

(No Model.)

D. MILLER.
SLAT AND WIRE FENCE MACHINE.

No. 560,734.

Patented May 26, 1896.

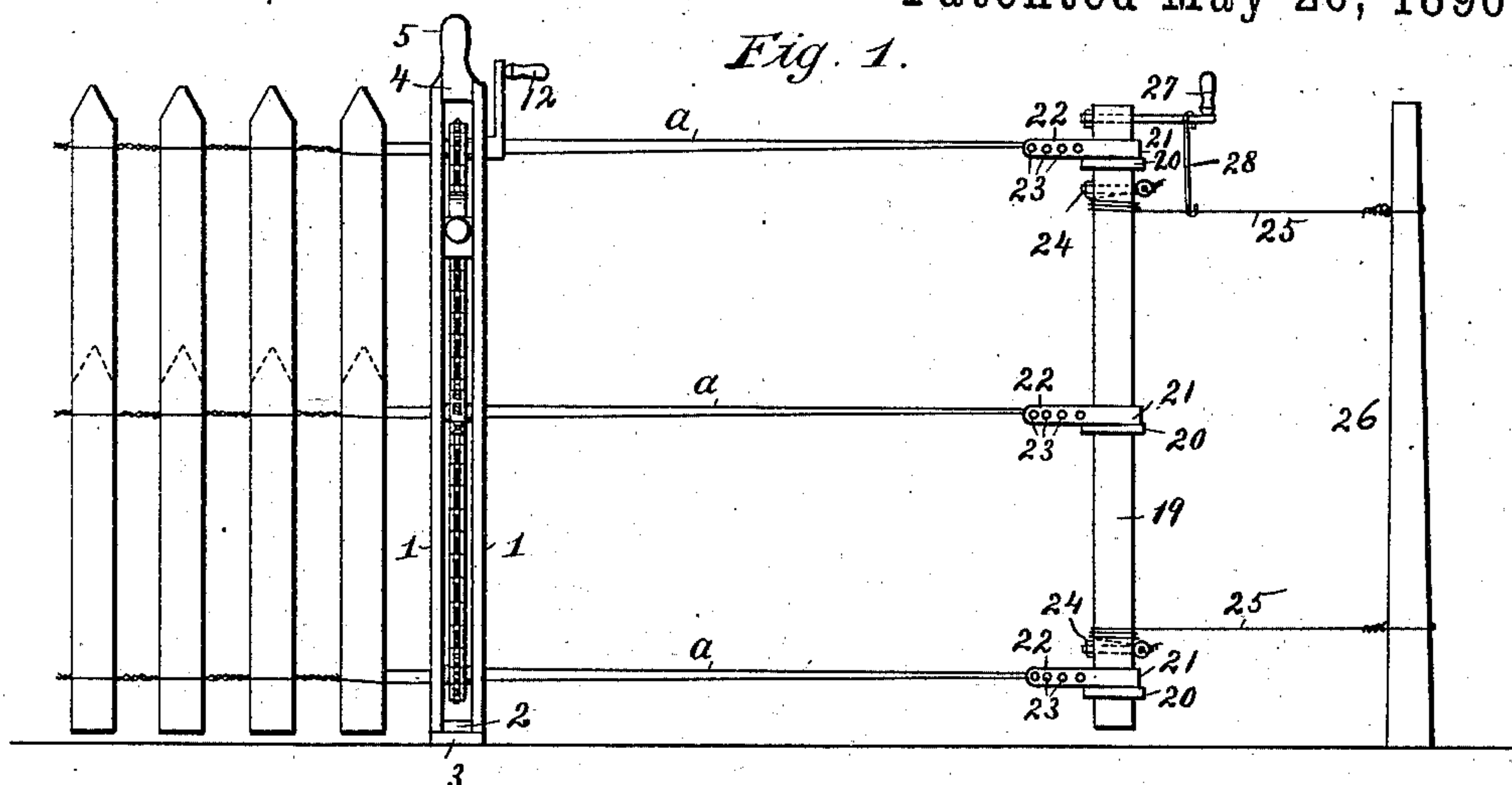


Fig. 2.

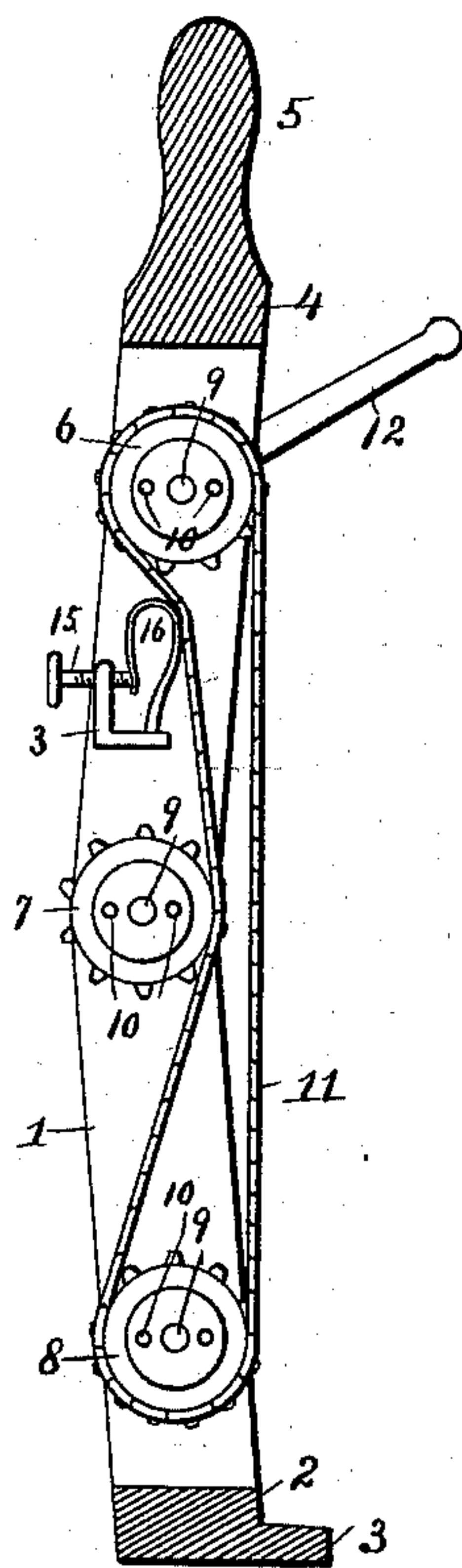


Fig. 5.

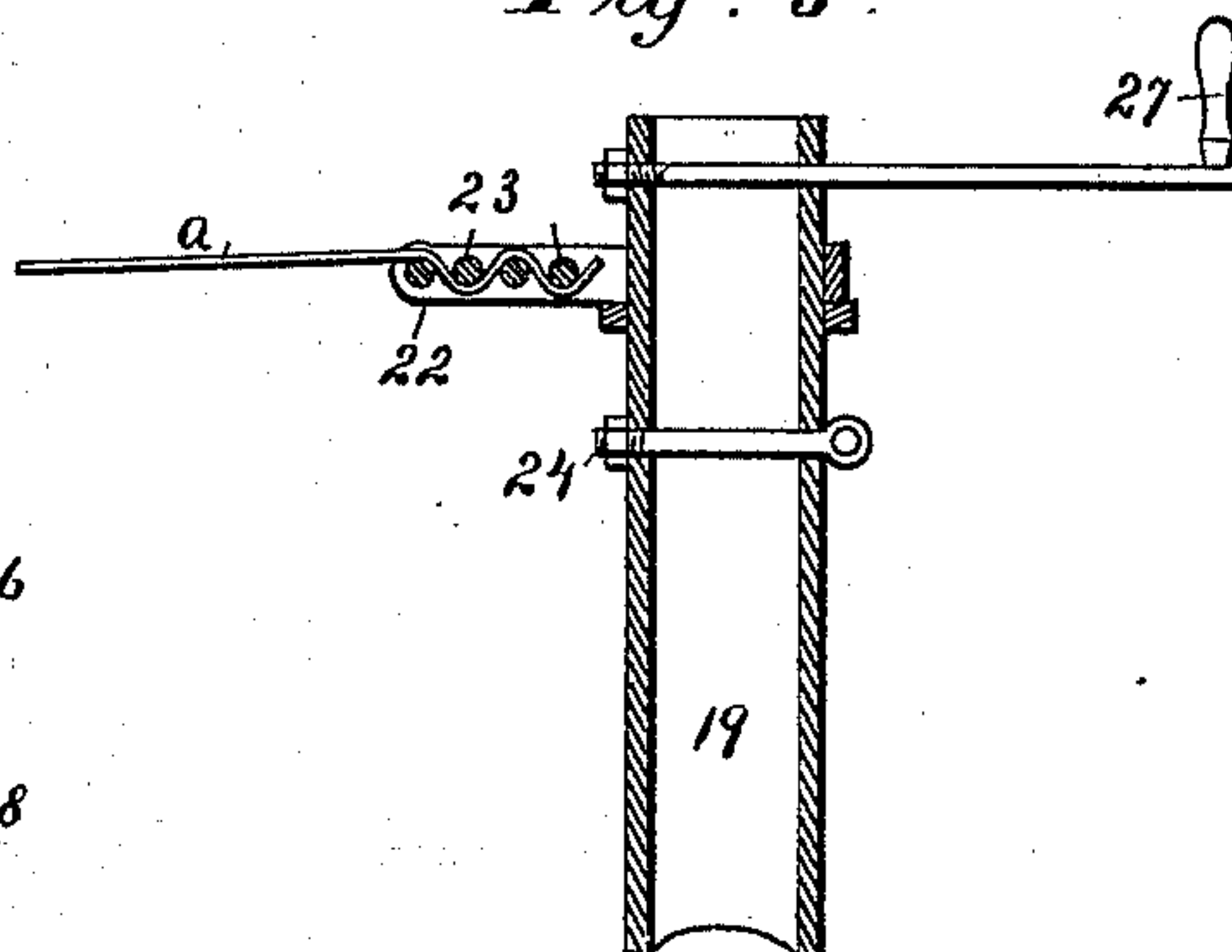


Fig. 3.

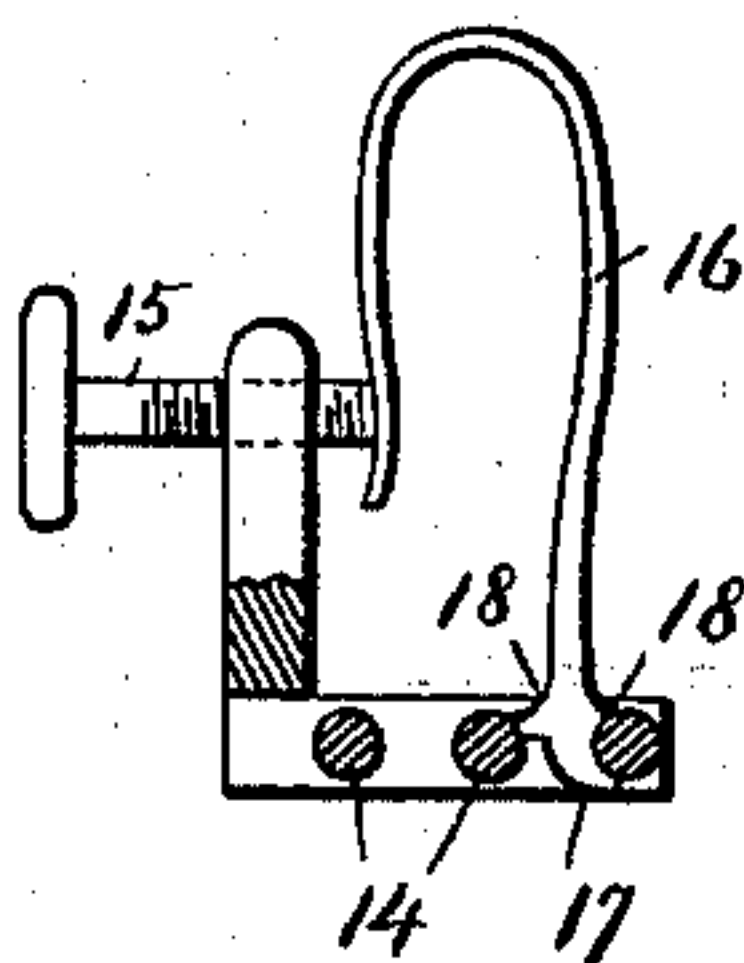


Fig. 4.

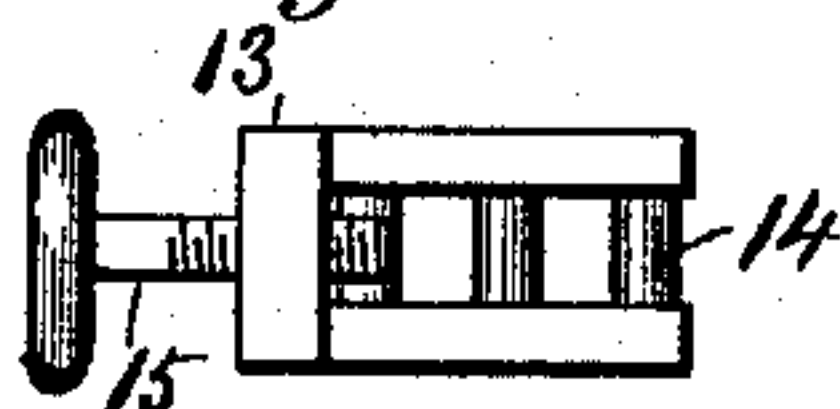
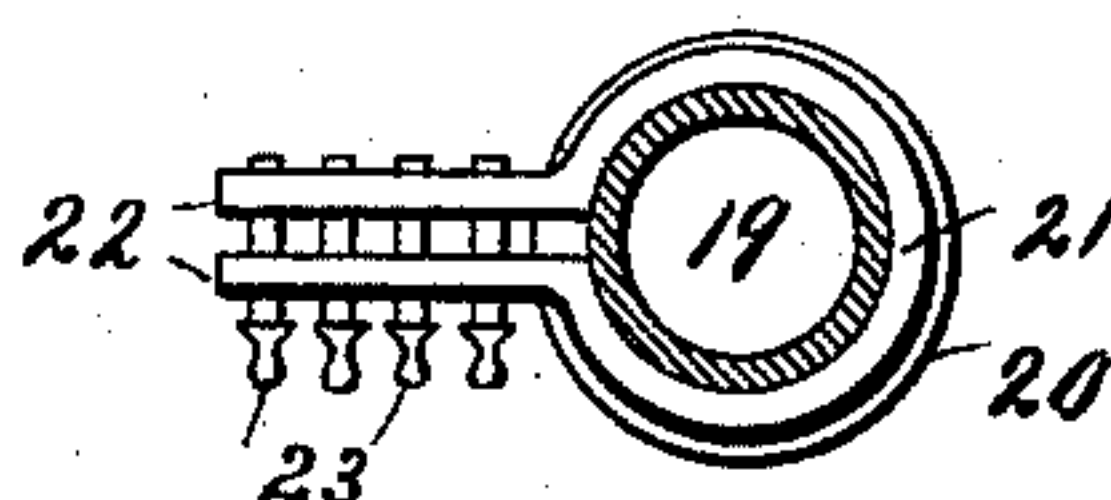


Fig. 6.



WITNESSES:

F. G. Fischer

Gy. Horváth

INVENTOR:

Daniel Miller

BY *Weyman & Weyman*
ATTYS.

UNITED STATES PATENT OFFICE

DANIEL MILLER, OF HAMILTON, MISSOURI.

SLAT-AND-WIRE-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 560,734, dated May 26, 1896.

Application filed January 30, 1896. Serial No. 577,434. (No model.)

To all whom it may concern:

Be it known that I, DANIEL MILLER, of Hamilton, Caldwell county, Missouri, have invented certain new and useful Improvements in Wire-Fence Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to wire-and-picket fence apparatus; and my object is to produce an apparatus of this character which is positive and reliable in action, easy of operation, and simple, strong, durable, and inexpensive of manufacture.

To these ends the invention consists in certain novel and peculiar features of construction and arrangement, as hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it, with reference to the accompanying drawings, in which—

Figure 1 represents my apparatus in the process of building a fence. Fig. 2 represents a vertical section of the wire-twisting machine on an enlarged scale. Fig. 3 represents, partly in section and partly in elevation, my improved chain tensioning device. Fig. 4 represents a plan view of a part of the same. Fig. 5 represents a vertical section of a part of the wire-tensioning device, and Fig. 6 a horizontal section of the same.

In the said drawings, 1 1 designate a pair of metallic bars, which are preferably bent or formed as shown in Fig. 2.

2 designates a block to which said bars are secured at their lower ends, and 3 a foot-piece projecting therefrom.

4 designates a block which is interposed between and secured to said bars at their upper ends, and which continues upwardly in the form of a handle 5.

6, 7, and 8 designate sprocket-wheels which are journaled rotatably between the bars 1, being provided with circular hub-extensions 9, which engage or are journaled in openings in said bars in the customary manner, and at diametrically opposite points through said wheels and hub-extensions are formed the holes or apertures 10 to receive the wires employed in building the fence, as hereinafter referred to. The wheel 7 is preferably set

out of the vertical alinement of the wheels 6 and 8, which is most conveniently done by forming the bars as shown in Fig. 2, and connecting said wheels 6 and 8 and engaging tangentially said wheel 7 is a sprocket-chain 11, whereby motion given to one wheel is imparted to the others, which motion is preferably given by means of a crank-handle 12, mounted rigidly upon the hub-extension of the upper sprocket-wheel 6, as shown.

Owing to the fact that the sprocket-wheels are not always perfectly true in circumference, and that therefore the tension of the chain would vary if a fixed or unyielding tension device were employed, I provide, to obviate this difficulty, a spring or yielding tension constructed as follows: 13 designates a right-angled casting, which is secured to the bars 1 either above or below the sprocket-wheel 7, in any suitable or preferred manner, with one arm vertical and the other horizontal, as shown clearly in Fig. 2. The horizontal arm is skeleton in form—that is, it comprises two outwardly-projecting arms, which are connected by a series of cross-bars 14, as shown clearly in Figs. 3 and 4. A set-screw 15 extends through the vertical arm and engages one arm of a spring 16, which spring at its lower end is provided with a hook 17, which engages one of the cross-bars 14 and is provided with a shoulder or shoulders 18 to bear also against one or more of said cross-bars, so that it cannot be accidentally displaced or disengaged. Said spring 16 bears against the chain with a strong yet yielding pressure, so that the slack is always taken up because the spring adjusts itself to all conditions of the chain.

Referring now to my improved wire-tensioning device, 19 designates a gas-pipe, and 20 two or more collars which surround and are secured rigidly to the same at distances apart about equal to the distance between the wheels 6, 7, and 8.

21 designates a corresponding number of clutches which loosely or rotatably embrace said pipe above said collars, and are thereby prevented from slipping downward on the pipe. They are provided with the parallel arms 22, connected by a series of detachable cross-pins 23.

24 designates eyebolts which extend through

the gas-pipe at suitable points, and 25 designates ropes or cables which connect said eye-bolts with a post 26, secured firmly in the ground.

5 27 designates a windlass or crank-handle which is secured rigidly to the upper end of the gas-pipe, whereby the latter may be operated and caused to roll upon the ropes 25, thereby forming a winding-drum for the latter, as shown in Fig. 1, and as hereinafter
10 more particularly referred to.

In practice, when a fence is to be built, the wires, after being threaded through two or more of the sprocket-wheels, are secured
15 firmly at one end to a post fixed in the ground. (Not shown) The twisting-machine is then arranged within about six inches of the post. On the line of the fence at any suitable distance away the post 26 is then set firmly into
20 the ground, and the wire-tension device hereinbefore described is then attached by cables or ropes to said post. The wires *a*, which extend through the holes or apertures 10 of the sprocket-wheels, are then drawn as tight as
25 possible and are engaged with the cross-pins 23 of the clevises in the manner shown in Fig. 5. This is accomplished by drawing the wires over or under the first pin after removing the others, then slipping the second pin over or
30 under the wire or wires, as the case may be, then the third pin under or over the wires, then the fourth pin over or under the wires, and so on, according to the number of pins employed. This arrangement kinks the wire,
35 so that when the windlass is operated, which is the next step to be performed, it rolls upon the cables or ropes toward the post 26, and as said cables or ropes are wound upon the gas-pipe or drum of the windlass the slack in the
40 wires *a* is consequently taken up and they are tensioned in the required or necessary degree. The hook 28 is now slipped over the crank of the windlass and over the adjacent rope or cable 25, as illustrated in Fig. 1, and
45 thereby prevents the back rotation of the same and positively and reliably holds the wires at the necessary tension. The building of the fence may now be accomplished by inserting a picket between the machine
50 and the post hereinbefore referred to and then rotating the sprocket-wheels and twisting the wire, the machine being held meanwhile by grasping the handle 5 with one hand and pressing one foot firmly upon the foot-piece 3. The machine is now moved a few
55 inches farther from said picket and a second picket inserted and secured, as described, only in this case the wire is twisted in the opposite direction, to prevent the entanglement or twisting of that portion of the wire
60 between the machine and the wire-tensioning device, as will be readily understood. This operation is repeated until all the pickets have been secured in position.

65 When three sets of wires are twisted by this machine, as illustrated in Fig. 1, it is necessary, of course, that the upper set extend

through the axial end of the crank-handle in the customary manner or else the latter be secured to the sprocket-wheel outside of said
70 wires, so that it may be turned without interfering with them. The invention is designed, particularly, however, for use with two wires, so that a low fence may be easily and quickly
75 built, the principal object being to provide a fence sufficiently high to prevent the escape of hogs. When two wires only are employed, the pickets will only be in length about as indicated by the dotted lines, Fig. 1. In this
80 case, also, only two clevises will be necessary.

From the above description it will be apparent that I have produced an apparatus for building picket-fences which is comparatively
85 light in weight and yet simple, strong, durable, and inexpensive of construction.

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

1. In a fence-building apparatus, a wire-tensioning machine, comprising a suitable
90 frame provided with a foot-piece and with a handle, sprocket-wheels journaled therein and provided with holes or apertures to receive the wires to be twisted in the formation of a fence, a chain connecting said sprocket-
95 wheels, a crank-handle for imparting motion to said chain, and a spring tension device engaging said chain and consisting of a casting secured in the frame, a spring attached to said
100 casting at its lower end and bearing against the chain, and a set-screw adjustably mounted in the frame and bearing against the opposite end of said spring, whereby the pressure of the latter against the chain may be increased
105 or diminished at the will of the operator, substantially as described.

2. In a fence-building apparatus, a wire-tensioning machine, comprising a suitable
110 frame provided with a foot-piece and with a handle, sprocket-wheels journaled therein and provided with holes or apertures to receive the wires to be twisted in the formation of a fence, a chain connecting said sprocket-
115 wheels, a crank-handle for imparting motion to said chain, and a spring tension device engaging said chain and consisting of a casting secured in the framework, comprising a vertical arm and a horizontal forwardly-projecting arm, the latter being provided with a series of cross-pieces, a spring bearing against
120 said chain and provided with a hook at its lower end engaging one of said cross-bars, and with shoulders engaging also one or more of said cross-bars, and a set-screw mounted in the vertical arm of the casting and bearing
125 against the opposite end of the spring, whereby the pressure exerted by the latter upon the chain may be varied, substantially as described.

3. A fence-building apparatus, comprising
130 a fixed post or anchor, a windlass, ropes or cables connecting said post and said windlass, and clevises mounted loosely or rotatably upon the drum or windlass and attached to

the ends of the wires to be tensioned by the rotation of said windlass, substantially as described.

5 4. A fence-building apparatus, comprising
of a fixed post or anchor, a windlass in the form
of a gas-pipe having a crank-handle, bolts se-
cured to said gas-pipe, ropes or cables con-
necting said bolts and said fixed post or an-
chor, collars fixed upon said pipe, clevises
10 loosely mounted upon the pipe at the upper
sides of said collars and provided with a pair
of parallel arms and a series of detachable
cross-pins upon and around which the wire

to be tensioned is bent or kinked when the
windlass is operated, and a hook for connect- 15
ing the handle of the windlass and one of said
ropes or cables, to prevent the back rotation
of the windlass and the consequent slacken-
ing of the wires, substantially as shown and
described. 20

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

DANIEL MILLER.

Witnesses:

L. FOUCH,
H. FARABEE.