H. G. POSSNER.

PAPER CLIP.

APPLICATION FILED MAY 17, 1915.

1,177,051. Patented Mar. 28, 1916.

Fig. 1

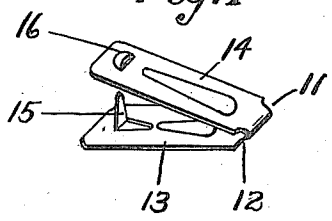


Fig. 2

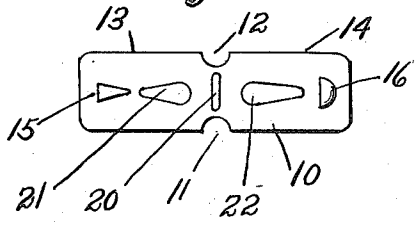


Fig. 4

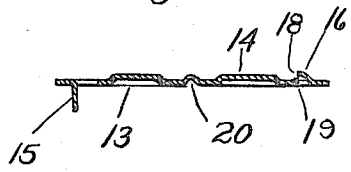


Fig. 3

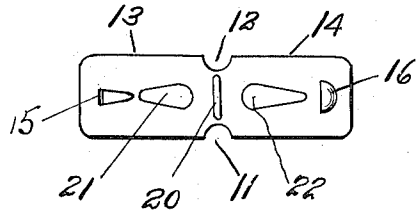


Fig. 5

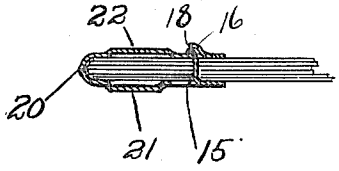


Fig. 7

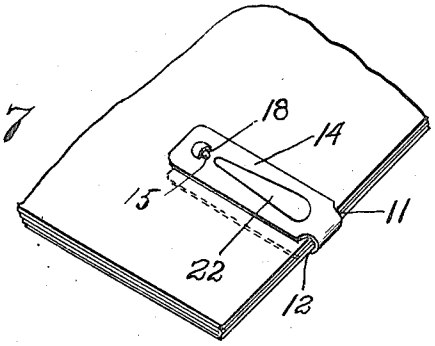
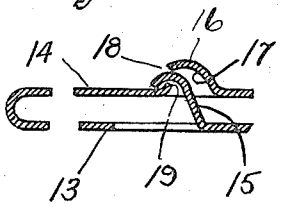


Fig. 6



Inventor

Herman G. Possner

Witness

H. H. Bardeley.

By

Howard E. Barlow

Attorney

UNITED STATES PATENT OFFICE.

HERMAN G. POSSNER, OF EDGEWOOD, RHODE ISLAND.

PAPER-CLIP.

1,177,051. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed May 17, 1915. Serial No. 28,504.

To all whom it may concern:

Be it known that I, HERMAN G. POSSNER, a citizen of the United States, and resident of Edgewood, city of Cranston, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Paper-Clips, of which the following is a specification.

This invention relates to fasteners of the class employed as paper clips for securing or binding together sheets of paper or to perform other light binding, and the object of my invention is to form such a clip from a strip of sheet-metal and fold the same to provide two opposing members, one having a piercing tang, and the other having a depression with an inclined surface, one of the walls of which depression is provided with an eye or opening through which the tang is directed and caused to project by contact with the inclined surface of said depression as the members are moved toward each other.

A further object of this invention is the turning outward of the edge of the opening through the wall of the depression over which the tongue is bent to form a more effective lock.

A further object of this invention is the provision of means at the fold for controlling the point of bending of the stock, so as to insure the registering of the tang with the tang bending depression.

A still further object of the invention is the crimping or offsetting a portion of the stock of each opposing member to stiffen the same and prevent them from buckling or bending when the clip is being applied to the work.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1— is a perspective view of my improved fastener showing the members as slightly open ready to be clamped upon the articles to be bound together. Fig. 2— is a plan view of the inside of my improved fastener showing the members extended as struck from sheet-stock with the stock stiffened, corrugated or offsetting a portion thereof. Fig. 3— is the same as Fig. 2 but showing the outside of the fastener. Fig. 4— is a central sectional edge view of my improved fastener with the side members extended. Fig. 5— is a sectional view showing the opposing side members of the fastener as folded at the bend, embracing a number of sheets of paper and the tang as having passed therethrough and as locked over the edge of the depression. Fig. 6— is an enlarged sectional view more clearly illustrating the form of the depression wall, also the offset form of the stock at the edge of the opening through the wall of the depression which is naturally turned outward by the tool which forms the depression. Fig. 7— is a perspective view showing the fastener as applied to a number of sheets of paper.

Referring to the drawings, 10 designates a short strip of sheet-metal formed from sheet-stock from which my improved fastener is struck, this strip is preferably weakened slightly on its opposite edges by removing a portion of the stock as at 11 and 12 to assist in a measure the folding of the stock at the desired point and thus dividing the strip into two distinct members 13 and 14. The member 13 has a portion of triangular shape pointed at one end and cut from the body thereof and bent outward at substantially a right angle to the plane of the plate, forming a sharpened tongue or tang 15 adapted to readily pierce a sheet or sheets of paper or other similar article or articles. The other member 14 of the strip is provided with a depression 16 whose inner wall 17, see Fig. 6, is formed on somewhat of a circle in longitudinal cross-section or on an angle to the plane of said member and the swaging tool is so arranged that the forming of this depression breaks through separates or forms an opening or eye 18 through one of the walls and in the forming of this depression the edge 19 of the stock about the opening is naturally rolled, swaged or turned outward slightly as the wall is broken away to form an eye therethrough.

The members 13 and 14 of the fastener are then folded into the position illustrated in Fig. 1 with their ends apart forming a re-entrant mouth. To further insure the folding of the stock at the point where the bending should take place, I have formed a slight transverse depression 20 in the stock between the notches 11 and 12 so as to insure the registering of the tang with the depression 16 when the opposing members are brought toward and in proximity to each other. This control of the bend is quite important as

otherwise the point of the tang might not engage the recess and so would not be guided by this wall through the opening to lock the parts together. A feature in forming the tang bending depression 16, is that when one of the walls of this depression is ruptured or broken away the stock at the edge naturally leaves a roughened or burred edge 19, which roughness has a tendency to cling to and more effectually retain the tang which is turned over this edge.

In some cases where thin stock is desired to be used, I have embossed, swaged, crimped or otherwise raised the stock as at 21 and 22 into one or more longitudinal ribs so as to stiffen the stock of these opposing members and prevent them from buckling or bending when pressure is applied thereto in forcing the pointed end of the tang through the articles to be bound and locked together.

By my improved method of forming a tang bending recess, the wall of one portion of the recess is formed somewhat on an incline, and the wall of another portion of the recess is raised or bent substantially at a right angle to the plane of its member, and this right-angled wall is broken through, pulled apart or ruptured to form an opening therethrough. In this way when the point of the tang comes in contact with the inclined wall, it is bent forward and caused to pass through the said opening and thus accomplish a complete locking effect, and this by the employment of but two side members or folds to my fastener. By this manner of forming an eye in the wall of the recess I am enabled to employ the minimum number of parts or folds and, therefore, reduce the number of operations and hence the expense of manufacture to the minimum, also by providing a fastener with but two layers, leaves or parts, I reduce the thickness of the fastener when folded to the very minimum which is of considerable importance to those using such fasteners. I also by this construction use the minimum amount of stock in the construction of my fastener which is of importance to the manufacturer.

The device is extremely simple in construction, is inexpensive to manufacture and is effective in its operation.

I claim:

An improved paper clip comprising opposed jaws formed of a single integral piece of sheet metal, one of said jaws being provided with an inwardly extended integral piercing tang, the other jaw having a pocket formed therein opposite said tang, said pocket having its wall provided with a slot positioned to provide a lip extending outwardly from the face of the jaw, said tang being guided through said slot by said pocket, the end of said tang being bent over said lip when the parts are engaged.

In testimony whereof I affix my signature.

HERMAN G. POSSNER.