June 23, 1931. F. H. BROOME 1,811,713

FASTENER

Filed May 31, 1930 2 Sheets-Sheet 1

Fig. 1.

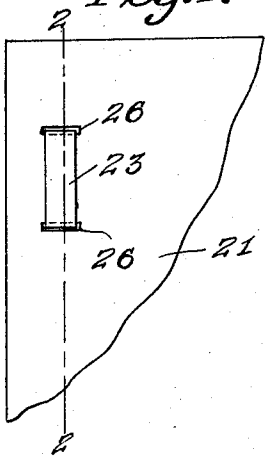


Fig. 4.

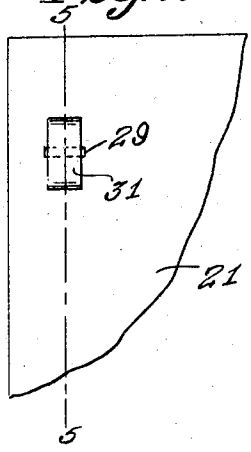


Fig. 6.

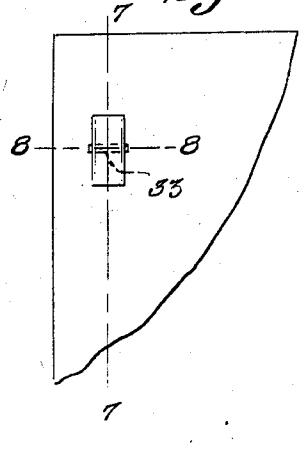


Fig. 2.

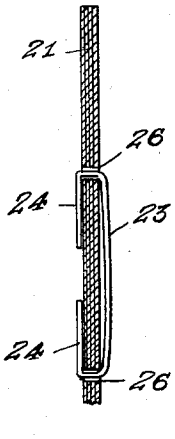


Fig. 3.

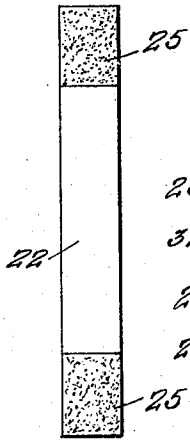


Fig. 5.

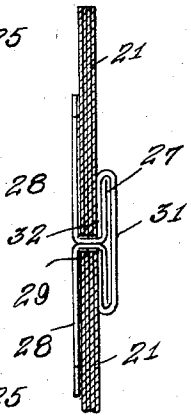


Fig. 7.

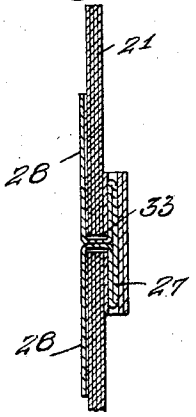


Fig. 8.

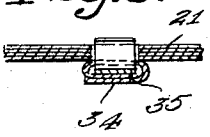


Fig. 10.

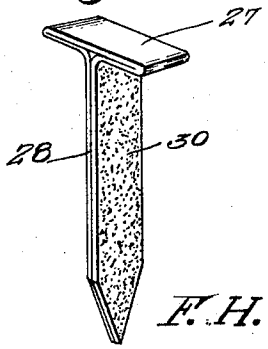
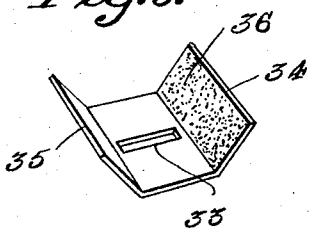


Fig. 9.



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Fig.11. Fig.13. Fig.15. Fig.18.

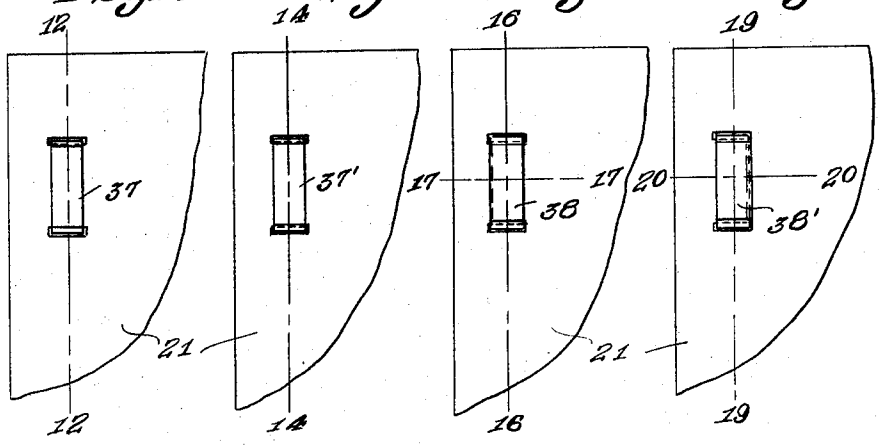


Fig.12. Fig.14. Fig.16. Fig.19.

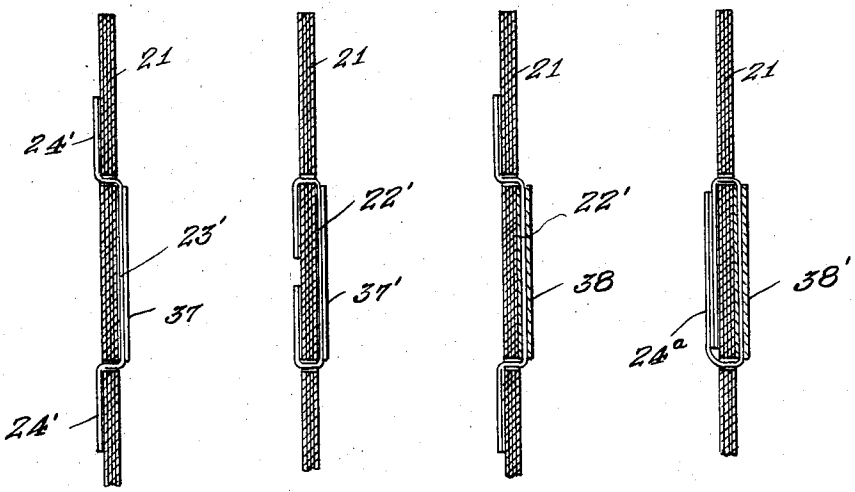
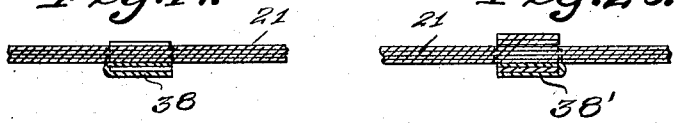


Fig.17. Fig.20.



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UNITED STATES PATENT OFFICE

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FASTENER

Application filed May 31, 1930. Serial No. 458,397.

This invention relates to fastening devices for securing together a plurality of sheets or layers of paper, an object being to provide a paper fastener which may be made from a strip of gummed material, such as cloth, paper and the like so as to provide a cheap and efficient device for securing the sheets to one another.

Another object of the invention is the provision of a paper fastener which, when in use, will not pick up or penetrate other sheets of paper, and which will have no sharp projecting points to prick the hands of the user.

Another object of the invention is the provision of a paper fastener which, when used, will be glued or cemented to the under face of the bottom sheet of the assembled sheets of paper, so that the sheets will lie flat and a number of separately attached sheets may be filed one upon the other without causing an appreciable upward curling of the pile.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:

Figure 1 is a plan view showing a fragmentary portion of a number of sheets of paper secured together with a paper fastener constructed in accordance with the invention.

Figure 2 is an enlarged sectional view on the line 2—2 of Figure 1.

Figure 3 is a plan view of the strip of which the fastener is formed.

Figure 4 is a view similar to Figure 1 showing a different form of fastener.

Figure 5 is an enlarged sectional view on the line 5—5 of Figure 4.

Figure 6 is a view similar to Figure 1 showing still another form of the invention.

Figures 7 and 8 are enlarged sectional views taken respectively on the lines 7—7 and 8—8 of Figure 6.

Figure 9 is a detailed perspective view of the reinforcing member shown in Figures 6—7 and 8.

Figure 10 is a detailed perspective view of the fastener shown in Figures 6, 7 and 8, without reinforcing member.

Figure 11 is a view similar to Figure 1 showing a slightly different form of the invention.

Figure 12 is an enlarged sectional view on the line 12—12 of Figure 11.

Figure 13 is a view similar to Figure 1 illustrating still another form of the invention.

Figure 14 is an enlarged sectional view on the line 14—14 of Figure 13.

Figure 15 is a view similar to Figure 1 showing a slightly different means for reinforcing the body of the fixture.

Figures 16 and 17 are enlarged sectional views taken respectively on the lines 16—16 and 17—17 of Figure 15.

Figure 18 is a view similar to Figure 1 showing a further modified form of the invention.

Figures 19 and 20 are enlarged sectional views taken respectively on the lines 19—19 and 20—20 of Figure 18.

Referring in detail to the drawings wherein like characters of reference denote corresponding parts, the reference character 21 indicates a number of sheets or layers of material which are secured together by a fastening device constructed in accordance with the invention. In Figures 1, 2 and 3, this fastening device is shown as formed from a strip of flexible material indicated at 22. The strip may consist of fabric, paper or like material which is thin, flexible and comparatively strong. As constructed, the fastener comprises a body 23 from the opposite ends of which extend legs 24, and the extremities of these legs are provided upon one face with a suitable adhesive 25. For ease of manufacture, fabric coated the full length with adhesive could be used. The legs are inserted through openings 26 provided in paper sheets 21 and are bent inward so that the adhesive 25 will contact with the under face of the lowermost sheet 21, the adhesive providing means for securely attaching the legs to this under sheet so that the paper sheets will be secured together in a compact manner. As

the fastener is formed of thin material and lies flat against the upper and lowermost sheets, separate piles of these sheets may be stacked one upon the other without unduly increasing the height of the stacked pile at the corners of the sheets which carry the fasteners. In addition, there are no sharp projecting points or surfaces to dig or catch into other sheets, or to prick or injure the hands of the user.

In Figures 4 to 10 inclusive, the fastener is substantially T shaped, being bent to form a body 27 and legs 28. The legs are passed through a single opening 29 provided in the sheets 21 and are bent relatively outward in contact with the under face of the lowermost sheet and are secured to this lowermost sheet by an adhesive which is applied to one face of the legs. In the form of the invention shown in Figures 4 and 5 the body 27 is provided with a metallic reinforcing member 31 which extends longitudinally of the body and has its ends bent inward beneath the body towards the legs 28 as shown at 32. This metal reinforcing member 31 is clamped tightly around the body so as to be properly retained thereon.

In the form of the invention shown in Figures 6 to 9 inclusive, the reinforcing member is tubular or sleeve-like and is provided with an opening 33 for the passage of the legs 28 and is thereafter folded transversely of the body 27 with one edge 34 secured over the outer edge 35 by an adhesive 36.

In the form of the invention shown in Figures 11 and 12 the fastening device is somewhat similar to the form shown in Figures 1, 2 and 3. In Figures 11 and 12 however, the legs 24′ which extend from the body 23′ are bent relatively outward, the adhesive being applied to the face of the legs opposite that shown in Figures 1, 2 and 3. The reinforcing member 37 for this form of the invention consists of a single thickness of paper or the like glued or otherwise secured to the body portion 23′.

In the form of the invention shown in Figures 13 and 14 the fastener 22′ is identical with the fastener shown in Figures 1, 2 and 3, with a reinforcing member 37′ which is similar to the reinforcing member 37 shown in Figures 11 and 12.

In Figures 15, 16 and 17, the fastener 22′ is identical with the fastener shown in Figures 11 and 12 except that its body portion is provided with a transversly U-shaped metallic reinforcing member 38 which is clamped upon opposite sides of the body portion.

The fastener shown in Figures 18 to 20 inclusive has its legs 24*a* overlapping and is provided with a reinforcing member 38′ which is similar to the reinforcing member 38. In this form of the invention the adhesive is so applied to the legs that the innermost leg is attached to the adjacent sheet of paper while the outermost leg is attached to the under leg of the fastener. A closed loop is thus provided as clearly shown in Figure 19 of the drawings.

It will be apparent from the foregoing description and the accompanying drawings that the invention provides a fastener in which both the body and legs will lie, and remain close to the outermost sheets of the paper. The reinforcing members are made of paper or very thin metal, or other suitable material so that the fasteners which include these reinforcing members will also lie flat.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:

1. A paper fastener comprising a substantially T-shaped member formed of a strip of flexible non-metallic material including a body and legs extending from the body and having extremities adapted for passage through openings provided in a plurality of sheets of paper, an adhesive upon one face of said extremities, and a relatively stiff reinforcing member secured to the body.

2. A paper fastener formed from a strip of flexible non-metallic material and comprising a body portion, legs extending from said body portion, and a relatively stiff reinforcing member secured to the body.

3. A paper fastener formed from a strip of flexible non-metallic material and comprising a body portion, legs extending from said body portion, an adhesive upon one face of the legs, and a relatively stiff reinforcing member secured around the body portion.

4. A paper fastener formed from a strip of flexible non-metallic material and comprising a body portion, legs extending from said body portion, an adhesive upon one face of the legs, and a relatively stiff sleeve like reinforcing member secured around the body portion.

In testimony whereof I affix my signature.

FRANK H. BROOME.