

No. 705,500.

Patented July 22, 1902.

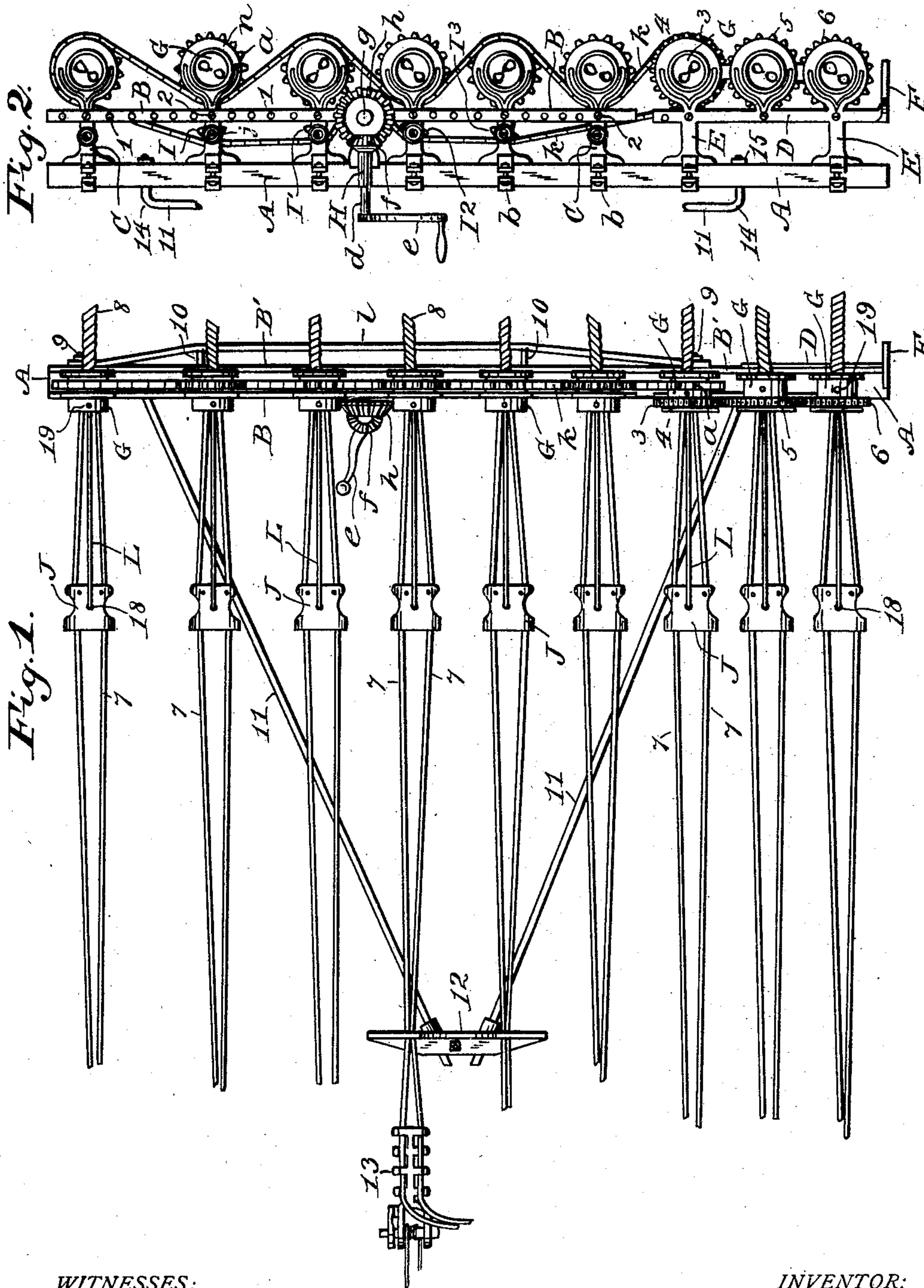
G. P. A. WEISENBORN.

WIRE FENCE MACHINE.

(Application filed Feb. 15, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Fig. 3.

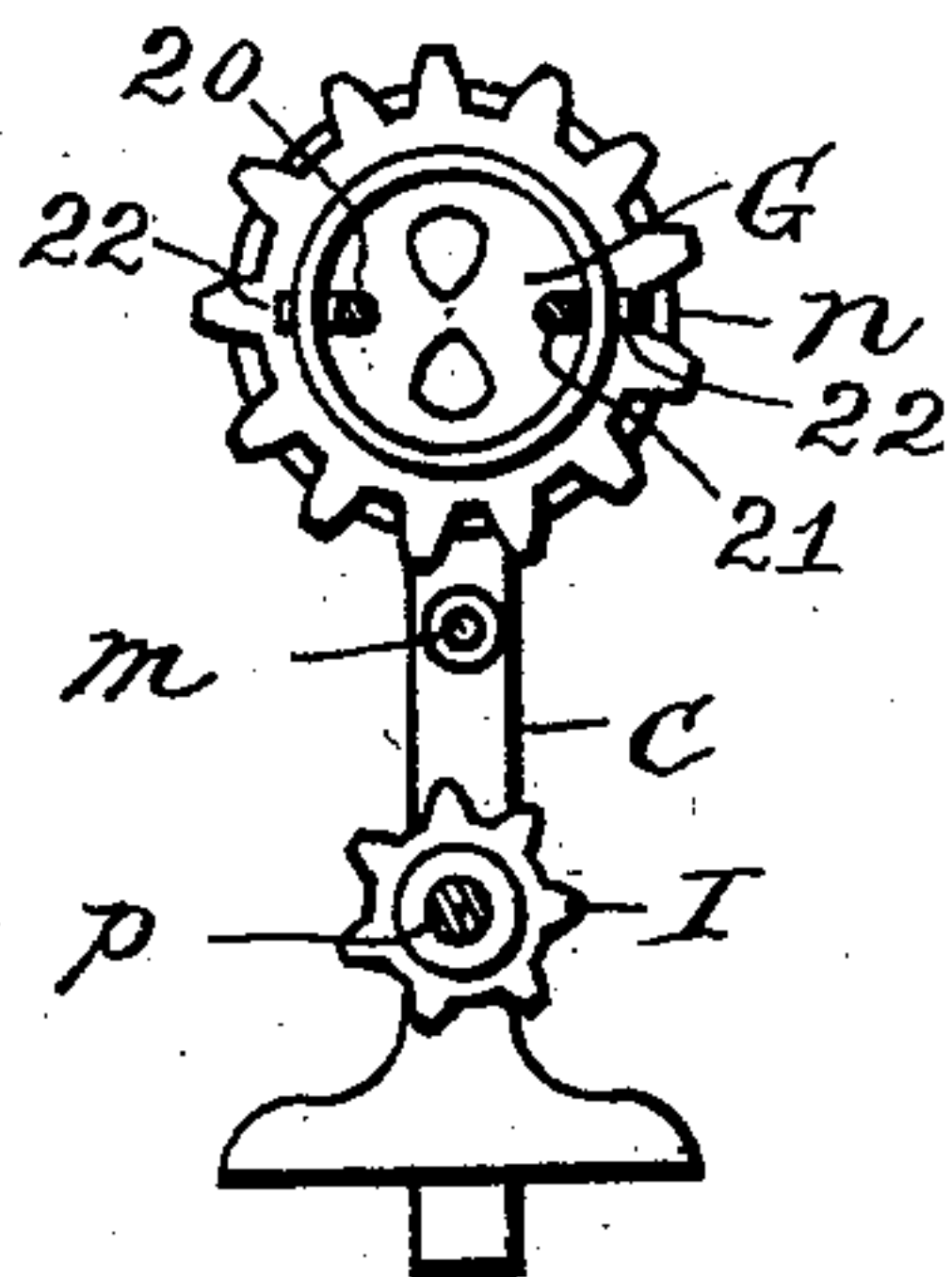


Fig. 4.

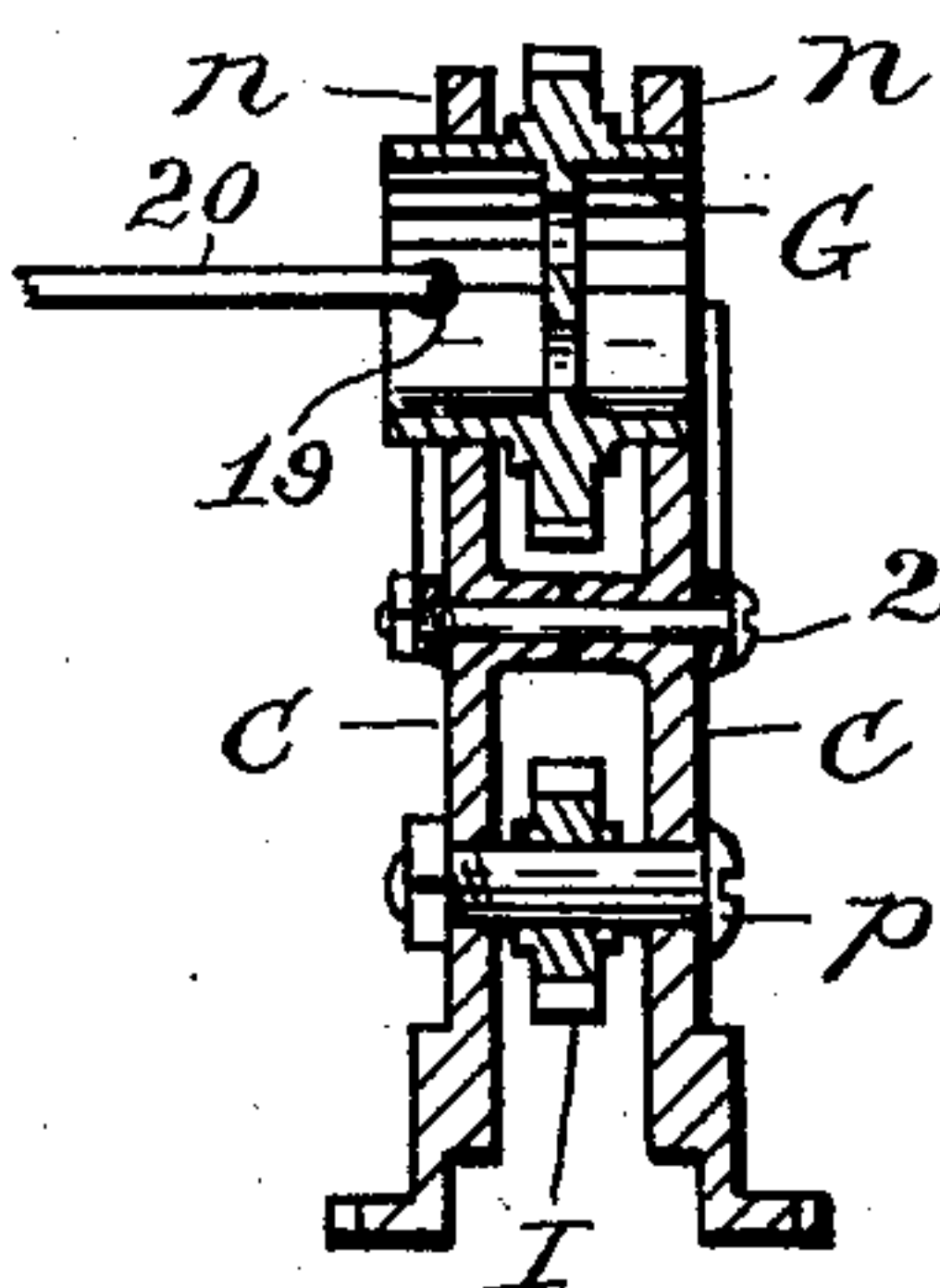


Fig. 5.

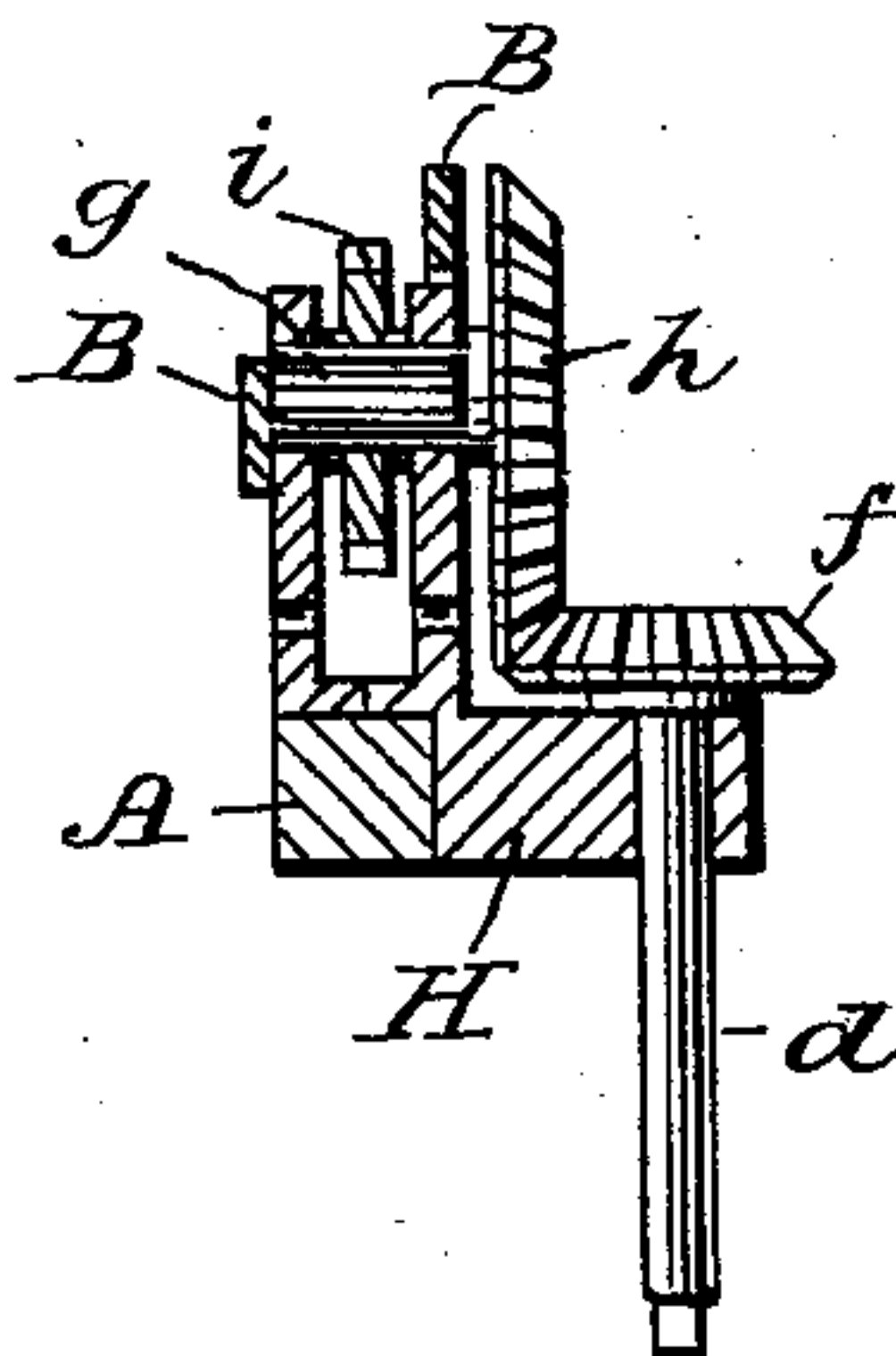


Fig. 6.

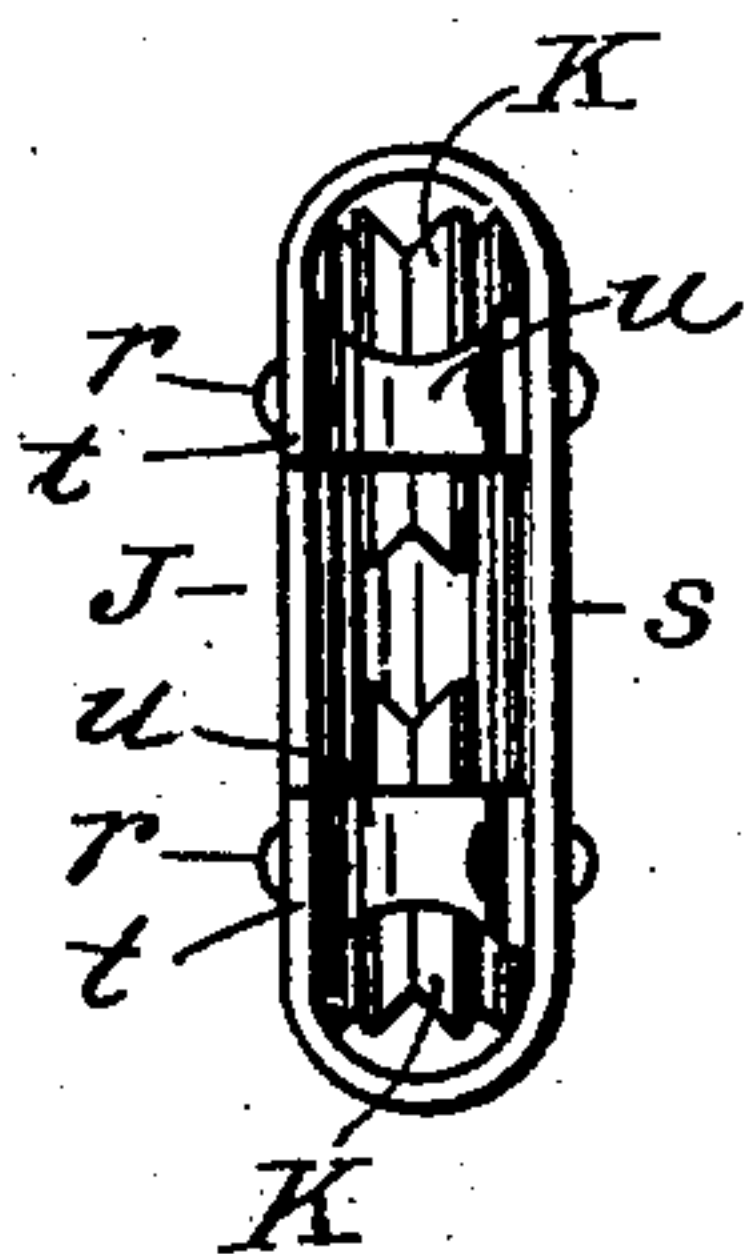


Fig. 7.

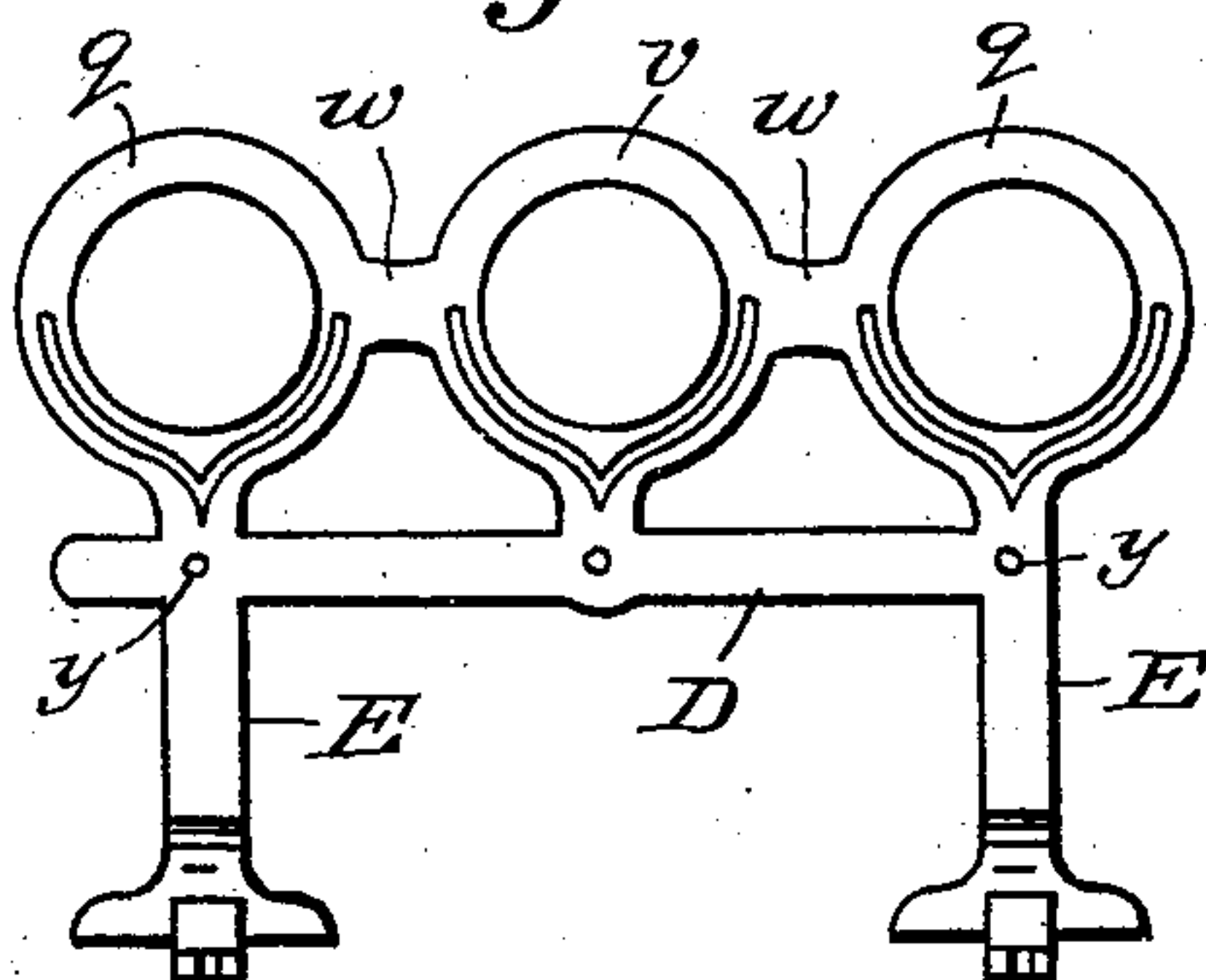


Fig. 8.

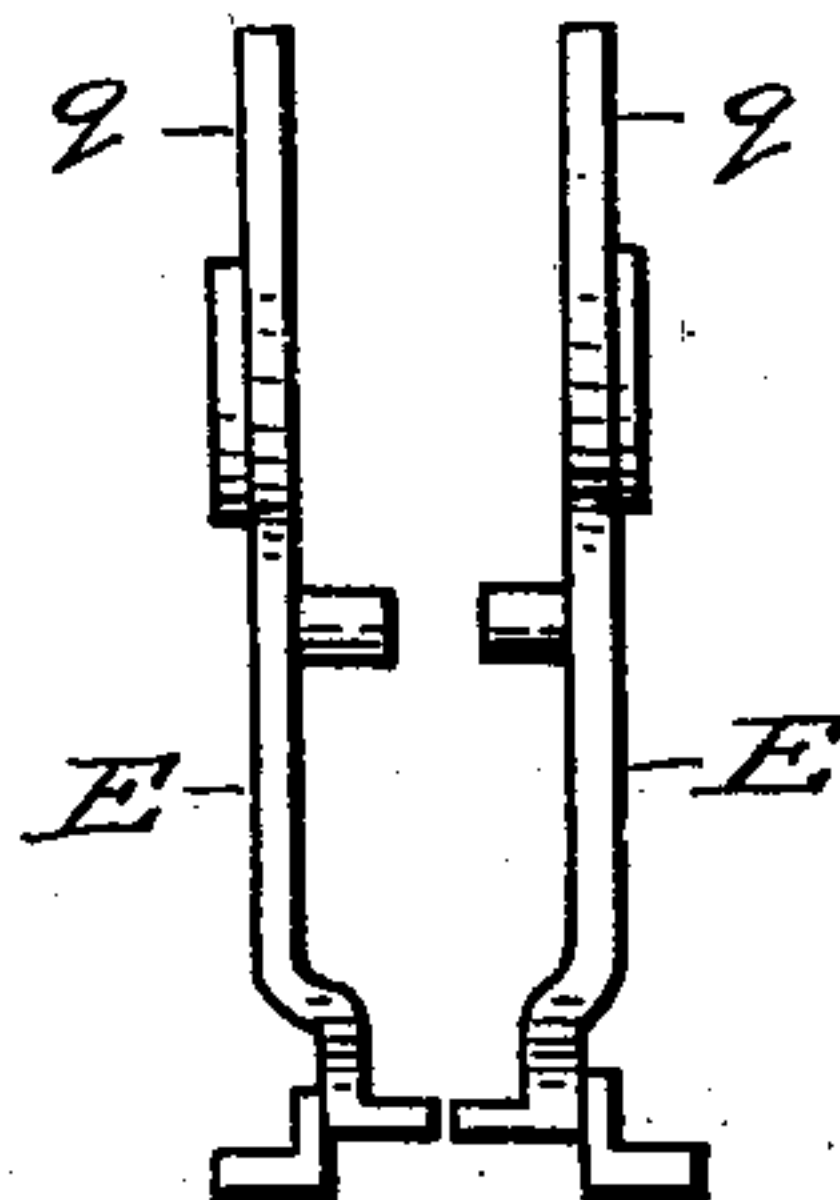


Fig. 9.

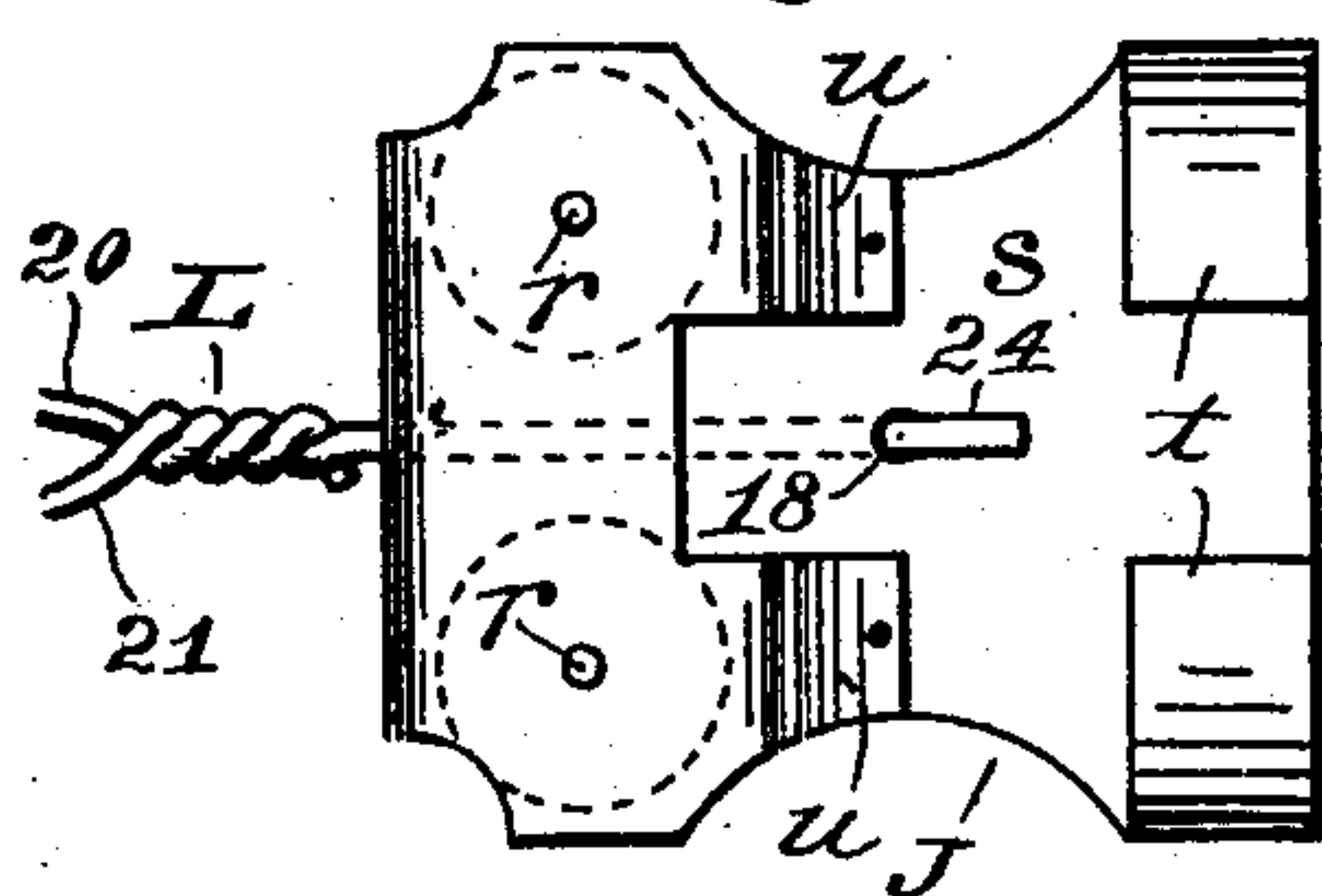


Fig. 10.

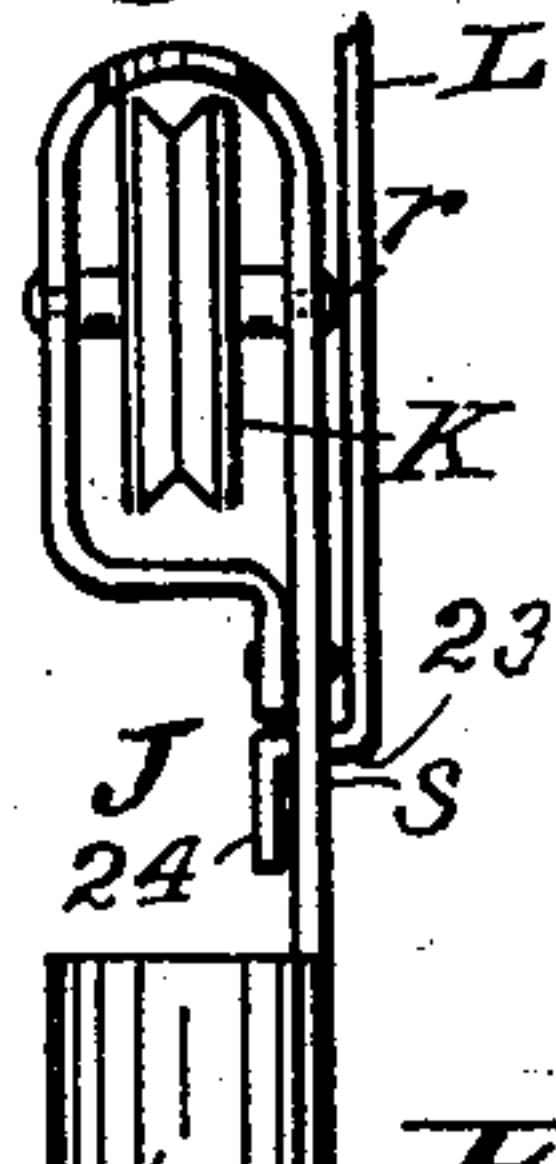


Fig. 11.

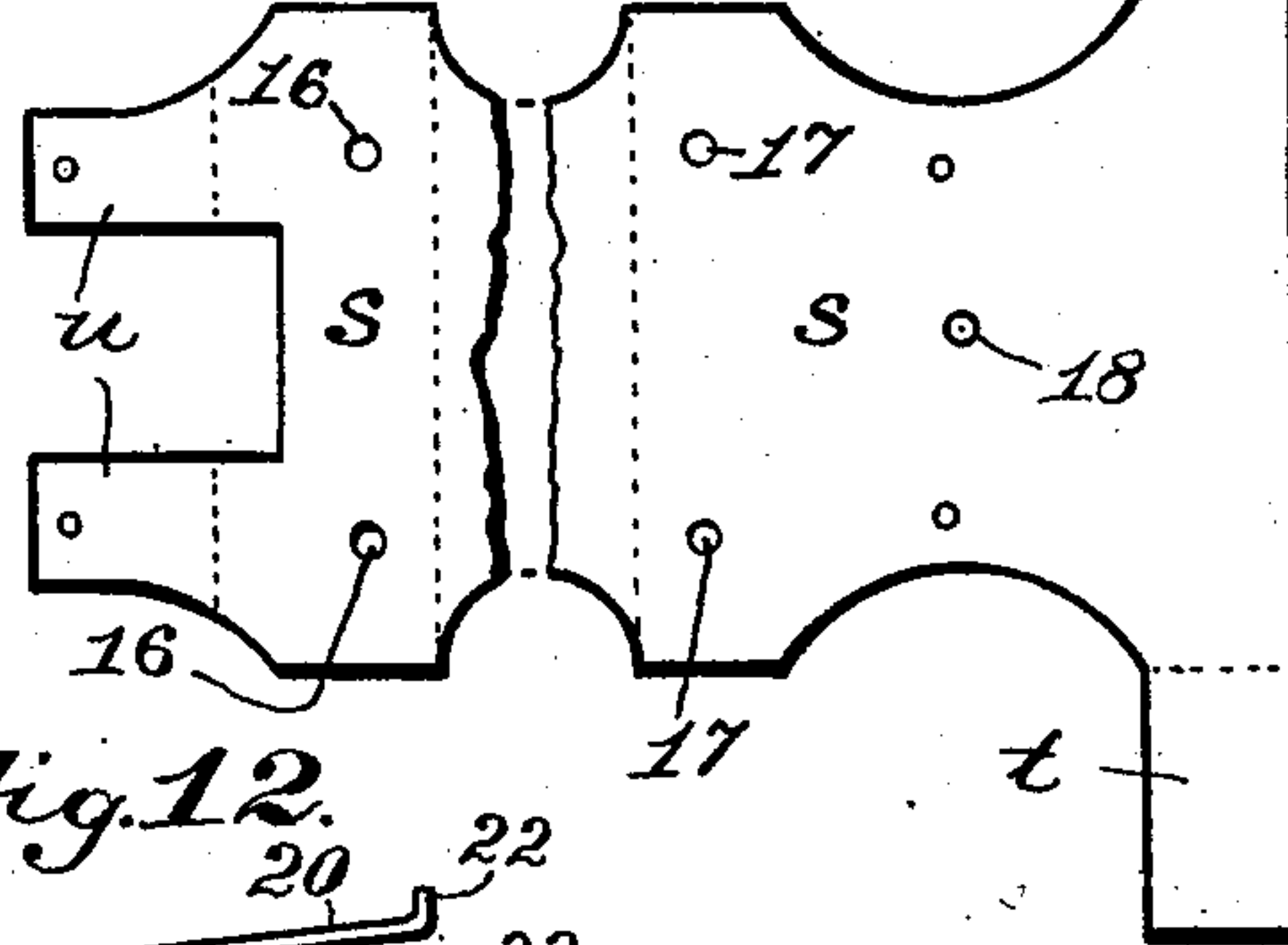
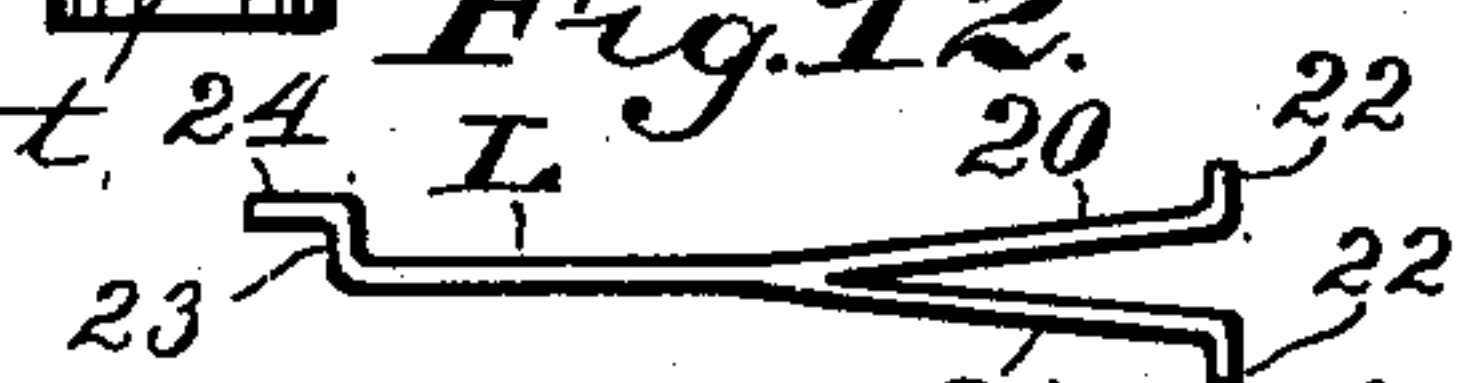


Fig. 12.



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# UNITED STATES PATENT OFFICE.

GEORGE P. A. WEISENBORN, OF CLARENCE, MISSOURI.

## WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 705,500, dated July 22, 1902.

Application filed February 15, 1902. Serial No. 94,168. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE P. A. WEISENBORN, a citizen of the United States, residing at Clarence, in the county of Shelby and State of Missouri, have invented certain new and useful Improvements in Wire-Fence Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to the class of machines that are used for weaving wire fences at the places where they are erected and used, and has particular reference to certain novel improvements and in combinations of parts, the object being to simplify and improve the construction generally and to increase the durability, range, and usefulness of the apparatus.

To this end the invention consists in the novel parts and in the combination and arrangement of parts, as hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, in which similar reference characters in the several views indicate like parts, Figure 1 is a side view in elevation of my machine as it appears in operation; Fig. 2, a rear elevation of the same; Fig. 3, a plan view of the inner side of a frame-arm part, showing a twisting-head and a slack-adjuster thereon; Fig. 4, a longitudinal sectional view through the centers of a pair of frame-arm parts and the twisting-head and the slack-adjuster; Fig. 5, a longitudinal sectional view through the supporting-bracket for the driving-gears; Fig. 6, an end view of my improved wire-spreader looking from the rear thereof; Fig. 7, a plan view of an auxiliary frame member, of which two are employed; Fig. 8, an end elevation of the pair of frame members as they appear when assembled; Fig. 9, a plan view of a spreader; Fig. 10, an elevation view of a spreader, which in operative position may be either the top or the bottom thereof; Fig. 11, a plan view of the plate-blank from which the spreader-

frame is formed, a portion being broken away for convenience; and Fig. 12, a side view of the spreader-coupler.

In construction I employ a main frame member A, which may consist of either wood or metal and is designed to be upright in operative positions. A pair of parallel frame members B B', preferably composed of metal, are arranged at a suitable distance from the member A and have suitably-spaced holes 1 extending substantially throughout the lengths of the pair of members. These holes are designed to be used as gages for determining the spaces between fence-wires. They are employed for binding the frame members together, and they may be used also in supporting slack-adjusters when convenient, as is sometimes the case. The members B B' serve as braces for maintaining the twisting-heads in correct positions when in operation. The member B is offset at the driving-gear, as will be seen in Fig. 5.

The frame-arms C are each composed of two parts substantially alike, and each arm is suitably attached adjustably to the main member A and also to the members B B' by means of bolts 2, extending through holes *m* therein and the holes 1. The arms C have suitable feet bearing against the member A and are preferably attached thereto by means of clips *b* and bolts. Each part of the arm C has a suitable head *n*, in a pair of which a twisting-head G is rotatively mounted, each head G having a pair of apertures for the wires, as usual, and sprocket-teeth *a*.

An auxiliary frame composed of companion parts is also suitably attached adjustably to the main frame member A below the lower one of the arms C and below the members B B', completing the machine-frame. The parts of the auxiliary frame comprise two substantially like pieces, each piece composed of a bar D, connecting two or more arms E E, (the latter being similar to the arms C,) and three or more heads *g*, which support twisting-heads, the upper one of which at 4 has sprocket-teeth *a* and also gear-teeth 3 and the lower ones of which have gear-teeth 5 and 6, respectively, the two latter connected and driven by the teeth 3. A stay-wire or picket-gage F is attached to the auxiliary frame.



The heads *g* are connected by bars *w*, and the bars *D* have holes *y*, whereby the two pieces may be connected by bolts.

A suitably-bracketed housing *H* is attached 5 to the main member *A* and may be constructed in parts, as is obvious, and supports a journaled shaft *d*, having a crank-arm *e* and provided with a bevel gear-wheel *f*. The housing also supports a shaft *g*, on which is secured a bevel gear-wheel *h*, engaged and 10 driven by the wheel *f*. A driving sprocket-wheel *i* is also secured to the shaft *g*. A suitable number of slack-adjusters, as *I* <sup>13</sup>, and deflecting-rolls *I'* <sup>12</sup>, all preferably composed 15 of sprocket-wheels, are mounted between the parts of arms *C* on bolts *p*, serving as shafts at *j* between the members *A* and *B*.

The fence-wires *7* are arranged in the usual manner, and my improved spreaders *J* are 20 used therewith substantially in the usual way, the wires extending through the spreaders and also the twisting-heads, which are designed to twist each pair of adjacent wires, as at *8*, behind the machine, the latter being 25 stiffened by means of a truss-rod *l*, secured at its ends by bolts *9* and having posts *10* extending between the rod and the frame. The machine is provided, as usual, with guide-rods *11* and a guide-head *12*. Tension-ad- 30 justers *13* are furnished with each machine. The rods *11* each have a bend *14*, and from this extends a short end through a suitable hole in the member *A*, so as to be rotative therein, a nut *15* retaining the part in the hole. 35 This adjustability is provided so that by adjusting the rods *11* in the head *12* the machine may be better adapted to construct fences on up and down grades, as will be understood.

The sprocket-chain *k* extends over the upper head *G* and about the lower part of the 40 head *G*, situated at *4*, and back and forth at opposite sides of the intervening heads *G* in the usual manner. The chain engages the driving-wheel *i* at the side thereof between the same and the next adjacent heads *G* and 45 between the rolls *I* <sup>13</sup> *I'* <sup>12</sup> and the member *A*, the rolls *I'* <sup>12</sup> preventing the chain from jumping off the driving-wheel and also insuring a desirable extent of contact for driving purposes. 50

By the above-described arrangement of the chain and the slack-adjusters it will be seen that although the chain may wear and elongate rapidly the slack may be readily taken 55 up by inserting other rolls either in the arms *C* or between the frame members *B* *B'*, and especially is this adjustment desired when changing the machine so as to build fences of a different number of wires. Also the rolls 60 *I* and others may be mounted adjustably in the arms *C*.

The spreaders *J* each are formed of a plate *s*, having guide-loops at the forward end thereof bent over from the sides of the plate 65 toward the center of the front part and toward each other and having the rear end turned over toward the loops *t*, so as to form

a companion plate, between which and the main plate are a pair of grooved rollers *K*, mounted on pins *r*, attached to both of the 70 frame-plates in holes *16* and *17*. Preferably the plate *s* has ears *u*, which are bent down from the companion plate to the main plate of the spreader and riveted thereto. The spreaders are removably attached to the 75 twisting-heads by means of suitable couplers *L*.

The couplers *L* may be variously constructed and connected to the twisting-heads and the spreaders. In Fig. 12 I show a simple 80 form comprising a main bar, one end of which has elastic branches *20* and *21*, having their ends bent outwardly and forming lugs *22*, which engage oppositely-disposed apertures 19 in the side walls of the twisting-heads *G*. 85 In this figure the opposite end of the coupler is distorted axially for convenience of illustration, as will be apparent, and has a portion *23* bent over at right angles to the main bar and a portion *24* parallel to the main bar. 90 The portion *23* is hooked into a hole *18* in the spreader-frame, as shown. Spring-wire twisted together may be employed in construction.

In practical use this machine may be operated in the same manner as other machines 95 having some of the characteristic features of my present invention, the mode of operation being well known. The rollers in my improved spreaders bear against opposing wires, and the spreader-frames being made of rolled 100 plate metal are light and strong and practically unbreakable. The spreader-couplers hold the spreaders at proper distances from the machine-frame.

Having thus described my invention, what 105 I claim as new and useful is—

1. A wire-fence machine including a frame, twisting-heads, means for operating the twisting-heads, a plurality of spreaders, one for each twisting-head, and a plurality of couplers 110 for the spreaders, one for each spreader connected with the spreader and also with a twisting-head and rotative therewith.

2. In a wire-fence machine, the combination of a main frame member, a pair of combined gage and frame members, frame-arms 115 extending from the main frame member to and beyond the combined gage and frame members, twisting-heads mounted at the extremities of the frame-arms, a drive-chain, 120 and driving mechanism.

3. In a wire-fence machine, the combination of a main frame member, a driving-wheel, a plurality of frame-arms having the gage-holes therein, a pair of combined gage and 125 frame members having the gage-holes therein, twisting-heads mounted in the frame-arms at the sides of the combined gage and frame members opposite to the main frame member, deflecting-rolls, a drive-chain, a slack-ad- 130 juster, and the bolts extending through the gage-holes in the frame-arms and the combined gage and frame members.

4. In a wire-fence machine, the combina-



tion of a main frame member, a pair of combined gage and frame members parallel to the main frame member, a series of frame-arms extending from the main frame member to and beyond the combined gage and frame members, twisting-heads mounted at the extremities of the frame-arms and supported in their positions axially by said combined gage and frame members, a drive-chain connecting the twisting-heads, an auxiliary frame, and twisting-heads in the auxiliary frame, substantially as set forth.

5. In a wire-fence machine, the combination of a frame comprising a main member, a series of frame-arms adjustably attached to the main member, a pair of parallel members situated parallel to the main member and adjustably secured to the arms, a drive-wheel, and a deflecting-roll at either side of the drive-wheel, in combination with a series of twisting-heads mounted at the extremities of the arms adjacent to the parallel members, and a drive-chain engaging the drive-wheel and the deflecting-roll and extending in contact with the twisting-heads, substantially as set forth.

6. In a wire-fence machine, the combination with a frame, a series of twisting-heads, a drive-chain, a drive-wheel, guide-rods, and a guide-head, of spreaders each comprising a frame-plate, a pair of opposing rollers, and a pair of opposing guide members at the end of the frame opposite to the rollers, substantially as set forth.

7. In a wire-fence machine, the combination of the spreader consisting of the frame-plate having the portion bent over and forming the companion plate, the rollers mounted between the main plate and the companion plate, and the loops bent over and forming guide members at the end of the main plate opposite to the rollers, substantially as set forth.

8. In a wire-fence machine, the combination of the frame, the twisting-heads having the apertures in the side walls thereof, the spreaders having the aperture in the frame thereof, a spreader-coupler engaging the apertures in said heads and also the aperture in said spreader, and the driving mechanism, substantially as set forth.

9. In a wire-fence machine, the combination with the main frame member and the series of twisting-heads, of the series of arms supporting the twisting-heads and having the holes therein whereby the slack-adjuster roll-shafts may be supported and also having the bolt-holes adjacent to the twisting-heads, the pair of parallel frame members situated adjacent to the twisting-heads and having the bolt-holes therein, the bolts securing said par-

allel members to said arms, the drive-chain, and the drive-wheel, substantially as set forth.

10. In a wire-fence machine, the combination with the main frame member having the perforations transversely therein, the twisting-heads having their axes at right angles to the perforations, and the guide-head, of the guide-rods having the short ends bent at right angles to the main portions thereof and extending through the perforations in said member, and the nuts on said short ends, the guide-rods being connected to the guide-head, as set forth.

11. In a wire-fence machine, the combination of the main frame member, the frame-arms, the parallel frame members having the bolt gage-holes therein and secured to the arms, the drive shaft and wheel situated between two of said arms, the slack-adjusters situated between said main frame member and said parallel frame members, the twisting-heads mounted in the heads of said arms opposite said parallel members from said main member, the auxiliary frame, the twisting-heads in said auxiliary frame, and the drive-chain, substantially as set forth.

12. In a wire-fence machine, the combination of the main frame member, the pair of parallel frame members having the gage-holes therein, the two-part frame-arms having the binding-bolts therein extending through said gage-holes, the slack-adjusting wheels mounted in said arms between said main frame member and said parallel frame members, the twisting-heads mounted in said arms at the sides of said parallel frame members opposite said main frame member, the drive-wheel, and the drive-chain, substantially as set forth.

13. In a wire-fence machine, the combination of the main frame member, the pair of parallel frame members extending parallel to the main frame member, the frame-arms having the heads at the sides of the parallel frame members opposite to the main frame member, the twisting-heads in said heads, the auxiliary frame secured to said main frame member and having the bars in alinement with said parallel frame members and also having the heads adjacent to said bars, the twisting-heads in said last-described heads, the drive-chain, the driving-gears, the truss-rod attached to said main frame member, the guide-rods, the guide-head, and the spreaders, substantially as set forth.

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

GEORGE P. A. WEISENBORN.

Witnesses:

HARRY D. PIERSON,  
E. T. SILVIUS.