

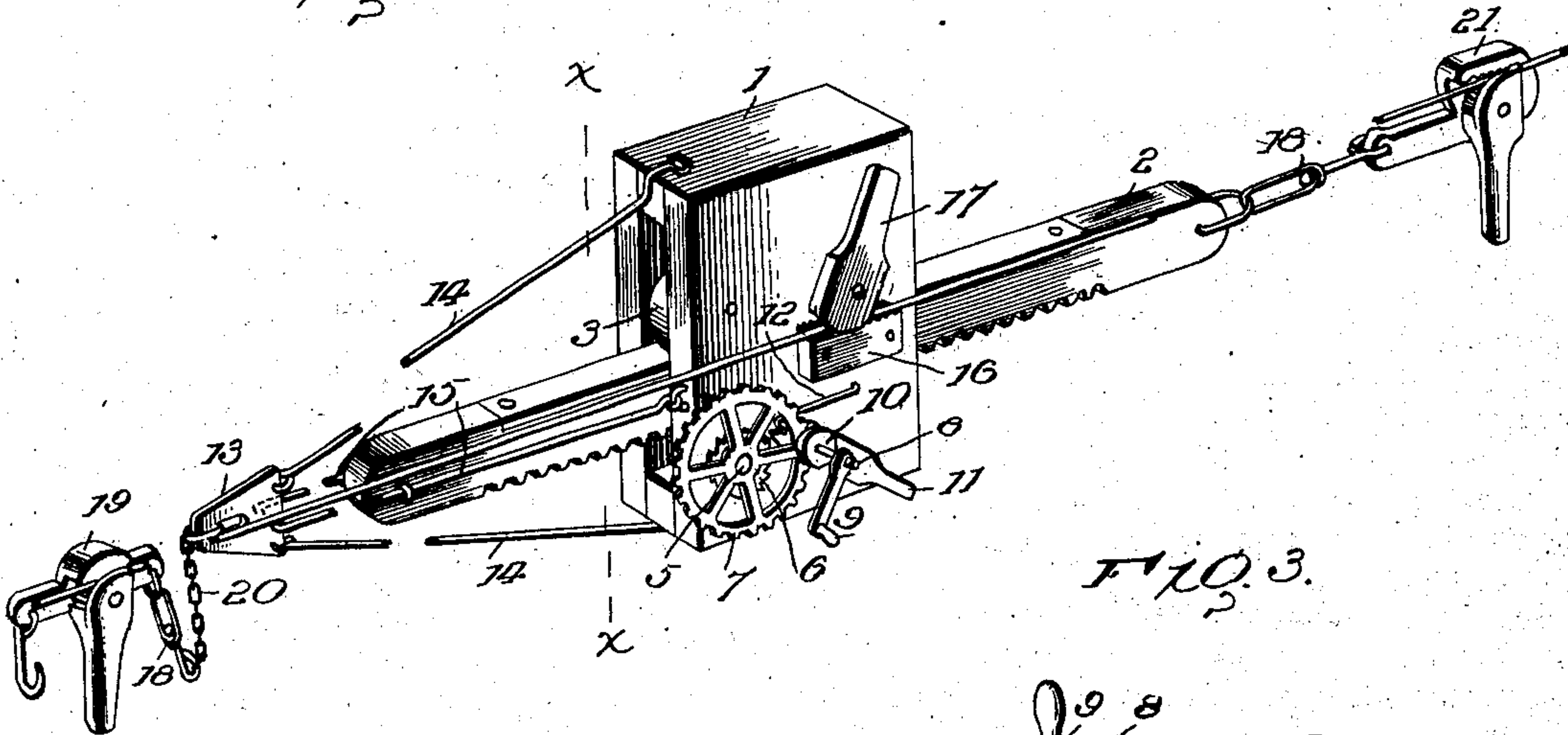
No. 728,393.

PATENTED MAY 19, 1903.

C. W. HOAGLAND.  
FENCE WIRE STRETCHER.  
APPLICATION FILED DEC. 6, 1902.

NO MODEL.

Fig. 1.



F10.3.

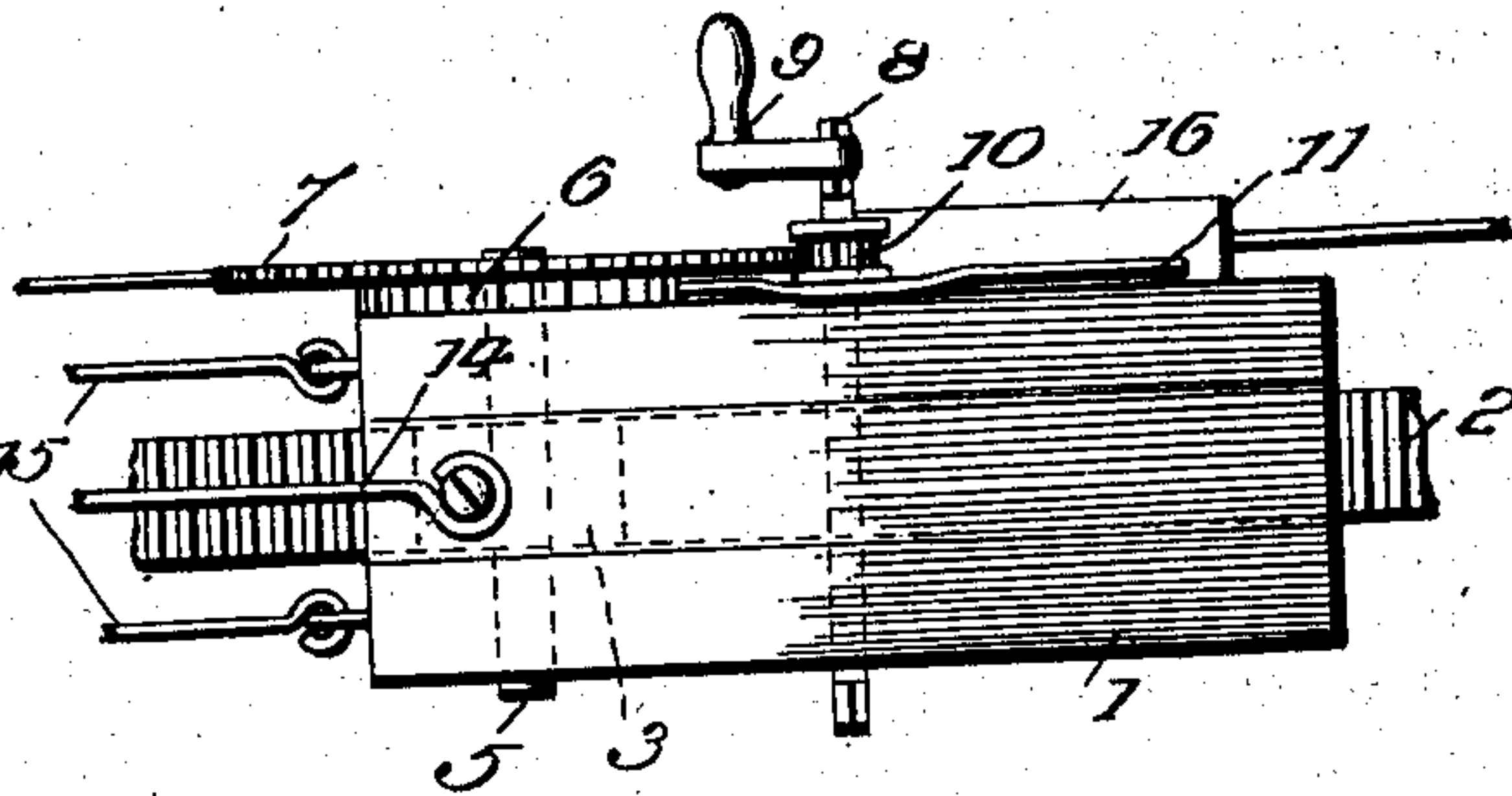


Fig. 2.

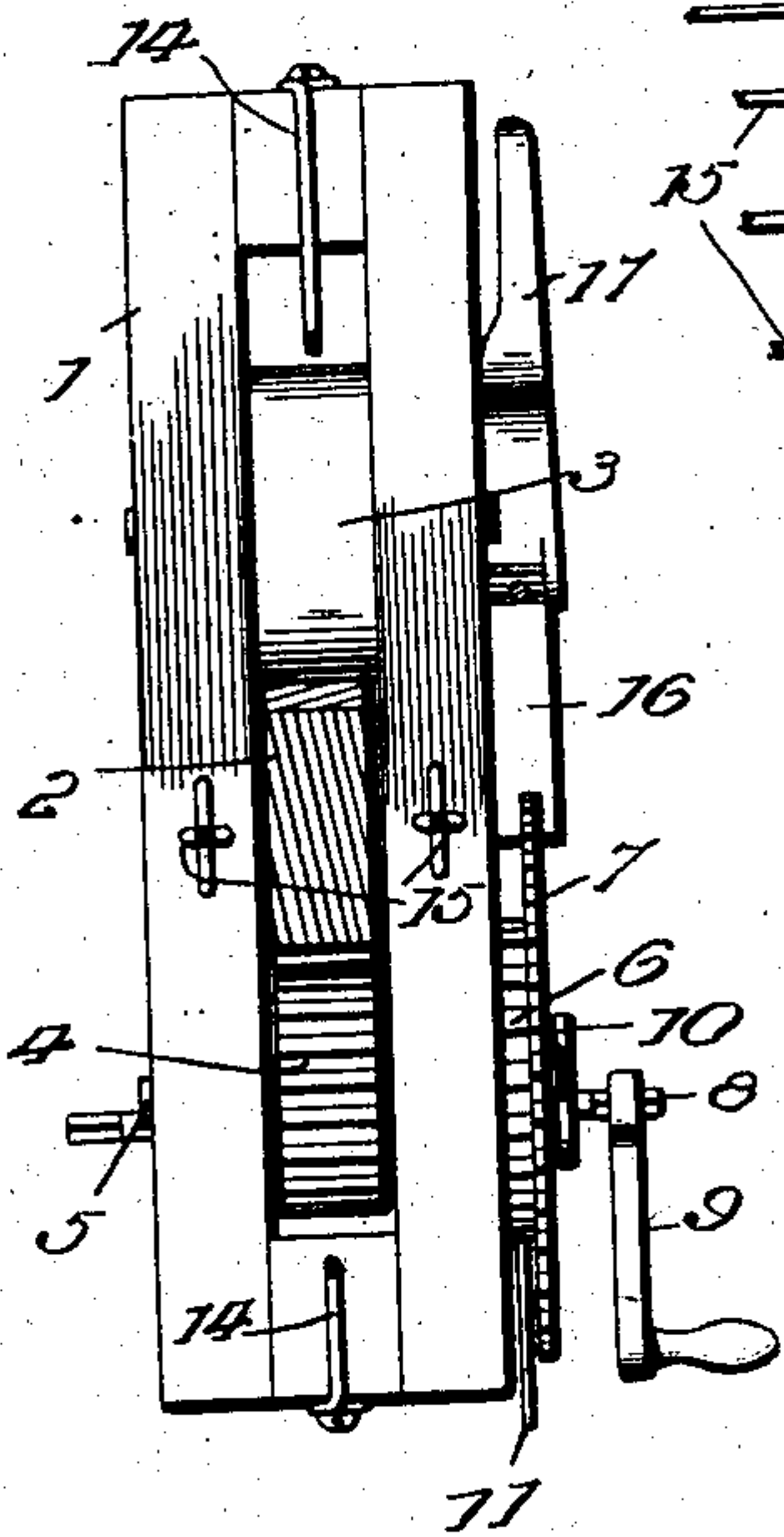
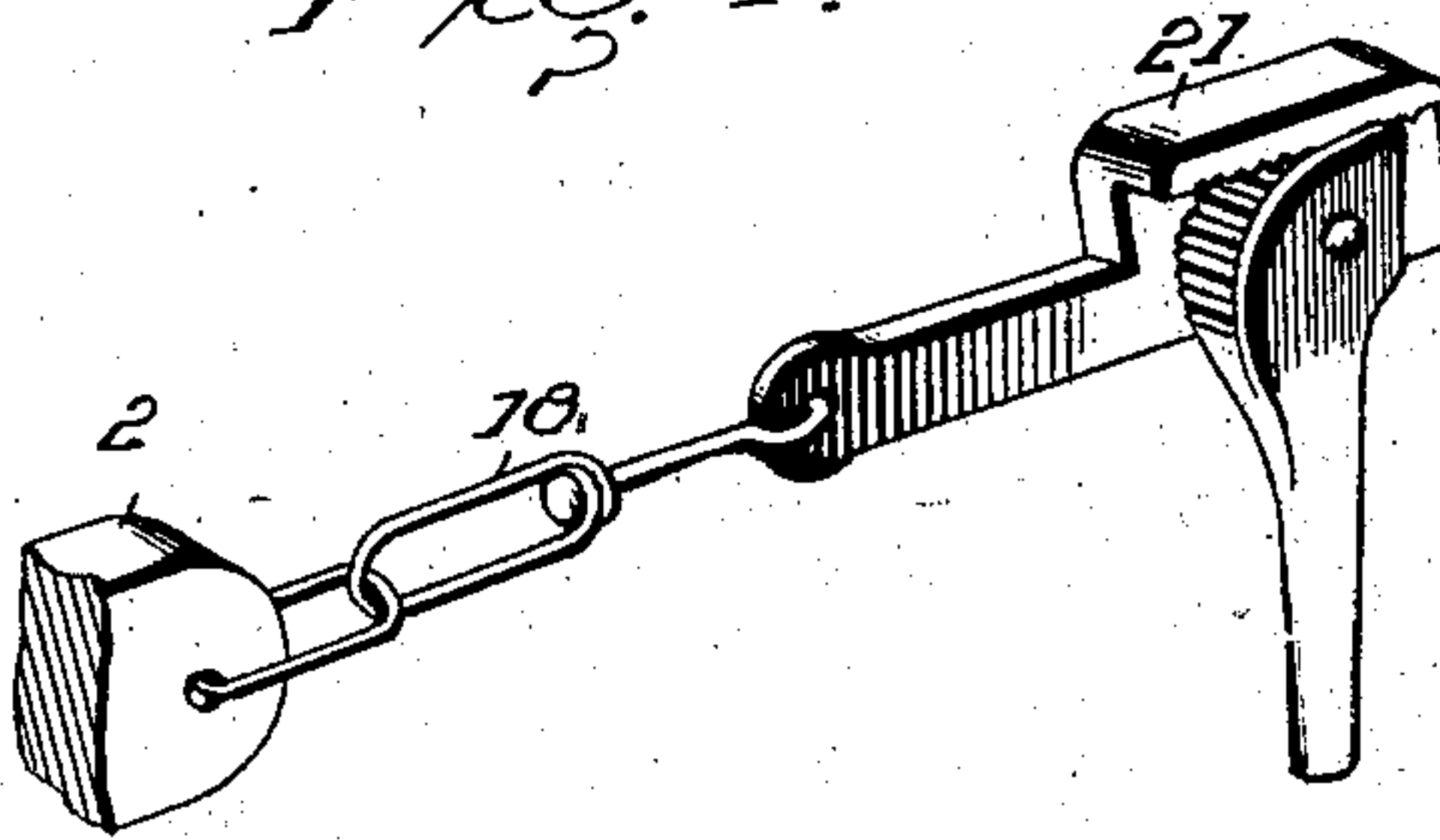


FIG. 4.



Inventor

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Witnesses

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# UNITED STATES PATENT OFFICE.

CHARLES W. HOAGLAND, OF GATES, NEBRASKA.

## FENCE-WIRE STRETCHER.

SPECIFICATION forming part of Letters Patent No. 728,393, dated May 19, 1903.

Application filed December 6, 1902. Serial No. 134,154. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. HOAGLAND, a citizen of the United States, residing at Gates, in the county of Custer and State of Nebraska, have invented certain new and useful Improvements in Fence-Wire Stretchers, of which the following is a specification.

This invention relates to a stretcher for wires, being particularly adapted for tightening wires in the construction of wire fences, although susceptible of use for drawing ropes, cords, and strands for splicing or securing under tension.

The present structure is peculiarly adapted for splicing wires, as it enables the separated ends to be drawn together and held during the splicing and the wires to be secured should it become necessary to move the gripping member to obtain a fresh hold upon the wire preliminary to again operating the device for further drawing the parts to admit of the requisite tension being placed thereon.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a wire-stretcher embodying the invention. Fig. 2 is a section on the line X X of Fig. 1. Fig. 3 is a view from the bottom side of the frame carrying the gearing, parts being broken away. Fig. 4 is a perspective view of a clamp.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The device comprises, essentially, two frames, one being of wire and composed of a series of rods and the other being of box form and supporting the operating-gearing. The box-frame 1 receives the rack-bar 2, slidably mounted therein, and is provided with a wheel 3, forming a backing for the rack-bar, and with a pinion 4, in mesh with the teeth of the

rack-bar, said pinion being secured to a shaft 5, journaled in opposite sides of the frame 1 and provided at one end with a ratchet-wheel 6 and a gear-wheel 7. A shaft 8 parallels the shaft 5 and is journaled in opposite sides of the frame 1, and its end portions project beyond the sides of the frame and are constructed for coöperation with a crank-handle 9, by means of which the gearing is actuated when it is required to operate the machine for drawing the ends of wire or analogous part either for splicing or to be tightened for any purpose. A pinion 10 is secured to a projecting end of the shaft 8 and in mesh with the gear-wheel 7 for transmitting motion thereto when the shaft 8 is turned by means of the crank-handle or other device. A pawl 11 is mounted upon the shaft 8 and coöperates with the teeth of the ratchet-wheel 6 to prevent backward rotation of the shaft 5 when the wire or other part to be tightened is subjected to tension. The pawl 11 partakes of the nature of a hand-lever and is provided at one end with a grip to facilitate its operation by hand when it is required to release the shaft 5 from the restraining action of the said pawl. A spring 12 coöperates with the pawl 11 to normally hold the latter in engagement with the teeth of the ratchet-wheel. The gearing 6, 7, 10, and 11 is located upon the outside of the frame 1, hence is accessible and at all times under observation, which is of material advantage.

The wire frame comprises a plate 13, oppositely-inclined stays 14, and parallel rods or bars 15, the parts 14 and 15 being secured at their outer ends to the plate 13 and at their inner ends to the walls of the box-frame 1. The parallel rods or bars 15 come upon opposite sides of the rack-bar 2 and direct the same in its rectilinear reciprocal movement.

A wire-clamp is secured to a side of the box-frame and comprises a lug 16 and a clamp-lever 17, the gripping edges of the parts 16 and 17 being toothed or roughened, so as to prevent slipping of the wire or part gripped therebetween. This clamp is adapted to hold the wire attached to the rack-bar when it becomes necessary to move the rack-bar outward to obtain a fresh grip upon the wire preliminary to again drawing the same to increase the tension thereof.



Wire-clamps, the same in construction as that applied to a side of the box-frame, are attached to the outer end of the rack-bar and to the plate 13, a swivel 18 being interposed  
 5 between each wire-clamp and the part to which it is connected. The wire-clamp 19 is adapted to be connected by a chain or cable 20 to the plate 13, said chain or flexible connection 20 admitting of attaching the stretcher  
 10 to a post or like part by passing therearound, the clamp 19 being provided with a hook to engage with a link or part of the chain 20 after the latter has been passed around the post or other part to which the stretcher has  
 15 been applied. The wire-clamp 21, connected to the outer end of the rack-bar 2, is similar in construction to the wire-clamp 19, the latter having opposite extensions, whereas the clamp 21 has only one stem, the construction  
 20 otherwise being the same.

If it be required to draw the ends of a wire together for splicing, said ends are engaged with the respective wire-clamps 19 and 21 and the rack-bar is drawn inward by operating the gearing through the instrumentality  
 25 of the crank-handle 9 in the manner stated. Should the wire not be sufficiently drawn after the rack-bar has been moved inward to the limit of its movement, the wire engaged by the  
 30 clamp 21 is held by the clamp applied to a side of the box-frame 1 and the wire-clamp 21 is released and the rack-bar moved outward to enable the said clamp 21 to obtain a fresh grip upon the wire preliminary to again moving  
 35 the rack-bar inward to increase the tension upon the wire. This operation may be repeated until the wire is subjected to the requisite tension, when it may be secured or spliced, as desired.

40 Having thus described the invention, what is claimed as new is—

1. A wire-stretcher comprising a box-frame, a rack-bar slidably mounted therein, actuat-

ing-gearing for the rack-bar mounted upon the box-frame, a second frame projected from  
 45 the box-frame and comprising parallel rods adapted to embrace opposite sides of the rack-bar and direct the same in its rectilinear movements, a wire-clamp applied to a side of the box-frame, and wire-clamps connected,  
 50 respectively to the rack-bar and the projected frame, each connection including a swivel, substantially as set forth.

2. The herein-described wire-stretcher comprising a box-frame, a rack-bar slidable rectilinearly therein, parallel shafts mounted in  
 55 opposite sides of the box-frame, one of said shafts being adapted to receive the power and having its end portions extended for reception of an operating-handle, a pinion secured  
 60 to the other shaft and in mesh with the teeth of the rack-bar, a ratchet-wheel and a gear-wheel secured to the outer end of said shaft, a second pinion secured to the power-shaft and in mesh with the teeth of the gear-wheel,  
 65 a spring-actuated pawl adapted to be operated by hand mounted upon the power-shaft for coöperation with the ratchet-wheel, a frame projected from the box-frame and comprising transversely-spaced guide-rods for  
 70 directing the rack-bar in its reciprocating movements, a wheel journaled in the sides of the box-frame for holding the rack-bar in mesh with its operating-pinion, a wire-clamp applied to a side of the box-frame, and other  
 75 wire-clamps connected with, respectively, the rack-bar and the frame projected from the box-frame, the connecting means including a swivel, substantially as specified.

In testimony whereof I affix my signature 80 in presence of two witnesses.

CHARLES W. HOAGLAND. [L. S.]

Witnesses:

W. B. EASTHAM,  
 E. G. HOUSE.