March 5, 1929. R. H. CHARLTON 1,704,121

PAPER FASTENER

Filed Aug. 15, 1927

Fig. 1

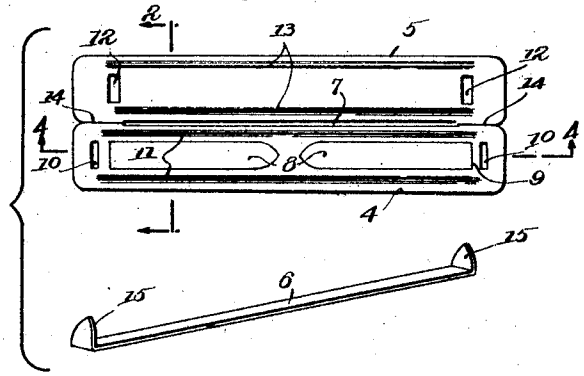



Fig. 2

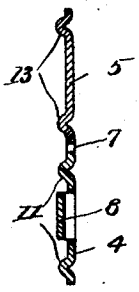



Fig. 4

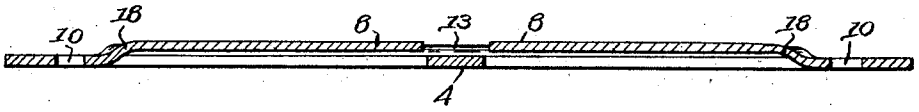
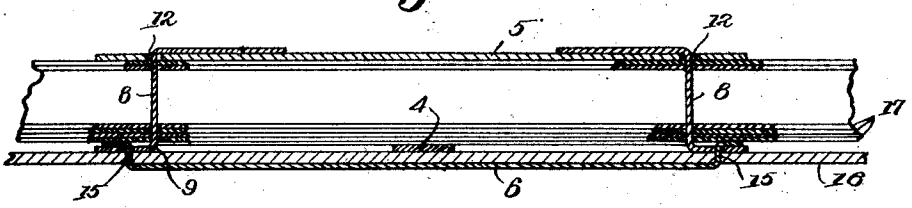



Fig. 3




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# UNITED STATES PATENT OFFICE.

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## PAPER FASTENER.

Application filed August 15, 1927. Serial No. 212,359.

This invention relates to paper fasteners of the kind by which a number of sheets of paper may be bound together for filing, and more particularly to a fastener of this type which is adapted to secure the bound paper sheets upon a relatively stiffer backer sheet, such as a strip of cardboard or the leaf of a filing folder or file wrapper.

The invention has for its principal objects the provision of a fastener containing the novel and improved features of construction hereinafter described and particularly pointed out in the appended claims, by means of which the bound paper may conveniently be removed from the backer sheet and retained paper sheets may also be removed from the fastener without detaching the fastener from the backer sheet. Another object resides in the improved manner of reinforcing the backer sheet and the base member of the fastener, whereby said base member and the backer sheet are strengthened against bending stresses and the papers secured thereon are held flatwise under all usual conditions. A further feature of the invention is the provision of a base member and a washer member similar in size and shape, so that said members may be stamped from a single blank and may be shipped as a unit to be separated by the user when desired.

A recommended embodiment of the invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a composite view of a three piece fastener containing the aforesaid improvements, the base and washer elements being integrally connected for shipment and shown in plan view, and the separate reinforcing member being illustrated in perspective view;

Fig. 2 is a transverse section to enlarged scale, taken through the connected elements on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged longitudinal section of the fastener assembled to secure a plurality of paper sheets upon a backer or cover sheet; and

Fig. 4 is a section on line 4—4 of Fig. 1.

The fastener preferably comprises a relatively long and narrow plate or base member 4 of sheet metal, a second sheet metal plate or washer member 5, and a narrow, flat reinforcing strip 6 which may be formed from the same sheet metal stock as the other members, or may be somewhat thicker if desired. It is recommended that the base 4 and the washer 5 have substantially the same external dimensions, in order that the parts may be economically stamped in a single operation from the same metal blank, and it is also suggested that these elements be formed as a unit, as indicated in Fig. 1, so that they may be shipped as a single piece to the user. A longitudinal slit 7, terminating distant from the end of the connected members, may be provided between the bars and the washer to facilitate the separation thereof for use.

The base 4 is provided with a pair of elongate binding members or tongues 8, preferably struck from the body of the base in the stamping operation in such manner that they may be bent upwardly of the body portion from their respective integral connections therewith near the ends of the base member. The base 9 of each tongue is spaced sufficiently from the respective end of the base to permit the provision of an intermediate aperture 10 adjacent each end of the plate. Longitudinal stiffening ribs 11 may be provided to render the base substantially inflexible under ordinary conditions of use.

The washer 5 is provided with two apertures 12, near its ends, spaced apart substantially the same distance as the distance between the bases 9 of the base tongues 8, and may also have stiffening ribs 13 along its side margins. Preferably the connections at 14 between the unitary base-washer element of Fig. 1 are scored or weakened in the stamping operation to permit a clean break when the parts are bent for separation.

The reinforcing strip 6 has relatively short integral prongs 15 bent upwardly at each end, the length of the strip between the tongues being substantially equal to the distance between the apertures 10 of the base. As suggested above, this strip may be stiffer than the base member, for it is not necessary that the prongs 15 be as flexible as the base tongues 8, as will be apparent.

In use, the base 4 is placed upon the inner face of the backer or cover sheet 16 and is secured thereupon by the reinforcing strip 6 which is applied to the opposite surface of

the backer sheet and which has its prongs 15 punched through the sheet, passed through the base apertures 10 and bent downwardly upon the base ends. The base and the backer sheet are thus reinforced by the strip 6 and the base is securely but detachably affixed to the sheet 16 by the prongs 15. The tongues 8 are then bent upwardly from the base and passed through the paper sheets 17 either by piercing the paper with the pointed ends of the tongues or by inserting them through previously prepared holes; the ends of the tongues are inserted through the apertures 12 of the washer 5; the washer is pressed down upon the top sheet of the papers; and the tongue ends are bent outwardly or inwardly (preferably the latter) and clenched flatwise upon the washer. The paper sheets are then secured upon the base and upon the backer, and may readily be removed from the fastener without detaching the base member from the backer sheet.

For some purposes of this invention the washer 5 may be omitted without substantially impairing the efficiency of the fastener, and in such case the tongue ends are bent flat upon the top sheet of the assembled papers. Other details of construction may be varied for particular uses without departing from the spirit of the invention as defined in the appended claims. For example, the tongues 8 may be bent at their bases as indicated at 18 in Fig. 4 to facilitate their initial bending into upright position.

A fastener constructed as aforesaid may be economically manufactured (the base and washer members may be formed complete in a single stamping operation); may be conveniently packaged for shipment (the reinforcing strip may be temporarily fastened to the base by bending its prongs through the base apertures to prevent loss) and is easy to assemble and durable in use. As the fastening between the base member and the backer sheet is independent of the tongues 8, the material of the sheet is not subject to bending or tearing when papers are annexed to or removed from the binding tongues, and the material is not weakened or bent by such operations by reason of the reinforcement 6. The papers may be removed without separating the base from the backer, or the bound sheets may readily be removed from the backer by detaching the reinforcing strip. Furthermore, the difficulty of piercing the relatively weak and flexible tongues 8 through a backer sheet of stout material and the injury to which the tongues are subject by such attempts are avoided by utilizing the reinforcing strip 6 with its shorter and stronger prongs for piercing the material. Likewise it is unnecessary to perforate the backing before applying the fastener thereto as is customary with prior fasteners; thus the extra operation of first punching the backing with a perforator is eliminated by this new fastener. Indeed the only acts required to apply this new fastener is to lay the backing over the strip 6 with a slight pressure to indicate by indentations the points where the prongs 15 contact with the backing, then press the base 4 against the backing with the openings 12 in registry with the prongs 15 to force the backing and base over the prongs, and then bending the prongs 15 over the front of the base 4.

I claim:

1. A paper fastener comprising a base adapted to be secured to a backer sheet and provided with a pair of tongues adapted to be inserted through the papers to be fastened and to be folded thereupon to secure said papers upon the backer sheet, and reinforcing means for detachably securing said base upon the backer sheet and for strengthening the base and the backer sheet.

2. A paper fastener comprising a base adapted to be secured to a backer sheet and provided with a pair of tongues adapted to be inserted through the papers to be fastened and to be folded thereupon to secure said papers upon the backer sheet, a reinforcing member applied on the surface of the backer sheet opposite to said base and means for securing the reinforcing member to the base.

3. A paper fastener comprising a base adapted to be secured to a backer sheet and provided with a pair of tongues adapted to be inserted through the papers to be fastened and to be folded thereupon to secure said papers upon the backer sheet, and a reinforcing strip applied to the backer sheet on the face opposite said base, said strip having end prongs extending through the backer sheet and bent upon the base detachably to secure the base upon the backer sheet.

4. A paper fastener comprising a base adapted to be secured to a backer sheet and having a pair of integral tongues adapted to be inserted through the papers to be fastened and to be folded thereupon to secure said papers upon the backer sheet, said base having an aperture adjacent each of its ends, and a reinforcing strip applied to the opposite face of the backer sheet, said strip having end prongs passing through the backer sheet and through said apertures and being bent downwardly upon the outer face of the base, detachably to secure said base to the backer sheet.

5. A paper fastener comprising an elongate base adapted to be secured to a backer sheet and having a pair of integral tongues struck up from its body portion and adapted to be inserted through the papers to be fastened and to be folded thereupon to secure said papers upon the backer sheet, said base having an aperture adjacent each end, and a reinforcing strip applied to the op-

posite face of the backer sheet, said strip having end prongs passing through the backer sheet and through said apertures and being bent downwardly upon the outer face of the base, detachably to secure said base to the backer sheet.

6. A paper fastener comprising an elongate base having a pair of integral tongues struck up from its body portion and adapted to be inserted through the papers to be fastened, and a washer of substantially the same length as the base and having apertures near its ends through which said tongues are passed to be folded thereupon, said base and said washer being formed as a unit from a metal blank, whereby the two elements may be shipped as a single piece, the connection between said elements being readily severable when desired.

Signed by me at Boston, Mass., this 12th day of August, 1927.

ROY H. CHARLTON.