

No. 680,398.

W. F. SEARGEANT.

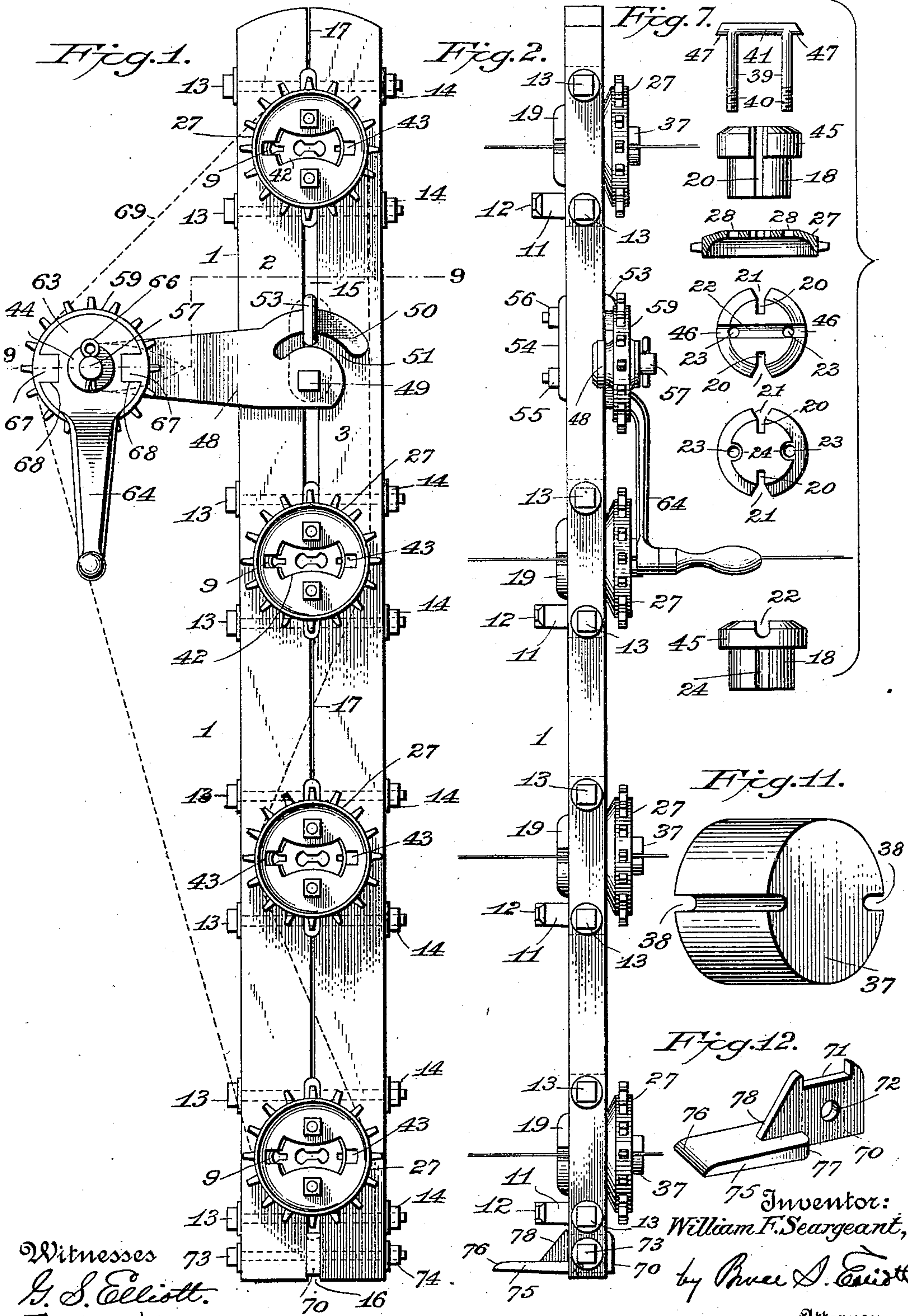
Patented Aug. 13, 1901.

SLAT AND WIRE FENCE MACHINE.

(Application filed Dec. 19, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
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J. B. Keefe

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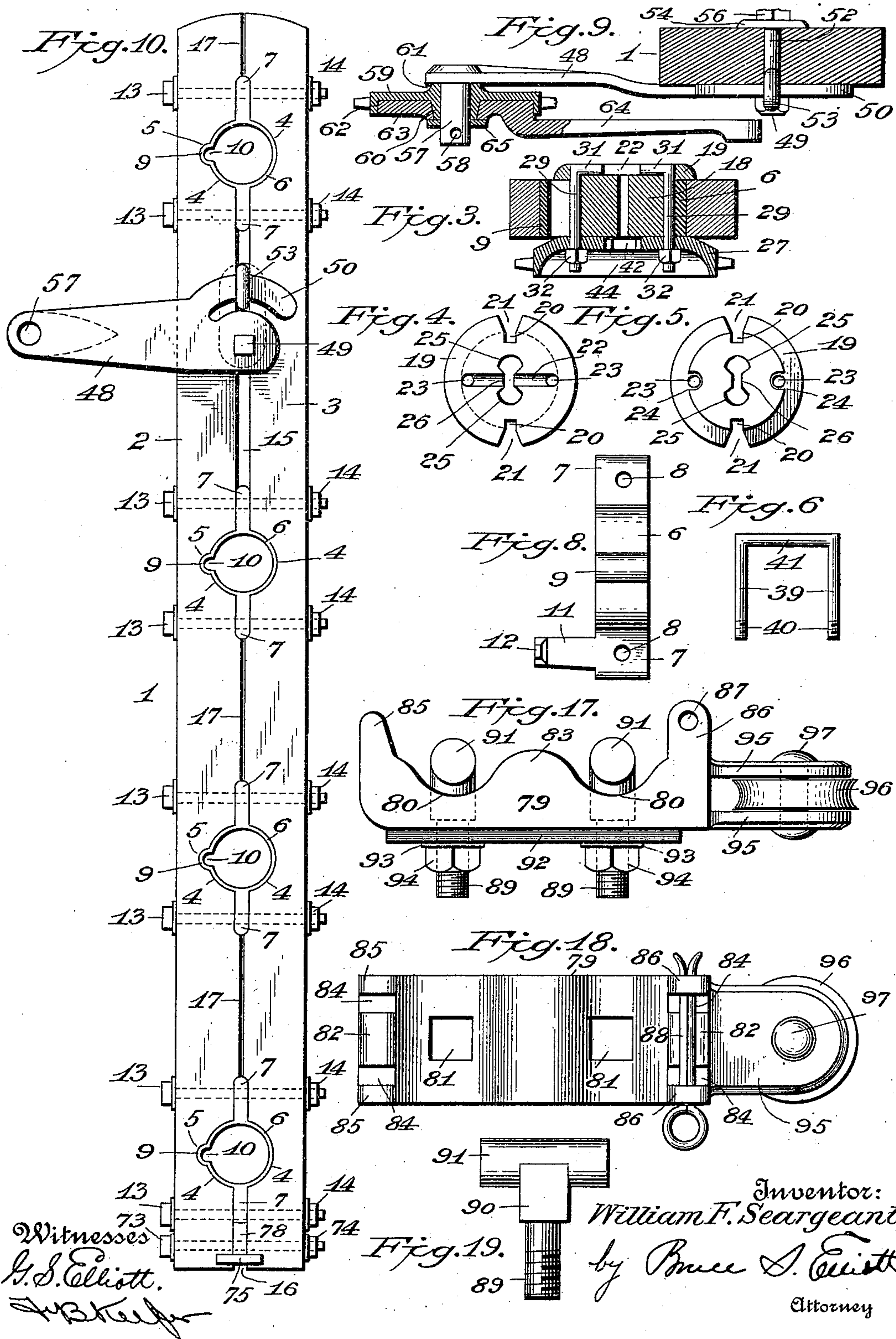
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3 Sheets—Sheet 3.

Fig. 13.

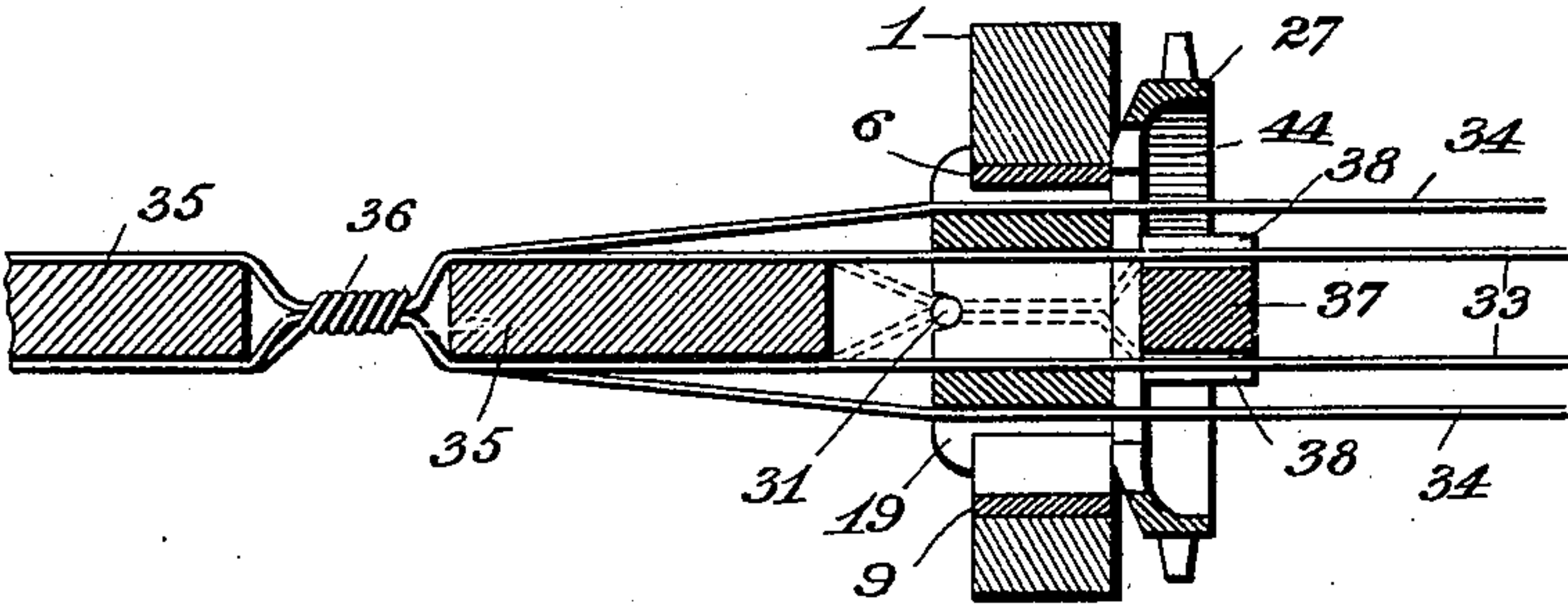


Fig. 14.

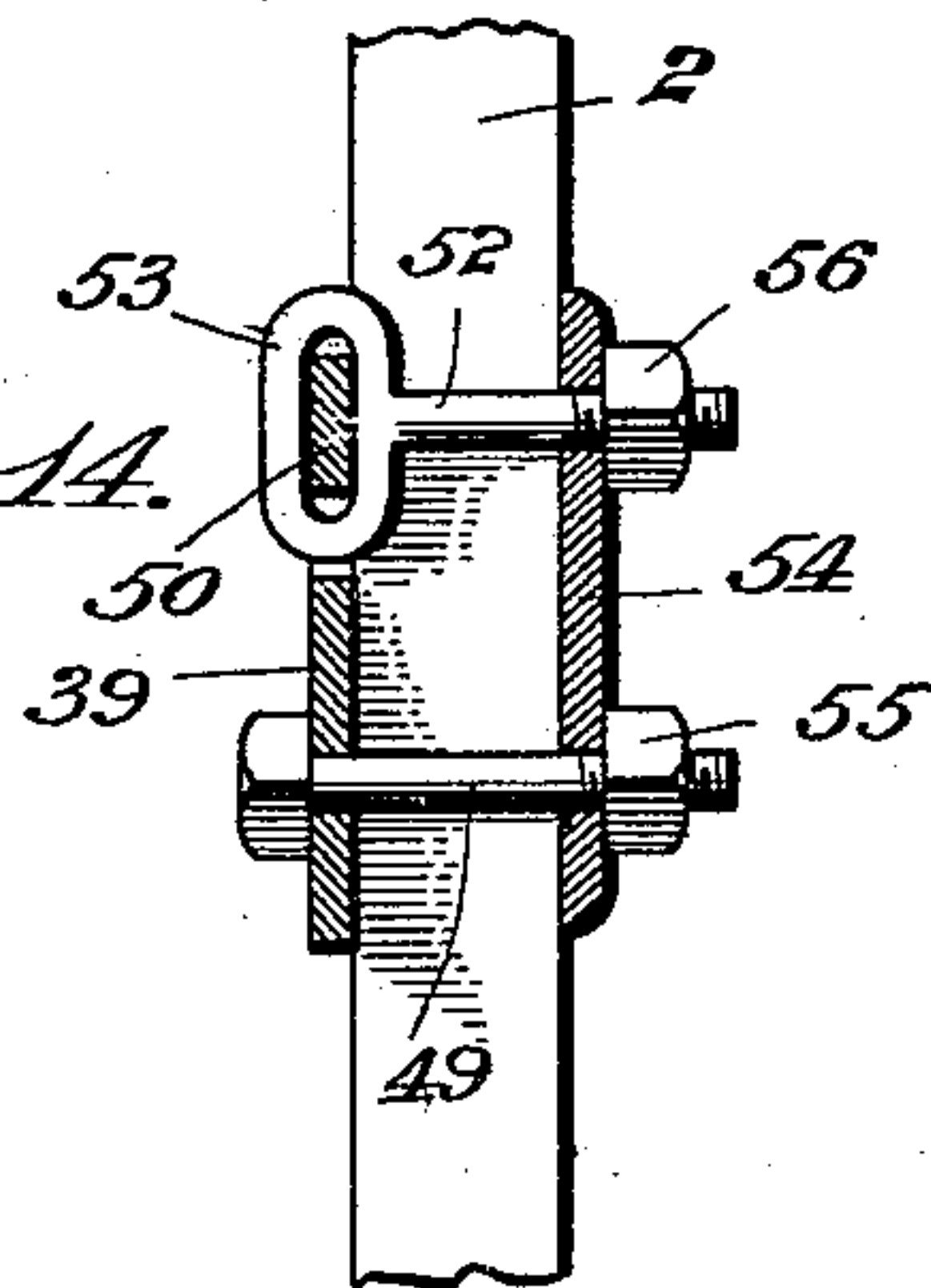


Fig. 16.

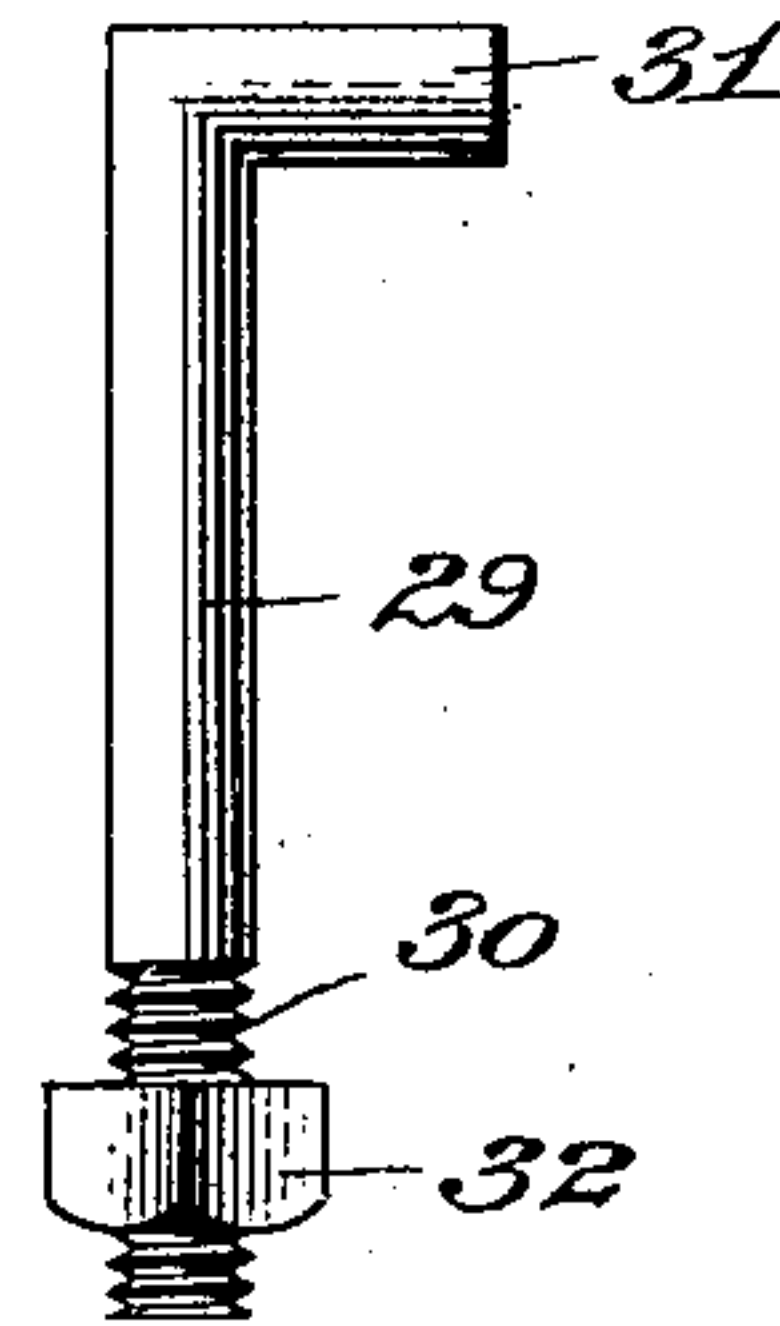
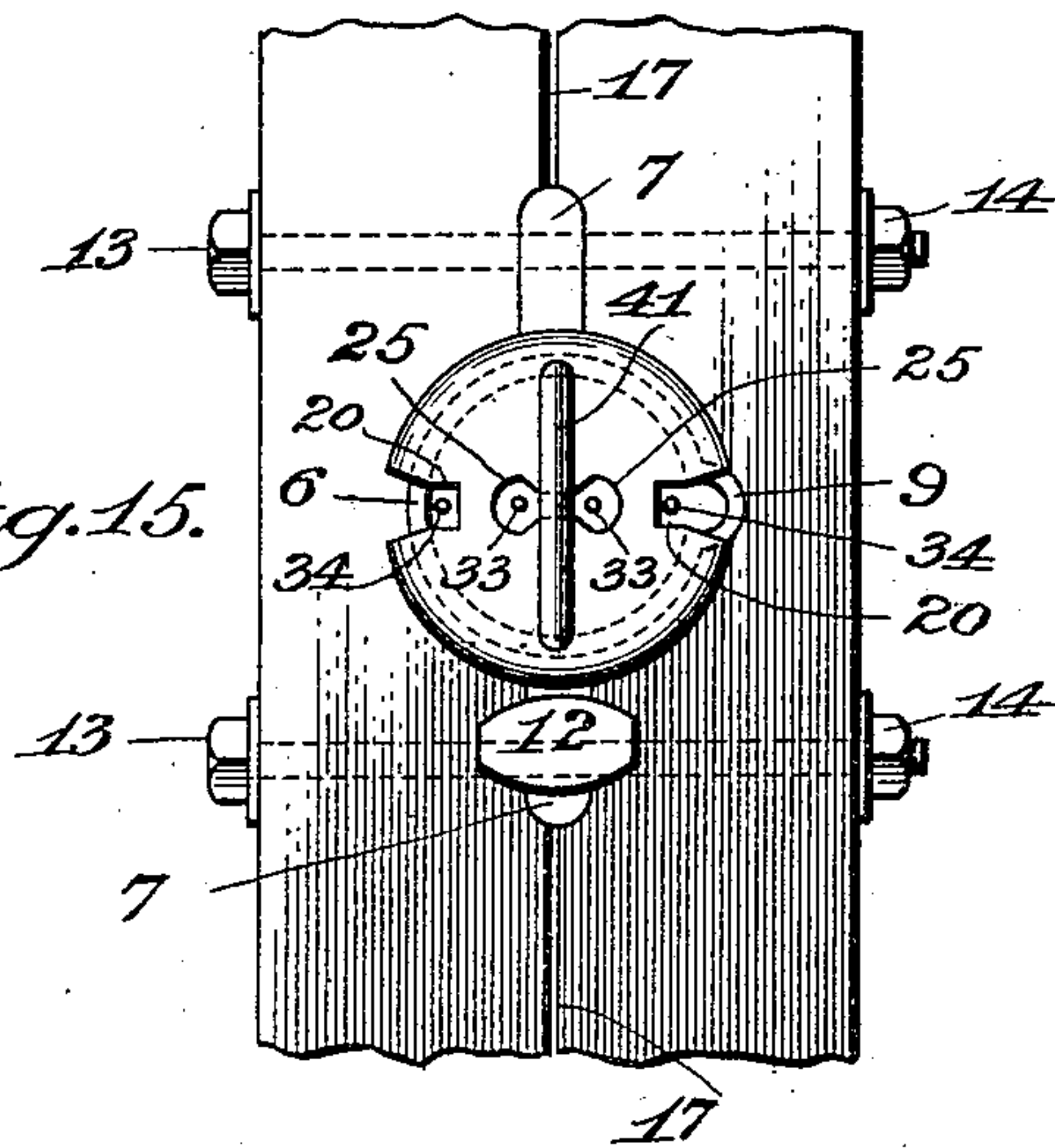


Fig. 15.



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UNITED STATES PATENT OFFICE.

WILLIAM F. SEARGEANT, OF MARSHALL, MISSOURI.

SLAT-AND-WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 680,398, dated August 13, 1901.

Application filed December 19, 1900. Serial No. 40,418. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. SEARGEANT, a citizen of the United States, residing at Marshall, in the county of Saline and State of Missouri, have invented certain new and useful Improvements in Fence-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in fence-machines of the type in which a series of twist-ers for twisting wires about the pickets of a fence are revolubly mounted in an upright and simultaneously driven by means of a sprocket-chain.

It is the general object of my invention to provide an improved machine of this character which shall be simple in construction and operation and economical to manufacture.

Stated in detail, the more important objects of the invention relate to an improved wire-twisting mechanism, to an improved journal-bracket for supporting the wire-twisters, to an improved adjustable arm for supporting the driving sprocket-gear of the machine, and to an improved construction of device for straining the wires to be twisted.

With these and other objects in view the invention resides in the details of construction and combinations of parts hereinafter described, and particularly pointed out in the claims.

To enable my invention to be understood, I have illustrated the same in the accompanying drawings, in which—

Figure 1 is a view in front elevation of a machine constructed according to my invention. Fig. 2 is a side view of the same. Fig. 3 is a sectional view, enlarged, through the upright and one of the twist-ers. Fig. 4 is a top plan view of the twister-head. Fig. 5 is a bottom plan view of the same. Fig. 6 is a view of the staple used to secure the parts of the twister together. Fig. 7 represents in detached views the parts of a slightly-modified construction of twister. Fig. 8 is a side view of a journal-bracket having combined therewith a bumper for truing the pickets and forcing them to position. Fig. 9 is a plan view, mostly in section, taken on the line 9 9 of Fig. 1, illustrating the mechanism for driving the sprocket-chain of the machine and its connection with the upright. Fig. 10 is a

view in front elevation of the upright, the wire-twisting mechanism being removed to illustrate the manner of securing the journal-brackets in the upright and the arm for supporting the driving sprocket-gear being shown in an adjusted position different from that it is shown to occupy in Fig. 1. Fig. 11 is a perspective view of a spacing-block for the wires. Fig. 12 is a similar view of a picket-rest. Fig. 13 is a sectional plan view illustrating the operation of the twisting mechanism when four wires are employed. Fig. 14 is a view of a portion of the upright on a line drawn through the longitudinal center thereof, showing the supporting-arm and its clamping-plate in section. Fig. 15 is a view in front elevation of a portion of the upright, having a wire-twister mounted thereon and showing the same arranged to twist the wires into a cable. Fig. 16 is an enlarged view of one of the securing-bolts for the twister shown in the sectional view, Fig. 3. Fig. 17 is a view in side elevation of my improved straining device. Fig. 18 is a top plan view of the same, and Fig. 19 is a detail view of a tension-bolt.

Referring now to the drawings, the numeral 1 indicates the upright, which is of wood and of a height to have mounted thereon the desired number of twist-ers and of a thickness to have secured therein the journal-brackets hereinafter referred to. Said upright is formed of two similar sections 2 3, each of which is provided on its inner edge, at four or more points throughout its length, with a semicircular recess 4. One section of the upright (that indicated by 2) is further provided with a series of smaller semicircular recesses 5, leading off from the recesses 4 at a point midway between its ends. The semicircular recesses 4 coincide, so that when the two sections of the upright are placed side by side these recesses will form circular housings to receive the journal-brackets in which the twist-ers are mounted. As shown in the drawings, these housings are located, respectively, near opposite ends of the upright, at a point slightly above the center of the upright and at a point between the center and the lower end thereof. Each of the journal-brackets comprises a flat metal ring 6, having projecting from opposite sides

tongues 7, each of which is provided with an aperture 8 and has its outer end rounded. At one side the ring 6 is provided with a semi-circular offset 9, which when the journal-bracket is in position on the upright is designed to be received into the recess 5 thereof. The offset 9 also provides a recess 10 at the side of the ring 6 for a purpose to be presently explained. The lower tongue 7 of each journal-bracket is provided with an integral forwardly-extending arm 11, having on its outer end a bumper 12, the outer faces of these bumpers being flat and lying in the same plane. Each ring 6 is of a diameter to be embraced snugly by the semicircular recesses 4, and when so positioned the tongues 7 will lie between and in contact with the inner edges of the sections 2 3. These sections are provided adjacent to and above and below the recesses 4 with coincident apertures, which will aline with the apertures 8 in the tongues 7, and by means of bolts 13, passed through these apertures and secured by nuts 14, the journal-brackets will be firmly secured in the upright and the sections 2 3 be held in spaced parallel relation by the tongues 7. I so cut away the opposing or inner sides of the sections 2 3 that a slot 15 of the same width as the tongues 7 shall extend between the upper and the central journal-bracket and a similar slot 16 be provided at the lower end of the upright. The remaining edge portions of these sections come closer together and provide a narrow slot 17, as clearly shown in Fig. 10, the purpose of which is to allow the sections 2 3 of the upright to be brought closer together by tightening the nuts 14 to make up for shrinkage of the wood. Thus the journal-brackets may always be clamped firmly in the upright.

Referring now to Figs. 3, 4, and 5, each of the twisters in the preferred form comprises a twister-head having a cylindrical portion 18, which is of a diameter to journal snugly in the ring 6 of the journal-bracket, and an annular flanged portion or head 19, overlapping and abutting against the edge of the ring 6, which lies flush with the side of the upright. On opposite sides of the twister-head are provided radial slots 20, which cut through the flange 19 and extend part way into the cylindrical portion or journal 18 and are adapted to receive the wires to be twisted about the pickets. The portions of the slots in the flange or head 19 are enlarged or flared, as indicated at 21.

The numeral 22 indicates a groove or recess provided in the head of the twister and extending between and at right angles to the slots 20, said recess terminating at opposite ends in apertures 23, extending through said head and cutting the periphery of the journal 18 throughout its length in a manner to afford recesses 24 on opposite sides of said journal. Extending through the twister-head from end to end thereof are two practically semicircular apertures 25, located, respec-

tively, on opposite sides of the groove 22 and connected by a passage 26, having straight parallel walls. These apertures are for the reception of wires which, in connection with the wires located in the slots 20, are to be secured about the pickets or twisted together with said wires to form a cable fence, as more fully explained later on.

The numeral 27 indicates a sprocket-wheel having a flat side for bearing smoothly and frictionally against the edge of the ring 6 and the side of the upright opposite to that engaged by the head 19 of the twister and provided on opposite sides of its center with apertures 28, (see Fig. 7,) which may be brought to coincide with the apertures 23 and recesses 24 of the twister-head.

In Fig. 16 I have shown one of two bolts 29 employed in one form of the invention for securing the parts of the twister together. Each of these bolts is screw-threaded at one end, as indicated at 30, and at its opposite end is provided with a head 31, which is formed by bending the bolt at right angles to itself, or said bolt may be cast or otherwise formed in this shape. The bolts 29 are passed through the apertures 23 and along the recesses 24 of the twister-head and through the apertures in the sprocket-wheel 27, their heads 31 lying in the groove 22, and by means of nuts 32 applied to the screw-threaded ends of these bolts the twister-head and sprocket-gear may be secured together in firm fixed relation, as more clearly shown in Fig. 3. The recesses 24 in addition receiving the bolts 29, enable the twister to be journaled in the ring 6, as otherwise the bolts would project from the sides of the journal 18. The heads 31 extend toward each other in the slot 22; but they are of such length that they do not project beyond the walls of the passage 26 and, as shown in Fig. 3, a considerable space is left between their ends. In employing this form of the twister two wires 33 are strung through the apertures 25 and two wires 34 are inserted in the slots 20 of the twisters.

Referring now to Fig. 13, the operation will be clearly understood. A picket 35 being placed between the wires 33, one end of each of which, as well as of the wires 34, has been secured to a post, the twisters are revolved in the manner to be presently explained. As the twisters turn the wires 33 in the apertures 25 are forced toward each other and into the passage 26, as indicated by the dotted lines, but are not twisted, while the wires 34, being carried around by the slots 20, are twisted about the picket and also about the wires 33 in the manner indicated at 36, and as a result the pickets will be securely wired and firmly held in position. Should one of the wires at one side of the picket break, it will still be held in place by the remaining wire. By wiring the pickets in this manner a very strong and durable fence may be constructed, from which it will be practically impossible to remove the pickets without

splitting or breaking them. In order to again separate the wires 33 to permit the insertion of a picket after said wires have been forced together, as described, I provide the spacing-block 37. (Shown in detail in Fig. 11.) This spacing-block is made of a cylindrical piece of wood or metal and is provided on opposite sides with longitudinal grooves 38. One of these blocks is placed against each sprocket-wheel 27 on the concaved side thereof and the wires 33 placed in the slots 38. When the twisters cease to rotate, the wires 33 will be sprung out into the apertures 25 by these blocks and the picket can readily be inserted between them. The blocks 37 are moved along the wires 33 by the machine as the latter is moved forward in building the fence.

In Fig. 6 I have shown a rectangular staple for use in connecting the parts of the twisters together when it is desired to build a cable fence. This staple comprises the legs 39, having screw-threaded ends 40 and connected by the head 41 and connects the parts of the twisters together in the same manner as the bolts 29, except that the head 41, lying in the groove 22, will extend across the passage 26, as illustrated in Fig. 15. By reference to said figure it will be seen that the wires 33 and 34 are arranged in the twister in the same manner as just described with reference to Fig. 13; but in the present case the wires 33 will lie on opposite sides of the head 41 of the staple. Should the twister now be revolved, it will be seen that the wires 33 and 34 will necessarily be twisted into a four-strand cable, the coils of which will lie more or less closely together, depending upon the number of revolutions imparted to the twisters. In constructing a fence with this form of picket the wires are first twisted in one direction into a cable for a given distance, when a post is placed between the wires and set in the ground. The wires are next twisted in the reverse direction, the machine being moved along the wires until the point is reached for setting another post, when the above operation is repeated, the twisters being revolved alternately in opposite directions after setting each post.

When it is desired to construct an ordinary picket fence by means of two wires twisted about the pickets, I preferably employ the construction shown in Fig. 15, the inner wires 33 being of course omitted.

The apertures 25 are of sufficient size to permit splices in the wires to be passed through the same, and the passage 26 is also wide enough to revolve about the wires 33 when the construction shown in Fig. 13 is employed without twisting them.

The twister as a whole, comprising the twister-head and sprocket-wheel connected in either of the ways described, is rotatably mounted in the ring 6 upon the journal 18.

The center of the sprocket-wheel 27 is cut away, as indicated at 42, to provide a relatively large opening to permit the wires to be

readily strung through the twister-head and so that the edges of this opening shall not rub the wires as they are being twisted. The sprocket-wheel is further cut away at opposite ends of the opening 42 to provide recesses 43, which aline with the flaring openings 21 of the flanged head 19 of the twister. The purpose of this construction will now be described.

In machines of this character means must be provided to permit the twisters to pass over splices, knots, or the like in the wires or else the twister encountering the splice or knot has to be removed or taken apart, so as to permit the machine to be moved beyond this part of the wire. According to my invention when a splice or knot is encountered the twister is revolved until the recesses or openings 21 and 43 on each side of the twister are in turn brought to coincide with the recess 10 in the ring 6, when the twister can be readily passed over the spliced wire, owing to the larger opening presented, the wire being temporarily pulled out of the slot 20, as will be understood. The outer side of the sprocket-wheel 27 is also preferably concaved, as indicated at 44, for the purpose of lightness and so that the nuts 32 shall lie within the outer surface thereof. The sprocket-wheel is also of such a shape that its teeth will lie well away from the side of the upright, as shown in Fig. 3.

In Fig. 7 I have shown the parts of a slightly-modified construction of twister. In this construction the sprocket-wheel 27 has the same form as previously described. The head 45 of the journal 18 is made relatively thick, the slot 22 in said head extends through the sides thereof, as shown at 46, and the head 41 of the securing-staple is provided with projecting ends 47 to extend to the ends of the slot 22. The body of the twister-head is solid, the apertures 25 and passage 26 being omitted. The construction is otherwise the same as described with reference to the twister-head shown in Figs. 3, 4, and 5. The construction of twister shown in Fig. 7 is intended to be employed when the twister-head is made of wood, which is contemplated herein. Obviously only two wires can be employed with this form of twister-head.

The numeral 48 indicates an arm, preferably tapering from near one end to the other, as shown, for supporting the driving mechanism for the sprocket-chain of the machine. At its wide end this arm is apertured to receive a bolt 49 and is provided on its upper side with a curved arm 50, separated from the arm 48 by means of a curved slot 51.

The numeral 52 indicates an eyebolt, the eye 53 whereof is adapted to receive the curved arm 50 snugly, but so as to allow said arm to be moved through the same.

The numeral 54 (see Fig. 14) indicates a clamping-plate of oval shape in outline and having apertures near opposite ends. In securing the arm 48 on the upright the bolt 49

is passed through the aperture therein, the slot 15 of the upright, and the aperture at one end of the clamping-plate 54, after which a nut 55 is secured on its screw-threaded end and screwed home more or less firmly against the plate 54. The eyebolt 52 having been similarly secured in place at the opposite or upper end of plate 54 by means of a nut 56 the curved arm 50 is inserted through the eye thereof, and by screwing up the nut 56 the arm 48 may thereby be clamped firmly in a fixed position on the upright. Nuts 55 and 56 may both be tightened to clamp arm 48 in place; but nut 56 is principally used for this purpose, as it is designed by loosening this nut to turn the arm 48 on bolt 49 as a pivot to adjusted positions for the purpose of securing the proper tension of the sprocket-chain 69, hereinafter referred to. A greater adjustment of the arm 48 for this purpose can be effected by loosening the nuts 55 and 56 and moving said arm bodily upward or downward, the bolts 49 and 52 sliding in the slot 15. At its outer end the plate 48 is provided with an integral stud or journal 57, having in its end a transverse aperture 58.

The numeral 59 indicates the driving sprocket-gear, having a central hub 60, journaled on the stud 57. The hub 60 projects slightly from the inner face of the sprocket-wheel, as indicated at 61, in order to hold said sprocket-wheel away from the arm 48. The outer side of the sprocket-wheel 59 is provided with a recess or socket 62, which is designed to receive the circular head 63 of a crank-arm 64, which head is thickened at its center and provided with an aperture for receiving the hub 60, as clearly shown in Fig. 9. By means of a washer 65, inserted on the stud 57, and a keeper 66, inserted in the aperture 58, the sprocket-wheel and crank-arm are held in place on the stud 57. In order that the sprocket-wheel 59 may be revolved by the crank-arm 64, I provide on opposite sides of the sprocket-wheel two inwardly-extending rectangular lugs 67, which are received into corresponding recesses 68, formed in the head 63 on opposite sides thereof. By means of the sprocket-chain 69, (shown in dotted lines,) passed about the several sprocket-wheels 27 and the driving sprocket-wheel 59 all of the twisters may be simultaneously revolved by turning the crank-arm 64. The crank-arm 64 is also designed to be used as a wrench, the recesses 68 in its head being of a size to fit the nuts 14.

In Fig. 12 I have shown an improved construction of picket-rest. This device is located at the bottom of the upright and comprises a metal plate 70 of a thickness to fit snugly in the space 16 between the sections 2 3 and having in its upper end a recess 71, which is designed to receive the bottom tongue 7 of the lowermost journal-bracket. The plate 70 has an aperture 72 and is held in position by a bolt 73, passed through suitable apertures in the sections 2 3 and said aper-

ture 72 and secured by a nut 74. Extending outward from the plate 70, at the bottom thereof and in a plane at right angles thereto, is an integral plate 75, which constitutes the rest or support for the picket being wired. The outer end of this support is rounded off, as indicated at 76, to enable the support when necessary to readily slip beneath the end of the picket previously wired. The inner end of plate 75 forms a shoulder 77 on each side of the plate 70, which shoulders abut against the edge of the upright and serve, in conjunction with the recess 71, engaging the tongue 7, to firmly brace the picket-rest in place. The plate 70 extends in the form of a web a considerable distance out on the plate 75, as indicated at 78, for the purpose of strengthening the structure.

In Figs. 17, 18, and 19 I have illustrated an improved straining device for imparting the proper tension to the wires to be twisted. This device comprises a rectangular block 79, of metal, having its upper side corrugated to provide two transverse recesses 80, located near opposite ends of the block. Centrally of these recesses are provided rectangular openings 81. The corrugations also provide two rounded surfaces 82, one at each end of the block, and a central rounded surface 83. In each of the surfaces 82 is provided two wire slots 84, at the outer side of each of which is provided an upward projection, the projections at one end being denoted by the numeral 85 and those at the other by the numeral 86. Each of the projections 86 is provided with an aperture 87, in which may be inserted to extend transversely across the block a keeper 88, which will operate to confine the wires in the slots 84 at that end of the block. In Fig. 19 I have illustrated a tension-bolt. This bolt comprises a screw-threaded portion 89, a square portion 90, and a cross-head 91, round in cross-section, the whole device having the shape of the letter T. The under side of the block 79 is flat, as shown, and to this under side is applied a relatively thick rubber plate 92. A tension-bolt, such as shown in Fig. 19, is then passed through each rectangular aperture 81, and through suitable apertures in the rubber-plate 92 a washer 93 is inserted over the screw-threaded end of each bolt, and a nut 94 is then screwed on each bolt. The squared portion 90 of the tension-bolt engages in the rectangular apertures 81 and prevents the bolts from being turned by the passage of the wires under the same or by the turning of nuts 94. The wires pass beneath the cross-heads 91, and by turning the nuts 94 these cross-heads may be made to clamp the wires more or less firmly between them and the bottom of the recesses 80, so that the necessary resistance may be offered to their passage through the straining device as they are twisted about the pickets. At the same time the pressure of the cross-heads upon the wires is yielding, owing to the provision of the rubber plate 92,

so that the tension-bolts have a slight vertical play to allow for any unevenness of the wires. Projecting from that end of the block 79 provided with the projections 86 are two flat spaced parallel arms 95, located between which is a grooved pulley 96, journaled on a pin 97, secured in said arms. Over this pulley is passed a rope (not shown) to be tied to a suitable post or to a tree, and by pulling on which rope the proper tension may be imparted to the wires, as will be understood.

The corrugated character of the upper surface of the block 79 renders it very easy to impart the necessary pressure upon the wires, owing to the tortuous passage they are compelled to take in passing through the straining device.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fence-machine, an upright having a series of circular openings from opposite sides of each of which extend slots, a journal-bracket secured in each of said openings and comprising a ring having on opposite sides tongues located in said slots, a twister revolvably mounted in the ring of each journal-bracket, and means for revolving said twisters, substantially as described.

2. In a fence-machine, an upright having a series of circular openings from opposite sides of each of which extend slots, and in such manner as to afford a continuous slot between two of the openings, a journal-bracket secured in each of said openings and comprising a ring having on opposite sides tongues located in said slots, a twister revolvably mounted in the ring of each journal-bracket, and an arm adjustably mounted in said continuous slot and carrying means for revolving said twisters, substantially as described.

3. In a fence-machine, an upright comprising two parallel sections provided at coincident points with semicircular recesses and transverse apertures, a series of journal-brackets, each of which comprises a ring embraced on opposite sides by the recessed portions of said sections and having on opposite sides apertured tongues lying between said sections, bolts passing through said sections and tongues and having nuts, a twister revolvably mounted in the ring of each journal-bracket, and means for revolving said twisters, substantially as described.

4. In a fence-machine, an upright comprising two parallel sections provided at coincident points with semicircular recesses and transverse apertures, a series of journal-brackets, each of which comprises a ring embraced on opposite sides by the recessed portions of said sections and having on opposite sides apertured tongues lying between said sections, the edge portions of the sections between said tongues being cut away for the purpose described, bolts passed through said sections and tongues and having nuts, a twister revolvably mounted in the ring of each

journal-bracket, and means for revolving said twisters, substantially as described.

5. In a fence-machine, in combination with an upright having a circular opening from opposite sides of which extend slots, a journal-bracket secured in said opening and comprising a ring having on opposite sides tongues located in said slots, an integral arm projecting from one of said tongues and having on its outer end a bumper-plate, a twister revolvably mounted in said ring, and means for revolving said twister, substantially as described.

6. In a fence-machine, in combination with an upright, a series of twisters journaled therein, each of which comprises a twister-head having on opposite sides radial wire-slots and at opposite ends of an imaginary line drawn at right angles to said slots apertures coinciding with recesses formed on opposite sides of said twister-head and connected by a groove extending across the end thereof, a sprocket-wheel abutting against the end of said journal and having apertures and a wire-opening, screw-threaded bolts passed through the apertures in said twister-head and sprocket-wheel and lying in said recesses and having an extension lying in said groove and a nut screwed on each bolt for securing the sprocket-wheel to the twister-head, and means for revolving said sprocket-wheels, substantially as described.

7. In a fence-machine, in combination with an upright, a series of twisters journaled therein, each of which comprises a twister-head having on opposite sides radial wire-slots and at opposite ends of an imaginary line drawn at right angles to said slots, apertures coinciding with recesses formed on opposite sides of said twister-head and connected by a groove extending across the end thereof, a sprocket-wheel abutting against the end of said journal and having apertures and a wire-opening, a rectangular staple having its legs screw-threaded and passed through the apertures in said twister-head and sprocket-wheel and lying in said recesses, and its head lying in said groove and a nut screwed on each of said legs for securing the sprocket-wheel to the twister-head, and means for revolving said sprocket-wheels, substantially as described.

8. In combination with an upright having a series of circular openings, a journal-bracket comprising a flat metal ring secured in each of said openings, a series of twisters, each of which comprises a twister-head having a journal seated in said ring and an annular flanged portion overlapping the edge thereof, said twister-head having on opposite sides radial wire-slots and at opposite ends of an imaginary line drawn at right angles to said slots, apertures coinciding with recesses formed on opposite sides of said journal and connected by a groove extending across the head of said twister, a sprocket-wheel abutting against the end of said journal and hav-

ing apertures and a wire-opening, screw-threaded bolts passed through the apertures in said twister-head and sprocket-wheel and lying in said recesses, and having an extension lying in said groove and a nut screwed on each of said bolts for securing the sprocket-wheel to the twister-head, and means for revolving all of the sprocket-wheels simultaneously, substantially as described.

9. In combination with an upright having a series of circular openings, a journal-bracket comprising a flat metal ring secured in each of said openings and having an offset affording a recess, a series of twisters, each of which comprises a twister-head having a journal seated in said ring and an annular flanged portion overlapping the edge thereof, said twister-head having on opposite sides radial wire-slots enlarged at their outer sides, a sprocket-wheel abutting against the edge of said ring and bolted to said twister-head and having a wire-opening, and means for revolving all of the sprocket-wheels simultaneously, substantially as described.

10. In combination with an upright having a series of circular openings, a journal-bracket comprising a flat metal ring secured in each of said openings and having an offset affording a recess, a series of twisters, each of which comprises a twister-head having a journal seated in said ring and an annular flanged portion overlapping the edge thereof, said twister-head having on opposite sides radial wire-slots enlarged at their outer sides in said flanged portion, a sprocket-wheel abutting against the edge of said ring and bolted to said twister-head and having a wire-opening from opposite ends of which extend recesses, and means for revolving said sprocket-wheels, substantially as described.

11. In a fence-machine, in combination with an upright, a series of twisters journaled therein, each of which comprises a twister-head having extending through the same circular openings connected by a passage, and having on opposite sides radial wire-slots, a sprocket-wheel bolted to said twister-head and having a wire-opening, and means for revolving all of the sprocket-wheels simultaneously, substantially as described.

12. In a fence-machine, in combination with an upright, a series of twisters journaled therein each of which comprises a twister-head having extending through the same circular wire-openings connected by a passage, and having on opposite sides radial wire-slots, a sprocket-wheel bolted to said twister-head and having a wire-opening, a spacing-block adapted to be inserted between the wires passed through said openings and having on opposite sides slots for receiving said wires, and means for revolving all of the sprocket-wheels simultaneously, substantially as described.

13. In a fence-machine, in combination with an upright, a series of twisters journaled therein each of which comprises a twister-

head having extended through the same circular openings connected by a passage, and having on opposite sides radial wire-slots in line with said openings and apertures at opposite ends of an imaginary line drawn at right angles to said slots, a sprocket-wheel having a wire-opening and apertures, a rectangular staple having screw-threaded legs passed through the apertures in said twister-head and sprocket-wheel and having its head, or cross-bar, extending between said openings in the twister-head and a nut screwed on each of said legs for securing the sprocket-wheel to the twister-head, and means for revolving all of the sprocket-wheels simultaneously, substantially as described.

14. In a fence-machine, in combination with an upright having a series of twisters revolvably mounted thereon and having a longitudinal slot, an arm pivotally mounted on a bolt passed through said slot and adjustable therein, means for securing said arm in fixed relation to said upright, and means mounted on said arm for operating said twisters, substantially as described.

15. In a fence-machine, in combination with an upright having a series of twisters revolvably mounted thereon and having a longitudinal slot, an arm pivotally mounted on a bolt passed through said slot and adjustable therein, means for securing said arm in fixed relation to said upright, a driving sprocket-wheel mounted on said arm, a sprocket-chain passed over said wheel and said twisters, and a crank for turning said wheel, substantially as described.

16. In a fence-machine, in combination with an upright having a series of twisters revolvably mounted thereon and having a longitudinal slot, an arm having at one end an aperture and a curved arm, a plate provided at opposite ends with apertures, a bolt passed through the aperture in said arm and through said slot and an aperture in said plate, a nut screwed on said bolt for engaging said plate, a bolt having an eye receiving said curved arm, said bolt extending through the said slot and having its screw-threaded end passed through the other aperture in said plate, and means mounted on the opposite end of said arm for operating said twisters, substantially as described.

17. In a fence-machine, an upright having a series of twisters revolvably mounted thereon each of which is provided with a sprocket-wheel, an arm mounted at one end on said upright, and at its opposite end having a stud, a driving sprocket-wheel journaled on said stud and having a cylindrical hub, a circular recess, and lugs projecting inwardly from its edge, a crank-arm having a circular head fitting in said recess and provided with recesses for receiving said lugs and with a central opening for receiving said hub, means for holding the sprocket-wheel on said stud and the crank-arm in engagement with the sprocket-wheel, and a sprocket-chain passed

about said driving sprocket-wheel and the sprocket-wheels of the twisters, substantially as described.

18. In a fence-machine, in combination with
5 an upright having a series of circular openings from opposite sides of each of which extend slots, the slot at the bottom of the upright extending through to the end thereof, a journal-bracket secured in each of said
10 openings and comprising a ring having on opposite sides tongues located in said slots, a twister revolubly mounted in the ring of each journal-bracket, means for revolving said twisters, and a picket-rest comprising an
15 apertured plate inserted in said bottom slot and having on its upper side a recess for receiving the end of the tongue located therein, a plate formed integral with said first-named plate and extending in a plane at right angles thereto for receiving the pickets, and a
20 bolt passed through the upright and said first-named plate, substantially as described.

19. A wire-straining device for the purpose described comprising a block having a cor-
25 rugated upper surface, each of which corrugations is provided centrally of its bed with a rectangular aperture, a bolt passed through each of said apertures and having a squared portion for engaging in the same to prevent
30 rotation of the bolt, and a transverse head, a rubber plate passed over said bolts and lying against the bottom of said block, a washer and nut on each bolt, and means for anchoring said block, substantially as described.

20. A wire-straining device for the purpose 35 described comprising a block provided with wire-grooves at one end and having a corrugated upper surface, each of which corrugations is provided centrally of its bed with a rectangular aperture, a bolt passed through 40 each of said apertures and having a squared portion for engaging in the same to prevent rotation of the bolt, and a transverse head, a rubber plate passed over said bolts and lying against the bottom of said block, a nut 45 and washer on each bolt, a keeper for retaining the wires in said grooves, and means for anchoring said block, substantially as described.

21. A wire-straining device for the purpose 50 described comprising a block provided with wire-grooves at its ends and having clamping means for the wires, projections at the ends of the block extending upward from each side thereof, one pair of said projections 55 being apertured, a keeper passed through said apertures and extending across the top of the grooves at one end of the block, and means for anchoring said block, substantially 60 as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM F. SEARGEANT.

Witnesses:

NETTIE NEVILLE,
CLAY PERKINS.