F. G. STEWART.

SCREEN WIRE STRETCHING TOOL.

APPLICATION FILED MAR. 3, 1921.

1,407,898. Patented Feb. 28, 1922.

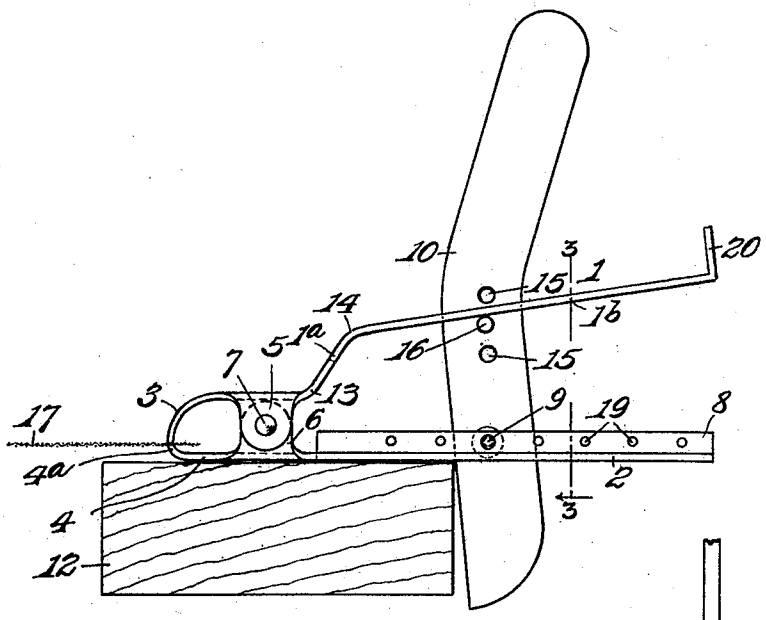


FIG. 1.

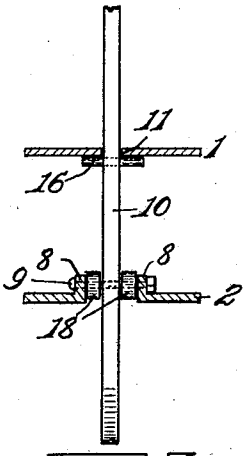


FIG. 3.

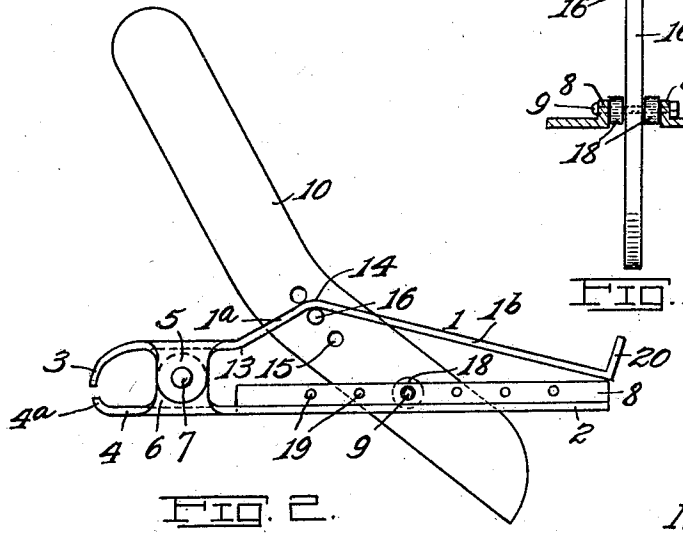


FIG. 2.

Inventor

Frank G. Stewart.

By N. E. Dunlap

Attorney.

UNITED STATES PATENT OFFICE.

FRANK G. STEWART, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO J. C. WILLIAMSON, OF WHEELING, WEST VIRGINIA.

SCREEN-WIRE-STRETCHING TOOL.

1,407,898. Specification of Letters Patent. Patented Feb. 28, 1922.

Application filed March 3, 1921. Serial No. 449,385.

To all whom it may concern:

Be it known that I, FRANK G. STEWART, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Screen-Wire-Stretching Tools, of which the following is a specification.

This invention relates broadly to gripping devices, and more specifically to a tool designed primarily for stretching woven wire fabric or screens.

The primary object of the invention is to provide a tool whereby wire screens may be conveniently stretched across a frame, as in applying to the frame of a screen door or the frame of a window screen, and whereby the same may be held in its stretched condition during the application of attaching brads or tacks.

A further object is to provide a device of the character mentioned by means of which the frame-overlying edge portion of the screen is held closely adjacent to the frame to which it is to be attached so that the work of attaching the same is facilitated.

In describing the invention in detail, reference is herein had to the accompanying drawings, in which—

Figure 1 is a side elevation of the invention, illustrating the use thereof;

Figure 2 is a side elevation showing the parts in normal position; and—

Figure 3 is a section on line 3—3, Fig. 1.

Referring to said drawings, 1 and 2 indicate opposed spring steel handle members having integral opposed jaws 3 and 4, respectively, formed on the front ends thereof. Lateral downturned lugs 5 formed on the member 1 slightly rearward of the jaw 3 are attached to similarly located upturned lugs 6 formed on the member 2 by means of a pivot pin 7.

The handle 2 is slotted longitudinally and has one or both of the slot-defining edges thereof upturned to form a flange or flanges 8. Provided in such flange or flanges is one or more holes 19 for the reception of a pivot pin 9 upon which is mounted a lever 10. Said lever extends upward and through a longitudinally-extending slot 11 provided therefor in the handle 1, the portion of said lever above said handle 1 constituting a handle whereby the lever may be operated. The lower end of said lever projects downward below the handle 2 and is designed to be disposed with its front edge or face in bearing engagement with the outer edge of the side of a screen frame, as will hereinafter be described.

The lower handle member 2 and the jaw 4 thereof occupy the same horizontal plane throughout the length thereof, except that said jaw has its extreme front end curved upward slightly to present a gripping edge 4^a which is elevated but very little above said plane, said handle and jaw being thus designed to allow the tool to seat flat upon the face of a side of a screen frame, as 12, Fig. 1.

The upper handle member 1 is provided with reversely disposed bends 13 and 14 located to form therebetween a relatively short upwardly and rearwardly inclined portion 1^a rearward of and closely adjacent to the pivot lugs 5. That portion 1^b of said member located rearward of the bend 14 is straight and, in the normal position thereof, is downwardly and rearwardly inclined, as shown in Fig. 2.

The lever 10 carries in one of a plurality of relatively spaced holes 15 provided therein a transversely disposed pin 16 which directly underlies the rear inclined portion 1^b of the handle member 1. When the parts occupy their normal position, the lever is forwardly inclined with the pin 16 received directly under the bend 14 of said member 1, as shown in Fig. 2.

In practice, the wire screen having been first rigidly attached along one edge to a side of the frame by which it is to be carried, the tool herein described is mounted flatwise on the opposite side 12 of said frame and with the lower end portion of its lever 10 disposed outward with respect to the outer edge of said side. Then, having inserted the free edge of the screen, as 17, Fig. 1, between the opposed jaws 3 and 4, the upper end of the lever 10 is drawn rearward, and, the said outer edge of the side 12 of the screen frame serving as a fulcrum for said lever, the jaw 3 is caused to close upon screen by reason of the force applied through the pin 16 to the under side of the inclined portion 1 of the upper resilient handle member 1 as said lever is moved rearward. Continued rearward movement of said lever acts to slide

the body of the tool rearward upon the said frame and, consequently, to effect stretching of the screen whose edge is gripped between the jaws 3 and 4.

As is obvious, due to the particular normal inclination of the portion 1^b of the resilient handle member 1, which requires that said portion be placed under gradually increasing tension as the lever is swung back, the gripping force exerted by the jaws increases as the stretching tension imposed upon the screen is increased.

Owing to the very slight elevation of the gripping edge 4^a of the lower jaw, the gripped edge of the screen is held within convenient nailing distance of the frame to which it is to be attached. Consequently, when the screen has been sufficiently stretched, as aforesaid, the workman may readily retain it in position, holding the tool with one hand while the other hand is used for tacking the screen to the frame.

The outer end of the handle 1 is preferably upturned to form a guard or rest 20 against which the hand of the user may seat while the lever 10 is being drawn back.

Washers 18 may be interposed between the lever 10 and the flanges 8, as shown.

What is claimed is—

1. A tool of the character described comprising pivoted handles having opposed integral jaws, a lever pivoted upon the lower handle and having its lower end extending downward below the latter, a member carried by said lever in underlying sliding relation to the upper handle and adapted to exert upwardly directed force for elevating said upper handle as said lever is drawn rearward, said member being suitably spaced from the pivotal mounting of said lever.

2. A tool of the character described comprising upper and lower pivoted members, each member consisting of a handle and an integral jaw, the lower member having a substantially flat under surface, a lever pivoted upon the lower handle and having its lower end projecting downward below the latter, said lever normally occupying an upwardly and forwardly inclined position, and means carried by said lever at a spaced distance from the pivotal mounting of the latter whereby the handle of the upper member is elevated for closing said jaws as said lever is swung rearward, said means being disposed in underlying sliding relation to said upper member.

3. A tool for stretching wire screens, comprising opposed pivoted members, each member having a handle and a jaw, the lower member being substantially flat for seating upon a screen frame and having the gripping face of its jaw elevated but slightly above the seating plane, a lever pivoted upon the handle of the lower member with its lower end projecting below the latter for engagement with the outer edge of the screen frame and with its upper end projecting past the upper handle, said lever normally occupying an upwardly and forwardly inclined position, and a laterally extending support carried by said lever in underlying sliding relation to said upper handle and adapted to exert constantly increasing elevating force on said upper handle through said support as said lever is swung back, said support being carried at a point remote from the pivotal mounting of said lever.

4. A tool for stretching wire screens, comprising opposed pivoted members, each member having a handle and a jaw, the lower member being substantially flat for seating upon a screen frame and having the gripping face of its jaw elevated but slightly above the seating plane, a lever pivoted upon the handle of the lower member with its lower end projecting below the latter for engagement with the outer edge of the screen frame and with its upper end projecting past the upper handle, said lever normally occupying an upwardly and forwardly inclined position, and a laterally extending support carried by said lever in underlying sliding relation to said upper handle, said support being spaced away from the pivotal mounting of said lever and adapted to exert constantly increasing elevating force on said upper handle as said lever is swung back, said upper handle having the portion thereof underridden by said support normally inclined downward and rearward with respect to the plane of the lower handle.

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

FRANK G. STEWART.

Witnesses:
G. O. SMITH,
H. E. DUNLAP.