Nov. 8, 1949 R. E. POWERS 2,487,475

HOG-RING TOOL

Filed Feb. 24, 1948

Fig. 1

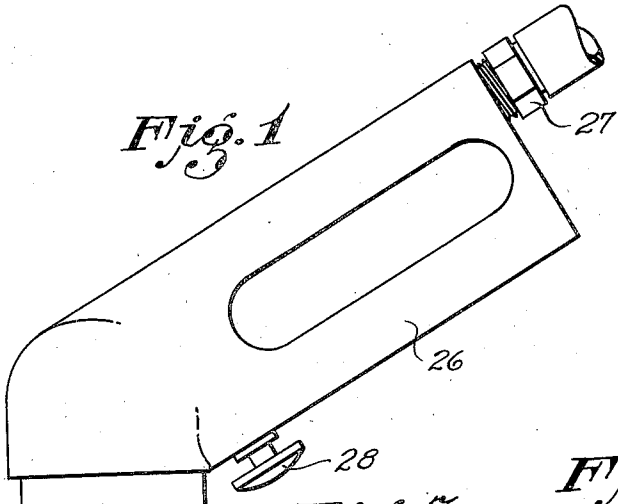

Fig. 3

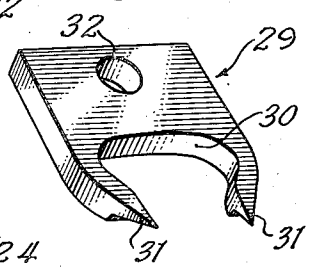

Fig. 2

Inventor;
RICHARD E. POWERS

By

John H. Rouse,
Attorney

Patented Nov. 8, 1949

2,487,475

UNITED STATES PATENT OFFICE

2,487,475

HOG-RING TOOL

Richard E. Powers, San Marino, Calif., assignor to Powers Manufacturing Company, Los Angeles, Calif., a firm

Application February 24, 1948, Serial No. 10,330

7 Claims. (Cl. 1—49)

1

This invention relates to a tool, utilizing staples or rings of the so-called hog-ring type, especially adapted for securing in place the fabric covering of seat-cushions or mattresses; the rings being clinched through the fabric around the edge-wire or frame of the article, or around its springs. The tool of the present invention is, in some respects, an improvement on the hog-ringing tool disclosed in my copending application Serial No. 753,489 filed June 9, 1947, now abandoned.

When a tool of the character described is in the form of a simple pair of pliers into whose jaws a hog-ring is manually inserted for clinching, it has been customary to employ one of the protruding points of the ring as a spike for piercingly engaging the fabric to facilitate stretching it into position for fastening. Such procedure is not entirely satisfactory, since it is then necessary to grip the ring quite firmly in the jaws of the tool, and in so doing the ring may be deformed or partially closed so that it is unfit to complete the fastening operation. When the tool is provided with a magazine for a stack of rings which are automatically fed sidewise into the jaws of the tool in their opening movement, employment of a point of the ring for stretching the fabric into place is precluded due to the proximity of the magazine or the rings adjacent the one in the jaws. When the tool is of the power-operated type, the ring is held only loosely in the jaws prior to clinching and therefore its points cannot be employed for positioning the fabric.

It is therefore an object of this invention to provide, in a tool of the character described, means independent of the hog-ring for stretching the fabric into place.

For full understanding of the invention, and further appreciation of its features and advantages, reference is to be had to the following detailed description and accompanying drawing, and to the appended claims.

In the drawing:

Figures 1 and 2 are, respectively, side and front elevational views of a hog-ringing tool embodying this invention; and

Figure 3 is a detail view, in perspective, of the spike member.

In the drawing, the numeral 11 indicates a frame upon the lower portion of which a pair of jaw-members 12 are pivotally mounted by means of a bolt 13. The lower or jaw portions 14 of these members are recessed to receive conventional hog-rings, of the shape shown at 15 in Fig. 1 and adapted to be bent, by closing of

2

the jaws, to form a closed "ring" with the pointed end portions of the ring overlapping; the jaws being relieved as indicated at 16 to facilitate the overlapping.

Secured, as by welding, to the bottom end of the frame 11 is a trough-like magazine 17 for a supply of hog-rings; the trough conforming generally to the shape of the stacked (or cemented-together) rings and being open at its bottom. This magazine is substantially the same as that shown in said copending application Ser. No. 753,489, and includes resilient means, indicated at 18, urging the rings toward the jaws into which they are received individually in the opening movement of the jaws after the clinched ring has been released.

The jaw members 12 are biased to open position by a tension spring 19 connected to arms 20 welded to the upper portions 21 of the members. Mounted on the angled top portion of the frame 11 is a compressed-air operator for the tool, comprising a cylinder member 22 and cooperating piston (not shown) whose stem 23 carries a wedge 24 cooperable with a pair of rollers 25 mounted in the notched top portions 21 of the jaw-members. At the top of the cylinder 22 is an inclined handle 26 having a fitting 27 to which the air-supply hose is connected.

When air pressure is applied to the piston by manual pressure on the valve-button 28, the wedge 24 is forced downwardly to close the jaws and thereby clinch the hog-ring; the arrangement being such that upon release of the valve-button the piston is immediately retracted under the force of the bias spring 19. It will be observed that the magazine is centered in relation to the jaws in all operative positions of the jaws, so that there is clearance for parts of the work (such as the edge-wire of a frame) adjacent that being fastened to enter the trough.

Interposed between the magazine or trough 17 and the jaws 14 is a member 29 (shown per se in Fig. 3) whose lower portion is formed to provide a recess 30 conforming to the shape of the interior of the trough, and a pair of spikes 31 which project in substantially the same directions as the points of the hog-ring in the jaws.

The member 29 has a hole 32 through which the bolt 13 passes, and is rigidly secured, as by welding, to the frame 11 and trough 17 so that it is effectively an integral part of the latter.

In operation, one of the spikes 31 is employed to aid in stretching the fabric of a seat-cushion or the like into place as or before it is fastened by the ring; the direction in which the fabric is

being stretched determining which of the two spikes is employed.

The specific embodiment of my invention herein shown and described is obviously susceptible of modification without departing from the spirit of the invention, and I intend therefore to be limited only by the scope of the appended claims.

I claim as my invention:

1. In a manually-guided tool for fastening fabric to a frame by means of hog-rings, and comprising a pair of relatively-movable jaws for holding and clinching the rings: the combination therewith of means for facilitating manual stretching of the fabric into place, comprising means forming a spike projecting from the tool adjacent to, but separate from, said jaws and adapted to piercingly engage the fabric and hold the same in place while it is fastened by the ring.

2. The combination defined in claim 1, and wherein said spike projects from a part of the tool separate from the jaws and relatively stationary during the clinching operation.

3. In a manually-guided tool for fastening fabric to a frame by means of hog-rings, and comprising a pair of relatively-movable jaws for holding and clinching the rings, as well as a magazine at one side of said jaws for a stack of rings individually receivable by the jaws in their opening movement: the combination therewith of means for facilitating manual stretching of the fabric into place, comprising means forming a spike projecting from said magazine adjacent said jaws and adapted to piercingly engage the fabric and hold the same in place while it is fastened by the ring.

4. The combination defined in claim 3, and wherein said spike is located closely adjacent the ring to be clinched, and projects in substantially the same direction as one of the points of the ring.

5. A manually-guided tool for fastening fabric to a frame by means of hog-rings, and comprising a pair of relatively-movable jaws for holding and clinching the rings, as well as a magazine at one side of said jaws for a stack of rings

individually receivable by the jaws in their opening movement: the combination therewith of means for facilitating manual stretching of the fabric into place, comprising means forming a pair of spikes projecting from said magazine adjacent said jaws and adapted to piercingly engage the fabric and hold the same in place while it is fastened by the ring, said spikes being located closely adjacent the ring to be clinched and projecting in substantially the same directions as the points of the ring to be clinched.

6. A manually-guided tool for fastening fabric to a frame by means of hog-rings, comprising: a handle frame; a pair of relatively-movable jaws, pivotally mounted on said frame, for holding and clinching the rings; a magazine, mounted on said frame adjacent said jaws, for a stack of rings individually receivable by the jaws in their opening movement, said magazine comprising an elongated open trough conforming to the shape of the stacked rings; and means for facilitating manual stretching of the fabric into place, comprising a spike projecting from a side wall of the end portion of said trough next to said jaws, and in substantially the same direction as one of the points of the ring to be clinched, said spike being adapted to piercingly engage the fabric and hold the same in place while it is fastened by the ring.

7. The combination defined in claim 6, and including an additional spike projecting from the other side wall of said trough in the same manner as said previously-mentioned spike.

RICHARD E. POWERS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
689,721	Holland	Dec. 24, 1901
1,163,617	Dresser	Dec. 7, 1915