No. 838,142. PATENTED DEC. 11, 1906.

J. F. SCOTT & A. B. CURTIS.

WIRE STRETCHER.

APPLICATION FILED FEB. 21, 1906.

Fig. 1.

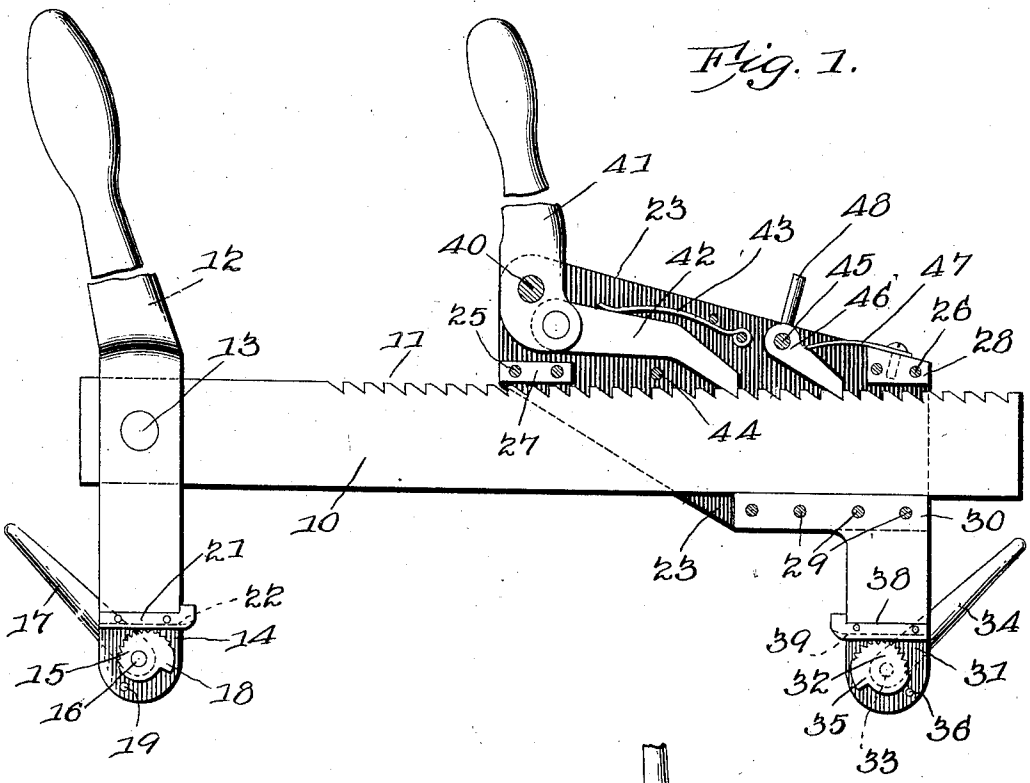


Fig. 2.

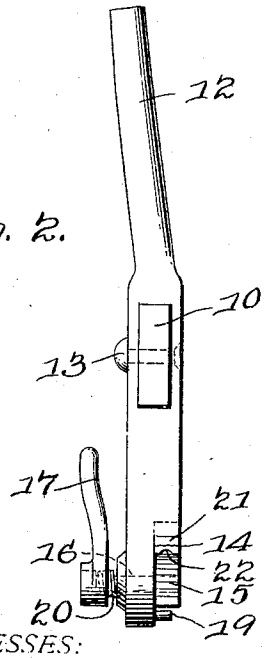
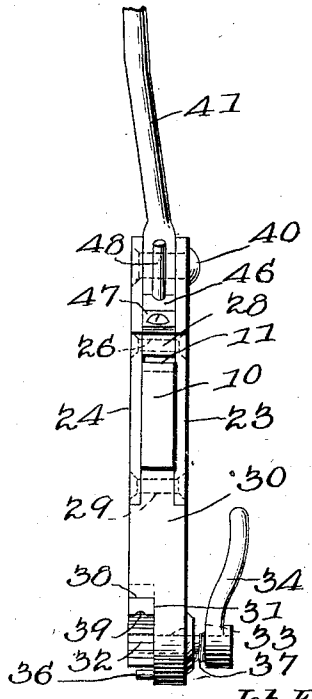


Fig. 3.



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WIRE-STRETCHER.

No. 838,142. Specification of Letters Patent. Patented Dec. 11, 1906.

Application filed February 21, 1906. Serial No. 302,292.

To all whom it may concern:

Be it known that we, JOB F. SCOTT and ALBERT B. CURTIS, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Wire-Stretcher, of which the following is a specification.

This invention relates to wire-stretchers, more particularly to implements of this class employed for stretching bands around boxes and like closures, and has for its object to improve the construction and increase the efficiency and utility of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation.

Figure 1 is a side elevation, partly in section, of the improved implement. Fig. 2 is an end elevation from one end, and Fig. 3 is an end elevation from the opposite end.

The improved implement comprises a bar or stock 10, having ratchet-teeth 11 in one edge and with a supporting-arm 12 embracing the stock at one end, the member 10 fitting closely through a slot in the arm and firmy riveted or bolted thereto at 13. The arm 12 is extended beyond the smooth edge of the stock-bar 10 and provided with a recess 14, in which a cam 15 is pivoted at 16, the pivot extended beyond the arm and provided with an operating-handle 17. The cam 15 is provided with an offset or stop 18, and the arm 12 is provided with a pin 19, against which the stop bears when the cam is moved into its inoperative position to limit the movement in that direction. The pivot member 16 is surrounded by a spring 20, operating to maintain the cam yieldably in its operative position. Secured in the recess 14 is a wear-plate 21, having a longitudinal groove 22, in which the wire is held by the cam. The wear-plate thus receives the impact of the band material and when worn or broken can be removed and cheaply replaced.

Slidably disposed upon the stock 10 is a framework carrying an operating lever and pawl, a stop-pawl, and a wire-clamping device, the frame consisting of plates 23 24, bearing upon opposite sides of the stock 10 and riveted at 25 26 to blocks 27 28 at the toothed edge of the stock and riveted at 29 to a block 30 at the other or smooth edge of the stock. The block 30 depends beyond the smooth edge of the stock 10 for a distance equal to the extension of the arm 12 and is provided with a recess 31, cam 32, cam-pivot 33, and handle 34, the cam having a stop 35, the block 30 provided with a pin 36 to receive the stop, and the pivot 33 having a spring 37 to maintain it yieldably in operative position. The cam structure on the block 30 is the same as the cam structure on the arm 12, but in reversed position. The recess 31 is provided with a wear-plate 38, having a longitudinal groove or channel 39 to receive the portion of the band or wire engaged by the cam 32 and operating in the same manner and for the same purpose as the like parts 21 22 on the arm 12.

Pivoted at 40 between the plates 23 24 is a lever 41, having a pawl 42 swinging from its lower end and engaging the ratchet-teeth 11 of the stock 10, the pawl being held yieldably in engagement with the teeth by a spring 43. Extending transversely through the plates 23 24 between the pawl 42 and the stock 10 is a trip-rod 44, with which the pawl 42 engages to elevate the latter out of engagements with the teeth 11 when the lever 41 is moved into an unusual or abnormal position or when the frame is to be released.

Pivoted at 45 between the plates 23 24 is a stop-pawl 46 for holding the device in position while the position of the operating-lever is being changed. The pawl 45 is held yieldably in engagement with the teeth 11 by a spring 47 and is releasable when required by pressing against a stud 48, extending from the pawl. By this arrangement if the ends of the two wires or the opposite ends of a wire band be clamped by the cams 15 32 and the lever 41 operated the plates 23 24, carrying the block 30 and cam 32, will be moved step by step toward the cam 15 and bring the ends of the wire in position for coupling by any suitable means.

The tops of the teeth 11 in the stock 10 are flat for a certain distance to form a bearing-surface for the blocks 27 28, while the block 30 bears against the opposite edge of the bar, and thus form guides to the framework which carries the pawls. When it is desired

to release the pawl-carrying framework, the lever 41 is moved toward the smaller pawl 46 until the inclined terminal of the pawl 42 engages the pin 44, which will release the pawl 42 from the teeth 11, and then by operating the small stud 48 the pawl 46 is likewise released and the frame and its pawls slidable along the stock 10 to enable the wire to be engaged at a new point or when the implement is to be applied to another wire or set of wires.

It will be noted that the outer face of the cams 15 32, the wear-plates 21 38, and the arm 12 and block 30 are in alinement, so that when applying bands to boxes or like closures the implement can be disposed upon the closure with the wire close thereto, and no bends or kinks left when the implement is detached after the tying has been completed. This is an important advantage and adds materially to the value and efficiency of the device, especially when applying bands to boxes and like closures. The length of the lever 41 being relatively much greater than the short distance between the pivot 40 of the lever and the pivot of the pawl 42, a very powerful leverage power is applied to the wires, as will be obvious.

Having thus described the invention, what is claimed is—

In an implement of the class described, a stock having ratchet-teeth and with an arm at one end provided with a clamping means, a framework slidable upon the bearing-surface of said stock, a lever operating in said framework and carrying an operating-pawl for engaging the ratchet-teeth of said stock, a trip-pin contiguous to said operating-pawl and adapted to release the same when the operating-lever is disposed in an unusual position.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOB F. SCOTT.
ALBERT B. CURTIS.

Witnesses:
ADAM C. BOWERSOX,
E. C. BOYD.