

[54] **BELT RETAINER**

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2,870,503 1/1959 McAneny..... 24/23 B
3,696,443 10/1972 Taylor..... 2/114

FOREIGN PATENTS OR APPLICATIONS

281,407 3/1952 Switzerland..... 24/67.9
704,726 5/1931 France..... 24/186

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[52] U.S. Cl..... 2/114, 2/96, 24/186, 24/200

[51] Int. Cl..... **A41b 9/00**

[58] Field of Search 24/176, 186, 198, 74 A, 24/23 B, DIG. 28, 67.9, 259 PF, 255 P, 200; 2/114

[56] **References Cited**

UNITED STATES PATENTS

218,784 8/1879 Shepard 24/23 B
2,058,931 10/1936 Williams 24/200
2,501,749 3/1950 Trent 24/198

[57] **ABSTRACT**

A retainer for a belt comprising a strip of flexible material having a pair of side edges, and a pair of end edges connecting the side edges. The strip has a generally S-shaped cutout which defines an upwardly extending tab and a depending finger which is intermediate the tab and one of the end edges, with the finger having an edge facing toward the one end edge of the strip. The strip has means along the finger edge for releasably engaging the belt.

10 Claims, 14 Drawing Figures

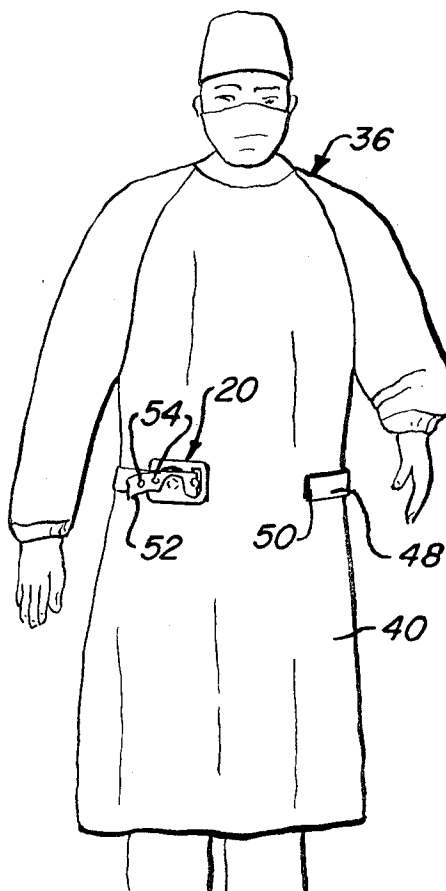


FIG. 1

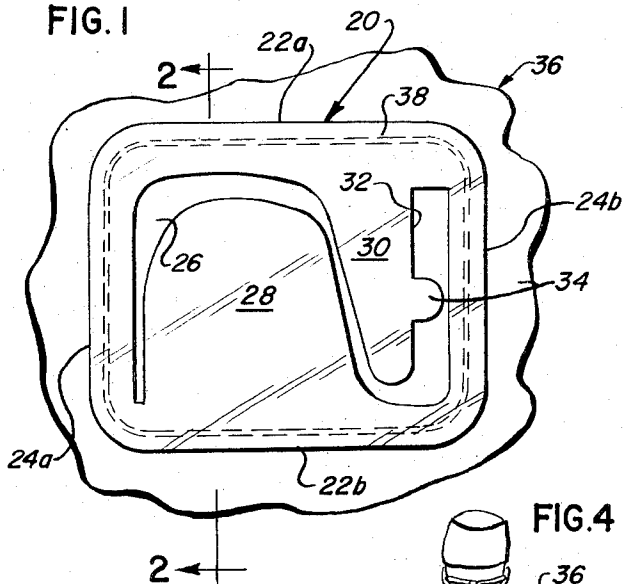


FIG. 3

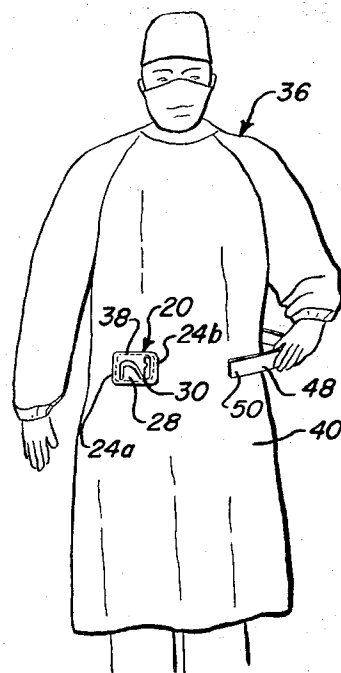


FIG. 4

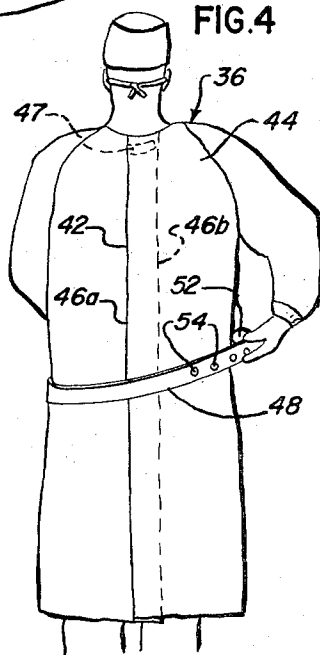


FIG. 2

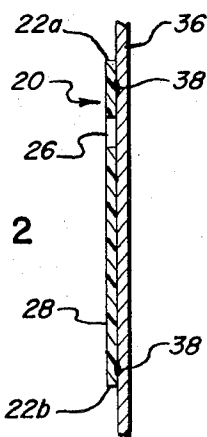


FIG. 5

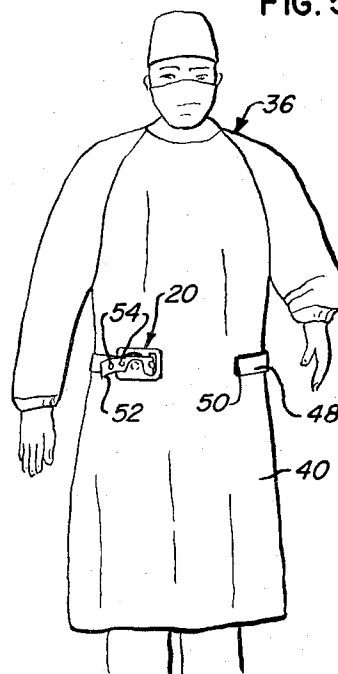


FIG. 12

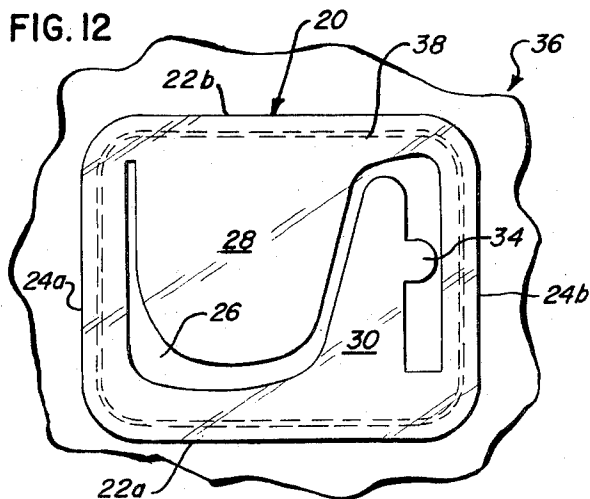


FIG. 6

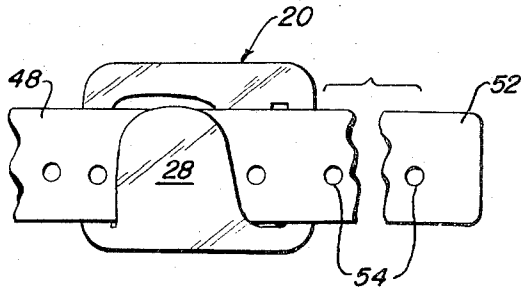


FIG. 7

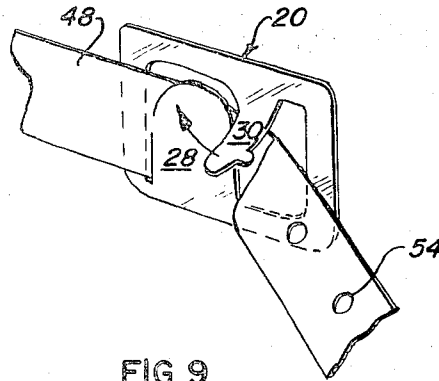


FIG. 8

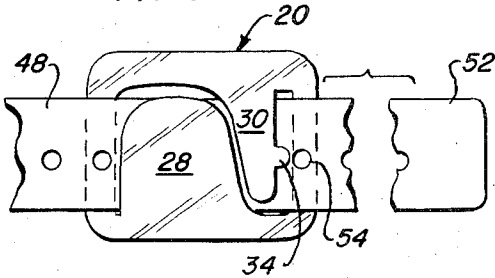


FIG. 9

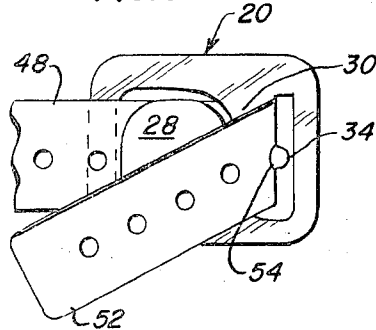


FIG. 10

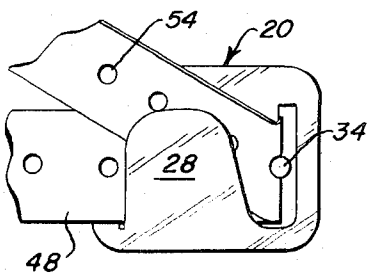


FIG. 11

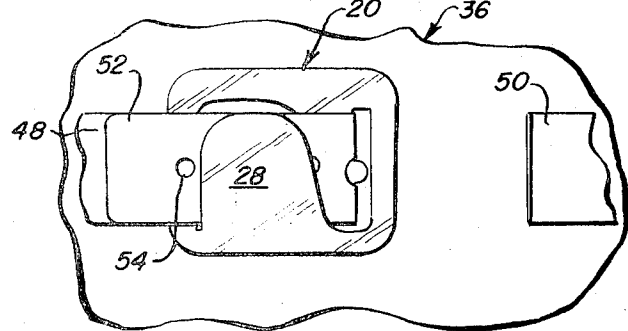


FIG. 13

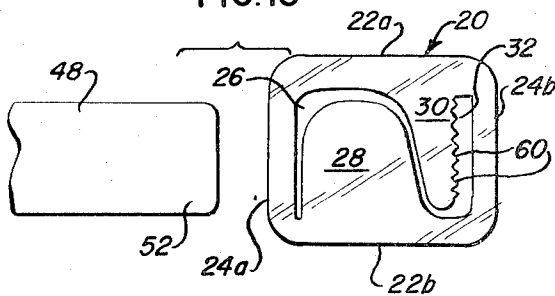
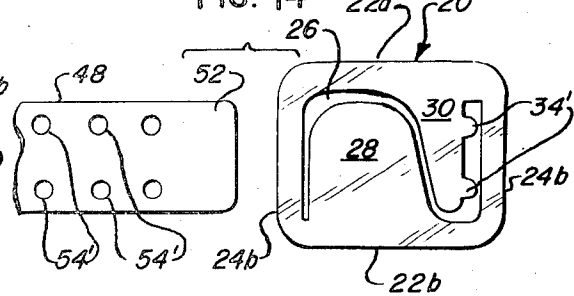


FIG. 14



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BELT RETAINER

BACKGROUND OF THE INVENTION

The present invention relates to a retainer for a belt, and more particularly to belt retaining means for a gown.

Many of the gowns currently in use, such as for surgical, examination, or isolation purposes, have marginal edge portions which define an opening at the front or back of the gown, and require some type of closure to secure the gown to a wearer. Due to convenience, gowns of the disposable type have achieved widespread use, but the cost of such gowns is of paramount importance since they are destroyed after a single use. Also, it is desirable that the retaining means for the gowns may be secured in a simplified manner.

Patents disclosing a belt buckle, or similar device, are listed as follows U.S. Pat. Nos.: Shephard 2,18,784, Williams 2,059,931, Hirsh 2,212,862, Abel 2,663,062, and Ballard 2,729,867.

SUMMARY OF THE INVENTION

A principal feature of the present invention is the provision of a retainer for a gown belt of simplified construction and reduced cost, which permits securement of the belt and retainer in a simplified manner.

The retainer of the present invention comprises a strip of flexible material having a pair of side edges, and a pair of end edges connecting the side edges. The strip has a generally S-shaped cutout which defines an upwardly extending tab and a depending finger intermediate the tab and one of the end edges, with the finger having an edge facing toward the one end edge of the strip.

A feature of the present invention is the provision of means along the finger edge for releasably engaging the belt to tighten the gown about the wearer.

Another feature of the invention is that the engaging means permits adjustment of the belt in the retainer.

A further feature of the invention is that the free end portion of the belt extending past the engaging means may be inserted behind the tab to retain this portion of the belt against the gown.

Further features will become more fully apparent in the following description of the embodiments of this invention and from the appended claims.

DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is an elevational view of one embodiment of the belt retainer of the present position as secured to the fabric of a gown;

FIG. 2 is a sectional view taken substantially as indicated along the line 2—2 of FIG. 1;

FIG. 3 is a perspective view of the retainer of FIG. 1 as secured to a gown, taken from the front of the gown, showing the wearer of the gown passing a belt secured to the gown around his back preparatory to securement of the belt in the retainer;

FIG. 4 is a perspective view of the gown of FIG. 3, taken from the back of the gown, showing the wearer passing the belt toward the front of the gown;

FIG. 5 is a perspective view of the gown of FIG. 3, taken from the front of the gown, showing the belt as secured in the retainer;

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FIG. 6 is an elevational view of the retainer of FIG. 1, showing a first step in securing the belt to the retainer;

FIG. 7 is a perspective view of the retainer and belt of FIG. 6, showing an additional step in securing the belt to the retainer;

FIGS. 8-11 are elevational views of the retainer and belt of FIG. 6 showing further steps in securing the belt to the retainer;

FIG. 12 is an elevational view of the retainer of FIG. 1 secured to the gown in a different manner;

FIG. 13 is an elevational view of another embodiment of the retainer of the present invention; and

FIG. 14 is an elevational view of another embodiment of the retainer of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1 and 2, there is shown a belt retainer designated generally 20 which is formed of a relatively thin strip of flexible material, such as plastic. The retainer 20 has a pair of side edges 22a and 22b, and a pair of end edges 24a and 24b connecting the side edges 22a and b. The retainer 20 has a cutout portion, or a slit portion, in the shape of a "lazy S", i.e., a letter S tipped over and resting on its side (as viewed from the rear side of the strip). The S-shaped pattern of the cutout portion or slit 26 defines an upwardly extending tab 28 and a depending finger 30 intermediate the tab 28 and one of the end edges 24b. The finger 30 has an edge 32 facing toward the one end edge 24b, and the finger has a protuberance 34 extending from the finger 30 toward the one end edge 24b of the strip, which serves as means for releasably engaging a belt as described below.

As shown in FIGS. 1 and 3, the retainer 20 is secured to the fabric of a gown designated generally 36 by suitable fastening means 38. It is contemplated that any conventional manner of securing the retainer to the gown fabric may be utilized, such as adhesive, sewing, or ultrasonic sealing. However, it is necessary to maintain a condition of sterility on the front side of the gown, and hence it is undesirable to pierce holes in the gown fabric. Accordingly, the use of adhesive or ultrasonic sealing is preferred as the fastening means 38 when the retainer is secured to the front of a surgical gown.

The retainer is particularly shown in FIGS. 3-5 for use in connection with a surgical gown of the open back type. However, it is understood that the retainer of the present invention may be utilized with any appropriate gown or garment, whether the gown is of the open front or open back variety, and whether the gown or garment is intended to be disposable or reusable.

The surgical gown 36 has a closed front 40 to maintain a condition of sterility in the front of the wearer, and the gown has an opening 42 in the back 44 of the gown, defined by marginal edges 46a and 46b of the gown, for placement of the gown. The overlapping portions of the gown adjacent the edges 46a and b may be secured at the top by suitable fastening means 47. The retainer 20 may be secured to the front 40 of the gown on the right hand side of the wearer, and a belt 48 may have one end 50 secured to the front 40 of the gown on the left hand side of the wearer. In this position of the retainer 20 and one belt end 50, the one end edge 24b is remote the one belt end 50 relative the opening 42.

The belt 48 has a sufficient length from the one end 50 to a free end 52 of the belt to extend around the back of the gown to the retainer 20. For the embodiment of the retainer 20 under present discussion, the belt 48 has a plurality of apertures 54 which are longitudinally spaced in the belt adjacent its free end 52. In order to close the gown, the belt is first passed around the back by the wearer or an assistant, as shown in FIG. 3, and then the free end 52 of the belt 48 is advanced toward the retainer 20, as shown in FIG. 4. The belt is then secured to the retainer 20 in a manner described below in connection with FIGS. 6-11.

As shown in FIG. 6, the belt 48 adjacent its free end 52 is first inserted behind the tab 28, with the belt passing in front of the finger. Next, as illustrated in FIG. 7, the finger 30 is flexed outwardly over the top of the belt from a position behind the belt to a position in front of the belt, as indicated by the direction of the arrow in the drawing, and the finger is released to assume the configuration as shown in FIG. 8. If desired, the free end of the belt may be pulled slightly downwardly, to the configuration as shown in FIG. 7, to facilitate the manipulation of the finger 30 over the top of the belt. The wearer next adjusts the belt 48 by sliding it in the retainer to a position which assures the desired amount of closure of the gown. As shown in FIG. 9, the protuberance 34 of the finger is then inserted into the closest aperture 48 at the desired position of the belt. Finally, as shown in FIG. 10 and 11, the portion of the belt which extends from the interengaged protuberance 34 and aperture 54 to the belt free end 52 is inserted behind the tab 28 to retain this portion of the belt against the gown and insure that the protuberance and aperture do not become disengaged.

Thus, the belt has been secured in the above described manner to the retainer, in order to close the gown, as shown in FIG. 5. It is noted at this point that due to the flexibility of the finger 30, the amount of force exerted by the secured belt against the gown is permitted to adjust somewhat during movement of the wearer. It is also understood that either or both of the one belt end 50 and retainer 20 may be secured to opposite sides of the opening 42 at the back of the gown, such that the belt passes over the overlapping margins of the gown adjacent the opening 42. In such a case, operating personnel, such as a nurse, would usually secure the belt to the retainer.

If desired, the front surface of the retainer of FIG. 1 may be secured to the gown in the position as shown in FIG. 12, such that the rear surface of the retainer of FIG. 1 faces outwardly from the gown. This is accomplished by rotating the retainer 180° about either of the side edges 22a or 22b. In this case, the S-shaped cutout 26 defines a depending tab 28 and an upwardly extending finger 30 intermediate the tab 28 and the one end edge 24. The protuberance 34 extends from the finger 30 toward the one end edge 24b, as described in connection with the retainer of FIG. 1. The belt is secured to the retainer 20 of FIG. 12 in a manner very similar to that described in connection with FIGS. 6-11.

Another embodiment of the retainer of the present invention is illustrated in FIG. 13. This embodiment of the retainer is similar to the retainer of FIG. 1 with the exception that the finger 30 has a plurality of teeth 60 disposed along the edge 32 of the finger. Also, it is unnecessary for the belt 48 to have apertures. When the free end 52 of the belt 48 is placed in its final position,

as shown in FIG. 11, the teeth 60 of the retainer 20 of FIG. 13 engage the belt and retain it in its desired position.

Another embodiment of the retainer of the present invention is illustrated in FIG. 14, in which the finger has a pair of spaced protuberances 34' extending from the finger 30 toward the one end edge 24b of the retainer 20. Accordingly, the belt 48 is provided with a plurality of pairs of apertures 54' which are longitudinally spaced in the belt adjacent its free end 52. The apertures in each of the pairs 54' are vertically spaced from each other a distance approximately equal to the spacing between the protuberances 34'. Thus, the belt is secured to the retainer of FIG. 14 in a manner similar to that described in connection with the retainer of FIG. 1, by releasably engaging a pair of protuberances 34' in a pair of vertically spaced apertures 54'. It is understood that either of the retainers of FIG. 13 or 14 may be rotated about a side edge in order to secure the front surface of these retainers to the gown, in a manner similar to that of changing the position of the retainer of FIG. 1 to that shown in FIG. 12.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, as modifications will be obvious to those skilled in the art.

I claim:

1. A retainer comprising, a belt; and a strip of flexible material having a first surface, a second surface, a pair of side edges, a pair of end edges connecting the side edges, a generally S-shaped cutout defining an upwardly extending tab and a depending finger intermediate said tab and one of said end edges, said tab and finger having first and second surfaces defined by the corresponding surfaces of said strip, with said finger having an edge facing toward the one end edge of said strip, and means along the finger edge for releasably engaging said belt, said belt passing over the first surface of said strip adjacent the other of said end edges, behind the second surface of said tab and finger, around the edge of the finger, and behind the second surface of the tab, with the engaging means retaining the belt at a selected position.

2. The retainer of claim 1 wherein said engaging means comprises a protuberance extending from said finger toward the one end edge of said strip.

3. The retainer of claim 1 wherein said engaging means comprises a plurality of protuberances extending from said finger toward the one end edge of said strip.

4. The retainer of claim 1 wherein said engaging means comprises a plurality of teeth disposed along the finger edge.

5. Retaining means, comprising:

- a gown having marginal edges defining an opening in the gown;

- a belt having one end secured to the gown adjacent the waist of the gown on one side of said opening and having a free end extending around the gown past the opening; and

- a strip of flexible material secured to the gown adjacent the gown waist on the other side of said opening, said strip having a front surface facing away from the gown, a pair of side edges, a pair of end edges connecting the side edges, a generally S-shaped cutout defining an upwardly extending tab and a depending finger intermediate said tab and

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one end edge remote the one belt end relative said opening, with said finger having an edge facing toward said one remote end edge of said strip, and means for releasably engaging the belt and finger along the finger edge, said belt passing over the front surface of the strip adjacent the other end edge, behind the tab and finger, around the edge of the finger, and behind the tab.

6. The retaining means of claim 5 wherein said engaging means comprises a plurality of teeth disposed along the finger edge.

7. The retaining means of claim 5 wherein said engaging means comprises, a protuberance extending from said finger toward the remote end edge of said strip, and a plurality of apertures longitudinally spaced in said belt adjacent its free end to selectively receive and protuberance.

8. The retaining means of claim 5 wherein said engaging means comprises, a pair of spaced protuberances extending from said finger toward the remote end edge of said strip, and a plurality of pairs of apertures longitudinally spaced in said belt adjacent its free end, with the apertures in each of said pairs being vertically spaced from each other a distance approximately equal to the spacing between said protuberances, whereby each of the aperture pairs may selectively re-

ceive the protuberances to secure the belt in said strip.

9. The retaining means of claim 5 wherein said opening is located in the back of the gown, wherein the one belt end is secured to the front of the gown on the left side of the gown as worn, the strip is secured to the front of the gown on the right side of the gown as worn, and said belt has a sufficient length to extend around the back of the gown to said strip.

10. A retainer comprising, a belt;

and a strip of flexible material having a first surface, a second surface, a pair of side edges, a pair of end edges connecting the side edges, a generally S-shaped cutout defining a depending tab and an upwardly extending finger intermediate said tab and one of said end edges, said tab and finger having first and second surfaces defined by the corresponding surfaces of said strip, with said finger having an edge facing toward the one end edge of said strip, and means along the finger edge for releasably engaging said belt, said belt passing over the first surface of said strip adjacent the other of said end edges, behind the second surface of said tab and finger, around the edge of the finger, and behind the second surface of the tab, with the engaging means retaining the belt at a selected position.

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