

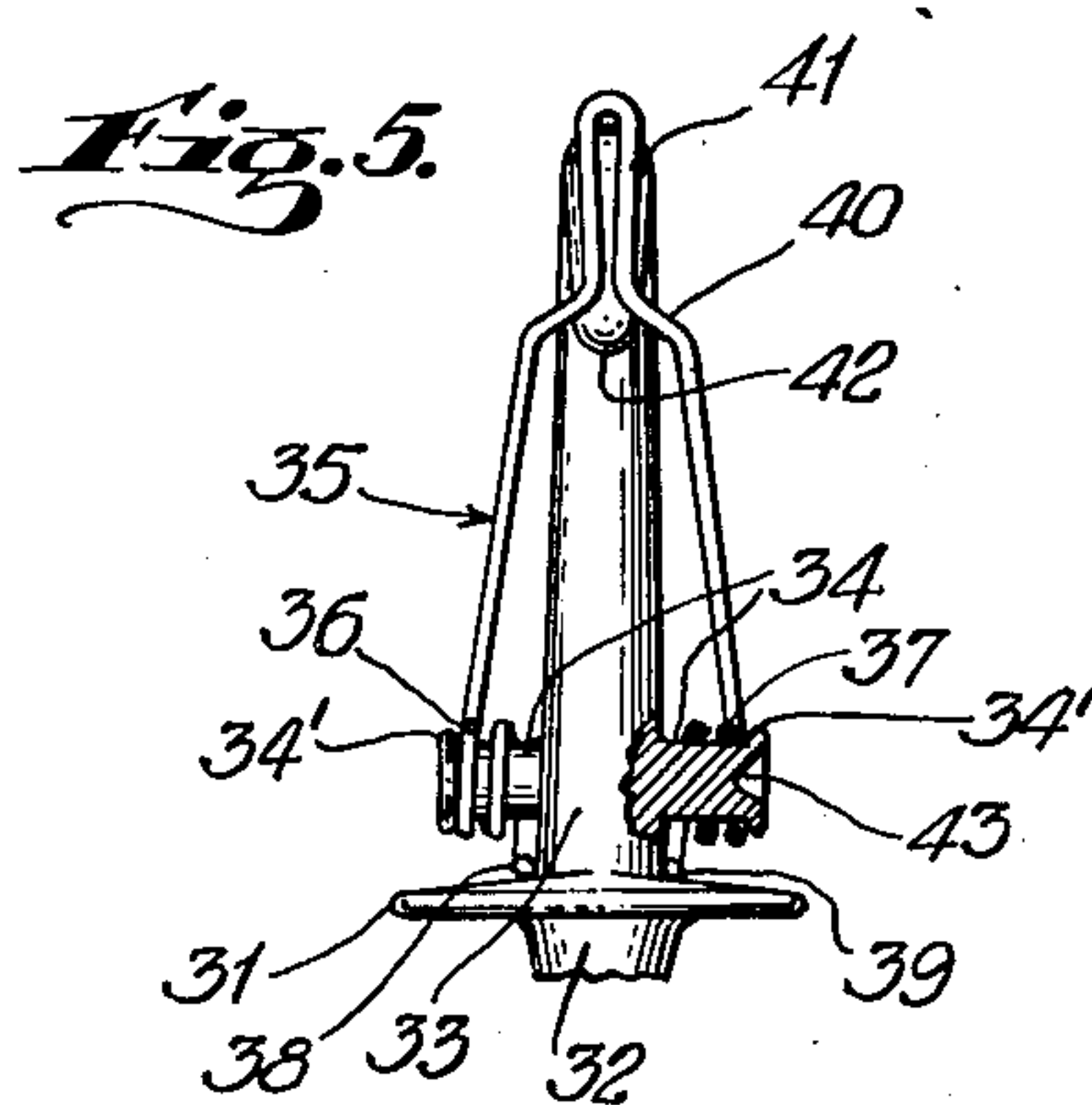
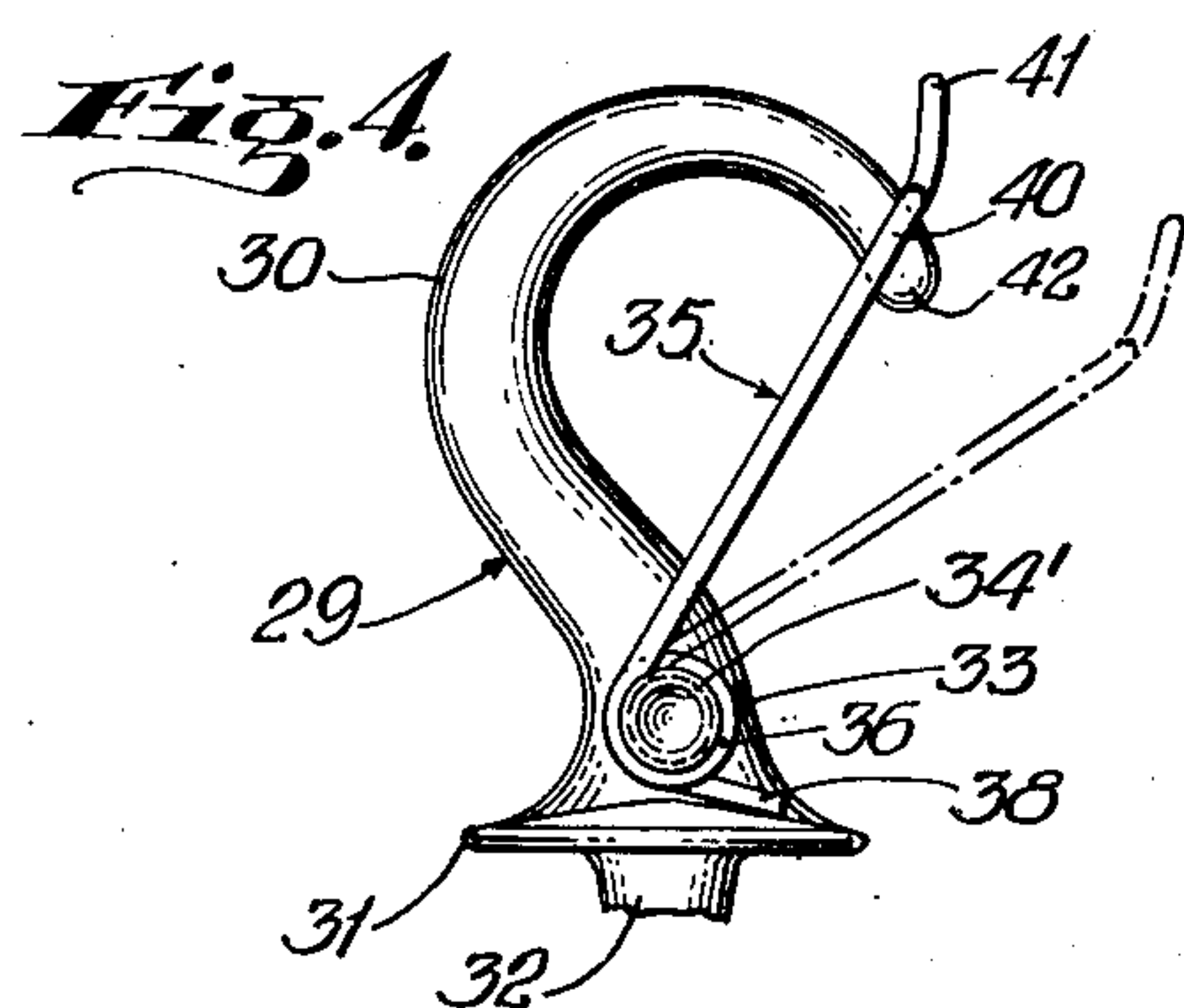
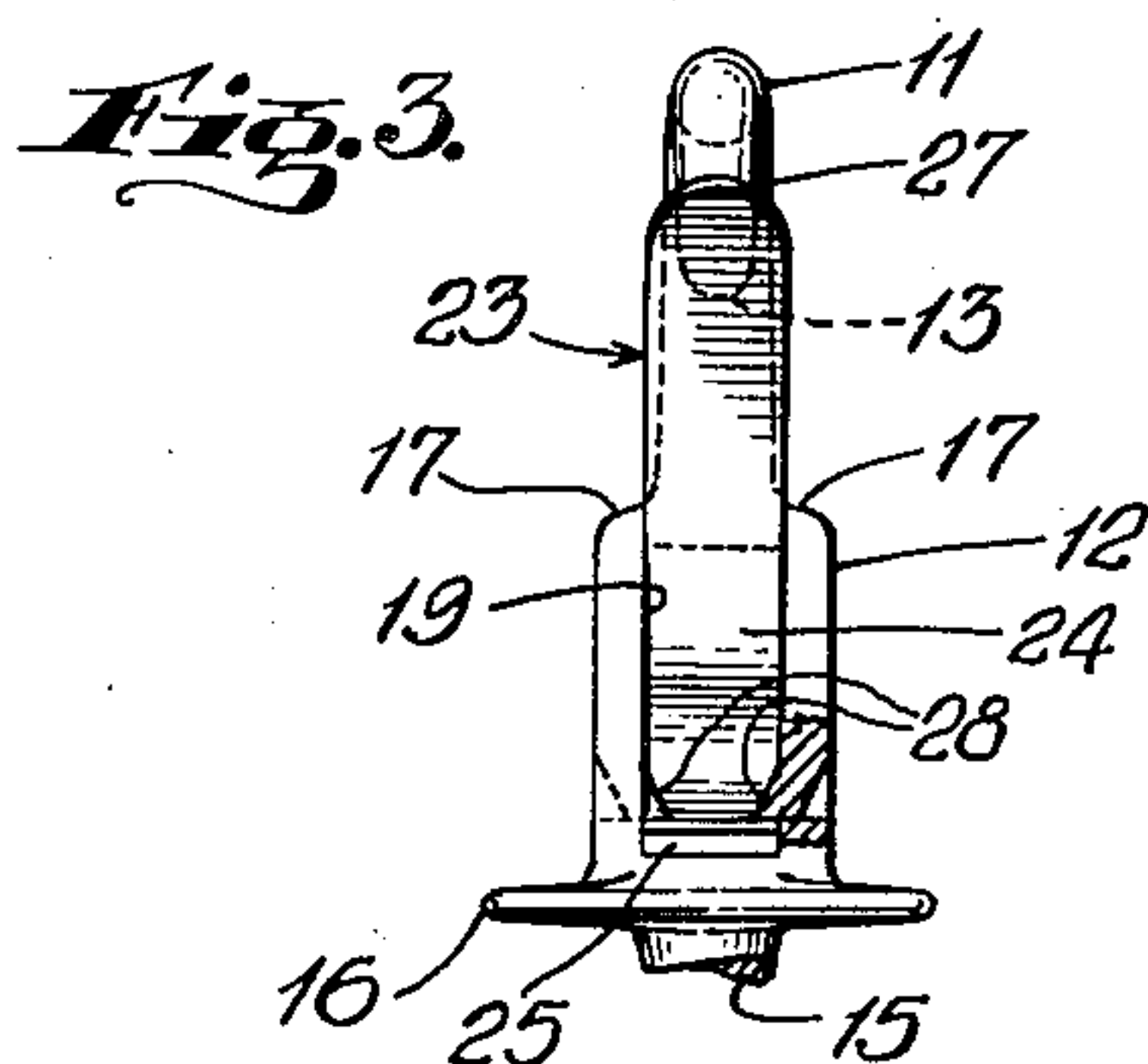
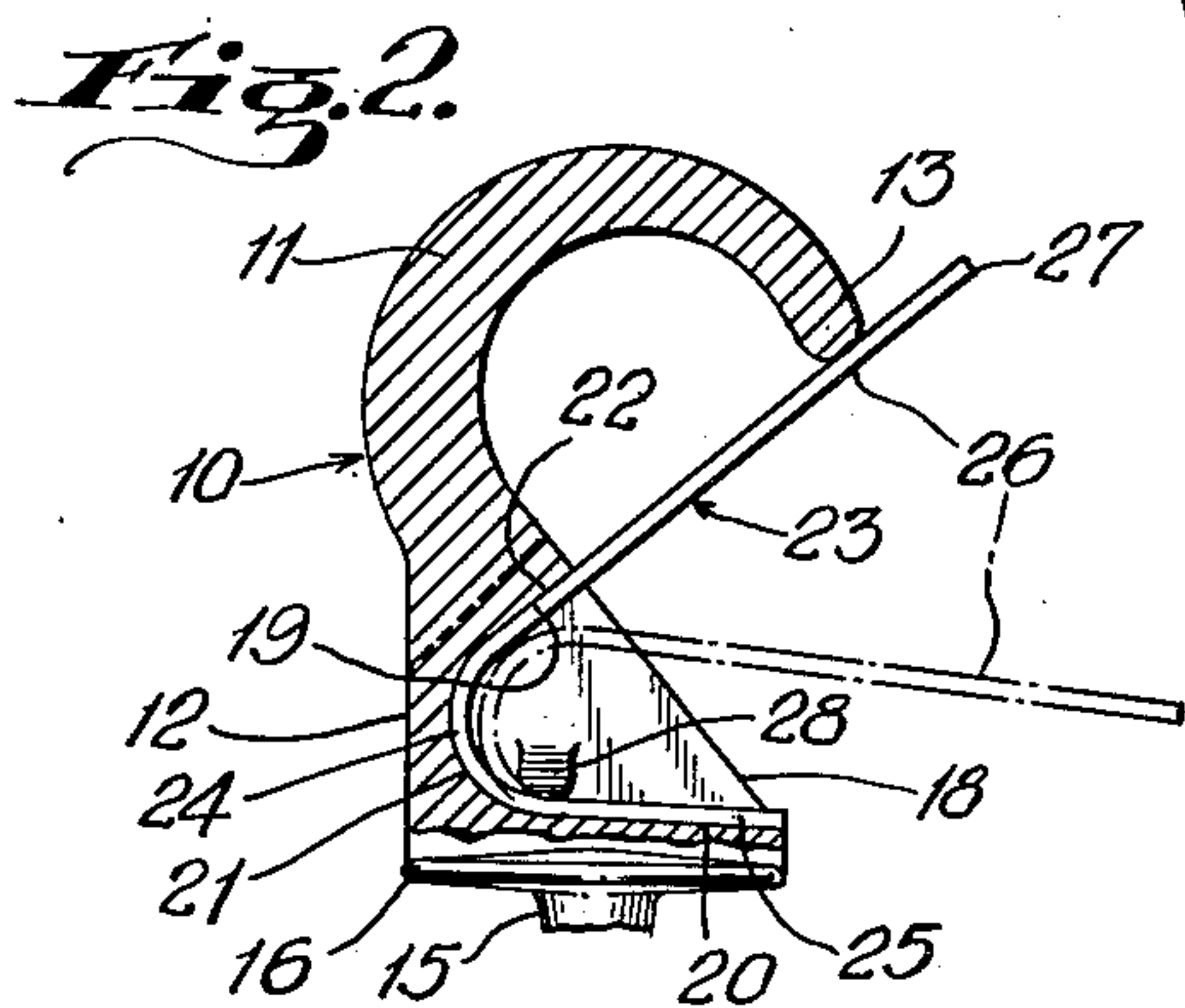
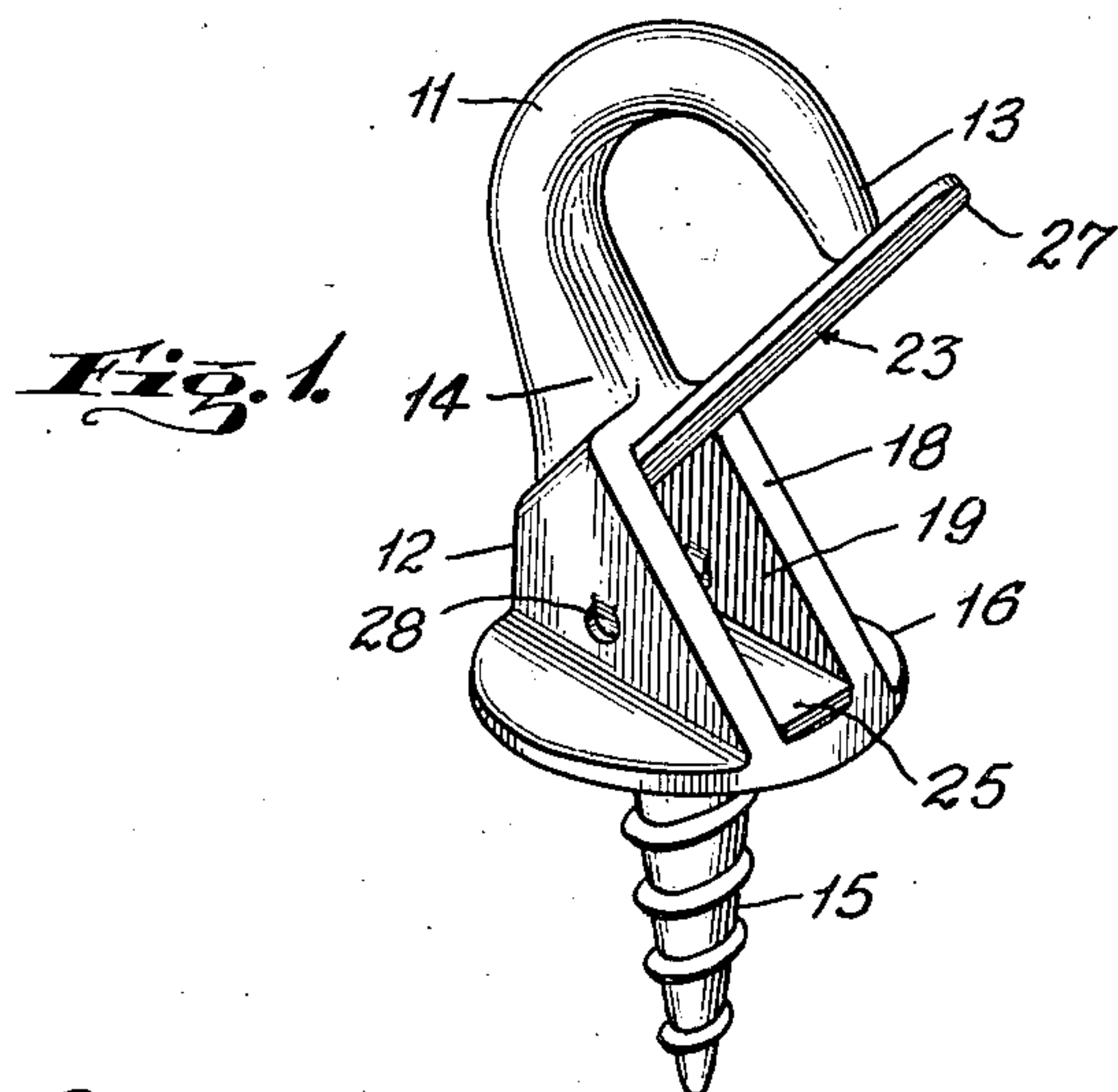
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SNAP HOOK

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SNAP HOOK

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1 Claim. (Cl. 24—236)

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This invention relates to devices which are generally termed "cup hooks." More particularly, the invention deals with devices of this type and kind employing a spring member normally closing the loop or hook of the device so as to retain articles against accidental displacement therefrom, while at the same time, facilitating forcible detachment of the article from the hook.

The novel features of the invention will be best understood from the following descriptions when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed, and in which the separate parts are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a perspective view of one form of spring cup hook which I employ.

Fig. 2 is a longitudinal sectional view through the upper end portion of the cup hook, and showing the spring member in full and dotted line positions.

Fig. 3 is an edge view of the cup hook as seen in Fig. 2, with part of the construction broken away and in section.

Fig. 4 is a side view of a modified form of cup hook which I employ; and

Fig. 5 is an edge view of the cup hook, as seen in Fig. 4, with part of the construction broken away and in section.

My invention deals with cup hooks of the type and kind where the body portion of the cup hook is formed as a die cast product, the cup hook being so fashioned as to provide means for mounting or retaining a spring member thereon to normally close the loop or hook portion of the device in retaining articles against accidental displacement therefrom.

In Figs. 1 to 3 inclusive, I have shown one adaptation of my invention, in which the cup hook device 10 comprises a hook or loop end portion 11 extending from a shank or body portion 12 in a tapered fashion so that the end 13 of the hook 11 is materially less in diameter than the portion 14 where it joins the shank or body 12. At 15 is shown the tapered screw end of the device and the end 15 joins the body 12 in a large disc or collar portion 16. The disc or collar portion 16 is flared or tapered to the outer peripheral edge thereof and the body 12 extends integrally from the upper surface of the disc, the body being greater in width than the end 14 of the hook 11 to form the shoulder 17, clearly illustrated in Fig. 3 of the drawing. The front surface of the body 12 is bevelled, as seen at 18, to extend con-

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tinuously with the surface of the end 14 of the hook, as will clearly be seen in Figs. 1 and 2 of the drawing, and this surface also extends to the peripheral edge of the disc 16. The body 12 has a large chamber 19 therein opening through the bevelled or angular surface 18, the chamber having a relatively flat bottom wall 20, a curved rear wall 21 and an upwardly and outwardly flared upper wall 22, as will clearly appear from a consideration of Fig. 2 of the drawing.

Arranged within the chamber 19, is a flat spring 23, the curved portion 24 of which seats snugly on the curved surface 21, the spring having a short end 25, bearing on the surface 20, and a long fingerpiece end 26 which is tensioned to bear against the end 13 of the hook, the fingerpiece end 26 protruding beyond the hook to provide a finger grip or article engaging portion 27. The end 27 is preferably rounded, as clearly seen in Fig. 3 of the drawing. By providing this protruding end 27, a cup or any other article can be mounted in connection with the hook by simply pressing against the end 27 to spring the end portion 26 into open position and after the cup or other article has been placed on the hook, the spring end 26 will automatically move into closed position.

In Fig. 2 of the drawing, the end portion 26 has been shown in an extended open position in dotted lines, clearly showing that the cup hook admission throat can be opened to a degree capable of receiving an article having a diameter equal to, or even slightly greater than the opening or spread of the hook.

In securing the spring 23 in position, the spring is placed in the chamber or socket 19, substantially in the manner shown in full lines in Fig. 2 of the drawing, and then by the use of suitable tools, side walls of the body 12 are forced inwardly to form spring retaining lugs 28, these extending into the chamber 19 sufficiently to retain the lower portion 25 of the spring against displacement. This portion is made to fit reasonably snug in the chamber 19 of the body 12 or between the side walls, so that the degree of inward movement of the lugs 28 can be minimized. In the accompanying drawing they have been exaggerated for sake of clarity. The lugs 28 are formed in the body 12 so as to engage the spring 23 where the curved portion 24 thereof joins the end 25. This permits the curved portion to swing freely within the chamber 19 and at the same time, retains the end 25 against shifting or displacement.

It will be understood in this connection that

the shape or contour of the spring 23 may be made to suit different conditions or uses. However, for conventional uses, the flat type of spring of the general contour shown would be practical. A spring cup hook of the type and kind herein referred to can be produced at a nominal cost by reason of the simplicity in formation and assemblage of the parts.

In Figs. 4 and 5, I have shown a slight modification wherein a one-piece die cast cup hook body 29 is employed, having an upper hook portion 30 substantially similar to the hook portion 11, a collar 31, generally similar to the collar 16, and a screw 32, similar to the screw 15. Instead of providing the enlarged body 12, the shank 33 of the cup hook where it joins the collar, or slightly above the collar 31, has laterally extending pin or bearing portions 34 formed integrally with the shank 33. Substituted for the flat spring 23, is a wire spring 35, having coiled spring ends 36 and 37 which are adapted to extend around the pin or bearings 35, as clearly seen in Fig. 5. The coiled ends 36 and 37 terminate in short extensions 38 and 39, which bear upon the collar 31. The central portion of the spring wire is contracted, as seen at 40, note Fig. 5, and this contracted portion terminates in an elongated fingerpiece loop 41 which is preferably curved inwardly in the direction of the hook, as seen in Fig. 4 of the drawing. The contracted portion 40 is adapted to strike against the end 42 of the hook substantially in the manner indicated in Fig. 4 in checking closing movement of the spring 35. The protruding fingerpiece end 41 facilitates attachment of a cup or other article with the hook, as with the construction shown in Figs. 1 to 3 inclusive.

In attachment of the spring 35 with the pin or bearing members 34, the members 34 have normally, a common outside diameter, thus allowing the side portions of the spring to be flexed laterally in passing the coils 36 and 37 over the pins 34 with the ends 38 and 39 upon the upper surface of the collar 31. After the spring has been thus assembled, the ends of the pins or bearings 34 are flared, as indicated at 43, at the right of Fig. 5, to form annular retaining flanges 34' on the pins or bearings which retain the coils 36 and 37 against displacement.

With both forms of devices disclosed, the cup hook aside from the spring employed, is fashioned from a die cast body which can be metal or plastic, depending upon the use for which the device is employed. In this connection, the particular type and kind of thread or mounting end can be modified to suit the supports to which the device is attached. In connection with plastic bodies, when the same are adapted for mounting in hard supports, the threaded or other socket may be pre-formed by a suitable tool to facilitate attachment of the plastic hook. With metal hooks, the bodies may be plated to produce desirable finishes. Whereas with plastics, different types and colors can be used. With plastic bodies, the forms, as at 28 and 43—34' can be made by first partially heating the plastic to aid in the forming operations disclosed.

It will also be apparent that the device can be made in different sizes to adapt it for the support of small and dainty articles, as well as large or substantial articles. In all instances, the tensioning of the spring member will be made to suit the different uses.

From the standpoint of description, the device which has been generally termed a "cup hook," can be considered as an article supporting device, and the shank or the enlarged body portion thereof forms a mounting, as well as retaining means for the spring member or finger which is employed. In one form of construction, this enlarged portion of the device can be regarded as a hollow body of substantially triangular form. In all instances, it is preferred that the enlarged body, whether it be in the form of the hollow body, or the protruding pin members, be disposed within peripheral boundaries of the disc part.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent is:

A spring cup hook comprising a large substantially triangular hollow body portion with a circular disc base, said body portion having an upwardly directed reduced hook end portion, said body portion being defined by bottom, top and side walls and one end wall, said walls defining a chamber having a flared opening through the other end of said body, a flat spring having straight long and short ends joined by a curved loop, said short end seating flatly on said bottom wall, the long end of said spring seating on the top wall and extending to and engaging the free end of said hook end portion, side walls of the body portion having integral members extending inwardly and downwardly into said chamber, and said members being arranged above and engaging said short end of the spring in retaining the spring against displacement from said body portion while permitting free flexure of said long end.

OTTO GRIES.

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