Aug. 7, 1928. 1,680,266

J. GALAT

AUTOMATIC FASTENER

Filed April 26, 1926

Fig. 1.

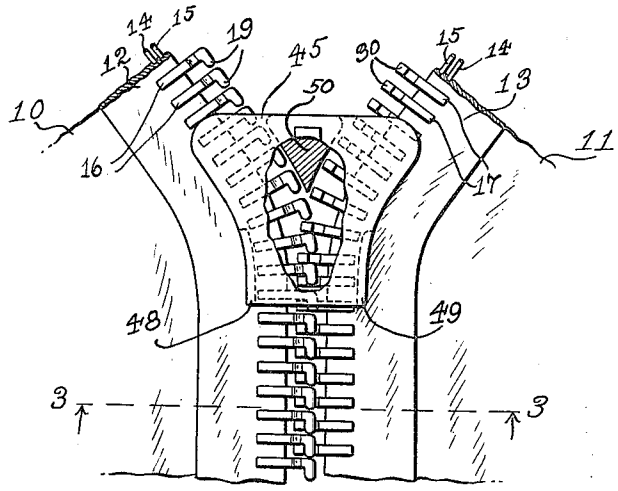


Fig. 2.

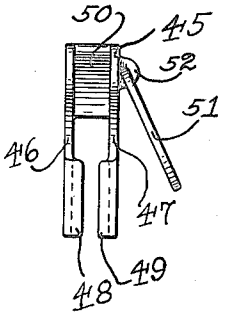


Fig. 3.

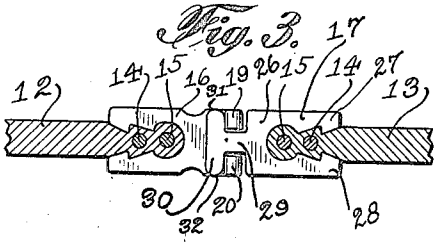


Fig. 4.

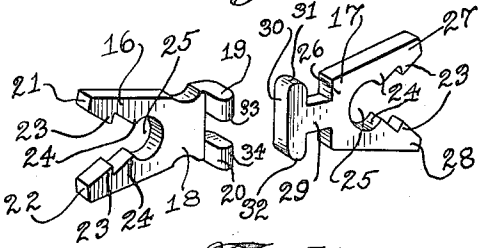
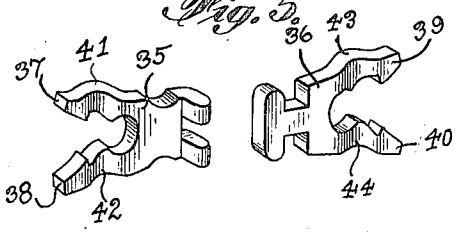


Fig. 5.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC FASTENER.

Application filed April 26, 1926. Serial No. 104,594.

This invention relates to fastening devices, and more particularly to an automatic fastener for flexibly uniting the edges of a pair of adjacent sheets.

One object of this invention is to provide an improved form of connecting links which will detachably fasten said sheets securely together, and at the same time will provide a flexible joint.

A further object is to provide a device of this nature which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, ornamental in appearance, and very efficient and durable in use.

With these and other objects in view there have been illustrated on the accompanying drawings, two forms in which the invention may be conveniently embodied in practice.

Fig. 1 represents a plan view of the automatic fastener, and a portion of the sheets joined thereby.

Fig. 2 is a side view of the slidable runner for engaging and disengaging said link members.

Fig. 3 is a sectional view on an enlarged scale of the automatic fastener taken along the line 3—3 of Fig. 1, looking in the direction of the arrows.

Fig. 4 is a perspective view on a still further enlarged scale of the first form of interlocking link members.

Fig. 5 is a perspective view, similar to Fig. 4, of a modified form of interlocking link members.

Referring now to the drawings, in which like reference numerals denote corresponding parts throughout the several views, the numerals 10 and 11 indicate a pair of adjacent sheets to be joined, said sheets having their inner ends reenforced by a pair of tapes 12 and 13.

In order to reinforce the edges of the tapes 12 and 13, each of said tapes is provided with a pair of parallel stringers or cords 14 and 15. In order to detachably and flexibly fasten the sheets 10 and 11 together edge to edge, the tape 12 is provided on its edge with a row of forked members or socket links 16 which are adapted to interlock with a similar row of T-members or "plug" links 17, the interlocking links of said rows being located opposite and in alinement with each other.

As more clearly shown in Fig. 4, each forked member 16 comprises a flat body section 18, from the forward end of which project a pair of upstanding arms 19 and 20, said arms being at right angles to said flat body section 18. It will be understood that the word "upstanding" as used in the appended claim merely signifies that the arms 19 and 20 project at an angle to the plane of the flat body section 18 of the link, and does not mean that said arms project upwardly with respect to the entire fastener. In order to securely clamp the link 16 to the tape 12, said link is provided at its rear section with a pair of diverging jaws 21 and 22, each of said jaws having flat outer edges and having a pair of beveled teeth 23 and 24 on its inner edge. At the junction of the two jaws 21 and 22, an enlarged circular recess 25 is provided, said recess serving as a seat for the curved inner edge of the tape 12, as clearly shown in Fig. 3.

Each T link 17 comprises a body section 26 having a pair of diverging jaws 27 and 28 similar in all respects to the jaws 21 and 22 of the forked links 16 previously described. Extending forwardly from the body section 26 is a narrow neck 29 adapted to be enclosed by the arms 19 and 20 of the cooperating forked link 16. The inner end of the T link 17 is provided with a transverse bridge member 30 which is adapted to be interlocked with the arms 19 and 20. The bridge member 30 is arranged at right angles to the neck 29 and has rounded ends 31 and 32 to avoid catching on exterior objects such as clothing, etc. The arms 19 and 20 of the forked member also have rounded ends 33 and 34 for a similar purpose.

In Fig. 5 a modified form of interlocking links 35 and 36 are shown which are identical with the previously described links 16 and 17 with the exception that the rear jaws 37, 38, 39, and 40 are provided with lateral humps 41, 42, 43, and 44 respectively. By means of this construction, the inner teeth will be offset somewhat from the outer teeth, whereby the jaws will clamp the tapes 12 and 13 more securely. The laterally off-set humps also serve to resist the forces tending to twist or shift said links along the edges of the tapes.

In order to insure the positive locking and unlocking of the links, a runner member 45 is provided, as most clearly shown in Fig. 2. The runner member 45 comprises a pair of parallel upper and lower plates 46 and 47,

the edges of said plates having inwardly extending opposed flanges 48 and 49. By means of this construction, the runner will be kept from twisting and will be caused to slide freely upon the tapes 12 and 13. The plates 46 and 47 of said runner are joined by a solid wedge section 50. The runner is manipulated by means of a swinging handle disc 51 hinged to an eye 52 formed integral with the plate member 47.

It will be understood that the links may be crimped upon the tapes in any suitable manner, but this operation is preferably done in a foot press in which the jaws of an entire row of links may be simultaneously forced together.

It will also be understood that when the jaws are closed, the inner teeth 24 thereof will be held by the stringers 15, while the outer teeth 23 will be held by the stringers 14, the links being thereby doubly locked in position.

One advantage of this invention lies in the use of two stringers instead of one as in former fasteners,—this construction causing the edge of the tapes to be thinner and more flexible than in previous fasteners.

While there have been disclosed in this specification two forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claim.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

In a fastener for detachably uniting the adjacent edges of a pair of sheets, a row of plug links secured along the edge of one of said sheets, a row of socket links secured along the edge of the other sheet and interlocking with the links of the first row, a runner member for locking and unlocking said rows of links, each of said links having a pair of initially divergent jaws for embracing one of said sheets and crimped thereon, each of said jaws having a pair of teeth to engage the material of said sheets, one of the teeth of each jaw being offset from another tooth thereof.

In testimony whereof, I have affixed my signature to this specification.

JOHN GALAT.