S. L. JENKINS.

PIN FASTENER.

APPLICATION FILED DEC. 4, 1915.

1,184,750. Patented May 30, 1916.

Fig. 1.

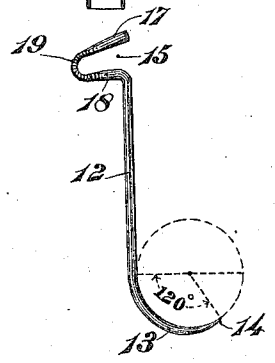


Fig. 2.

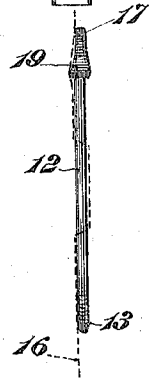


Fig. 3.

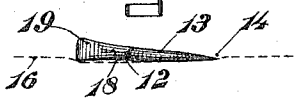


Fig. 4.

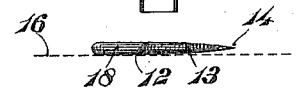


Fig. 10.

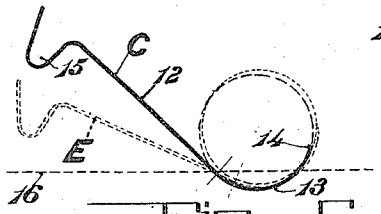


Fig. 5.

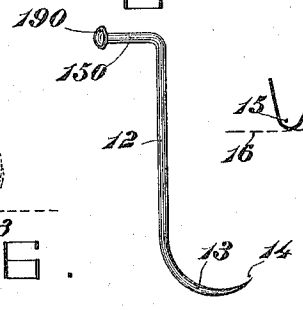


Fig. 11.

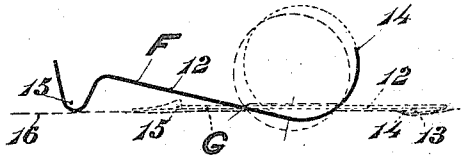


Fig. 7.

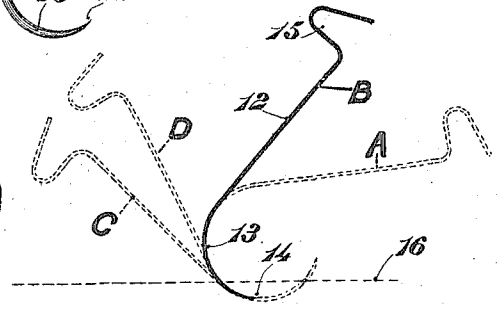


Fig. 6.

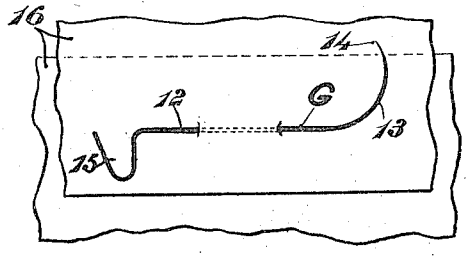
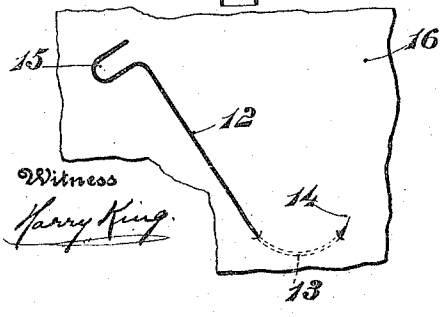
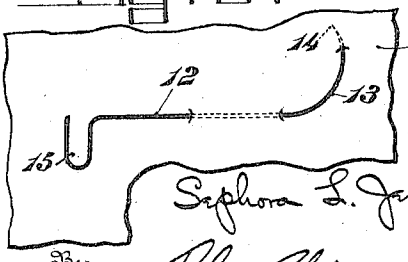


Fig. 8.



Witness
Harry King

Fig. 9.



Inventor
Sophora L. Jenkins
By
Calvert & Calvert
Attorneys

UNITED STATES PATENT OFFICE.

SEPHORA L. JENKINS, OF BALTIMORE, MARYLAND.

PIN-FASTENER.

1,184,750. Specification of Letters Patent. Patented May 30, 1916.

Application filed December 4, 1915. Serial No. 64,999.

To all whom it may concern:

Be it known that I, SEPHORA L. JENKINS, a citizen of the United States, residing in the city of Baltimore and State of Maryland, have invented or discovered certain new and useful Improvements in Pin-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

In order effectually to secure together a plurality of sheets of fabric, for example, by means of a pin fastener, it is necessary or desirable to cause the point of said fastener to penetrate the material or fabric a plurality of times alternately in opposite directions. This operation, in the case of an ordinary straight pin, necessitates either a preliminary bending or folding of the material or else a rocking or oscillation of the pin during its insertion in such a manner as to bring the head thereof alternately on opposite sides of the general plane of the material. Under certain circumstances as, for example, in inserting a pin into the wrapping of a flat and approximately rigid package, neither of these operations is conveniently possible. Moreover, when the ordinary straight pin is in operative position the point thereof projects from one side or the other of the material into which it has been inserted in a position in which it may readily be caught by and do damage to exterior objects.

The present invention has for its general object the provision of a pin fastener which may be readily inserted without bending or folding the fabric to any considerable extent, or without moving the head portion of the fastener across the general plane of such fabric, and which, when in operative position, will naturally lie with its point in close engagement with the fabric.

The foregoing and other objects of the invention, together with means whereby the same may be carried into effect, will best be understood from the following description of certain forms or embodiments thereof illustrated in the accompanying drawings. It will be understood, however, that the particular constructions described and shown have been chosen for illustrative purposes merely, and that the invention, as defined by the claims hereunto appended, may be otherwise embodied and practised without departing from the spirit and scope thereof.

In said drawings:—Figure 1 is a side view of a fastener embodying the invention. Fig. 2 is an edge view thereof as viewed from the left in Fig. 1. Fig. 3 is an edge view of the fastener shown in Fig. 1 as viewed from the bottom in the latter figure. Fig. 4 is a view similar to Fig. 3 of a modified form. Fig. 5 is a view similar to Fig. 1 of a further modification. Fig. 6 is a plan view showing the device in operative or inserted position. Fig. 7 is a diagrammatic view in elevation illustrating several steps in the insertion of the fastener. Fig. 8 is a view similar to Fig. 6 showing the fastener partly inserted. Fig. 9 is a view similar to Figs. 6 and 8 showing the fastener in a completely inserted or operative position slightly different from that illustrated in Fig. 6. Figs. 10 and 11 are diagrammatic views similar to Fig. 7 illustrating further steps in the insertion of the fastener.

Referring particularly to Figs. 1, 2 and 3, the fastener therein shown is composed of stiff or substantially rigid wire or similar stock and comprises a body portion herein shown as a substantially straight shank 12 having a curved end portion 13 terminating in a point 14, the opposite end of said shank being provided with a head 15 lying in approximately the same plane as said curved end portion. The curvature of the end portion 13 is substantially regular and continuous and in the same direction throughout, being shown as in the form of an arc of a circle tangent to said shank 12.

The manner of inserting the fastener thus described into a substantially flat layer of fabric or other material 16 is illustrated in Figs. 7, 10 and 11. Said fastener is first placed in the dotted line position A, Fig. 7, with its point 14 in engagement with the surface of the fabric 16. The fastener is then swung about the center of curvature of the portion 13, causing the point 14 to enter or

pass downwardly through the fabric 16, as indicated in the full line position B. As this swinging movement is continued the point 14 will again pass upwardly through the material, as indicated in the dotted line position C, until the end of the curved portion 13 reaches the surface of the material. Thereafter the swinging movement of the fastener about the center of curvature of the portion 13 is combined with a longitudinal movement thereof, causing the body portion or shank 12 to enter the material 16 and the portion 13 to leave the same, as indicated at E in Fig. 10 and at F in Fig. 11. As the position F is reached or approached, the fastener is turned about the shank 12, and the longitudinal movement (combined with such swinging movement as may be necessary) continued until the fastener is brought into approximately the position G, Figs. 6 and 11. In this position the head 15 is in engagement with the surface of the material 16, thereby preventing rotation of the device about the shank 12 in a direction to move the point 14 away from said surface. Engagement of the head 15 with the surface of the material therefore tends to hold the point 14 also in close engagement with said surface and in a position in which danger of its being caught by other objects is reduced to a minimum.

It will be seen that the above described operation of inserting the fastener involves no considerable or abrupt bending or folding of the material 16, a double penetration of the point 14 being effected by reason of the curved end 13. It will also be seen that, until the final operations are reached, the head 15 is at a considerable distance from the fabric 16, thereby facilitating the manipulation of the fastener, and that said head is not required at any time to move below the upper surface of said fabric, or to cross the general plane thereof, so that said fastener can be readily inserted and caused to penetrate the fabric 16 a plurality of times, even though said fabric be stretched comparatively tightly or be supported upon a rigid surface.

By reference to the dotted line position A in Fig. 7 it will be seen that, in order to permit the initial insertion of the point 14 in the described manner it is necessary that the total angle of curvature of the portion 13, or the length of the arc thereof, be not materially greater than 180°. Preferably the length of this arc is substantially 120°, as indicated in Fig. 1. Also in order to prevent interference by the head 15 with the surface 16 in the same operation, said head 15 is preferably located wholly at one side of the shank 12, namely at the side thereof opposite the curved end 13, it being noted in this connection that in order to hold the point 14 in engagement with the surface 16 when the fastener is in operative position, as above explained, it is only necessary that the head extend on this side of the shank, since any extension thereof at the opposite side would tend to interfere with rather than promote this action.

The precise form of the head 15 is susceptible of considerable variation. As shown in Figs. 1 to 4 and 6 to 11, said head comprises a substantially U-shaped bend in the stock, forming two members or portions 17 and 18, the former of which constitutes a free end which may be readily engaged by the finger nail when it is desired to remove the fastener. The member 17 may diverge at a slight angle from the member 18, as shown in Figs. 1, 6, 7, 10 and 11, or may be substantially parallel thereto, as shown in Figs. 8 and 9. As shown in Figs. 1, 2 and 3, the portion of the head 15 farthest removed from the shank 12 is slightly increased in thickness, as at 19, as by flattening the stock in a direction transverse to the common plane of the head 15 and curved portion 13, thereby causing said head to bear with greater force upon the surface of the fabric 16 and increasing the pressure of the point 14 against said surface. If desired, however, the stock of the head 15 may be of constant cross section throughout, as indicated in Fig. 4.

In Fig. 5 is shown another form of head comprising a single substantially right angular bend 150 terminating in an enlargement 190.

An alternative manner of inserting the fastener is illustrated in Figs. 8 and 9. In these figures the fastener, instead of being turned in a vertical plane (or plane perpendicular to the fabric 16) into the dotted line position C of Fig. 7, is turned only into approximately the dotted line position D, after which it is turned into a horizontal plane (or plane parallel to the fabric) and into engagement with said fabric, as indicated in Fig. 8. The turning of the fastener may then be completed in said horizontal plane, causing the point 14 to enter the fabric 16 and become housed therein, as indicated in Fig. 9.

Having thus described my invention, I claim:

1. A pin fastener composed of substantially rigid material and comprising a head, a body portion, and a point, the head extending at an angle to the body portion, a curved portion adjacent the point and extending from the body portion, said curved portion being continuous and extending in a single direction, the head and curved portion projecting in opposite directions from the body portion.

2. A pin fastener composed of substan-

tially rigid material and comprising a substantially straight shank having a single curved end portion terminating in a single point, said curved end portion lying substantially in the arc of a circle tangent to said shank and of a length less than 180°, the opposite end of said shank being provided with and terminating in a head arranged wholly at the opposite side of said shank from said curved end portion and lying in approximately the same plane therewith.

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

SEPHORA L. JENKINS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."