

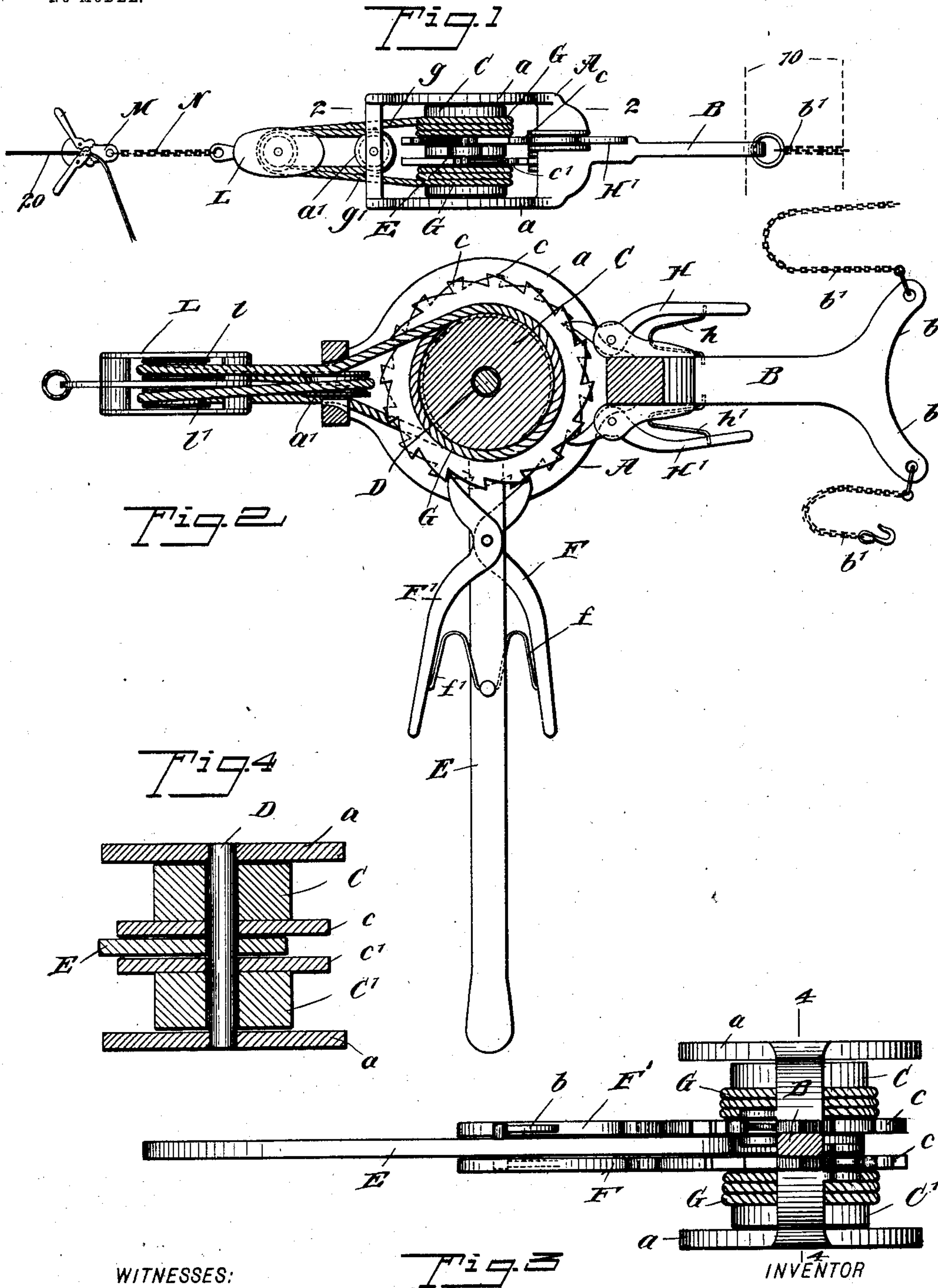
No. 733,842.

PATENTED JULY 14, 1903.

J. E. HOWELL.
WIRE STRETCHER.

APPLICATION FILED OCT. 15, 1902.

NO MODEL.



WITNESSES:

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JOHN ELMER HOWELL, OF SPEARFISH, SOUTH DAKOTA.

WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 733,842, dated July 14, 1903.

Application filed October 15, 1902. Serial No. 127,378. (No model.)

To all whom it may concern:

Be it known that I, JOHN ELMER HOWELL, a citizen of the United States, and a resident of Spearfish, in the county of Lawrence and State of South Dakota, have invented a new and Improved Wire-Stretcher, of which the following is a full, clear, and exact description.

The invention relates to the class of wire-stretchers employing a lever-and-ratchet mechanism to exert the necessary tension on the wire.

The invention provides a means whereby considerable power will be effective to stretch the wire, while at the same time the operations of the lever-and-ratchet mechanism may be performed rapidly, the whole being arranged in a novel and convenient manner.

The invention will be particularly described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a wire-stretcher embodying my invention. Fig. 2 is a plan view on a larger scale, the wire-gripper being omitted and parts being in section on the line 2 2 of Fig. 1. Fig. 3 is a fragmentary side view, a part being in section. Fig. 4 is a sectional detail view, on the line 4 4 in Fig. 3, of the rope-drums and a portion of the lever.

To the body or main frame A of the stretcher is secured an extension B, having opposite curved arms *b*, carrying chains *b'* or equivalent means to embrace a post (indicated at 10 in Fig. 1) and secure the stretcher thereto.

Between the cheeks *a* of the block A independent drums C C', having opposite ratchet-teeth *c c'*, are mounted to rotate on a pin D, and on said pin, between the drums, is mounted to rock the lever E, carrying at opposite sides oppositely-disposed pawls F F', that engage, respectively, with the ratchets *c c'* of the drums, the said pawls being pressed by springs *f f'*, secured to the lever E. The mean position of the lever E is at right angles to the extension B, the latter being in the line of draft or pressure of the stretcher.

To the drums C C' are secured the ends of a rope G, which is wound in opposite direc-

tions on said drums, so that in the rocking of the lever E a pawl F or F' will operate the ratchet and drum to which it relates, whereby the rope will be wound on a drum at each movement of the lever in either direction.

Oppositely-disposed detents H and H' and springs *h h'* therefor are mounted at the base of the extension B adjacent to the frame A and engage the ratchets *c c'* to hold the drums against reverse movement.

From one of the drums, as C, the rope G passes out of the frame or block A, as at *g*, then around one sheave *l* of a running-block L, then back to the frame A and around a standing sheave *a'*, provided on said frame at the end opposite the fixed arm B, then back to the block L and around a sheave *l'* thereon, then back, as at *g'*, to the drum C'. Thus there is provided a tackle arranged as one to four; but this relation may be changed to increase or decrease the power by providing a block with more or less sheaves.

To the block L is secured any suitable gripper M, as by means of a chain N, for gripping a wire 20, that is to be stretched.

As the lever operates in both directions to wind in the rope G, the winding operations of the said lever and its coacting ratchets are conducted rapidly, while the tackle provided by the block L and sheave *a'* gives the necessary power for effective stretching of the wire, thus providing for economy of time as far as may be consistent with the power obtained.

The block L and the gripper may be drawn out by disengaging the pawls and detents to permit the rope to unwind.

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

1. The combination of a frame or body having independent drums, means for positively moving the drums in opposite directions, a running-block adapted to act on a gripper, a sheave on the frame at the end adjacent to the running-block, and a rope winding oppositely on said drums and rove through said block and sheave.

2. A wire-stretcher comprising a main frame, independent drums thereon, provided with opposite ratchet-teeth, means for securing the stretcher to a post or the like, a lever mounted to work between the drums, oppo-

sitely-disposed pawls carried by the lever and engaging the respective ratchet-teeth of the drums, detents engaging said ratchet-teeth, a block, a sheave on the main frame, a rope 5 wound in opposite directions on the drums and rove through the said block and sheave, and a gripper connected with the said block.

3. A wire-stretcher comprising a main frame having a fixed extension which is formed at its 10 outer end with opposite curved arms, chains on said arms for embracing a post or the like, independent drums mounted in said frame and having oppositely-disposed ratchet-teeth, a lever mounted between said drums and projecting approximately at right angles to the 15 fixed extension, opposite spring-pawls on said lever, in engagement with the respective

ratchet - teeth, oppositely - disposed detents mounted at the base of the fixed extension, adjacent to the main frame, for engaging the 20 ratchet-teeth, a sheave on the main frame, at the end opposite the fixed arm, a block having a plurality of sheaves, a rope winding oppositely on said drums and rove through said sheaves, and a gripper connected with said 25 block.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ELMER HOWELL.

Witnesses:

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