

No. 758,633.

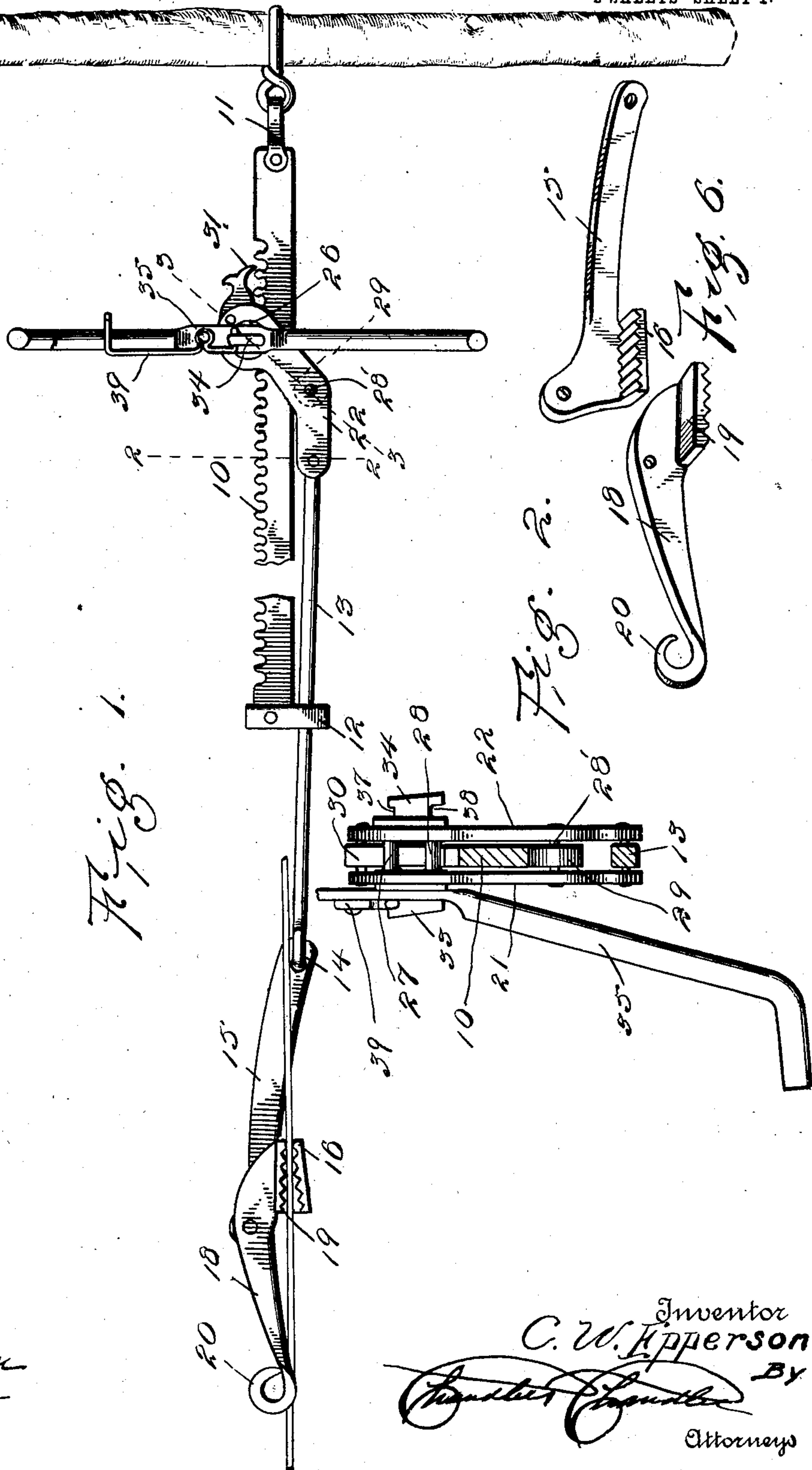
PATENTED MAY 3, 1904.

C. W. EPPERSON.
WIRE STRETCHER.

APPLICATION FILED DEC. 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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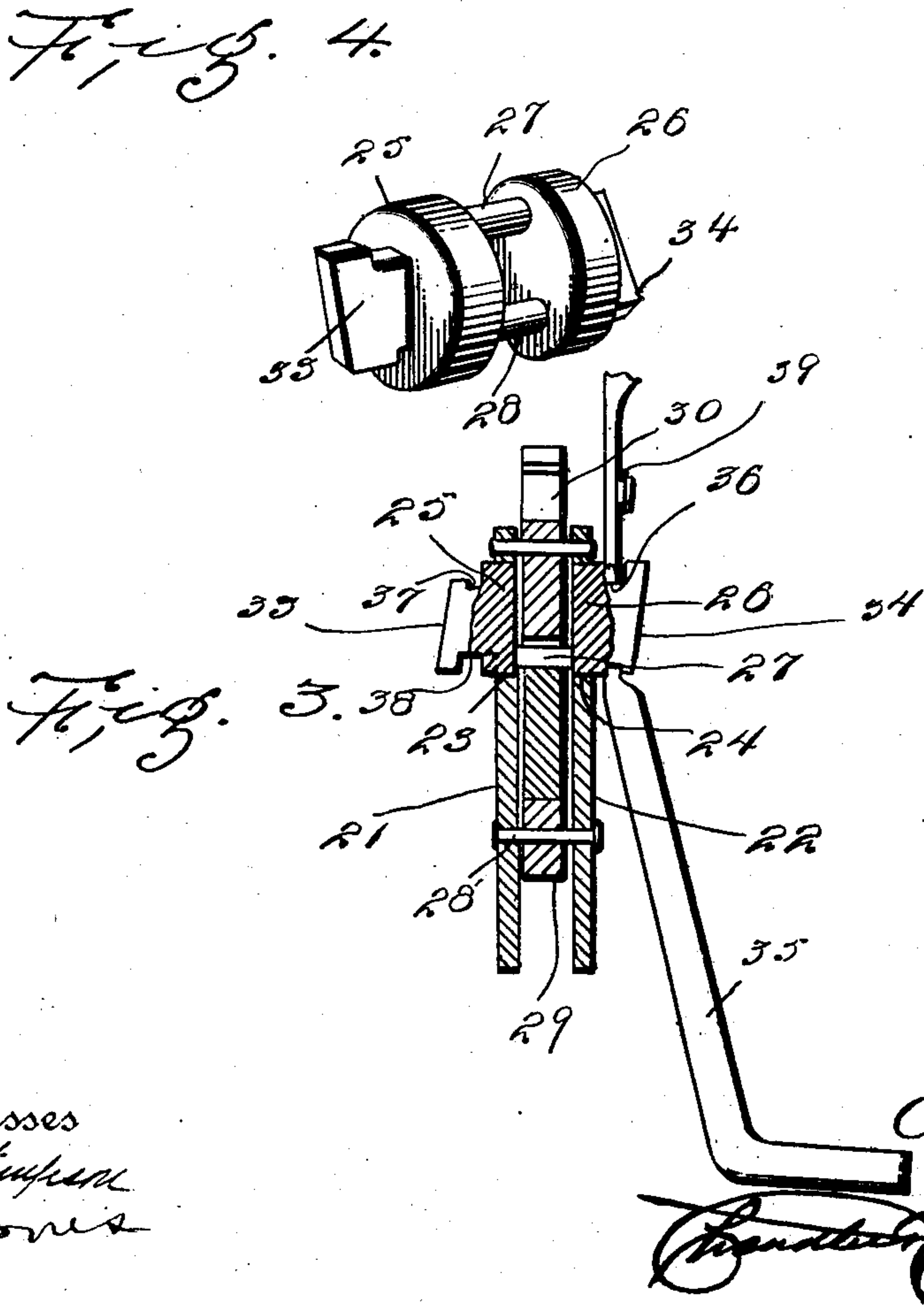
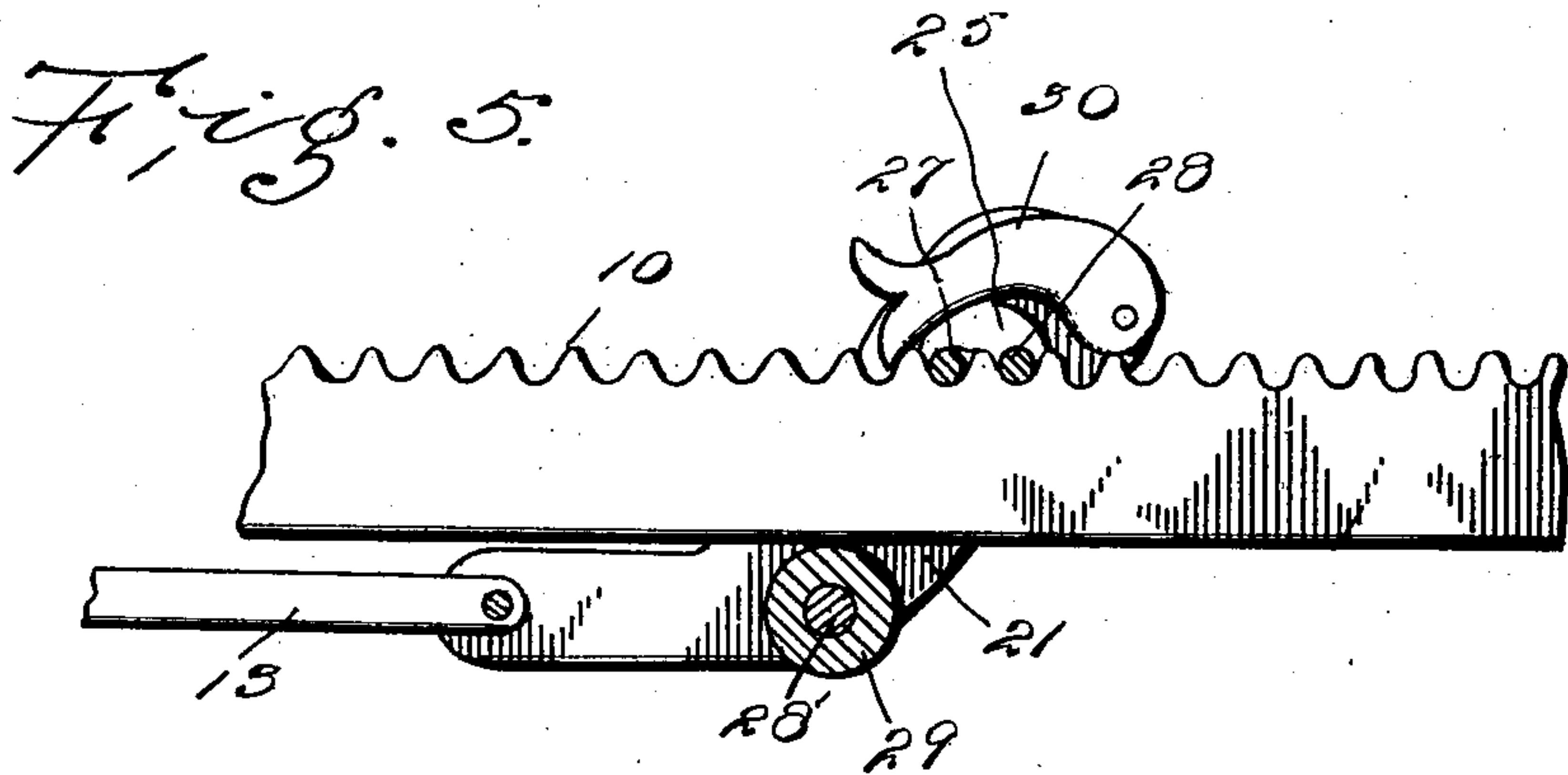
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UNITED STATES PATENT OFFICE.

CHARLES W. EPPERSON, OF BELT, MONTANA.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 758,633, dated May 3, 1904.

Application filed December 4, 1903. Serial No. 183,764. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. EPPERSON, a citizen of the United States, residing at Belt, in the county of Cascade, State of Montana, have invented certain new and useful Improvements in Wire-Stretchers; and I do hereby 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 ap-
 10 pertains to make and use the same.

This invention relates to wire-stretchers, such as are employed for stretching the wires in the building of a wire fence, the object of the invention being to provide a stretcher
 15 which will permit of rapid stretching of the wire with the expenditure of minimum energy and in which the movable member will be held in proper operative relation to the stretching-rack by the tension of the wire being
 20 stretched and in which said parts may be easily and quickly thrown apart to permit of free return movement of the movable member when a new grip is to be taken.

Other objects and advantages of the invention have reference to details of structure and will be understood from the following description.

In the drawings forming a portion of this specification, in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the
 30 stretcher, a part of the rack-bar and of the stretcher-bar being broken away to permit of illustration on a larger scale. Fig. 2 is a section on line 2 2 of Fig. 1, the feeding-roller or feeder being shown in elevation and out of engagement with the rack. Fig. 3 is a section on line 3 3 of Fig. 1. Fig. 4 is a perspective view of the feeder. Fig. 5 is a detail perspective view of the double crank for
 40 the feeder, the latch thereof being shifted to its inoperative position. Fig. 6 is a perspective view showing the parts of the wire grip disassembled.

Referring now to the drawings, the present
 45 stretcher comprises a rack-bar 10, having pivoted to one end a loop 11, which is designed to receive a chain or other means for connecting the bar to a post, so that it may be
 50 held securely against movement during the

stretching operation. At the opposite end of the bar 10 from the loop 11 there is a guide-loop 12, which projects at the opposite edge of the rack-bar from the teeth of the latter. Through the guide-loop 12 is passed what
 55 may be termed the "stretching-rod" 13, having an eye 14 at its outer end, with which is pivotally engaged one member 15 of a wire grip or clamp. The member 15 is in the form of a slightly-curved or arc-shaped plate, at
 60 one side edge of which and adjacent to the free end is a flange 16, which projects at right angles to the face of the plate and forms a gripping-jaw, the inner face of this flange or jaw being corrugated to facilitate its gripping
 65 or holding action. Beyond the jaw 16 the plate is curved slightly away from the jaw, and at its extremity is pivoted the second member of the wire-grip. This second member consists of a plate 18, of substantially arc shape, having a flange 19, which projects at right
 70 angles thereto and lies adjacent to the flange of the first-named plate, so as to form a cooperating gripping-jaw. The mutually adjacent faces of these gripping-jaws diverge slightly
 75 in a direction away from the rack-bar when the jaws are in contact. The second jaw is also corrugated. At the outer end of the plate 18 is formed a ring 20, and the outer face of the ring at one side of the latter is concaved, so that a wire held between the grip-
 80 ping-jaws will lie in the concavity. The concavity lies laterally beyond the gripping-jaws, so that when a wire is placed under tension in the manner hereinafter described its pressure against the bottom of the concavity will serve to hold the gripping-jaws securely in gripping relation. The stretching-rod extends longitudinally of the rack-bar at the opposite side thereof from its teeth, so that if
 90 said rack-bar is held securely by its pivoted loop at one end and the stretching-bar is moved along it a wire that may be held in the wire-grip will be stretched and may be given its proper tension. To move the stretching-bar
 95 along the rack-bar, a feeding mechanism is provided, and consists of two plates 21 and 22, which are pivoted to the end and at opposite sides of the stretching-rod, and these two plates pass at opposite sides of the rack-bar and be-
 100

yond the teeth of the latter, and in their extreme end portions, which are enlarged, are formed bearings 23 and 24, which are countersunk at their outer ends, as illustrated.

5 A feeder is provided and comprises two disks 25 and 26, which are connected by parallel pins 27 and 28. The inner ends of the disks are reduced somewhat in diameter, so that they may fit rotatably in the inner end portions of the bearing, while the outer ends of the disks, which are of slightly-greater diameter, fit rotatably in the countersinks of the bearings. At points in the side plates between the feeder and the pivotal connections with the stretching-rod is a transverse connecting-pin 15 28', on which is rotatably mounted a wheel 29, which bears against the edge of a rack-bar opposite to the teeth of the latter. When strain is put upon the stretching-rod, the side plates of the feeding device move on the pin or axle of the wheel as a fulcrum, and the feeder is swung into engagement with the rack-teeth, the spacing of the pins of the feeder being such as to receive a tooth of the 25 rack-bar snugly between them, or, in other words, to mesh with the teeth of the rack-bar in the same manner as would a pinion. By then rotating the feeder the pins will successively engage the rack-teeth and by moving 30 the side plates will draw the stretching-rod, and therewith the wire-grip and the wire with which it is engaged. To prevent accidental slipping of the feeding mechanism, a pawl or latch 30 is pivoted between the side plates of 35 the feeding device in such manner that its hook 31 will lie with its bevel-bill in the path of rotation of the pins of the feeder. As each pin engages the beveled face of the latch the latter will be raised, and when the pin passes beyond the bill of the hook said hook will drop 40 into engagement with the pin, and return movement of the latter will be prevented. The latch is provided with a finger-piece 32, which may be grasped to raise it from its active position. To permit of rotation of the feeder, lugs 33 and 34 are formed upon the outer faces of the disks of the feeder and a double crank-lever 35 is provided, having an opening 36 at its central portion, said opening being angular 50 in form, so that the double crank may be disposed to receive either of the angular lugs snugly in its opening or slot, said lugs being of such lengths as to project entirely through and beyond the engaged portion of the double 55 crank. In opposite edges of each of the lugs are notches 37 and 38. After the crank is engaged over a lug it is shifted longitudinally, so that its edge at one end of its slot engages in a notch of the lug. A locking-plate 39 is 60 pivoted upon the crank in such position that

when the latter is engaged with one of the notches of the lug said plate may be swung pivotally into engagement with the opposite notch of the lug and will hold the crank from movement from the notch with which it is engaged and will also coact with said notch to hold the crank against withdrawal from the lug. By shifting the latch-plate the crank may be removed from engagement with the lug at the opposite side for more convenience of operation, or it may be permitted to remain disengaged or removed, as may be desired.

With this construction it will be seen that strain of the wire on the stretching-rod serves to hold the feeder-roller, with its pins, in engagement with the teeth of the rack-bar, so that by rotation of said roller a wire may be stretched. When the strain on the stretching-rod is removed for any reason, then the side plates of the feeding device may be swung upwardly, so as to carry the feeder out of engagement with the rack-bar and permit the said feeding device, together with the stretching-rod, to be freely turned.

What is claimed is—

1. A wire-stretcher comprising a main bar, a traveler mounted upon the bar, a stretching-rod connected to the traveler and having means for engagement with a wire to be stretched, means carried by the traveler and adapted for engagement with the main bar for shifting the traveler upon the main bar, and a fulcrum carried by the traveler and disposed for contact with the main bar and on which the traveler is movable to carry the shifting means into active relation to the main bar when the stretching-rod is in action.

2. A wire-stretcher comprising a rack-bar, a stretching-rod slidably connected with the rack-bar and having means for engagement with a wire to be stretched, and a feeding mechanism comprising plates embracing the rack-bar and pivoted to the stretching-rod, a roller mounted between the plates and engaging the rack-bar on its edge opposite to its teeth, a feeder rotatably mounted in the plates and movable into and out of active engagement with the teeth of the rack-bar when the plates are rocked on the wheels of the fulcrum, and a latch carried by the plates and movable into and out of engagement with the feeder to hold the latter at times against return rotation.

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

CHARLES W. EPPERSON.

Witnesses:

H. L. DES COMBES,
PERRIN EPPERSON.