

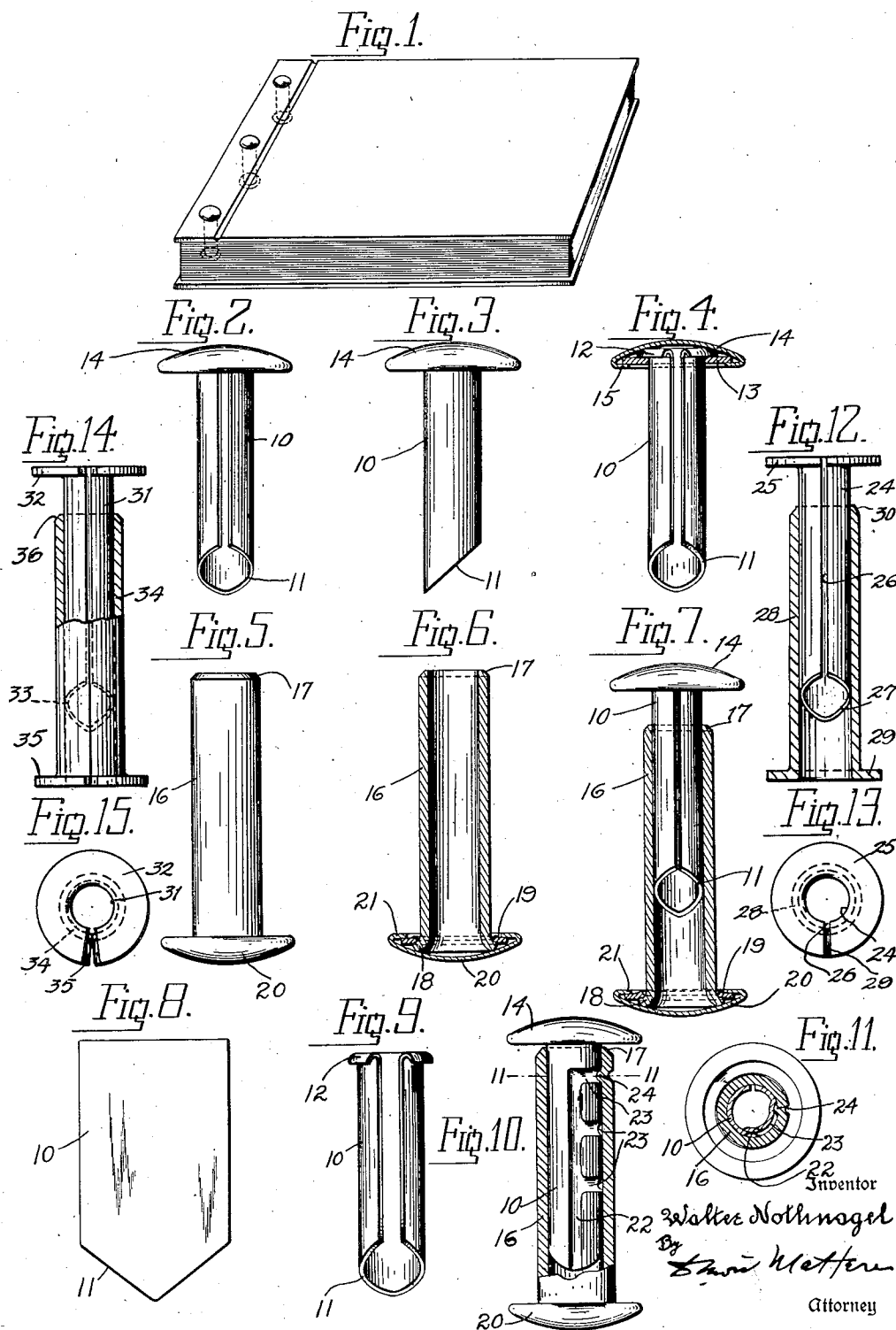
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HOLDER FOR LOOSE LEAF BINDERS AND THE LIKE

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HOLDER FOR LOOSE-LEAF BINDERS AND
THE LIKEWalter Nothnagel, Ruhla, Germany, assignor to
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manyApplication April 11, 1933, Serial No. 665,476
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2 Claims. (Cl. 85—5)

This invention relates to a holder for loose-leaf binder and the like, and particularly of the type for holding loose-leaf sheets, cloth samples, etc., in which a pair of headed posts are longitudinally engaged with each other. These holders have heretofore consisted for the most part of a screw part adapted to be engaged in a threaded socket part and which required a screw driver to open them, and were furthermore objectionable as the screws were apt to become loose. Holders having longitudinally bifurcated parts were also employed, but these were such that they would not grip evenly along their entire length, and also would not effectually retain their springiness for any appreciable time. It is proposed in the present invention to provide a longitudinally split spring prong member adapted to be telescopically engaged by a socket member, and it is an object to provide such a device which will be of simple construction, will retain its springiness, and will effectively secure the loose leaf sheets, or the like, while at the same time permitting of easy attachment and separation of the device. To this end it is proposed in certain embodiments of the invention to form the spring member of a piece of flat spring metal bent into tube form, and which has uniform gripping action along its full length, and also in another embodiment to form the same from tubular stock split longitudinally.

With the above and other objects in view, an embodiment of the invention is shown in the accompanying drawing and the embodiment will be hereinafter more fully described with reference thereto, and the invention will be finally pointed out in the claims.

In the drawing:

Fig. 1 is a perspective view of a loose leaf binder showing the arrangement of the holders, according to the invention.

Fig. 2 is a front elevation of the prong member.

Fig. 3 is a side elevation thereof.

Fig. 4 is a view partly in front elevation and partly in section of the prong member.

Fig. 5 is a side elevation of the socket member.

Fig. 6 is a vertical sectional view thereof.

Fig. 7 is a vertical sectional view showing the prong member engaged in the socket member.

Fig. 8 is a plan view of the flat piece of spring metal from which the prong member is formed.

Fig. 9 shows the same curved into cylindrical form.

Fig. 10 is a vertical sectional view, showing a modification in which locking means is provided.

Fig. 11 is a sectional view, taken along the line 11—11 of Fig. 10.

Fig. 12 is a vertical sectional view showing the prong member in elevation of a modified form of the invention.

Fig. 13 is a plan view thereof.

Fig. 14 is a front elevation of a further modified form of prong member.

Fig. 15 is a plan view thereof.

Similar reference characters indicate corresponding parts throughout the several figures of the drawing.

Referring to the drawing, the holder according to the present embodiment of the invention, consists generally of a prong member and a socket member, both having a head at one end, and adapted to be telescopically engaged so as to bring the heads into contacting relation with the upper and lower surfaces of the loose-leaf binder, or other structure.

The prong member consists of a portion of cylindrical form and which is formed from a flat piece of spring metal such as shown in Fig. 8, the lower edge of the piece being of angular form so as to provide an angular inserting guide end 11 upon the prong member. The flat piece of metal is curved into a cylindrical form as shown in Fig. 9 and a small flange 12, is bent outwardly from the base.

A washer 13 is engaged over the prong member against the flange 12, and a concavo-convex head 14 is engaged over the washer and is secured by curling over the edge of the head as at 15. With this construction a prong member is provided which will yield inwardly and outwardly evenly along its entire length and at the same time is so connected to the head as to prevent longitudinal displacement.

The socket member consists of a tube 16 which may have its upper edge exteriorly beveled, as at 17, so as to more easily enter the perforations of the loose-leaves. The inside diameter of the socket member is slightly less than the outside diameter of the prong member, so that when the latter is engaged in the socket member it will be contracted, and this engagement is such that a relatively tight friction retaining and gripping action results, the uniform contracting of the prong member permitting gripping contact with the socket member over its entire surface. The socket member may have a head of any desired construction, but preferably is provided with a head similar to that shown in connection with the prong member. In this latter case the end of the socket member is flanged outwardly, as at

18, and has a washer 19 engaged thereon to which is secured a head 20 having its edge 21 bent over upon the washer.

In the use of the device the same may be extended to any desirable degree to hold more or less papers between the two heads, and because of the very small difference in diameters of the socket and prong members there will be no appreciable tendency for the papers engaging the prong member to shift out of alignment with those engaging the socket member.

In Figs. 10 and 11 I have illustrated a modification in which the parts may be locked in several positions of adjustment. At a point opposite the split the prong member 10 is provided with a longitudinal groove 22 pressed therein and at suitable points horizontally arranged grooves 23 extend therefrom, these latter preferably extending only partially around the prong member. An inwardly projecting boss 24 is pressed into the socket member for engagement by the grooves 22 and 23. In connecting the parts the boss 24 moves longitudinally in the groove 22, and upon turning one part relative to the other the boss will engage one of the slots 23 thus locking the parts against longitudinal movement.

In Figs. 12 and 13 I have shown a modification in which both the socket and prong members are formed of tubular stock and have integral end flanges formed thereon in lieu of the head employed in the embodiments shown in Figs. 2 to 10. The prong member 24 is formed of tubular metal stock and a laterally extending flange 25 is bent outwardly at one end to constitute a head. The prong member is split longitudinally at one side, as at 26, the split extending through the flange 25 as well as along the tubular part. The end of the prong member is of angular form, as at 27, to facilitate insertion in the socket member.

The socket member 28 is similarly formed of tubular metal stock and is provided with a laterally extending flange 29 at one end, the other end being exteriorly beveled, as at 30. The tubular stock from which the prong member is formed is of smaller diameter than that of the socket member, its outside diameter however being slightly greater than the inside diameter of the socket member so that it will be snugly engaged telescopically therein.

In Figs. 14 and 15 I have shown a further modification in which the prong member 31 is bent into tubular form from flat spring metal and has a head forming flange 32 bent outwardly at one end, the other end being of angular form, as at 33. While any of the other types of socket members may be employed therewith I have shown a socket member 34, also bent into tubular form from sheet metal and having a head forming flange 35 bent outwardly at one

end, the other end being beveled, as at 36. In this case the metal from which the socket member is formed is thicker than that of the prong member and the vertical meeting edges are brought close together, so that upon insertion of the prong the greater stiffness of the thicker metal will prevent opening of the socket while at the same time permitting compression of the prong member.

I have illustrated and described a preferred and satisfactory embodiment of the invention, but it will be obvious that changes may be made therein, within the spirit and scope thereof, as defined in the appended claims.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A fastener for loose leaf binders and the like, comprising a tubular socket member open at one end and having an annular projecting flange portion at the other, and a prong member adapted to be slidably inserted into said socket member and comprising a springy prong portion having an open seam extending its full length, the inside diameter of said prong portion being uniform throughout its length, the outside diameter of said prong portion being uniform throughout its length and being normally greater than the inside diameter of said socket member, a flange at one end having a radial split in continuation of said seam permitting contraction of said flange, and said seam permitting uniform transverse contraction of said prong portion for its full length, said prong portion being engageable with the inner surface of said socket member through transverse contraction.

2. A fastener for loose leaf binders and the like, comprising a tubular socket member open at one end and having an annular projecting flange portion at the other, and a prong member adapted to be slidably inserted into said socket member and comprising a springy prong portion having an open seam extending its full length, the inside diameter of said prong portion being uniform throughout its length, the outside diameter of said prong portion being uniform throughout its length and being normally greater than the inside diameter of said socket member, one end of said prong portion being beveled at an angle disposed downwardly from said seam, a flange at the other end having a radial split in continuation of said seam permitting contraction of said flange, and said seam permitting uniform transverse contraction of said prong portion for its full length, said prong portion being engageable with the inner surface of said socket member through transverse contraction.

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