March 30, 1948. C. P. SCHLEGEL 2,438,651

PULL CLASP

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Fig. 1

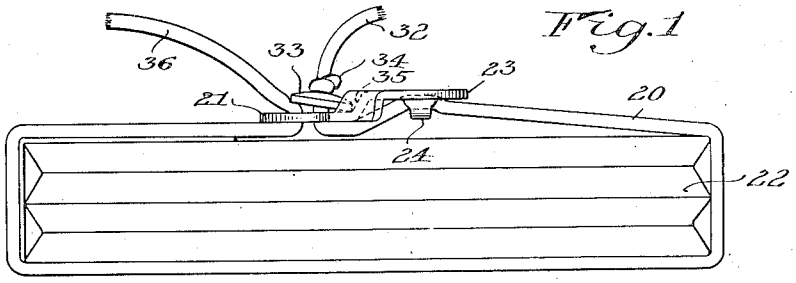


Fig. 2

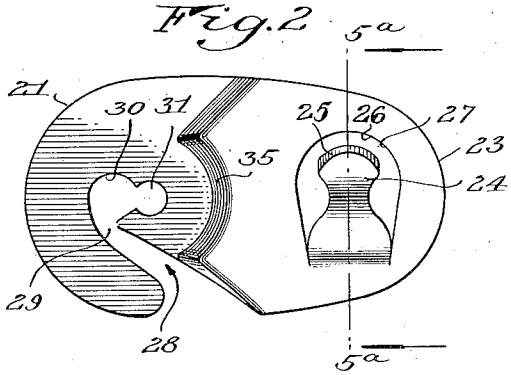


Fig. 4

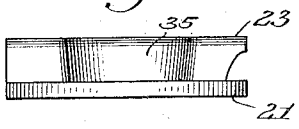


Fig. 5

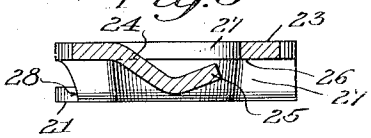


Fig. 3

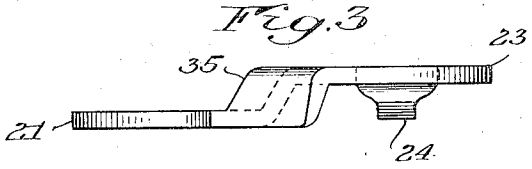


Fig. 6

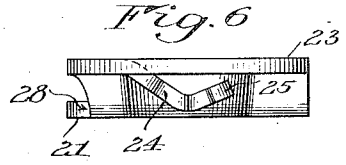
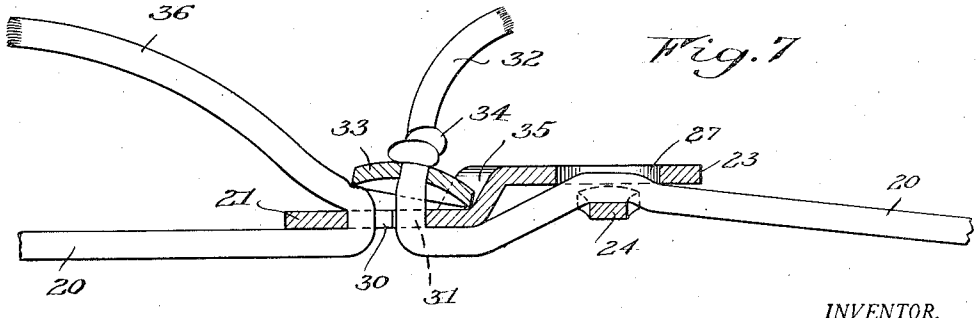


Fig. 7



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Fig. 8

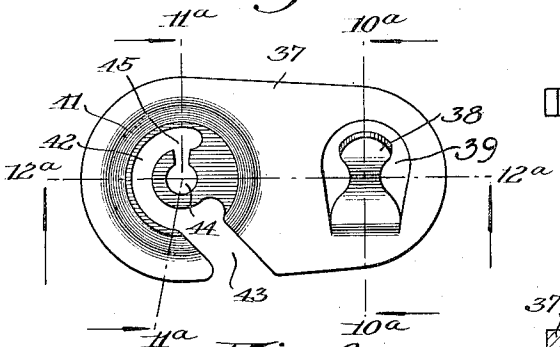


Fig. 10

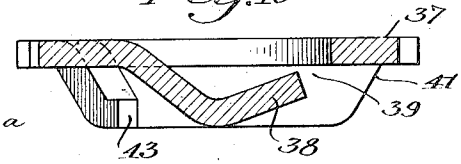


Fig. 11

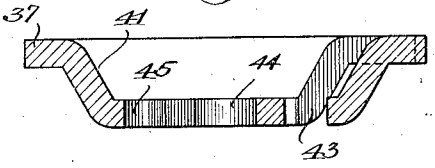


Fig. 9

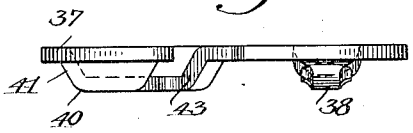


Fig. 12

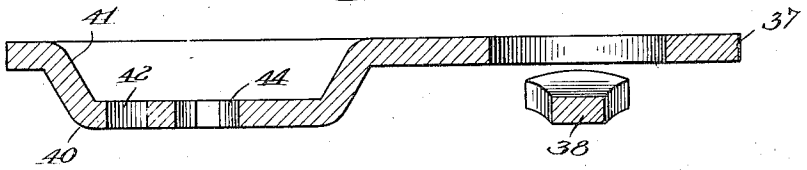
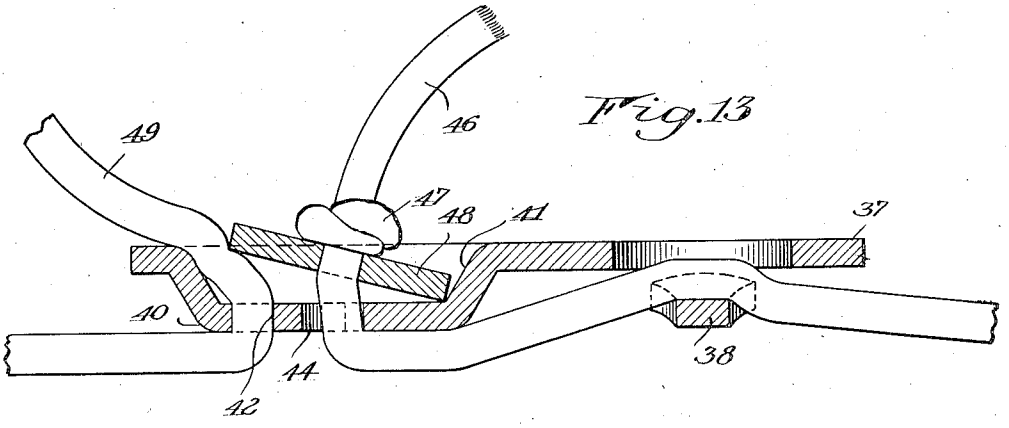


Fig. 13



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UNITED STATES PATENT OFFICE

2,438,651

PULL CLASP

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Application October 9, 1944, Serial No. 557,744

3 Claims. (Cl. 24—18)

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This invention relates to pull clasps comprising cord or other ligature means and a fastening device therefor, for fastening and holding documents, packages, containers and other articles, one object of the invention being to provide an improved pull clasp adapted to be more conveniently manipulated and to afford a more positive and effective fastening action.

Another object is to provide a clasp of the character described, comprising ligature portions and a slide plate for fastening the same, so constructed that the ligature parts may be engaged with said slide by lateral movements thereof, thereby obviating the laborious endwise threading of said ligature parts through eye openings in said slide, and thus facilitating the assembly of said ligature portions and slide.

A further object is the provision of such a clasp generally comprising parts capable of being readily and economically manufactured and assembled and operating in a convenient and efficient manner.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a side elevation of a pull clasp embodying the invention and shown as applied to one of the uses thereof;

Fig. 2 is an enlarged top plan view of a slide member forming part of the clasp;

Fig. 3 is a side elevation of said slide member;

Fig. 4 is an end elevation thereof as viewed from the left in Fig. 2;

Fig. 5 is a sectional elevation on the line 5*a*—5*a*, Fig. 2;

Fig. 6 is an end elevation as viewed from the right in Fig. 2;

Fig. 7 is an enlarged sectional elevation of the clasp shown in Fig. 1;

Fig. 8 is a top plan view of a modified slide construction;

Fig. 9 is a side elevation of the same;

Fig. 10 is an enlarged sectional elevation on the line 10*a*—10*a*, Fig. 8;

Fig. 11 is an enlarged sectional elevation on the line 11*a*—11*a*, Fig. 8;

Fig. 12 is a sectional elevation on the line 12*a*—12*a*, in Fig. 8; and

Fig. 13 is a view similar to Fig. 12, but showing additional cooperating parts.

The embodiment of the invention herein disclosed by way of illustration, comprises, preferably, a flexible ligature or cord 20, in the form of a loop for encircling the article or articles to be held and having its ends brought together and secured by means comprising a fastening slide 21 of special construction, as shown in Fig. 1 of the drawings where the clasp is applied about an accordion envelope 22 for filing documents or the like.

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The fastening slide is preferably formed from a generally oval plate 23, Fig. 2, of sheet metal or other suitable material, the slide being provided adjacent its opposite ends with spaced ligature engaging means, so that the slide is maintained with its major axis in line with the ligature and its parts in position for proper cooperation therewith.

For this purpose the plate is provided, adjacent one end, with a device or tongue 24 struck therefrom which is curved downwardly and then upwardly so as to bring its free end 25 adjacent the edge 26 of the incision and provide a restricted opening 27 for receiving and frictionally retaining a portion of the ligature. That is, the entrance 27 is somewhat smaller in width than the smallest dimension of the ligature, so that while the latter may be readily compressed and passed laterally into the recess between the tongue and plate, it is retained and surrounded by the tongue in ordinary usage.

The slide plate 23 is formed adjacent its other end with an irregular slot 28 opening laterally through an edge of the plate, as shown, and having a tapered or restricted portion 29 somewhat less in width than the smallest dimension of the ligature, which may be readily pressed laterally through the restriction and so passed into the slot, but is frictionally retained therein except against intentional disengagement. The inner portion of the slot is preferably somewhat enlarged as at 30 with a smaller circular portion 31 in which one end 32 of the ligature is engaged, after being passed over the tongue 24, as shown in Fig. 7.

The end 32 of the ligature which is continuously engaged with the slide, is provided with a clamping shoulder in the form, in the present instance, of a circular disk 33 of sheet metal, or the like, which may be given a somewhat dished shape, as shown, a knot 34 being tied in the end of the ligature to fasten the disk thereon.

For controlling the action of the clamping disk 33, the slide plate is preferably formed up between tongue 24 and slot 28, with an abutment 35, the circular central portion of which is adjacent and concentric with the innermost portion

31 of the slot, being so arranged as to engage and position the clamping disk 33 as shown in Fig. 7.

The opposite or free end 36 of the ligature, after being looped about the article or articles to be held, is brought up to and passed laterally into the entrance of slot 28. A pull on this end 36 presses it past restriction 29 and into the enlarged portion 30 of the slot and then tensions the loop and draws disk 33 down into clamping cooperation with the edges of the slot. At the same time, the end 36 of the ligature raises and is pulled under the adjacent edge of disk 33 by which its bight is effectively clamped against the plate. During such action, disk 33 is supported in clamping position over the slot by abutment 35 and the dished shape of the disk, projecting its lower edge, increases its gripping action on the ligature. A pull on the end 32 of the ligature serves to release disk 33 which in turn releases the end 36 of the ligature for loosening and removing it from an article.

The foregoing embodiment of the invention provides a simple and practical type of construction comprising slide and clamping disk parts which may be readily and economically stamped up from sheet metal. The ligature may be made of cord or other known and suitable material and its end 32 is quickly and conveniently knotted and inserted through the opening in disk 33. Or, the disk may be formed with a narrow slit joining its central opening and edge through which a cord may be passed laterally into the central opening, so as to avoid tedious threading of the cord through an eye opening in the disk. The ligature is then quickly assembled with the slide by passing it laterally over tongue 24 and into slot 28, thereby eliminating tedious threading of the cord through eye openings in the plate.

While the ligature is described above in the form of a complete loop, it is evident that its end portions, including the fastening means, may be secured to closure flaps or other parts of an article for fastening the same together.

A modified construction of the slide plate and clamping disk is shown in Figs. 8 to 13, inclusive, where the slide plate 37, of sheet metal or the like, has a tongue 38 struck therefrom in the same manner as described above, to provide a restricted entrance 39 for the reception of the ligature. Adjacent its opposite end, plate 37 is stamped or otherwise formed with a circular or depressed portion 40, so as to provide a substantially circular abutment 41, as shown. The plate, at the bottom of this depression, is died out to form a semicircular, concentric slot 42 having an entrance portion 43 opening laterally through an edge of the plate, as shown. At its inner end, slot 42 communicates with a concentric circular portion 44 through a somewhat restricted entrance 45 located opposite the slot entrance 43.

An end 46 of the ligature is passed laterally over the tongue 38 and into the slot 42 and through the restriction 45 into the innermost portion 44. Slot portion 44 is sufficiently large in diameter to permit the ligature to readily slide longitudinally therein while frictionally retained against escape through the portion 45. This end of the ligature is preferably knotted as at 47 to fasten thereon a circular clamping disk 48 of substantially the same diameter as the bottom of the abutment 41 by which the disk is more closely guided and positioned in its clamping movements.

The operation of the modified form of Figs. 8 to 13 inclusively is substantially as described for the preferred embodiment. With the end 46 of the ligature and its clamping disk 48 assembled with the slide, as described above, and shown in Fig. 13, the other ligature portion 49 is passed laterally into a slot 42 and tensioned so as to apply tension between the slide and the other ligature portion 46, tending to draw the clamping disk 48 down into the bottom portion of the circular abutment. By the same operation, the portion 49 of the ligature is tensioned and clamped between disk 48 and the slide so as to effectively hold it with the desired tension.

It will thus be seen that the invention accomplishes its objects and while it has been herein disclosed by reference to the details of preferred embodiment, it is to be understood that such disclosure is intended in an illustrative, rather than a limiting sense, as it is contemplated that various changes in the construction and arrangement of the parts will readily occur to those skilled in the art, within the spirit of the invention and the scope of the appended claims.

I claim:

1. A pull clasp for fastening and holding articles comprising a slide plate, flexible ligature means for connection with an article to be fastened and having oppositely extending ends, said plate having a holding means adjacent one end thereof for engagement by one of said ligature end portions and having adjacent the other end thereof a slot opening laterally through an edge of said plate, an abutment on said plate adjacent said slot, and a circular disk fastened to said ligature end and adapted to be pulled thereby into positioning engagement with said abutment and into clamping cooperation with an edge of said slot, whereby when the other of said ligature ends is passed through said slot and tensioned, the said disk will clamp the same against movement.

2. A pull clasp for fastening and holding articles comprising a slide plate, flexible ligature means for connection with an article to be fastened and having oppositely extending ends, said plate having a holding means adjacent one end thereof for engagement by one of said ligature end portions and having adjacent the other end thereof a slot opening laterally through an edge of said plate, a circular abutment on said plate adjacent said slot, said plate having therein an opening concentric with said abutment and adapted to have said ligature passed therethrough and a circular disk fastened to said ligature end and adapted to be pulled thereby into positioning engagement with said abutment and into clamping cooperation with an edge of said slot, whereby when the other of said ligature ends is passed through said slot and tensioned, the said disk will clamp the same against movement.

3. A pull clasp for fastening and holding articles comprising a slide plate, flexible ligature means for connection with an article to be fastened and having oppositely extending ends, said plate having a recessed portion adjacent one end thereof for engagement by one of said ligature end portions and having adjacent the other end thereof a slot opening laterally through an edge of said plate, said recessed portion and slot having restricted entrances in which said ligature is adapted to be laterally passed and frictionally retained, an abutment on said plate adjacent said slot, and a circular disk fastened to said ligature end and adapted to be pulled thereby into positioning engagement with said abutment and into clamping cooperation with an edge of said slot,

whereby when the other of said ligature ends is passed through said slot and tensioned, the said disk will clamp the same against movement.

CHARLES P. SCHLEGEL.

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