

May 18, 1943

M. GERENDÁS

2,319,316

CLOSING AND CLAMPING DEVICE

Filed March 4, 1940

2 Sheets-Sheet 1

Fig. 1

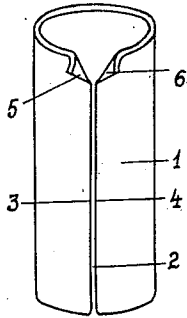


Fig. 2

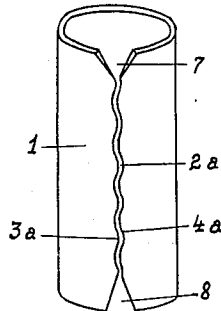


Fig. 3

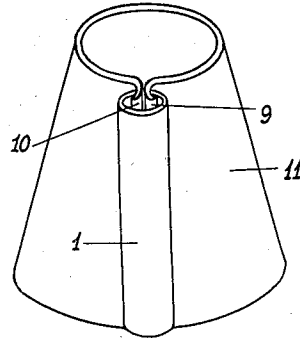


Fig. 4

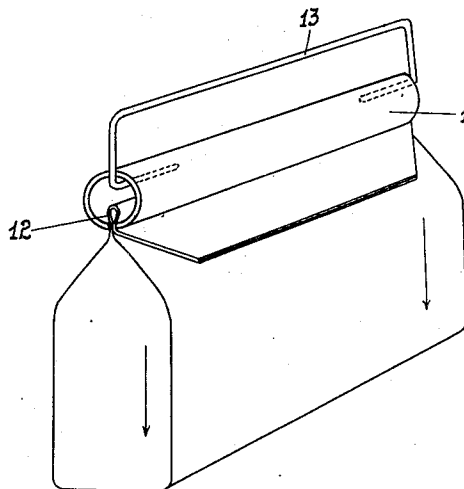


Fig. 5

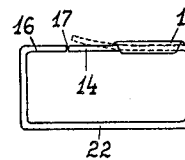


Fig. 6

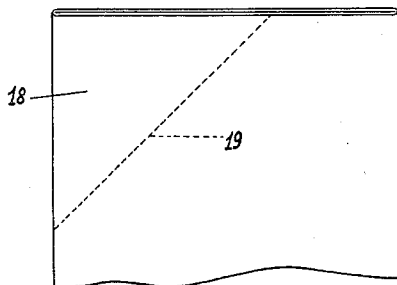
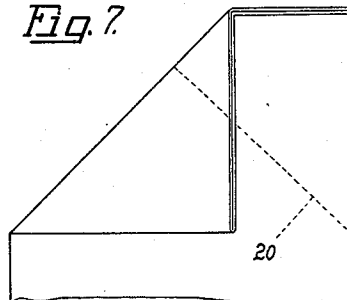


Fig. 7



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2 Sheets-Sheet 2

Fig. 8.

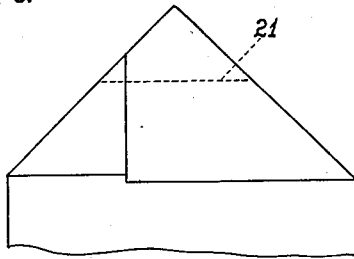


Fig. 13.

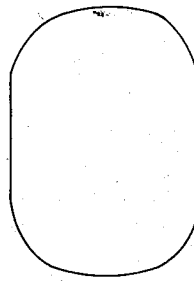


Fig. 14.

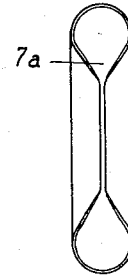


Fig. 9.

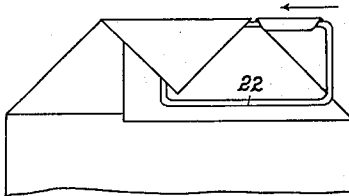


Fig. 10.

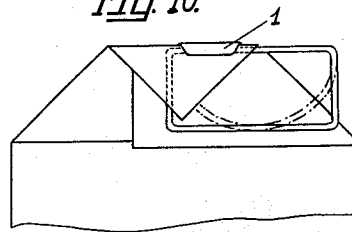


Fig. 11.

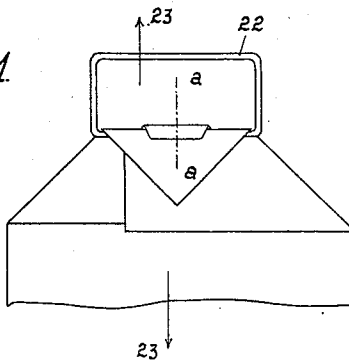
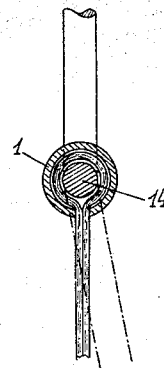


Fig. 12.



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UNITED STATES PATENT OFFICE

2,319,316

CLOSING AND CLAMPING DEVICE

Miksa Gerendás, Budapest, Hungary; vested in
the Alien Property Custodian

Application March 4, 1940, Serial No. 322,241
In Hungary October 13, 1939

5 Claims. (Cl. 229—65)

The present invention relates to a clamp with the main object of fastening or holding together flexible sheets, for instance paper sheets or articles made of such sheets, and of closing sacks or the like, for instance paper bags used in shops. The very cheap and reliable device according to the invention may also be used for closing handbags, boxes, postal parcels, etc., and may easily be constructed in such a way that it forms a handle or is provided with a handle.

Another object of the invention is to close parcels or packages without the use of packing thread, so that the parcels can be made quickly and for low costs, in such a way that they can be carried very easily. Another object of the invention is to close parcels in such a way that they can be opened and again closed easily. A further object of the invention is to make packages having a nice appearance and affording a greater security against unintentional opening than the packages made in the usual way with packing thread and wooden handle.

The above advantages are attained by a clamp consisting of a sleeve made of elastic material and open at one side, that is to say having a longitudinal fissure the edges of which being divergent at least at one of the ends of the fissure, so that the sheets to be fastened together may be inserted into the fissure at this divergent part in such a way that the said edges press these sheets elastically onto each other and secure them by friction.

The invention may be readily understood from the following detailed description which has reference to the accompanying drawings. In these drawings Figs. 1 and 2 show two forms of the invention and Fig. 3 is a view of a lamp-screen the edges of which are fastened together with the device shown in Figs. 1 or 2.

Fig. 4 shows a hand bag closed by the clamp according to the invention and provided with a handle.

Fig. 5 shows another embodiment of the invention on a less scale, and in

Figs. 6 to 11 the different operations are shown, which are necessary to close a bag with the device shown in Fig. 5 in such a way that after closing the bag it is provided with a handle.

Fig. 12 is a cross section on the line *a—**a* of Fig. 11 on a larger scale, and in

Figs. 13 and 14 another form of the invention is illustrated.

In the most simple embodiment of the invention it consists of a cylindrical pipe or sleeve open at one side, that is to say, provided with a

longitudinal fissure 2. The fissure 2 may have straight edges 3 and 4 as shown in Fig. 1, but in some cases it may be advantageous to provide the device with a fissure 2*a* (Fig. 2) having curved, zig-zag or waved edges 3*a* and 4*a*. The already mentioned divergence of the fissure is shown in Figure 1 at the upper end of the sleeve in such a way that the corners 5 and 6 are bent outwardly; according to Figure 2 both ends of the fissure are cut out to form V-shaped parts 7 and 8. Finally, Fig. 13 shows a sleeve with a divergent part 7*a* having round edges, the sleeve shown in this figure being made by simply rolling or bending the sheet metal plate, Celluloid or the like illustrated in Fig. 14.

In using the device shown in Figs. 1 or 2 the sheets to be fastened together are inserted between the edges 3 and 4 of the fissure 2, or the sleeve 1 is put onto the edges to be fastened together. The said divergence at least at one end of the fissure is necessary for an easy inserting of the sheets between the two edges of the fissure. At this operation the fissure is somewhat dilated which is possible, as the sleeve is elastic. The edges of the fissure press the parts inserted into the fissure to one another and if the friction caused by the simple pressing is not enough, the sleeve shown in Fig. 2 may be used, as the curved or waved edges of the fissure of this sleeve obviously produce greater friction forces owing to their greater length and their shape, as the straight edges.

Fig. 3 shows a lamp screen having outwardly bent edges 9 and 10 onto which the sleeve 1 is put in such a way that the edges 9 and 10 are pressed together by the fissure of the sleeve. The sleeve or pipe is made of elastic material, for instance metal, Celluloid, or other artificial material.

The conical hollow body 11 may be used as a tree protector fastened on the stem of a tree in a well known manner for preventing insects or the like from crawling up on the stem, or for any other purpose.

Fig. 4 shows a bag the upper part of which has been folded to form a closure in which four sheets, for instance paper sheets lie beside one another and the sleeve 1 is put onto the edge 12 in such a way that the fissure of the sleeve presses together these four sheets and firmly closes the bag. A suitable handle 13 made of thick wire or any other suitable material is put into the sleeve so that after closing the bag, which can be done very quickly, the bag is ready for comfortable transportation. If necessary, the sleeve 1 can be

removed with a simple movement of the hand and can be put again to its place many times.

Tests have shown that the force which is necessary to pull out crosswise the parts from the fissure 2 (that is in the direction of the arrows shown in Fig. 4) is relatively very great and so the clamp shown in Figs. 1 to 4 may be used for many purposes. However, it may happen that a still greater force is required, and for this purpose the invention includes an embodiment in which it is normally impossible to pull out crosswise the secured sheets from the sleeve. This form of the invention is shown in Figures 5 to 12 and it consists of a quadrangular frame or handle 13 and of a sleeve 1 put onto one of the sides 14 of this quadrangular handle. The most simple mode of making this securing device is to suitably bend a piece of wire in such way that the two ends of the wire engage each other at 17 and to separate the parts 14 and 16 as shown in dotted lines in Fig. 5, so that the sleeve may be put onto the side 14. Of course, the frame may have another shape, for instance the one shown in Fig. 10 in dot-and-dash lines and may be made of any suitable material, for example from hard rubber or Celluloid.

In order to close a bag, for instance paper bag with the device shown in Fig. 5, the left corner 18 of the upper part of the bag is bent or folded along the line 19 (Figs. 6 and 7) and then the right hand corner is folded along the line 20. Now the bag has the shape shown in Fig. 8 and the pointed upper part is bent down along line 21. Now the side or rod 14 of the securing device is put between the pointed part and the juxtaposed part of the bag as shown in Fig. 9, and thereafter the sleeve 1 is pushed onto the material of the bag, see Fig. 10. Both the sleeve and the frame are then pushed to the left in order to bring them to the right place and then the side 22 of the frame opposite the side 14 is turned by about 180° (Figs. 11 and 12) in such a way that the bag is provided with a nice, strong closure, forming a handle for holding the bag.

If the side 22 of the frame which is to be seized when the sack or parcel is carried, is again turned downwardly, the sack may be opened very quickly by a simple movement of the hand and may be again closed. When turning the frame the side 14 serves as a pivot and the sleeve as its bearing.

As it may be seen from the above explanations and from the cross section shown in Fig. 12, by the above method the material of the bag may be easily and quickly brought between the rod 14 and the sleeve 1, so that it is impossible to crosswise pull out the bag from the sleeve, as the fissure 2 is somewhat narrower than the thickness of the rod 14 and much narrower than the rod and the surrounding paper (or other material) together. Consequently, if no forces are employed which are so great that the sleeve breaks, the closure cannot become unintentionally disengaged. If the material of the sleeve 1 has very great elasticity, it is possible to pull out the sleeve from the bag in the direction of the arrows 23 without breaking the sleeve, but of course, in practice the device is not subject to forces as great as necessary for this.

For conveniently putting this device shown in Fig. 5 onto the bag and to quickly removing it, it is advantageous if the sleeve 1 is shorter than the rod 14 as shown in the drawing, as in this case the rod 14 can readily be put to its place as illustrated in Figure 9 and the sleeve can be pushed to its place only afterwards, that is to say when the frame is already between the paper sheets.

The process described in connection with Figures 5 to 12 may be employed not only with ready-made bags but in a similar way at the making of parcels or packages, as the "bag" can be produced by wrapping objects in paper and putting together the edges of the paper sheet. Furthermore, it is not necessary to fold the paper (or other flexible material) exactly in such a way as it has been described above, essential is only that the frame should be put between two or more sheets of the folded paper and the sleeve should be pushed onto the edge of the folded material, so that by turning the frame it forms a suitable handle.

It is understood that the invention may readily be used for holding together independent objects, so for instance several paper bags laid side by side may be fastened to each other by the clamp according to the invention.

I claim:

1. In a device for closing and transporting bags, a sleeve of elastic material, said sleeve having a longitudinal fissure therein providing two opposite edges, said edges diverging at least at one of the ends of said fissure for admitting two or more sheets to be pressed together by said edges, and a rod-like element in said sleeve constructed and arranged to press the sheets against said edges.

2. In a device for closing and transporting bags, a sleeve of elastic material, said sleeve having a longitudinal fissure therein providing two opposite undulated edges, said edges diverging at least at one of the ends of said fissure for admitting two or more sheets to be pressed together by said edges, and a rod-like element in said sleeve constructed and arranged to press the sheets against said edges.

3. In a device for closing and transporting bags as claimed in claim 1, a frame, said rod-like element constituting a portion of the frame, another portion of the frame constituting a handle for the bag.

4. In a device for closing and transporting bags, a sleeve of elastic material, said sleeve having a longitudinal fissure therein providing two opposite edges, said edges being adapted to clamp a fold portion of a plurality of sheets, and a rod-like element in said sleeve adapted to extend through the fold portion of said sheets and constructed and arranged to press the sheets against said edges, said element being of greater thickness than the normal width of said fissure.

5. In a device for closing and transporting bags as claimed in claim 4, a frame, said rod-like element constituting a portion of said frame, another portion of the frame forming a handle.

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