

M. KELLY.
PAPER FASTENER.
APPLICATION FILED MAY 23, 1912.

1,097,332.

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Fig. 1.

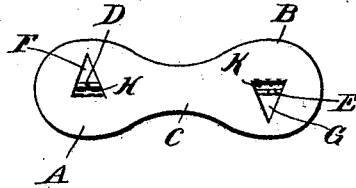


Fig. 2.

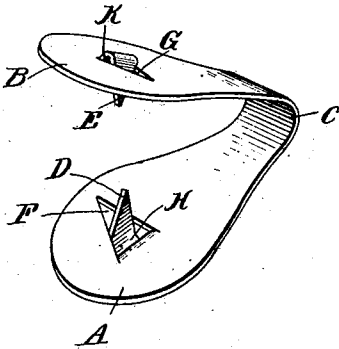


Fig. 3.

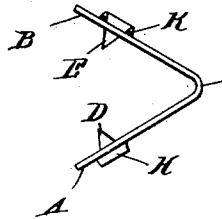


Fig. 4.

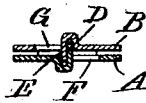


Fig. 5.

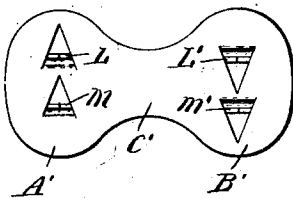


Fig. 6.

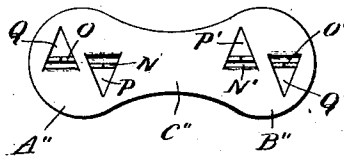
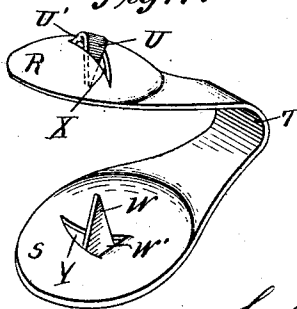


Fig. 7.



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PAPER-FASTENER.

1,097,332.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM M. KELLY, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Paper-Fasteners, of which the following is a specification.

This invention relates to fasteners and more particularly to a one-piece device for fastening together sheets of paper and the like.

Most fasteners of the prong construction now on the market do not close down firmly on the file of sheets. When the file is on the desk or in the files with other papers this permits loose sheets to work into the file. Moreover, where one or two prongs are employed they have heretofore been struck up parallel to the bend or fold, and in such a construction there is always a strong tendency to spring back or backlash when the pressure is released and the sheets will therefore not be firmly held.

It is one of the objects of this invention to obviate the above mentioned objections by a construction in which two cooperating prongs are struck up from the blank at right angles to the folded portion.

Another object is to provide a structure which will allow each prong member to easily project entirely through the sheets yet will prevent the sharp ends of the prongs from coming into contact with the fingers.

Other objects and the novel features of the invention will be apparent from the following description taken in connection with the drawings in which:

Figure 1 is a plan view of the fastener before being bent into shape to be applied to papers. Fig. 2 is an enlarged perspective view of the same bent into shape to be used. Fig. 3 is a side elevation of the fastener, showing the same bent into shape ready for use. Fig. 4 is a cross section through the slit and pocket of the fastener in closed position. Fig. 5 is a modified form of fastener having two sets of points or prongs. Fig. 6 is a modified form of fastener having two sets of points or prongs. Fig. 7 is a modification of the form in Fig. 1 showing the

dish-shaped construction of the clamping members.

The fastener is cut or stamped from thin sheet brass, aluminum, copper or other suitable material and has the oppositely disposed and enlarged clamping members A and B. The clamping members A and B are integral with and connected by the narrow neck portion C. The fastener is relatively weaker at the neck portion C and bends or folds readily at that section. Punched up from and bent substantially at right angles to the sections A and B of the blank there are two triangular or tapering spikes or prongs D and E which leave correspondingly shaped slots or openings F and G as shown in Fig. 1. The prong members D and E thus struck up will be in the opposing faces of the fastener when the same is bent or folded at the narrow part C to the shape shown in Figs. 2, 3 and 4, and their faces will be parallel to the length of the blank or body member and at right angles to the bend.

The apexes of the V-shaped slots F and G point in opposite directions and are on opposite sides of the blank. The bases of the triangular openings are so disposed that they will be substantially at right angles to the bend at the narrow section C, as will also the prongs D and E. The bases of the openings are parallel but slightly out of line and the prongs are also out of line but so arranged that they will have a shearing action past each other and will not interfere with the proper penetration of each.

At their bases the prongs D and E are bent outwardly on themselves, as clearly shown in Figs. 2 and 4, to provide grooves or pockets H and K at their bases below the opposing clamping surfaces of sections A and B. The pockets may be as narrow or slightly narrower than the thickness of the metal employed, thus, besides forming a socket for the ends of the prongs on the opposite clamping members, they will also have an interlocking action as the point itself will cam in the groove from the round corner. The pocket serves the purpose of a hole, but there will be no possibility of the points of the prongs coming into contact

with the fingers when being applied. It will be observed that as the prongs are at right angles to the bend at C, they will in closing present the edge of the metal to the strain, cutting their way clean, making but one hole and in addition shearing past each other and seating themselves firmly in the pockets or grooves. There will be no tendency to spring back or backlash.

10 In Fig. 5 a modification is shown in which a plurality of tangs L, L' and M, M' at substantially the same distance from the bendable portion C', are struck up from the clamping sections A' and B' connected by the neck portion C', in a similar manner to Fig. 1. The V-shaped openings on each clamping member point in the same direction and the structure of the tangs and their relative position is the same as indicated in the form shown in Figs. 1 to 4.

20 Fig. 6 discloses a modification in which cooperating tangs N, N', O, O' are arranged at different distances from the narrow bendable section C'' which connects clamping sections A'' and B''. The V-shaped openings P, P' and Q, Q' on each clamping member point in opposite directions. The openings P, P', as well as prongs N, N' are arranged in the same relation to each other as are those in Fig. 1. The same also applies to openings Q, Q' and cooperating prongs O, O' which are beyond prongs N, N'.

To further obviate backlash the construction disclosed in perspective in Fig. 7 has been provided. The clamping members R and S connected by the narrow bendable part T are of dish-shape or clam-shell construction. The dish-shaped portion may readily be formed in a die and the prong members U and W are struck up from the opposing clamping surfaces leaving the oppositely directed V-shaped openings X and Y. The prong members U and W are provided at their bases with the pockets or grooves U' and W' as in the other constructions.

The use of the fastener will be obvious from the foregoing description. It will be seen that an effective and improved device is provided by the construction shown. It will be possible to obtain a thorough perforation even of hard paper, insuring a penetration and holding of all the sheets. In fact a full closure is not absolutely required to insure holding as the prongs will overlap and have the equivalent of an interlock. The fastener will hold more than double the quantity of material in a fastener of the single prong construction and has a wider range. Should the fastener become overloaded the unsecured sheets are in the middle of the file where there is but slight possibility of their being lost in

handling. The broad faces of the prongs being at right angles to the bend present their edges to the strain in perforating the sheets. They cut their way through the file and will have very little tendency to backlash and spring open.

It is obvious that the structure of the device shown may be modified without departing from the spirit of the invention. Therefore it is not intended that the invention be limited to the exact details as shown and described except as restricted by the appended claims.

Having thus described the invention what is claimed as new is:

1. A paper fastener comprising a sheet metal blank bent over on itself intermediate its ends to form cooperating clamping members, a tang formed on each of the opposing surfaces of the clamping members, said tangs being disposed out of line with each other so as not to interfere in closing the fastener, and each tang being provided with a pocket formed integral therewith and at the base thereof and adapted to receive the end of the other tang.

2. A paper fastener comprising a sheet metal blank bent over on itself intermediate its ends to form cooperating clamping members, a tang on each of the opposing surfaces of the clamping members, said tangs being disposed out of line with each other so that they will not interfere when the fastener is closed, the broad faces of the tangs being disposed at substantially a right angle to the bend in the blank, and a pocket formed integral with each tang at the base thereof adapted to receive the end of the other tang.

3. A paper fastener comprising a sheet metal blank bent over on itself intermediate its ends to form cooperating clamping members and tapering tangs struck from the opposing surfaces of the clamping members, said tangs having paper engaging portions and having portions adapted to receive the paper engaging portions of the tangs on the opposing clamping members.

4. A paper fastener comprising a sheet metal blank bent over on itself intermediate its ends to form cooperating clamping members, tangs punched from the opposing surfaces of the clamping members leaving a corresponding opening in the blank at the side of each tang, and a pocket formed in the blank adjacent each tang and on the side opposite the opening made when the tang was punched, the said pockets being so disposed that the end of each tang will be pocketed when the fastener is closed.

5. A paper fastener comprising a sheet metal blank bent over on itself intermediate its ends to form cooperating clamping members, a tang struck from each of the op-

posing surfaces of the clamping members
leaving an opening in the blank at the side
of each tang, the opening left in one clamp-
ing member being at the opposite side of
5 the tang thereon from the opening left be-
side the tang in the opposing clamping
member, said blank having a pocket formed
at the side of each tang opposite the open-
ing made when the tang was struck from
10 the blank, the end of the tang on each

clamping member entering the pocket adja-
cent the tang on the opposing clamping
member when the fastener is closed.

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

WILLIAM M. KELLY.

Witnesses:

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