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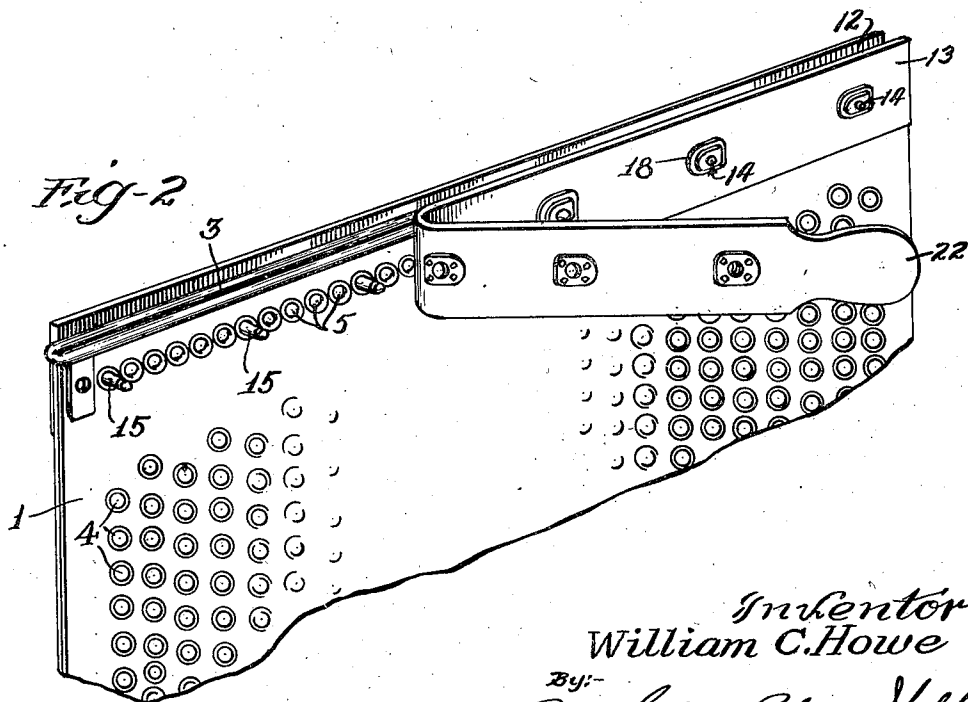
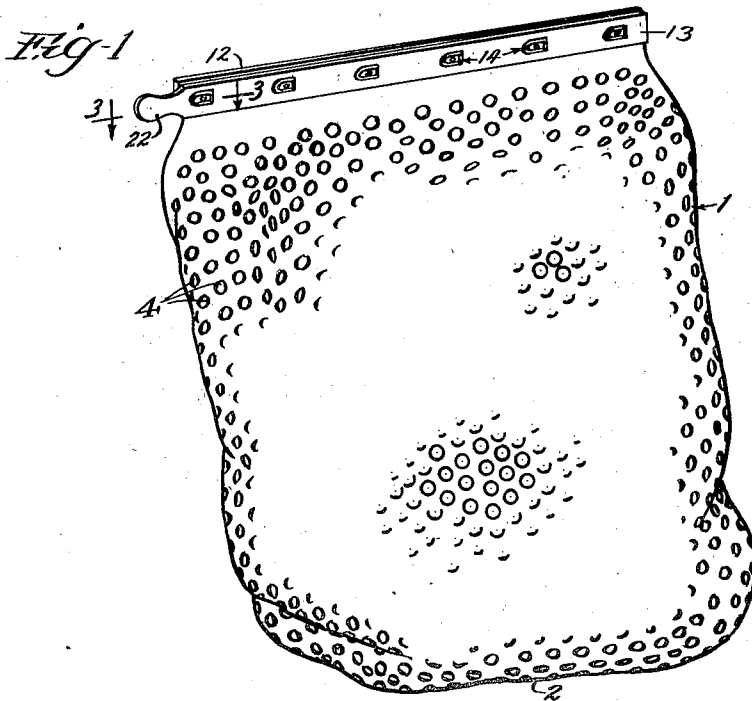
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2,421,067

LAUNDRY BAG AND CLOSING DEVICE THEREFOR

Filed June 20, 1942

3 Sheets-Sheet 1



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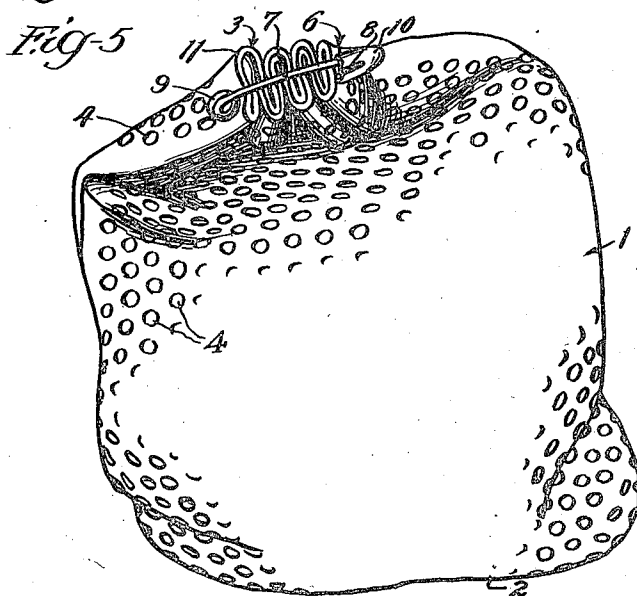
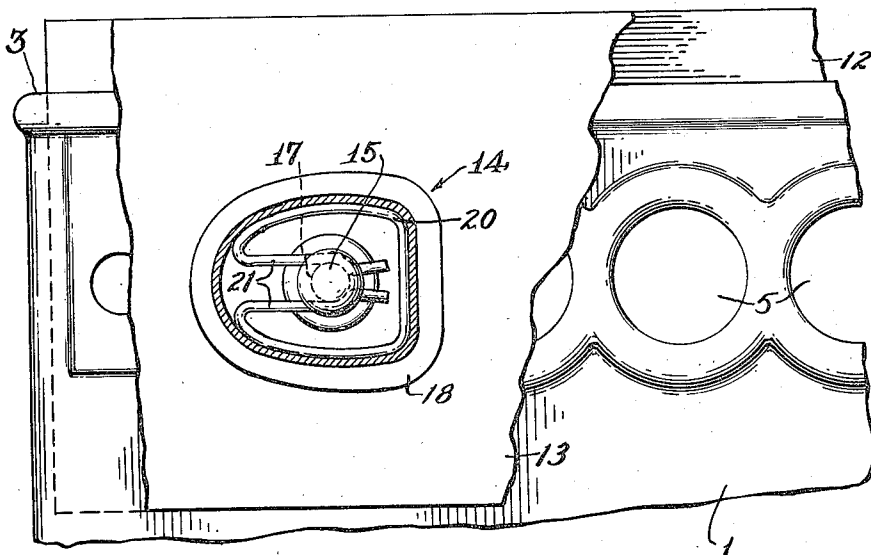
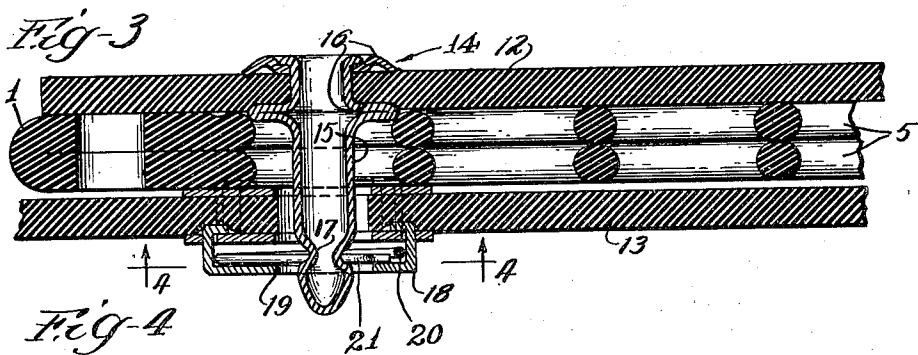
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2,421,067

LAUNDRY BAG AND CLOSING DEVICE THEREFOR

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3 Sheets-Sheet 2



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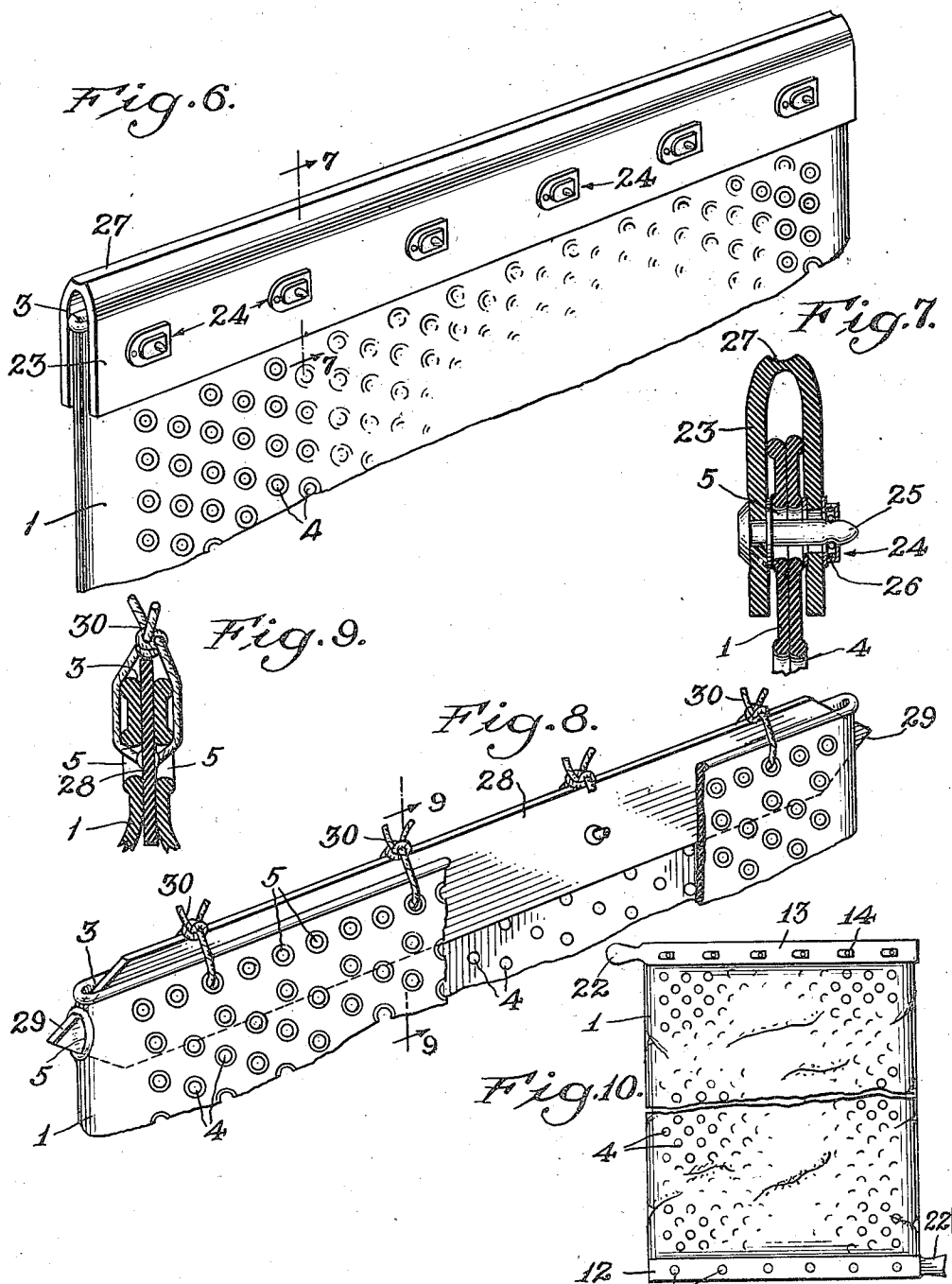
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2,421,067

LAUNDRY BAG AND CLOSING DEVICE THEREFOR

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,421,067

LAUNDRY BAG AND CLOSING DEVICE
THEREFOR

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Application June 20, 1942, Serial No. 447,877

3 Claims. (Cl. 150—3)

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The present invention relates to improvements in laundry nets or bags used by commercial laundries to enclose selected wash goods during the washing operations, and has particular reference to novel means for closing the laundry bag during use.

One of the objects of the invention is to provide a new and improved closing device for laundry nets or bags which serves to close the end opening in a flat and taut condition, thereby increasing the available capacity of the bag and effecting a tight closure to avoid the escape of wet goods.

Another object is to provide a new and improved closing device for laundry nets or bags which may be easily and quickly closed and opened without likelihood of injury to the laundry workers.

A further object is to provide a novel closing device for laundry nets or bags which does not have objectionably protruding metal parts likely to become battered in the mechanical action of the laundry wheel, and which, therefore, is subject to a minimum of wear.

Another object is to provide a new and improved closing device which provides a strong closure so that the laundry bag may be inverted in use to permit convenient removal of the clothes from the lower end.

Other objects and advantages will become apparent as the description proceeds.

In the accompanying drawings,

Figure 1 is a perspective view of one type of laundry bag or net, provided with a closing device embodying the features of my invention.

Fig. 2 is a fragmentary perspective view on an enlarged scale of the closing device attached to the normally open end of the bag, and partially disengaged.

Fig. 3 is a fragmentary sectional view of the closing device taken transversely of the bag, and illustrating particularly one form of fastening means.

Fig. 4 is an enlarged fragmentary view, partially sectioned along line 4—4 of Fig. 3, and illustrating the fastening means.

Fig. 5 is a perspective view of a laundry bag closed by a pin in accordance with conventional practices.

Fig. 6 is a fragmentary perspective view of a laundry bag with a modified form of closing device.

Fig. 7 is a sectional view taken along line 7—7 of Fig. 6.

Fig. 8 is a fragmentary perspective view of a

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laundry bag with another modified form of closing device.

Fig. 9 is a sectional view taken along line 9—9 of Fig. 8.

Fig. 10 is a view on a reduced scale of a laundry bag open at both ends, and provided with a closing device for each end.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

Referring more particularly to the drawings, Fig. 5 illustrates one conventional type of laundry bag or net 1 which is used by commercial laundries for enclosing a selected batch of wash goods during the washing, rinsing and draining operations. Such nets are tubular in form with one end closed at 2, and the other end open at 3, to constitute a bag. They may be made of different materials having suitable openings for permitting the free passage of the wash and rinse liquids through the goods. A woven or loose mesh cotton fabric is often employed. In the present instance, the bag 1 is made of rubber formed throughout the walls with closely spaced circular openings 4. The marginal edge portions of the open end 3 are formed with a parallel row or series of similar openings 5 (see Figs. 2 and 3).

In accordance with prevailing practice, the normally open end 3 of the bag 1 is closed by a large safety pin 6 after the wash goods have been inserted. The pin 6 is usually from four to six inches in length, and has a back member 7, and a pointed shank or tine 8, connected by a spring coil 9. A head 10 on the free end of the member 7 is adapted to receive the pointed end of the tine 8 when the pin is closed. To close the bag 1, the doubled marginal edge of the top opening 3 must be gathered tightly in reverse folds or loops 11 on the shank 8, the latter extending through the openings 5. In handling the filled bag, the loops 11 tend to open and gap, particularly when the bag is made of cotton mesh fabric. Consequently, the loops 11 must be small enough and tight enough on the shank 8 of the pin so that the wash goods cannot escape through the spaces at the folds and become lost.

The pin method of closing laundry bags has numerous disadvantages which are avoided by

the closing device of the present invention. One primary objection is that by gathering the open end of the bag on the safety pin 6, the usable space within the bag is considerably reduced as will be evident from inspection of Fig. 5. Also, the coil 9 and the head 10 protrude, and these parts are subjected to battering and wear in the mechanical action of the wash wheel. When the top of the bag is properly gathered on the shank 8, it becomes difficult to close and open the pin 6. In use, the bag is commonly suspended from the pin on a conveyer, the means for this purpose usually comprising a ring (not shown) extending through the spring coil 9 and formed with a slot adapted to hook over an arm on the conveyer. Suspending the bag in this manner tends to bend or distort the pin. Because of the foregoing factors, use of the pin involves a hazard to the laundry worker, so that it is a common occurrence for laundry employees to have cut or lacerated fingers. Even when the bag is properly closed by the pin, openings tend to form in the folds through which some articles of clothes or goods may escape and become lost.

One of the problems in present day commercial laundry practice is the identification and classification of the wash goods. The pins are commonly provided with some identifying number or indicia placed on the head. However, the head 10 does not lend itself to the use of contrasting colors, and the identifying indicia thereon are difficult to read and contribute to errors in sorting and assembling. Also, the pins serve only two purposes, namely, to close the net and to identify the customer to whom the wash goods belong. There is no way in which the pin can be used additionally to indicate the nature of the wash goods within the bag. Consequently, cotton net bags have often been made with a strip of a selected color running through the fabric to indicate a certain class of work, but because of the many classes that must be handled and the variety of services that are customarily performed in a laundry, there may often be a surplus of bags of one color, and a shortage of bags of another color, since the bags are not interchangeable in use.

The closing device contemplated by the present invention serves to close the normally open end 3 of the bag in a flat condition as illustrated in Figs. 1 and 2, and consequently the full space of the bag may be utilized. The device provides a closure which maintains the marginal edge of the opening 3 straight, taut and in close contact so that there are no gaps or openings through which any articles from within the bag can escape. The closure is sturdy and of such construction that the weight of the goods exerts no pressure thereon tending to open the bag. Consequently, the bag can be suspended in an inverted position on the conveyer, and the operator need merely open the lower end of the bag to remove the wet goods quickly and conveniently.

In the form illustrated in Figs. 1 to 4, the closing device comprises two normally flat strips 12 and 13 which are adapted to be secured respectively against opposite sides of the bag along the margins of the opening 3, and to be interconnected by suitable fastening devices 14 extending through certain of the openings 5. The strips 12 and 13 may be made of any suitable material having sufficient strength and stiffness to maintain the marginal edges of the bag in contact and in a straight and taut condition. It is

satisfactory to make the strips 12 and 13 of a heavy rubber or rubber composition.

The fastening means for interconnecting the strips may be of any suitable character. In the present instance, the means comprises fastening devices 14 of the snap type adapted to be readily disengaged by a lateral pull. More particularly, each device 14 has a tubular prong 15 connected at one end to the strip 12 by a grommet 16 and formed adjacent its other end with a continuous peripheral groove 17. A plate assembly 18 is suitably attached to the opposite strip 13, and is formed with an opening 19 to receive the free end of the prong 15. Confined within the plate assembly 18 is a spring wire detent 20 having spaced parallel ends 21 adapted to be deflected by the prong 15 and to engage resiliently in the groove 17 in the assembly. Any suitable number of the fasteners 14 may be provided, and they are uniformly spaced along the strips 12 and 13.

To disengage the fasteners 14, the strip 13 is formed at one end with a hand grip 22, and the plate assemblies 18 are so disposed that the spring ends 21 of the wire 20 extend generally longitudinally of the strips. With this arrangement, the strip 13 may be readily detached merely by exerting a lateral pull on the hand grip 22.

The closing device in use is not subjected to pressure tending to disengage the fastening devices 14, and affords a strong and secure closure at all points along the marginal edges of the opening 3. The metal parts protrude only slightly and in such a manner that they are not subjected to distortion and battering in the washing operation. The bag can be suspended in inverted position, and the wet wash removed from the lower end merely by disengaging the closing device. In view of the sturdy construction of the closing device, and the complete closure of the bag without any spaces or gaps between the marginal edges of the opening, both ends of the bag may be open and each provided with a closing device as illustrated in Fig. 10, thereby reducing lifting and handling of the bag, and facilitating the emptying thereof in whatever position it may be suspended.

Figs. 6 and 7 show a modified form of closing device which is of the cape type. In this form, the device comprises a single strip 23 of suitable material, such for example as rubber or canvas, which is adapted to be folded along its longitudinal medial line over the flattened open end of the bag. Fastening devices 24, similar to the devices 14, are provided, and in this instance the devices 24 have prongs 25 attached to one side portion of the folded strip 23, and spring detent means 26 adapted to receive and resiliently engage with a snap action the ends of the prongs projected through the openings 5. If desired, the longitudinal medial portion along which the strip 23 is folded on itself may be somewhat thinner than the marginal side portions so as to provide a medial hinge 27. It will be seen that the hinge portion 27 positively closes the flattened end of the bag and serves as a reinforcement so that a somewhat lighter material may be employed than in the form of closing device shown in Figs. 1 to 4.

Essentially, the closing device within the broad concept of the invention comprises means of sufficient rigidity and strength to hold the flattened marginal edges of the bag at the open end in a straight and taut condition without puckering or gapping. A third form of closing device hav-

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ing this same general characteristic is shown in Figs. 8 and 9, and comprises a single strip 28 of material adapted to be interposed between the opposed marginal edges of the bag opening 3 to define therewith a three-ply arrangement suitably secured together. The ends of the strip 28 preferably are tapered, as indicated at 29, to enter holes 5 at the extremities of the bag opening 3, and thereby locate the strip in correct position. Suitable laces 30 may be secured to the strip 28 at spaced points along its length, and these laces are adapted to be threaded through the opposed openings 5 and then tied to secure the bag in closed condition.

The closing device is especially adapted for the identification of different classes of wash goods. So far as sorting and classification is concerned, it will be obvious that the closing device may be used if desired in the same manner as where the safety pins are employed. However, the closing device lends itself to the use of a large number of contrasting colors and, therefore, to a more complete identification of the wash goods. Such identification permits the clothes to be sent directly from the extractor to the various finishing departments without first being collected in a sorting pool, thereby speeding up straight line production. Thus, the closing device may be provided in a variety of colors, of which each color has a particular significance. For example, a natural colored rubber can be adopted to indicate white work, and a red rubber can be adopted to signify colored work, these being the two primary divisions. In addition, subclassifications of colors can be adopted to identify separate nets for handkerchiefs, socks, tumbler work, large flat work, small flat work, body press work, small press work, shirt press work, and miscellaneous. A closing device made with one portion in natural color and the other portion in blue might indicate that the net contained large white flat work, and another closing device in natural color and green might identify the contents as small white flat work. Other selected color combinations are available for the remaining classifications.

Increasing the subclassification of clothes would speed up straight line production considerably. It would make practical a separation of the clothes as to size and as to condition of soil, thereby preventing overwashing of comparatively clean goods when mixed with comparatively dirty goods. Because of size classification, all of the large flat work from each lot would go to the ironer at the same time, so that the speed and capacity of the machine would be efficiently employed. Such condition does not obtain in instances where a napkin or a handkerchief may follow a large bed sheet through the ironer.

The species of Figs. 6 to 10 are disclosed and claimed in my copending divisional application Serial No. 702,258, filed October 9, 1946.

I claim as my invention:

1. A closing device for a laundry bag having openings in its walls for the passage of liquids and having an open end formed with a marginal row of closely spaced apertures, said device comprising two separate comparatively stiff but flexible strips of material substantially coextensive in length with the width of the bag and adapted to be disposed respectively against opposite sides thereof to collapse the marginal edge of the bag opening into straight flat and taut contact, and

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a series of longitudinally spaced snap fasteners for connecting said strips, said fasteners comprising prongs on one of said strips and adapted to be extended through certain of said apertures in said bag, and detent members on the other of said strips for receiving and yieldably locking said prongs, said last mentioned strip being extended beyond said bag to provide a hand grip and said fasteners being separable by a lateral end pull on said last mentioned strip.

2. A closing device for a laundry bag having openings in its walls for the passage of liquids and having an open end formed with a marginal row of closely spaced apertures, said device comprising two comparatively stiff but flexible strips of material substantially coextensive in length with the width of the bag and adapted to be disposed respectively against opposite sides thereof to collapse the marginal edge of the bag opening into straight flat contact, and means adapted to be extended through said apertures for releasably connecting said strips to close said bag with said end in a taut collapsed condition.

3. A closing device for a laundry bag having openings in its walls for the passage of liquids and having an open end formed with a marginal row of spaced apertures, said device comprising two strips of comparatively stiff but flexible material adapted to be disposed respectively against opposite sides of the bag to collapse the marginal edge of the bag opening into straight flat contact, and a series of longitudinally spaced fasteners for connecting said strips, said fasteners comprising members on one of said strips and adapted to be extended through certain of said apertures in said bag, and detent members on the other of said strips for releasably engaging said first mentioned members, said fasteners being separable by a lateral pull merely on one end of one of said strips away from the side of said bag.

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