Aug. 19, 1941. E. L. ZWICKEL 2,252,827

FASTENER

Filed Aug. 23, 1937

Fig. 2.

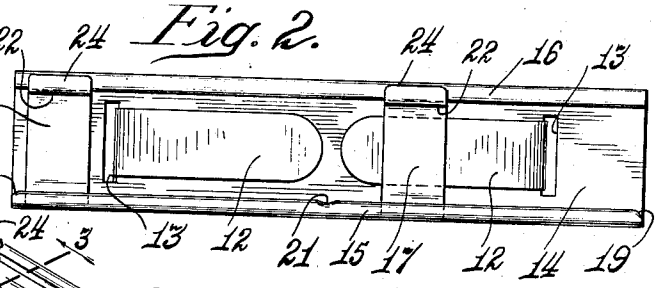


Fig. 1.

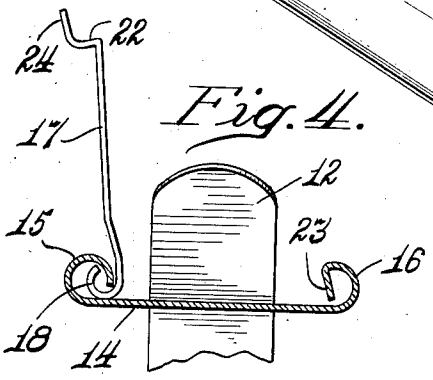


Fig. 4.

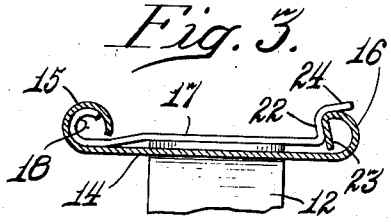


Fig. 3.

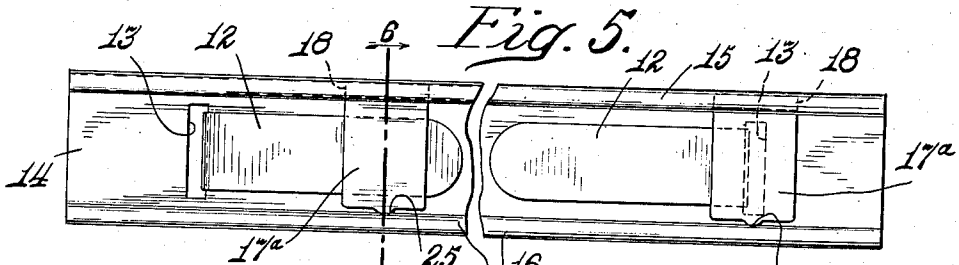


Fig. 5.

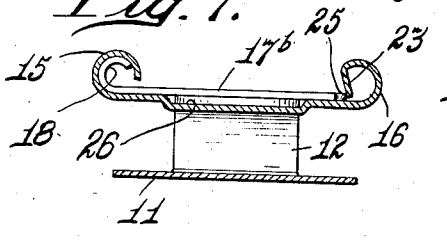


Fig. 7.

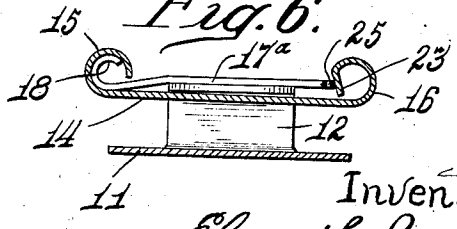


Fig. 6.

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UNITED STATES PATENT OFFICE

2,252,827

FASTENER

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Application August 23, 1937, Serial No. 160,431

9 Claims. (Cl. 24—153)

The invention relates broadly to a paper fastener of a type embodying a base having spaced prongs adapted to be bent and held down over the top face of a removable compressor for binding a sheaf of papers, and more particularly to a compressor having prong retaining latches rotatably and slidably attached thereto.

An object of the invention is to provide a paper fastener compressor having novel associated means arranged to be held in releasable engagement with the compressor over the prongs of a base associated therewith.

Another object is to provide novel means associated with a paper fastener compressor to detachably secure a movable latch in a plurality of positions thereon.

Another object is to provide a paper fastener compressor with at least one rotatable and longitudinally slidable latch movable downwardly into a locked position over one or both prongs when the latter are bent down over the top of said compressor.

Another object is to provide a paper fastener compressor of the character described which is easy to assemble in place on the sheaf of papers, simple to operate, positive in operation and not expensive to manufacture.

The foregoing and such other objects of the invention as will more fully appear hereinafter as the description proceeds, will be more readily understood from a perusal of the following specification, reference being had to the accompanying drawing, in which:

Fig. 1 is a perspective view of a paper fastener embodying features of the invention.

Fig. 2 is a plan view of the fastener shown in Fig. 1.

Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 1, showing the latch in closed position.

Fig. 4 is a transverse sectional view, similar to Fig. 3, showing the latch in open position.

Fig. 5 is a plan view, partly broken away, of a fastener embodying other features of the invention.

Fig. 6 is a transverse sectional view taken on line 6—6 of Fig. 5.

Fig. 7 is a transverse sectional view, similar to Fig. 6, showing another form of fastener.

In the various embodiments illustrated, like numbers identify like parts.

Referring particularly to Figs. 1 to 4, inclusive, of the drawing, the fastener constituting one embodiment of the invention comprises a base 11 provided at its ends with bendable resilient prongs 12 adapted to pass through spaced apertures 13 in a compressor 14 when the latter is placed in co-operative position on the base for binding a sheaf of papers together. When the base and compressor are assembled to bind the papers, the prongs 12 extend through the compressor apertures 13 and the projecting end portions of said prongs are bent down either inwardly or outwardly to lie flat over the top face of the compressor. The compressor 14 preferably consists of an elongated strip of substantially stiff material having an inwardly rolled bead 15 coextensive with one longitudinal edge and a similar bead 16 co-extensive with its other longitudinal edge.

Two latches 17 are mounted upon the compressor 14, each having a hinge portion or bead 18 on one end to telescopically engage within the compressor bead 15. As shown the compressor bead 15 constitutes a complemental hinge element whereby the latches are joined to the compressor for swinging from a substantially vertical open position, as best illustrated in Fig. 4, downwardly into closed or locking position over the bent over prongs, as best shown in Fig. 3. Each latch may be shifted longitudinally along the compressor into position to overlie the free end of the underlying bent over prong portion when the latter is bent down inwardly over the top of the compressor. When the prongs are bent down outwardly of the apertures 13, the latches are shifted into a position outwardly respectively of said apertures so that when in closed position they overlie the underlying prong portion. Stops 19, preferably formed by distorting the extreme ends of the bead 15, are provided to prevent movement of the latches off of the compressor and an intermediate stop 21 may be provided in said bead to confine said latches one to each end of the compressor.

Each latch 17 preferably has an upwardly turned inclined marginal portion 22 at its free end to frictionally co-act with the inclined inside wall 23 of the bead 16, when the latch is in closed position, to detachably retain said latch against upward movement due to the inherent resiliency of the underlying end portion of the prong 12. A finger engaging lip 24, which overlies the head 16, may be provided on each latch to facilitate disengagement of the portion 22 from the bead 16.

It is apparent that the latches are yieldably and frictionally secured in closed position due to the resiliency of the bead wall 23 and portion 22, and upon forcible disengagement thereof, said

latches may be freely swung into a substantially vertical position (Fig. 4) to permit straightening of the bent over prong portions for removal of the compressor therefrom.

In the embodiment shown in Figs. 5 and 6 a tab **25** is provided on the free edge of each hingedly and slidably mounted latch **17***a* for frictional engagement with the inside face **23** of the compressor bead **16**. This type of latch is readily disengaged upon grasping its opposed side edges and pulling it away from the compressor. When the tab **25** is free, the latch may be moved into a substantially vertical position so that access may be had to bend the prongs upwardly to permit removal of the compressor.

The fastener illustrated in Fig. 7 is substantially like that shown in Figs. 5 and 6 except that a central longitudinal groove **26** is formed in the upper face of the compressor **14***a* into which the bent over prong portions are adapted to lie when held in bent position by the respective latch **17***b*.

It is evident that many structural changes can be made in the details of the several forms of fasteners disclosed, and it should, therefore, be understood that the terms employed herein are descriptive rather than restrictive and that the invention should not be restricted by such use except as such restrictions may be required by the scope of the appended claims.

I claim:

1. A fastener compressor comprising, in combination, an elongated strip of stiff material, a complemental hinge element on one longitudinal edge of said strip, two latches, a complemental hinge portion on one end of each latch telescopically connected with said hinge element whereby said latches may be swung upwardly away from said strip or downwardly into closed position over said strip and shifted longitudinally therealong, and yieldable means on said latches and on the strip to frictionally co-act to lock said latches while closed in any position of longitudinal adjustment.

2. A fastener compressor comprising, in combination, an elongated strip of stiff material apertured adjacent each end, a longitudinal bead on one edge of said strip, two latches, a bead on one end of each latch for telescopic engagement in the bead on said strip so that said latches may be shifted longitudinally along said strip inwardly or outwardly of said apertures and swung into a horizontal or a vertical position, and yieldable means on the free end of each latch and on the strip to frictionally co-act to lock the latches in any position of adjustment longitudinally along said strip when in horizontal position.

3. A fastener compressor comprising, in combination, a substantially flat member, latches hingedly slidably mounted on said member confined one to each end, and yieldable co-acting means on said latches and on said member to frictionally lock the latches in a predetermined position of longitudinal adjustment on said member.

4. A fastener compressor comprising, in combination, a strip of substantially stiff material having apertures one spaced inwardly from each end, two latches, said latches being hingedly and slidably mounted on said strip and confined one to each end portion thereof, and yieldable means on said latches to frictionally engage said strip to frictionally retain said latches in a position of adjustment either inwardly or outwardly of the respective aperture.

5. A fastener compressor comprising, in combination, a strip of substantially stiff material having apertures one spaced inwardly from each end adapted to receive prongs therethrough which are bent down over said strip inwardly or outwardly of said apertures, two latches, said latches being hingedly and slidably mounted on said strip and confined one to each end portion thereof, yieldable means on said strip, and yieldable means on said latches to frictionally co-act with the means on said strip to detachably lock the latches in a position of longitudinal adjustment over the inwardly or outwardly bent prongs.

6. A fastener compressor comprising, in combination, an elongated substantially flat member, two latches hingedly and slidably mounted on one edge of said member confined one to each end, an inwardly inclined substantially vertical wall in the opposed edge of said member, and means on each latch to frictionally co-act with said wall to retain the latches in a predetermined position of longitudinal adjustment on said member.

7. A fastener compressor comprising, in combination, an elongated substantially flat member, two latches hingedly and slidably mounted on one edge of said member confined one to each end, an inwardly inclined substantially vertical wall on the opposed edge of said member, means on each latch to frictionally co-act with said wall to retain the latches in a predetermined position of longitudinal adjustment on said member, and means on each latch to facilitate its disengagement from said wall.

8. A fastener compressor comprising, in combination, an elongated strip of substantially stiff material, a complemental hinge element on one longitudinal edge of said strip, a substantially vertically inclined yieldable lip on the other longitudinal edge of said strip, a latch hingedly and slidably mounted at one of its ends to said complemental hinge element, and a tab on the opposed end of said latch engageable with said lip to frictionally retain the latch in its position of adjustment.

9. A fastener compressor comprising, in combination, a strip of material adapted to receive prongs of a complemental base element bent down against its top one inwardly from each end, a longitudinal channel in said strip to receive said bent down prongs, two latches each hingedly and slidably mounted on one edge to one edge of said strip movable from a substantially vertical position downwardly into a closed position bridging said channel, a yieldable lip on the other edge of said strip, and a tab on the free edge of each latch engageable with said lip to frictionally retain the latch in its closed position.

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