

No. 668,935.

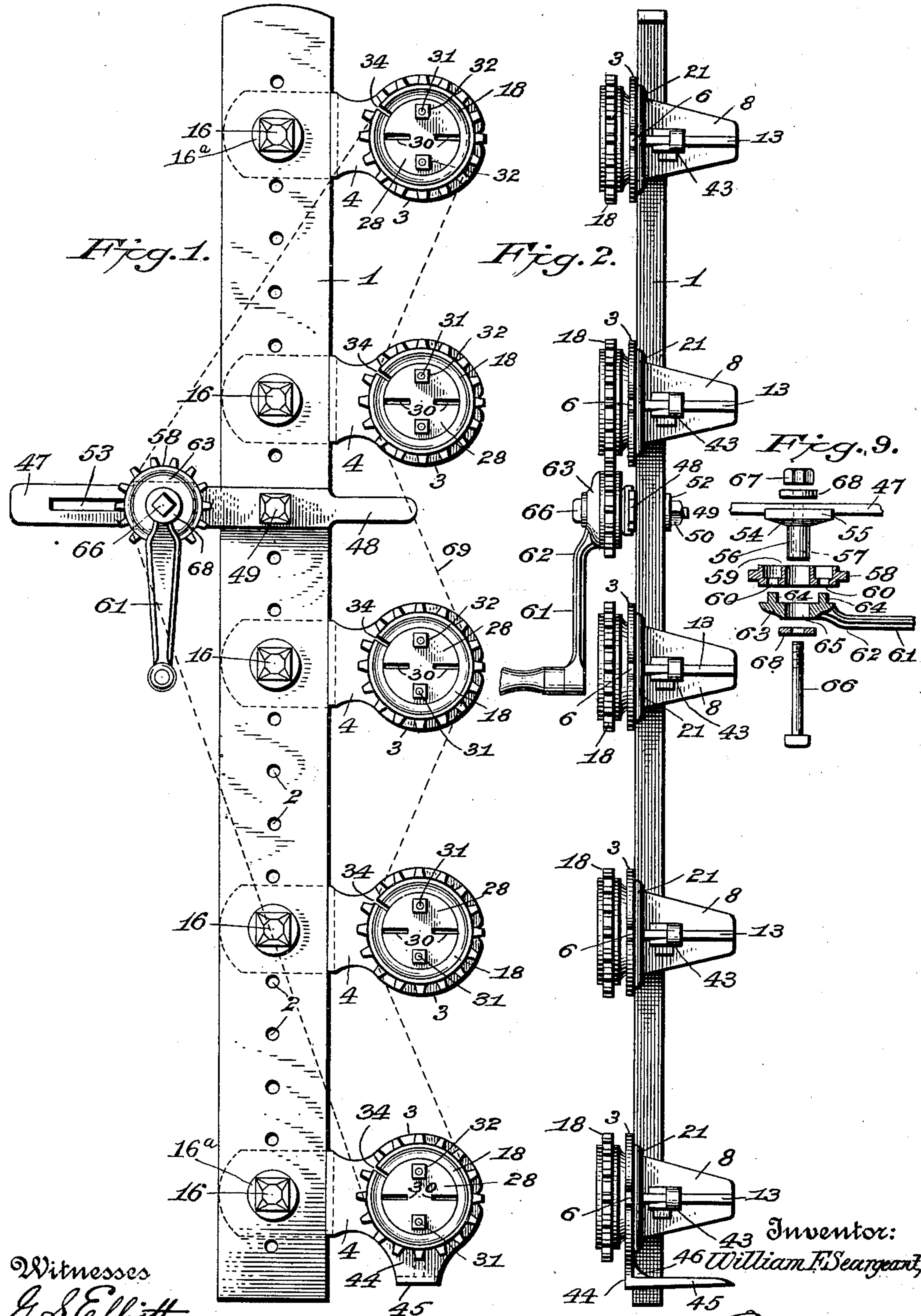
Patented Feb. 26, 1901.

W. F. SEARGEANT.
SLAT AND WIRE FENCE MACHINE.

(No Model.)

(Application filed Apr. 20, 1900.)

3 Sheets—Sheet 1.



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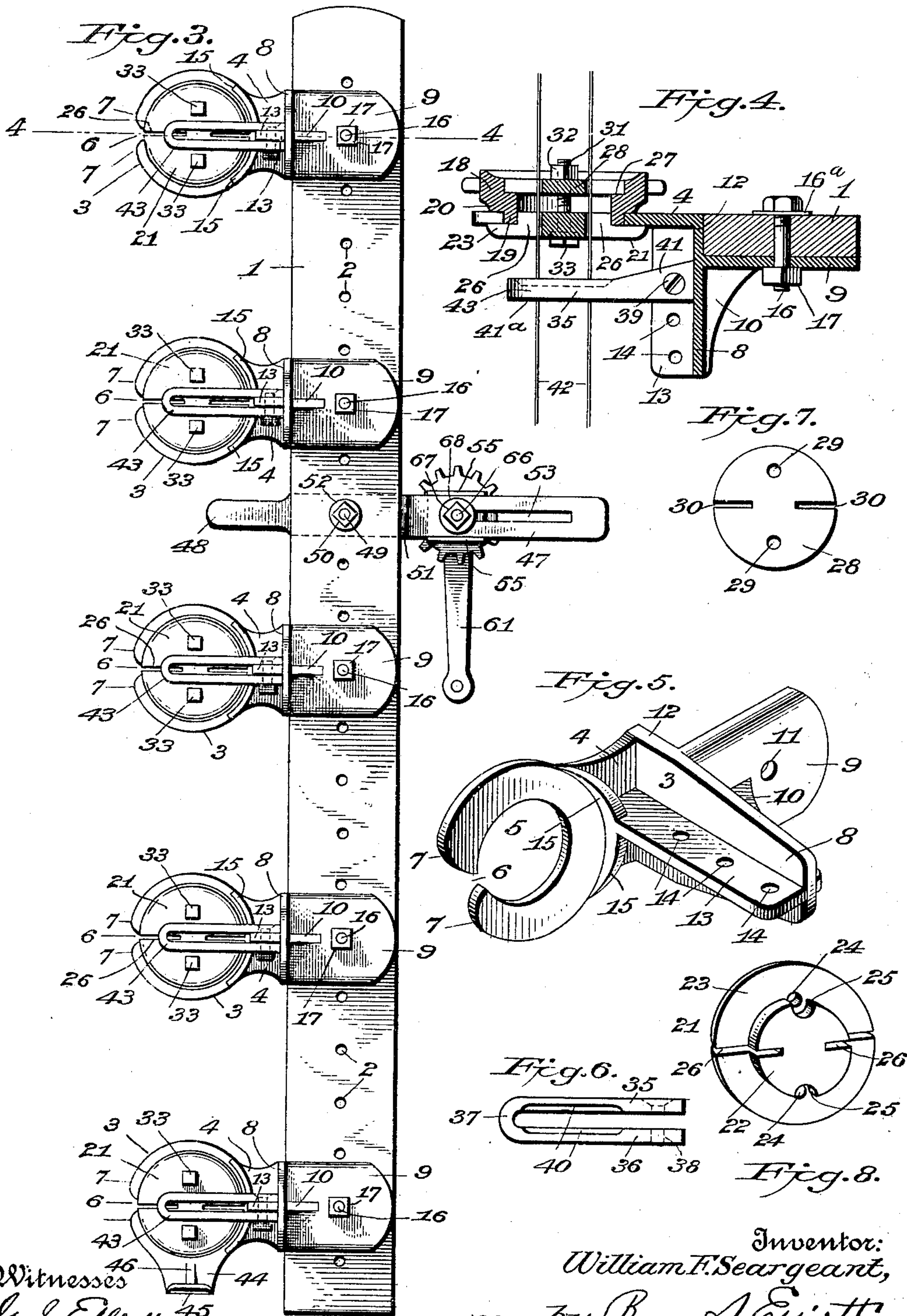
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3 Sheets—Sheet 2.



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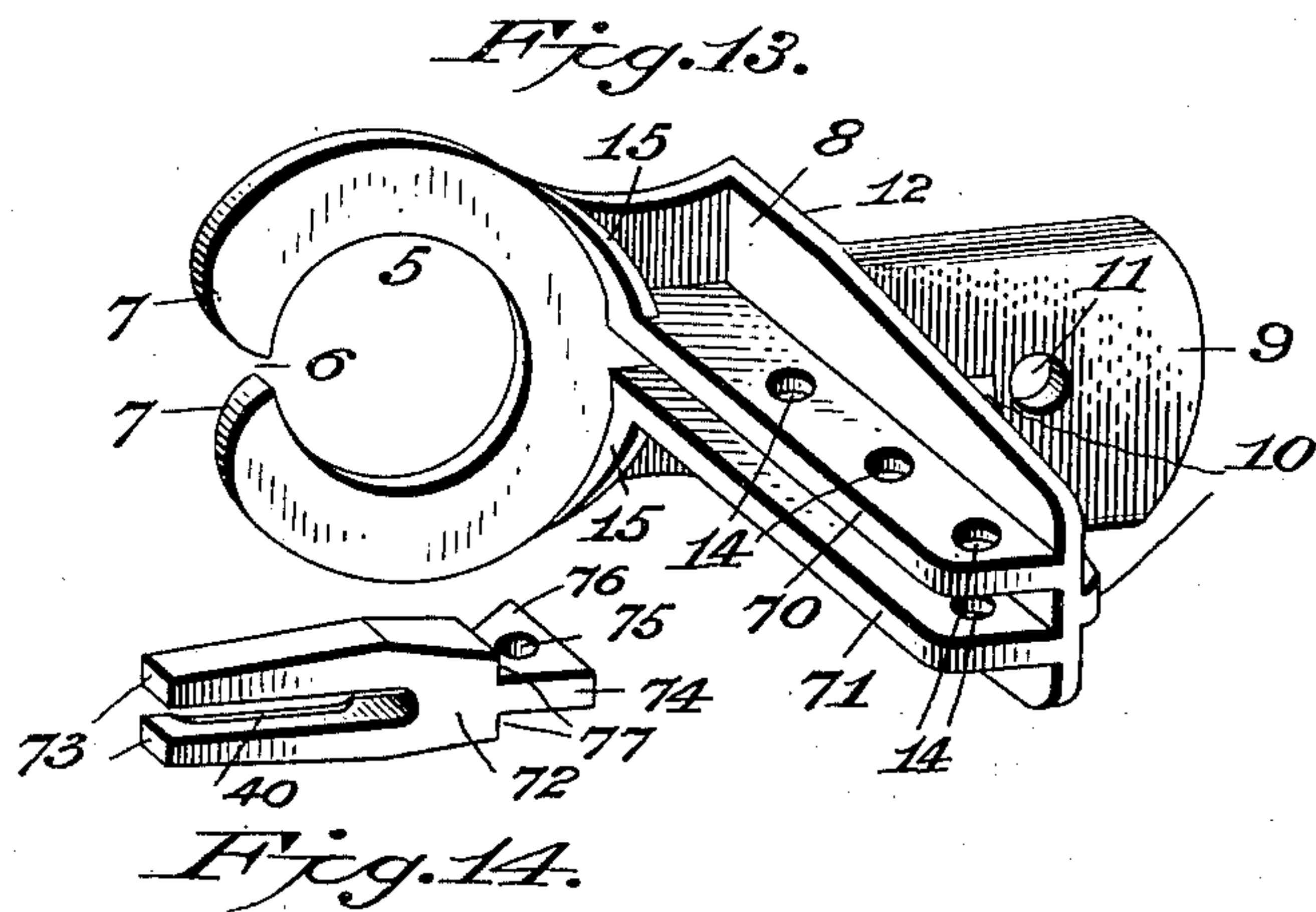
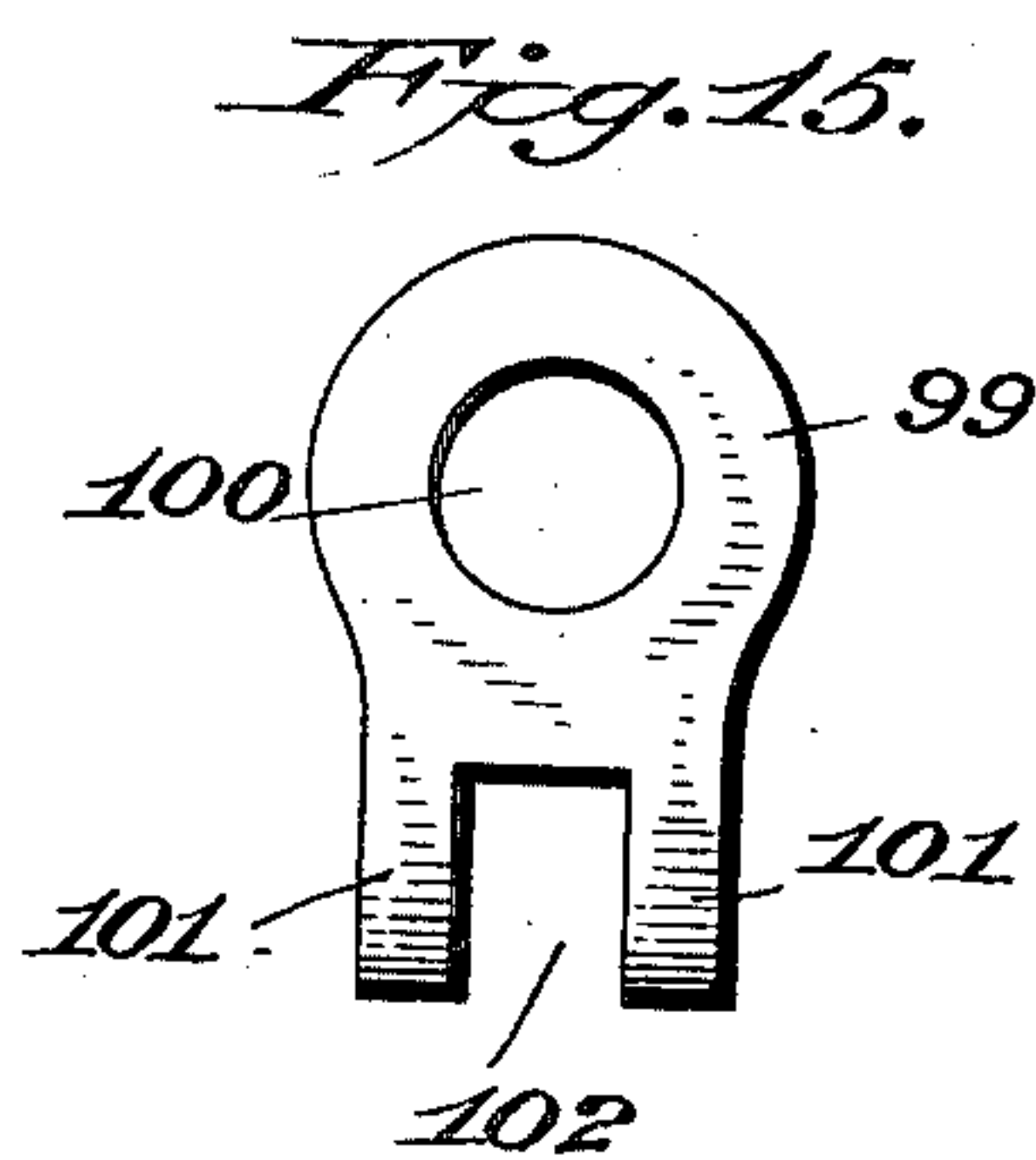
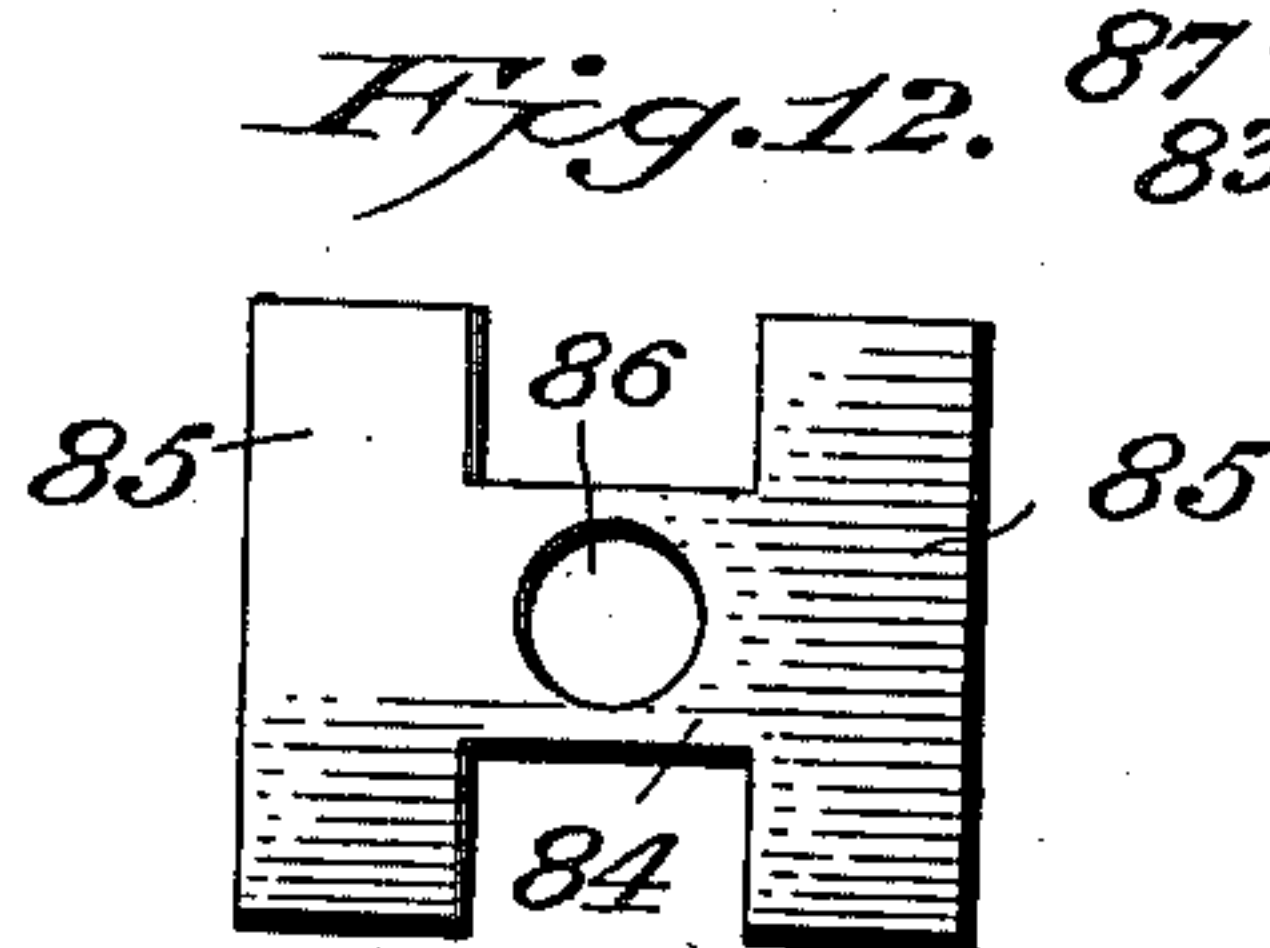
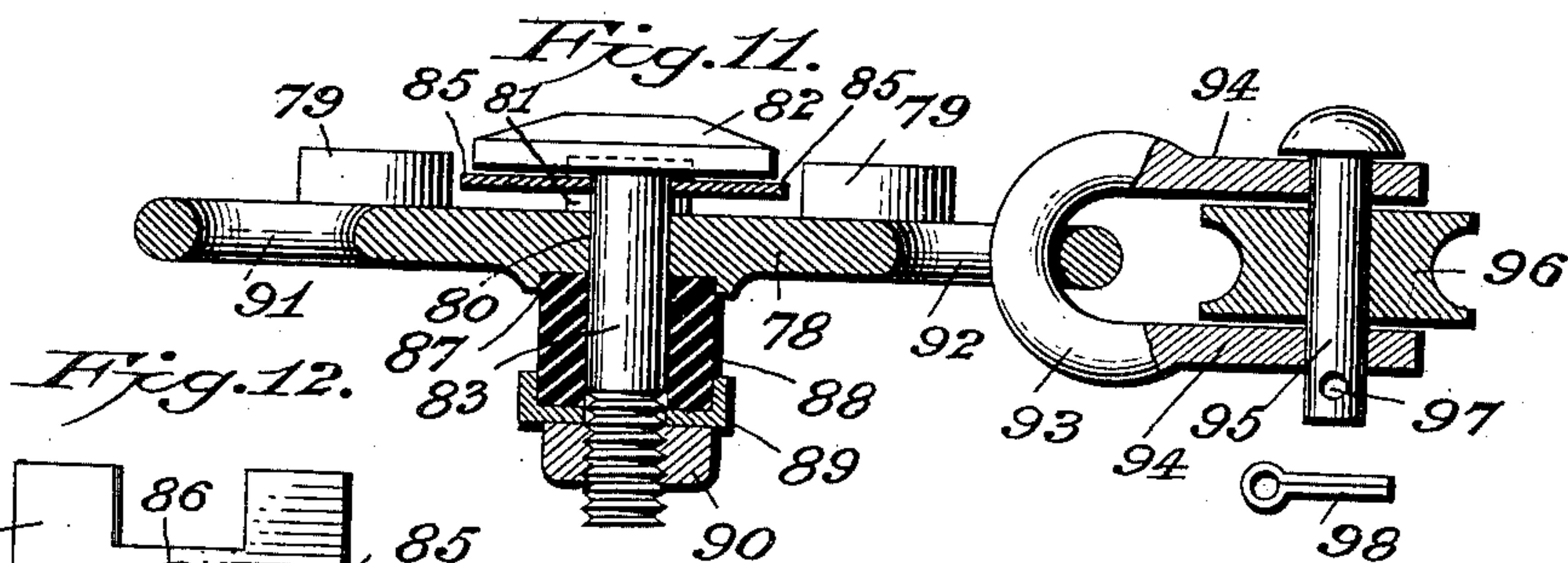
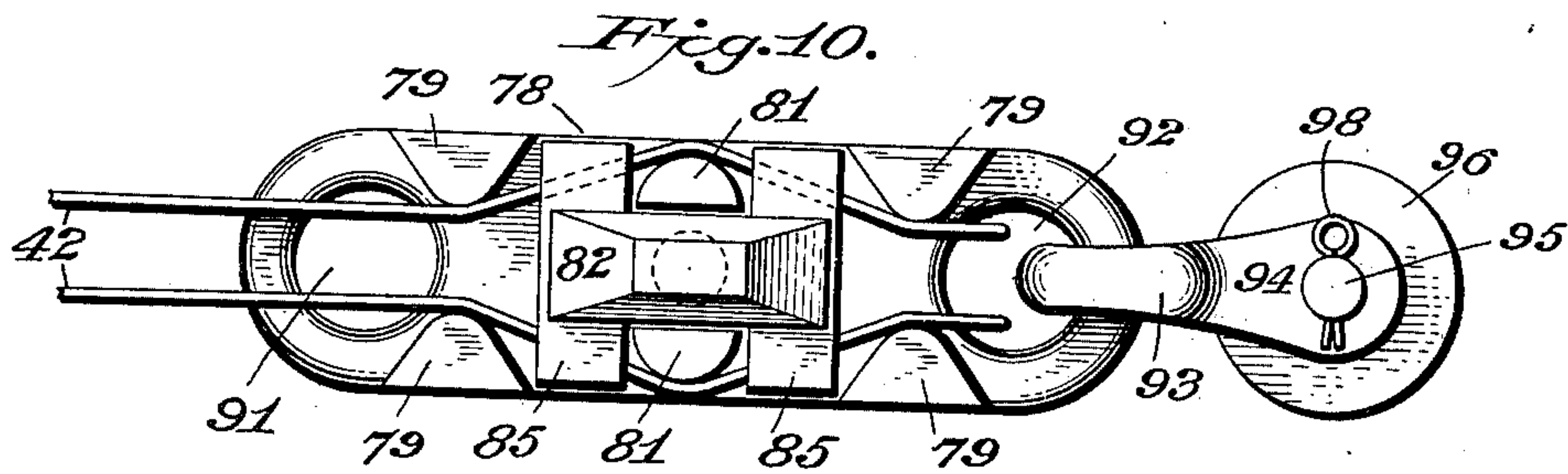
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3 Sheets—Sheet 3



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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. 668,935, dated February 26, 1901.

Application filed April 20, 1900. Serial No. 13,622. (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 fence-machines.

This invention has special reference to improvements in that type of machine shown and described in my Patent No. 649,555, dated May 15, 1900.

Stated in detail, the objects of the invention reside in providing an improved construction of journal-bracket, in providing an improved device adjustably mounted on the journal-bracket for forcing the pickets to proper position and for securing a uniform and firm twist of the wires about the pickets, and to provide an improved device for maintaining a yielding tension upon the wires to be twisted about the pickets.

In addition to the above further objects of the invention relate to details of construction and to combinations and operations of parts, as will hereinafter be described, and particularly pointed out in the claims.

In order that my invention may be understood, I have illustrated the same in the accompanying drawings, in which—

Figure 1 is a front view of a machine constructed according to my invention. Fig. 2 is an edge view of the same. Fig. 3 is a rear view of the same. Fig. 4 is a sectional view taken on the line 4-4 of Fig. 3, certain parts being shown in elevation. Fig. 5 is a perspective view of a journal-bracket. Fig. 6 is a detail view of a twist-adjuster. Fig. 7 is a plan view of a disk forming part of the wire-twisting mechanism. Fig. 8 is a perspective view of another member of the wire-twisting mechanism termed the "twister-head." Fig. 9 represents detached views, partly in plan and partly in section, of the sprocket-chain-operating mechanism and the support therefor. Fig. 10 is a plan view of my improved tension device. Fig. 11 is a central longitudinal section of the same, certain parts being shown in elevation for the sake of clearness. Fig. 12 is a plan view of a washer used in connection with my straining device. Figs.

13 and 14 are views corresponding with Figs. 5 and 6, respectively, and illustrating modifications; and Fig. 15 is a plan view of an implement which may be used for preventing the twist-ers from turning while the parts thereof are being bolted together.

Referring now to the drawings, the reference-numeral 1 indicates the upright of the machine, which upright is provided throughout its length with a series of equidistant apertures 2.

The numeral 3 indicates one of my improved journal-brackets, a number of which are removably secured to the upright 1 in a manner to be presently described. Each of these brackets comprises a flat plate 4, having formed therein a circular opening 5, affording a journal-bearing, and the outer rim of this bearing is cut transversely to afford a slot 6, as shown in Fig. 5, for the passage therethrough of the wires. The edges of the rim leading to the slot 6 are rounded off, as indicated at 7, to constitute, as it were, a guide-way to the slot 6 and also for the purpose of dispensing with superfluous metal. Extending at right angles to the plate 4 is a plate 8, and projecting in turn from the rear side of plate 8 is a bevel edged bracket-plate 9, said plate and bracket-plate being connected and braced by means of a web 10, located at the longitudinal centers of each. The bracket-plate 9 is provided with a central aperture 11 and is located at such a distance from the front end of the plate 8 as to have a projecting portion 12 thereof corresponding in length to the thickness of the upright 1, as clearly shown in Fig. 4. For the sake of lightness in construction the plate 8 may be tapered from its point of connection with the bracket-plate 9 to its outer end, as shown in Fig. 5, and the end of said bracket-plate may be rounded. The bracket-plate 9 is of a length corresponding to the width of the upright 1. Connecting the plates 4 and 8 is a substantially rectangular flange 13, which extends along the longitudinal center of the plate 8 to the end thereof and is of a width to project well out on the plate 4. Said flange is provided with a series of transverse apertures 14, the purpose of which will be presently described. The connection between

the plate 4 and flange 13 is further strengthened by means of curved webs 15, which extend from opposite sides of flange 13 to the edge of plate 4, the outer edges of said webs being tapered off from the point of junction with the flange 13 down to the edge of plate 4. All the parts of the journal-bracket described above are formed integral one with the other, and it is intended that the journal-bracket shall be manufactured as a whole at a single casting.

In applying the journal-brackets to the upright 1 the projecting portion 12 of plate 8 is made to rest against the edge of said upright and the bracket-plate 9 to bear flush against the rear side thereof. A bolt 16 is then passed through an aperture 2 in the upright 1 and aperture 11 in the bracket-plate 9, and a nut 17 is then applied to the bolt 16 to clamp the journal-bracket securely on the upright. A washer 16^a is interposed between the head of the bolt and the upright 1.

In the circular aperture or journal-bearing 5 of each journal-bracket is mounted one of my twist-ers, a sectional view of one of which is shown in Fig. 4 and the construction of which will now be described. The numeral 18 indicates a sprocket-gear which is of ring form and has an annular portion 19, journaled in the opening 5, and a shouldered portion 20 bearing against the face of the plate 4. The numeral 21 indicates the twister-head, which comprises a cylindrical portion 22, adapted to be received snugly into the annular portion or journal 19 of the sprocket-gear 18, and an annular flanged portion 23, overlapping the end of said journal and bearing against the inner face of the plate 4. The twister-head is provided on opposite sides of a diametrical line with apertures 24, which cut the periphery of the cylindrical portion 22 thereof in such a manner as to form on opposite sides of the same semicircular recesses 25. The twister-head is also provided on opposite sides, intermediate the apertures 24, with radial wire-slots 26, which also enter opposite sides of the cylindrical portion 22. The sprocket-gear 18 is provided with an inner annular offset or shoulder 27, forming a seat for a disk 28, having apertures 29, coinciding with the apertures 24, and wire-slots 30, coinciding with the slots 26. Through the coincident apertures 24 and 29 bolts 31 are passed, which also lie in the recesses 25, and by means of nuts 32, engaging the screw-threaded ends of said bolts, the sprocket-gear 18, disk 28, and twister-head 21 are secured in firm fixed relation to each other, so that the twister as a whole can revolve in the journal-bearing 5 of the journal-bracket on the journal 19. The heads 33 of bolts 31 are square and are preferably countersunk in the face of the twister-head to prevent turning of the bolts when nuts 32 are being screwed home, as will be understood. The slots 26 and 30 are designed to receive the wires which are

to be twisted by the revolution of the twister about the pickets, and to enable the wires to be inserted in said slots the sprocket-gear 18 is provided with a transverse slot or passage 34, and by loosening the nuts 32 this slot or passage may be brought to aline in succession with the coinciding slots 26 and 30 and also with the slot 6 in the plate 4 of the journal-bracket. After the wires have been inserted in their respective slots the sprocket-gear may then be turned to carry its slot 34 out of register with either set of slots 26 30 to prevent the wire leaving these slots and the nuts 32 again tightened. Spacing-jaws similar to those described in my patent above named may be employed in connection with the present form of twister, if desired.

A prominent feature of the present invention relates to the provision of improved adjustable means for holding the two wires to be twisted about the pickets in proper horizontal position in relation thereto, so that the wires may be twisted uniformly and securely about the successive pickets and the length of the twist may be varied as the character of the work being performed or the size of the pickets being wired may require. To this end I employ the device herein termed a "twist-adjuster," and which is illustrated more clearly in Figs. 4 and 6, said device comprising two arms 35 36, connected at one end, as shown at 37, in a manner to give to the device in edge view the shape of an elongated U. The open end of this device is designed to be inserted on the flange 13 of the journal-bracket, and the arms 35 36 have extending through them an aperture 38, (shown in dotted lines in Fig. 6,) which may be brought to register with either one of the apertures 14, whereby by means of a bevel-headed bolt 39, passed through said apertures and secured by a nut, the twist-adjuster may be firmly secured in adjusted positions on said flange. The part of the aperture 38 in the arm 35 is countersunk to receive the head of said bolt, so that the same may lie flush with the surface of said arm. The inner edges of the arms 35 36 are beveled off or rounded, as indicated at 40, so as not to present sharp edges to the wires being twisted about the pickets. The free ends of these arms are also widened laterally, as indicated at 41, so as to afford an extended flat bearing-surface to abut against the face of the plate 8 and brace the twist-adjuster in position on the flange 13 and also to strengthen this portion of the arms, which would otherwise be somewhat weakened by the provision of the aperture 38. The outer sides of the arms 35 36, or the sides farthest removed from the twister when the twist-adjuster is in position, present a flat bearing-surface, as indicated at 41^a, and all of the twist-adjusters are designed when in position on the machine to be in the same vertical plane, so that they present, as it were, a continuous straight edge to bear against

the side of the picket and secure its proper vertical position. These twist-adjusters will therefore also serve as bumpers to engage the pickets when the machine is moved along to force the pickets into proper position. The space between the two arms 35 36 is sufficient to permit two wires to pass each other in the operation of twisting, as will be understood. In Fig. 4 I have indicated the position of a twister and twist-adjuster relative to the two wires 42, which are to be twisted about a picket. After the wires have been strung through the twister the twist-adjuster may simply be passed over said wires and secured in position, as will be clear. I have designated these twist-adjusters generally in Fig. 3 by the numeral 43.

In addition to the construction described the journal-bracket at the bottom of the upright is provided with means for supporting the picket being wired. To this end the plate 4 of the lower journal-bracket has an integral depending tapering arm 44, which at its lower end is integrally connected to a plate 45, which extends outward at right angles to said arm the same distance as the plate 8, so as to afford a rest for the bottom of a picket in any of the adjusted positions of the twist-adjuster 43. The plate 45, while level on its upper side, is gradually thickened toward its rear portion in order to strengthen it, as clearly shown in Fig. 2, and for the same reason an integral web 46 connects said plate and arm 44.

The numeral 47 indicates a flat metal arm, formed integral with which at one end is a handle 48. Said arm is provided with an aperture whereby by means of a suitable bolt 49, passed through said aperture and one of the apertures 2 in the upright 1, and a nut 50, engaging said bolt, said arm may be firmly clamped in place on the upright. The rigid position of this arm is further insured by means of a flange 51, projecting at right angles to the side of the arm and abutting against the edge of the upright. A washer 52 is preferably interposed between the nut 50 and the face of the upright. The arm 47 projects a considerable distance beyond the edge of the upright opposite to that from which the twisters project, and such projecting portion is provided with a longitudinal slot 53. The numeral 54 indicates a bearing-block, which is slidably supported on the arm 47 by means of integral flanges 55, projecting at right angles from opposite sides thereof and adapted to engage the upper and lower edge, respectively, of said arm. Formed integral with said bearing-block and extending at right angles thereto is a journal 56. Extending through the bearing-block 54 and said journal is a bolt-hole 57. (Shown in dotted lines in Fig. 9.)

The numeral 58 indicates a sprocket-gear having a hub 59 for receiving the journal 56. In the web of the sprocket-gear 58 and on op-

posite sides of the hub 59, respectively, are two apertures, each of which is indicated by the numeral 60.

The numeral 61 indicates a crank-arm offset at 62, so that it may not strike against the sprocket-chain and having a suitably-enlarged head 63, from the inner face of which project two studs 64 64, which respectively engage in the apertures 60 of the sprocket-gear. An aperture 65 extends through the head 63, said aperture being of a size to receive the journal 56. The sprocket-gear and crank-arm are assembled on the journal 56 in the order indicated in Fig. 9 and are held thereon and in engagement with each other by means of a bolt 66, passed through the aperture 57 and the slot 53, the screw-threaded end of which is engaged by a nut 67. Suitable washers 68 are interposed between the head and nut, respectively, of said bolt and the adjacent bearing-surfaces. A sprocket-chain 69 is passed about the several sprocket-gears 18 and the driving sprocket-gear 58 in the manner indicated in Fig. 1, so that all of the twisters may be revolved simultaneously by turning the crank 61. By loosening the nut 67 and sliding the bearing-block 54 along the arm 47 in one direction or the other the proper tension may be imparted to the chain 69. Further, by loosening said nut and moving the bearing-block inward on the arm 47 the sprocket-chain may be readily removed from the machine or its arrangement relative to the twisters be changed to vary the direction of rotation of the latter. Other advantages common to the present invention and to the machine forming the subject-matter of my patent above named need not be recited in detail, as they are clearly set forth in said patent.

Referring now to Figs. 13 and 14, wherein are shown modifications of the journal-bracket and twist-adjuster, respectively, the numerals 70 71 indicate two spaced parallel flanges extending throughout the length of and formed integral with the plate 8, from the outer sides of which curved webs 15 project, as in the case of the flange 13. Coincident apertures 14 extend through these flanges at regular intervals. The twist-adjuster may be cast or otherwise formed as an integral structure and comprises a body portion 72, from which project in one direction two parallel arms 73, affording between them a space for the wires to be twisted, and in the opposite direction a tongue 74, provided with an aperture 75. This tongue is of a thickness to fit snugly in the space between the flanges 70 71 and is widened at its end, as indicated at 76, to provide an extended bearing-surface for engagement with the face of the plate 8. On opposite sides of the tongue 74 are shoulders 77, which when the device is in position bear against the outer edges of the flanges 70 71. By means of a suitable bolt (not shown) passed through either set of apertures 14 in the

flanges and apertures 75 in tongue 74 the twist-adjuster may be secured in adjusted positions on the journal-bracket and by reason of the construction described will be firmly
5 braced thereon. The adjustment of the devices shown in Figs. 6 and 14 upon the journal-bracket relative to the twister forms an important feature of the present invention, for thereby I am enabled to secure a uniform
10 close twist when using pickets of a greater or less width.

In Figs. 10, 11, and 12 I have illustrated the parts of an improved straining device for imparting the proper tension to the wires to
15 be twisted about the pickets. Referring to these figures, the numeral 78 indicates a flat metal plate, formed integral with which and projecting from one side thereof at each side edge and near opposite ends are friction-posts
20 79, the inner sides of which are rounded, as shown. In the center of the plate 78 is a transverse aperture 80, and on opposite sides of this aperture are friction-posts 81, the
25 outer sides of which are rounded or semicircular and lie a slight distance within the edges of the plate 78 and the inner sides of which are flat. The space between the friction-posts 81 is just sufficient to receive the elongated rectangular head 82 of a bolt 83.
30 In Fig. 12 I have shown a clamping-plate to be inserted between the head 82 and the wires 42. This clamping-plate is of H form—that is, it has a neck 84, at opposite ends of which are rectangular heads 85. In the neck 84 is
35 an aperture 86, through which the bolt 83 passes. The neck 84 is of the same width as the head 82, so that it will fit snugly in the space between the friction-posts 81, while the
40 heads 85 will extend to or near to the edges of the plate 78. The opposite side of the plate to that described is provided with a central shallow socket 87, designed to receive the upper end of a thick rubber block or cushion 88,
45 through which the bolt 83 passes. The opposite end of this cushion is received in a cup 89, loosely inserted on bolt 83, and held thereon by a nut 90, screwed on the end of said bolt. The opposite ends of plate 78 are
50 rounded, as shown, and are provided with enlarged apertures 91 92, in either one of which may be inserted a yoke. The head 93 of this yoke is partly ring-shaped, as shown, while the arms 94 are widened laterally and flattened. These arms are apertured to receive
55 a bolt 95, upon which is mounted a grooved pulley 96. The end of bolt 95 is transversely apertured at 97 to receive a keeper 98. The wires 42 are passed around or about the rounded sides of the friction-posts in the manner shown in Fig. 10, and their free ends
60 passed downward through one or the other of the apertures 91 92. The clamping-plate is then placed in position, its ends resting upon the wires, as shown, the bolt 83 passed
65 through the apertures 86 and 80, and the cushion 88, cup 89, and nut 90 assembled in

the manner shown in Fig. 11. By turning the nut 90 the head 82 may be brought to bear more or less firmly upon the clamping-plate, so that in conjunction with the friction-posts
70 79 and 81 the proper amount of resistance may be offered to the passage of the wires through the straining device as they are twisted about the pickets. At the same time the cushion 88 provides for a yielding pres-
75 sure of the clamping-plate upon the wires, so that the clamping-plate may “give” sufficiently to permit kinks, twists, or the like in the wires to pass beneath it. The clamping-plate may be readily replaced when worn out
80 by the wear due to the frictional engagement therewith of the wires.

By securing one end of a rope about a post, tree, or the like and then passing the rope about the pulley 96 the wires may be readily
85 pulled taut, after which the other end of the rope may be secured.

In Fig. 15 I have shown an implement for use in holding the twisters while the nuts 32 are being tightened. This device comprises
90 a head 99, preferably circular, as shown, which is provided with an aperture 100, and from which extend two prongs 101, affording between them a rectangular space 102. After the parts of the twister have been assembled,
95 as shown in Fig. 4, the prongs 101 of the implement described are inserted in the slots 26 of the twister-head and a bar or the like inserted in the aperture 100, whereby the twister may be held stationary while the nuts 32 are
100 being screwed home.

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

1. In a fence-machine, the combination with an upright having a series of apertures, of a
105 series of journal-brackets mounted thereon, each of said brackets comprising a plate 8 having a plate 4 extending at right angles thereto at one end thereof and having a circular opening, an apertured bracket-plate ex-
110 tending at right angles to the plate 8 on the side opposite to that of the plate 4 and at a distance from said end, whereby to afford a shouldered portion 12 to abut against the
115 edge of the upright, said bracket-plate being designed to bear against the face thereof, a bolt passed through the aperture in each bracket-plate and an aperture in the upright and having a nut, a wire-twister revolubly
120 mounted in the circular opening of each plate 4, and means for revolving said twisters, substantially as described.

2. In a fence-machine, the combination with an upright, of a series of journal-brackets
125 secured thereon, each of which has a wire-twister revolubly mounted therein, a twist-adjuster mounted on each journal-bracket and adjustable thereon in a horizontal plane toward and from the twister, and means for revolving said twisters, substantially as de-
130 scribed.

3. In a fence-machine, the combination with

an upright, of a series of journal-brackets secured thereon, each of said brackets comprising a flanged plate 8 having a plate 4 extending at right angles thereto and provided
5 with a circular opening, a twist-adjuster mounted on the flanged portion of the plate 8 and adjustable thereon in a horizontal plane toward and from the plate 4, a twister revolvably mounted in each of said openings, and
10 means for revolving the twisters, substantially as described.

4. In a fence-machine, the combination with an upright, of a series of journal-brackets secured thereon, each of said brackets comprising a plate 8 having a plate 4 extending at
15 right angles thereto and provided with a circular opening, a flange extending longitudinally of said plate 8 and provided with a series of apertures, a twist-adjuster comprising two spaced, parallel arms connected at
20 one end and having their free ends apertured and receiving between them said flange, a bolt or screw for passing through the apertures in said arms and any one of the apertures in said flange, whereby the twist-ad-
25 juster may be longitudinally adjusted thereon, a twister revolvably mounted in each of said openings, and means for revolving the twisters, substantially as described.

30 5. In a fence-machine, the combination with an upright, of a series of journal-brackets secured thereon, each of said brackets comprising a plate 8 having a plate 4 extending at right angles thereto and provided with a
35 circular opening, a flange extending longitudinally of said plate 8 and provided with a series of apertures, a twist-adjuster comprising two spaced, parallel arms connected at one end and having their free ends apertured
40 and receiving between them said flange, and widened laterally to afford a broad bearing-surface to abut against the plate 8, a bolt or screw for passing through the apertures in said arms and any one of the apertures in
45 said flange, whereby the twist-adjuster may be longitudinally adjusted thereon, a twister revolvably mounted in each of said openings, and means for revolving the twisters, substantially as described.

50 6. In combination with a journal-bracket comprising the plate 8 having the apertured longitudinal flange 13 and having the plate 4 extending at right angles thereto and provided with a circular opening, a twister revolvably
55 mounted in said opening and means for revolving the same, a twist-adjuster comprising two spaced parallel arms connected at one end and having their free ends apertured, and a bolt or screw, for securing the
60 twist-adjuster in adjusted positions on said flange, substantially as described.

7. A journal-bracket for fence-machines comprising the plate 8 having the plate 4 extending at right angles thereto at one end
65 and provided with a journal-bearing, an apertured bracket-plate extending at right angles

to the plate 8 on the side opposite to that of the plate 4 and at a distance from said end to afford a shouldered portion 12, and a flange extending longitudinally of the plate 8 and
70 provided with a series of apertures, substantially as described.

8. A journal-bracket for fence-machines comprising the plate 8 having the plate 4 extending at right angles thereto at one end
75 and provided with a journal-bearing, an apertured bracket-plate extending at right angles to the plate 8 on the side opposite to that of the plate 4 and at a distance from said end to afford a shouldered portion 12, a flange ex-
80 tending longitudinally of the plate 8 and provided with a series of apertures, and curved webs 15 connecting opposite sides of said longitudinal flange with the plate 4 and tapering from the former to the latter, substan-
85 tially as described.

9. In a fence-machine, the combination with an upright, of a series of journal-brackets secured thereon, each of which has a flat plate provided with a circular opening, a wire-
90 twister revolvably mounted in each journal-bracket, each twister comprising a sprocket-wheel having an annular journal portion mounted in said opening, a shouldered portion bearing against one side of said plate
95 and an inner annular recess, a twister-head having a cylindrical portion fitting in the journal of the sprocket-wheel and an annular flanged portion bearing against the opposite side of said plate, a disk seated in said
100 annular recess, said twister-head and disk having on opposite sides coincident slots for the wires to be twisted and being clamped in firm fixed relation with the sprocket-wheel by means of bolts, and means for revolving
105 said twisters, substantially as described.

10. In a machine of the class described, the combination with an upright, of a series of wire-twisters revolvably mounted thereon, an
110 arm mounted on said upright and extending at right angles thereto and having a longitudinal slot, a bearing-block having a journal and provided at opposite sides with flanges embracing opposite sides of said arm, a driving sprocket-gear mounted on said journal, a
115 sprocket-chain passed around said twisters and said sprocket-gear, a crank mounted on said journal and engaging said sprocket-gear, and a bolt passed through an aperture in said journal and block and through the slot in
120 said arm and engaged by a nut, whereby the parts are held in their assembled position and the bearing-block may be secured in adjusted positions on said arm, substantially as described.
125

11. A straining device comprising a metal plate 78 having a series of friction-posts projecting from one side thereof and located at either side of said plate at the ends and centrally thereof, an H-shaped clamping-plate
130 having its neck located between the central friction-posts, a bolt passed through said

clamping-plate and the plate 78 and having
an elongated head bearing on said clamping-
plate and located between said central posts,
means as described for producing a yielding
5 contact of said head upon said clamping-
plate, and means carried by the device for
anchoring it, substantially as described.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

WILLIAM F. SEARGEANT.

Witnesses:

NETTIE NEVILLE,
CLAY PERKINS.