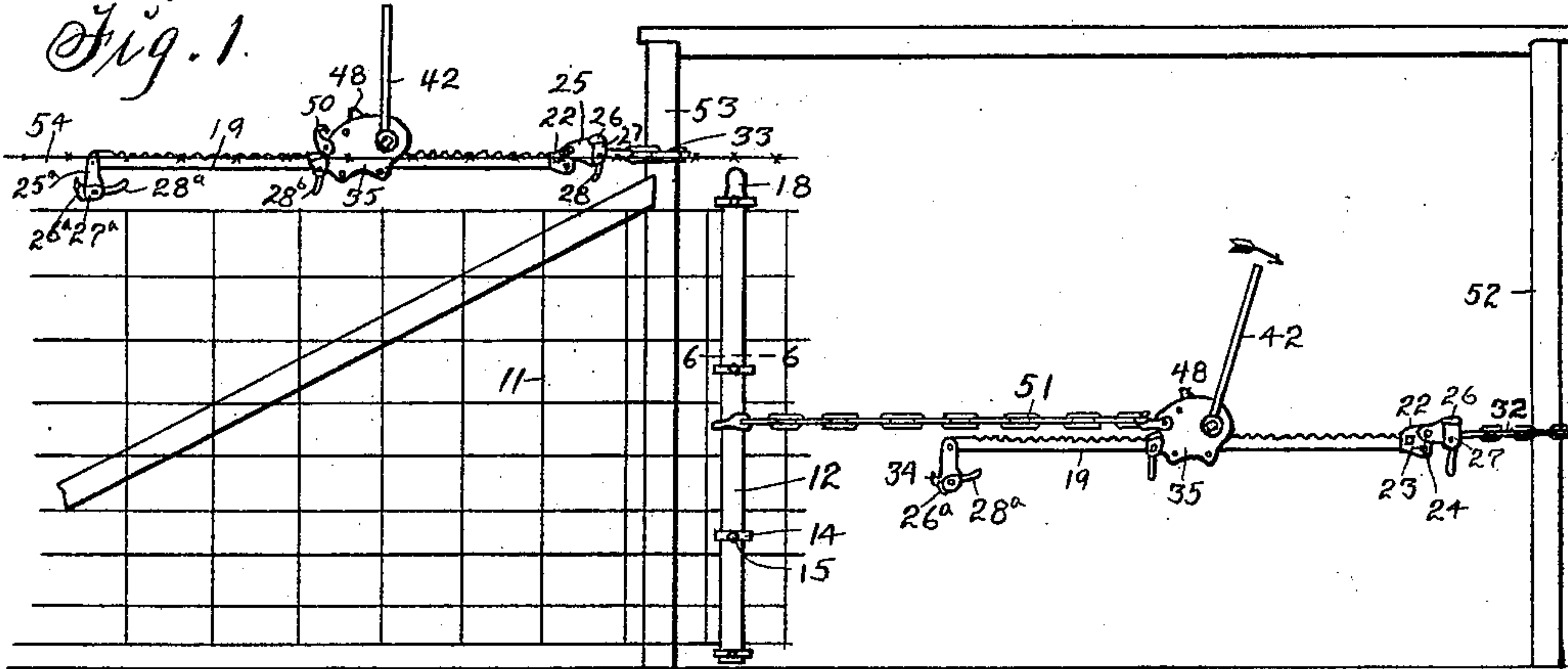


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 APPARATUS FOR STRETCHING WIRE FENCING.  
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903,367.

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# UNITED STATES PATENT OFFICE.

JACOB FISHER, OF SAC CITY, IOWA.

## APPARATUS FOR STRETCHING WIRE FENCING.

No. 903,367.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed January 20, 1908. Serial No. 411,787.

*To all whom it may concern:*

Be it known that I, JACOB FISHER, a citizen of the United States of America, and resident of Sac City, Sac county, Iowa, have  
5 invented a new and useful Apparatus for Stretching Wire Fencing, of which the following is a specification.

The object of this invention is to provide an improved apparatus for stretching woven  
10 wire fencing.

A further object of this invention is to provide improved means for stretching independent strands of wire fencing.

A further object of this invention is to  
15 provide an improved construction for wire stretchers.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my  
20 claim and illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation illustrating the manner of using my entire apparatus. Fig. 2 is a side elevation, on a larger scale,  
25 illustrating the construction of my improved wire stretcher. Fig. 3 is a cross-section on the indicated line 3—3 of Fig. 2. Fig. 4 is a longitudinal section on the indicated line 4—4 of Fig. 3. Fig. 5 is a cross-section on  
30 the indicated line 5—5 of Fig. 2.

A stretching mechanism is provided and comprises a double rack bar 19 having parallel rows 20, 21 of teeth, the teeth of one row alternating with the teeth of the other  
35 row. The bar 19 is formed with a head 22 at one end and a plurality of apertures 23 are formed in said head in various positions relative to the longitudinal center of the bar. A grip device is connected to the head 22 by  
40 means of a bolt 24 extending through said grip device and through one or the other of the apertures 23. Provision is made for more than one aperture 23 in order that the line of draft in the use of the stretching  
45 mechanism may be changed in respect of the longitudinal center of the rack bar 19. The grip device comprises a plate 25 formed with a flange 26 extending laterally from one margin thereof, a cam 27 pivoted on the  
50 plate and a handle 28 on said cam. The flange 26 is formed with a groove 29 adapted to receive a flange 30 on the cam 27 and the outer face of the cam is rounded and serrated transversely and spaced apart from a  
55 rounded inner face of the flange 26 in order

that a strand wire may be received between them.

It is the function of the groove 29 and flange 30 to co-act in preventing accidental removal of the strand wire from the grip  
60 device laterally (Fig. 5). An eye 31 is swiveled to the plate 25 and a chain 32 is attached to said eye permanently at one end and is provided with a hook 33 on the opposite end adapted to be engaged with said eye.  
65 Another grip device is provided and comprises a plate 25<sup>a</sup> pivoted to the opposite end portion of the rack bar 19, a flange 26<sup>a</sup> on said plate, a cam 27<sup>a</sup> pivoted on said plate and a handle 28<sup>a</sup> fixed to said cam. The de-  
70 tails of construction of this grip device are the same as that above described except that the eye 31 is omitted and a hook 34 is formed on the plate 25<sup>a</sup> and is adapted to engage any object desired in the operation of the device.  
75 A carrier or traveler is provided and comprises plates 35, 36 connected by transverse bolts 37, 38, 39<sup>a</sup>. The plates 35, 36 are mounted on opposite sides of the rack bar 19 and are formed with flanges extending toward  
80 each other in such manner as to produce a housing or casing surrounding said rack bar. Anti-friction rollers 39, 40 are mounted on the bolts 37, 38 between the plates 35, 36 and are adapted to engage and roll against the  
85 smooth margin of the rack bar 19.

A double pinion 41 is mounted in the space between the plates 35, 36 and meshes with the rows of teeth 20, 21, said pinion being formed with two rows of teeth in staggered  
90 relations to fit the teeth of the rack bar. The shaft of the pinion 41 extends laterally from the casing and a lever 42 is removably and replaceably mounted thereon and is employed to apply manual force to the rota-  
95 tion of said pinion. A pawl 43 is fulcrumed on the bolt 39<sup>a</sup> and is formed with two teeth 44 at one end to engage the parallel rows of teeth on the rack bar 19. A shaft 45 is mounted for oscillation in the outer end por-  
100 tion of the pawl 43 and a stud 46 is formed on and extends laterally from said shaft. An expansive coil spring embraces the stud 46 at one end and impinges on the pawl 43, while the opposite end of said spring im-  
105 pinges the flanges of the plates 35, 36 in such manner as to exert pressure against the pawl to the end of holding said pawl normally in engagement with the rack bar. A thumb piece 48 is formed on the pawl 43 and is  
110



adapted to receive manual pressure to release engagement of said pawl with the rack bar 19 in opposition to the pressure of the spring 47. It is the function of the lever 42 to rotate the pinion 41 in meshing with the teeth 20, 21 and cause said pinion to travel on the rack bar 19 and carry with it the carrier or traveler composed of the plates 35, 36 and devices thereon. It is the function of the pawl 43 to prevent normal and accidental rearward movement of the traveler or carrier on the rack bar 19. A filling block 49 is mounted in a hole in the plate 36 in alinement with the pinion 41. The filling block 49 and pinion 41 may be reversed in relative positions, that is to say, they can be removed from the positions shown and the filling block be placed in the plate 35 while the pinion is placed in and has its shaft extending from the plate 36. This interchangeable arrangement is provided in order that the lever 42 may be changed from side to side of the traveler as desired. A hook 50 is pivoted on the plate 35 and is adapted to engage a chain 51, the opposite end of which chain engages or is looped about the channel bar 10 and clamping bar 12. At the same time the chain 32 is looped about or engages an anchor, such as a post 52. The parts being mounted as shown in the right portion of Fig. 1, a movement of the lever 42 in the direction of the arrow causes the carrier or traveler to move to the right on the rack bar 19 and in so doing apply draft through the chain 51 to the clamp on the fencing 11. Such draft being applied at the central portion of the clamp will be distributed through said clamp to each of the strand wires of the fencing and pull uniformly on the string of fencing to be stretched. All of the movement of travel of the carrier on the rack bar 19 is taken up and held by the pawl 43 engaging said bar and when the fencing has been stretched to the desired degree the stretching mechanism may be left alone while the operator secures the fencing to the posts provided to support it. A grip device is mounted on the carrier or traveler and comprises a flange 26<sup>b</sup> fixed to and extending laterally from the plate 35 beneath the hook 50, a cam 27<sup>b</sup> pivoted on said plate and a handle 28<sup>b</sup> fixed to said cam.

It is the function of the grip device on the traveler to engage a fencing wire at times as about to be described. Referring to the application of the device as shown at the top of Fig. 1, it will be observed that the chain 32 may be attached to an anchor, such as a post 53, and a single fence wire 54, either barbed, twisted or plain, may be engaged with the grip device on the traveler or carrier, that is to say, the wire engaged between the cam 27<sup>b</sup> and the flange 26<sup>b</sup>. Thereafter, the traveler may be caused to travel on the rack bar 19 in such manner as to stretch the wire 54 toward the anchor 53. Sometimes it is desirable to splice a wire intermediate of its ends at the same time it is stretched taut on either side of the break. In that event, one end portion of the wire would be engaged between the cam 27 and flange 26, the opposite end portion would be engaged between the cam 27<sup>b</sup> and the flange 26<sup>b</sup>, the stretching operation would be performed, and the wire spliced or twisted together between the points of engagement. Sometimes it is necessary to hold the stretched wire gained and take a new bight on the wire to give it further stretching. In such event, as the wire is stretched one portion of it would be engaged between the cam 27<sup>a</sup> and the flange 26<sup>a</sup> to hold it and the wire would be released from the cam 27<sup>b</sup> and flange 26<sup>b</sup> and the traveler moved to initial position and reengaged for further stretching.

I claim as my invention—

An apparatus for stretching wire fences, comprising a stretcher composed of a double rack bar having parallel rows of teeth and a head at one end provided with a plurality of apertures, a carrier mounted for longitudinal movement on said rack bar, a double pinion on said carrier engaging said rack bar teeth, a pawl having two teeth for engaging the two rows of teeth on said rack bar, a clamp for connecting said carrier to the fencing and means for anchoring the rack bar.

Signed by me at Sac City, Iowa, this 6th day of July, 1907.

JACOB FISHER.

Witnesses:

J. H. STALFORD,  
PHIL. SCHALLER.