Sept. 24, 1935. L. L. CHARPIER ET AL 2,015,255

POST OPERATIVE BINDER AND SUPPORTING BELT

Filed Sept. 29, 1933 2 Sheets-Sheet 1

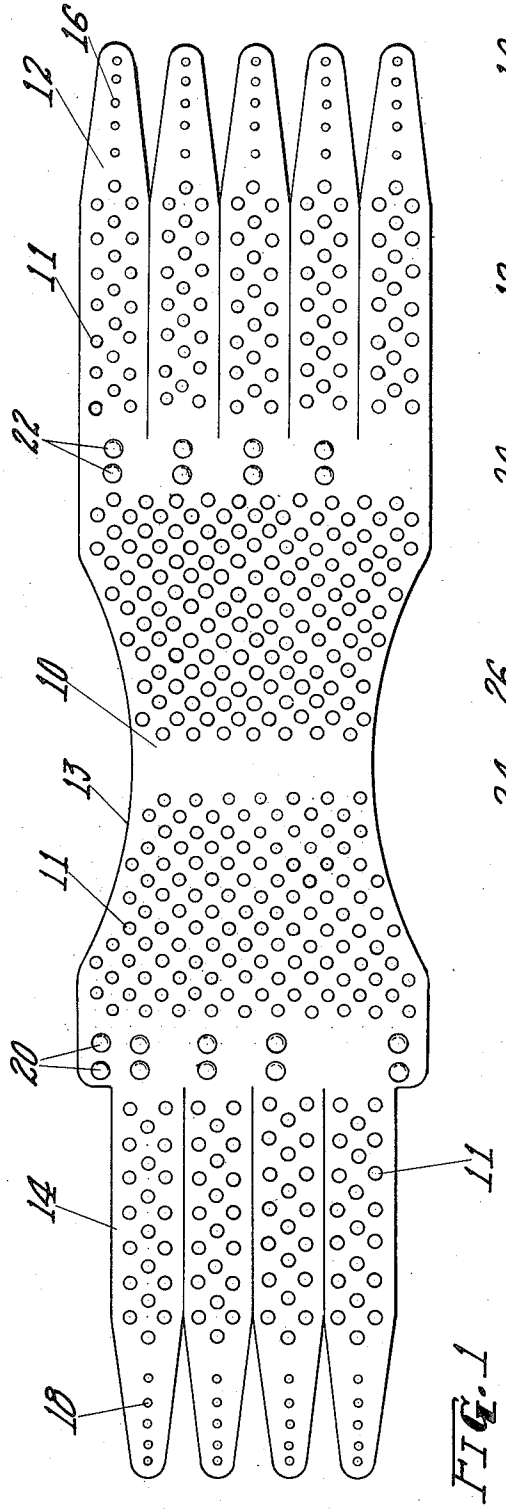


FIG. 1

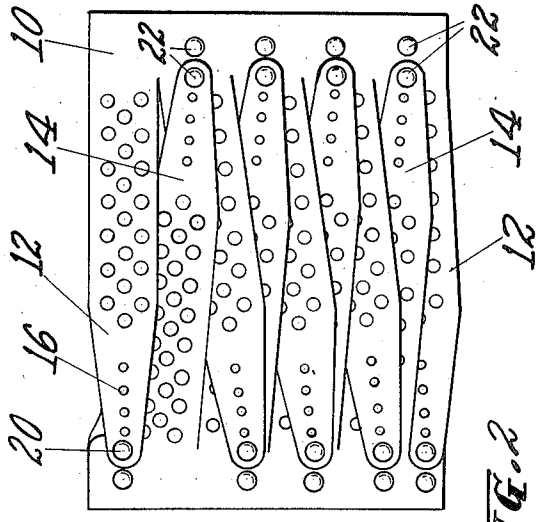


FIG. 2

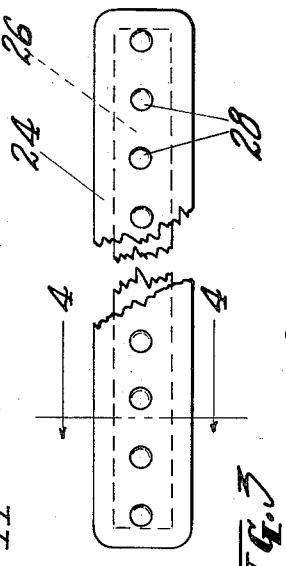


FIG. 3

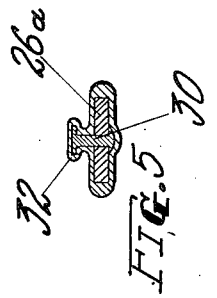


FIG. 5

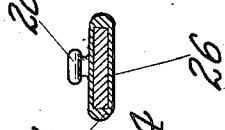


FIG. 4

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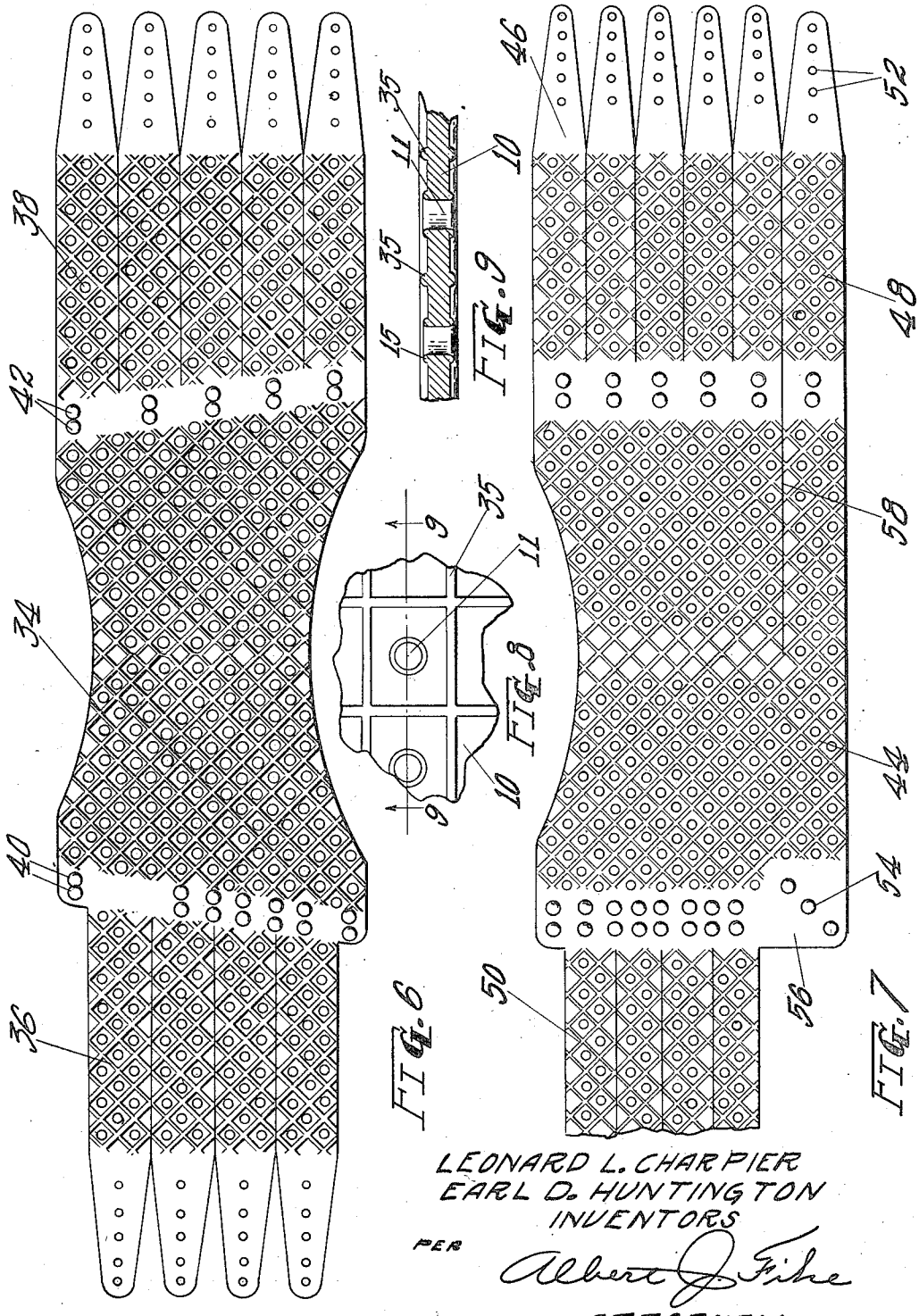


FIG. 9

FIG. 8

FIG. 6

FIG. 7

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POST-OPERATIVE BINDER AND SUPPORTING BELT

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Application September 29, 1933, Serial No. 691,470

1 Claim. (Cl. 128—155)

This invention relates to an improved post-operative binder and supporting belt, and has for one of its principal objects the provision of such a combined binder and belt which can be used after operations, particularly abdominal operations, and whereby the required necessary support of the parts of the body is conveniently, readily and satisfactorily accomplished, while at the same time many objections present in the binders heretofore used are eliminated.

One of the important objects of this invention is to provide a combination binder and belt for the support of various parts of the human body which is made of some ventilated flexible material such as rubber or the like, and which is so constructed that it can be readily applied and as easily removed, and which, when applied, will remain in the desired position with the additional advantages of comfort and lightness in weight.

Another important object of the invention is to provide a one-piece molded rubber abdominal belt or the like which can be used following operations, or in fact, at any time whenever a certain support or regulated pressure on any portion of the body is desired. A further advantage resides in its immediate adjustability to all conditions regardless of size of wearer or varying requirements of the individual wearer.

A still further important object of the invention is the provision of a binder and belt which can be made in a limited number of sizes and shapes which shall suffice for all requirements of patients and wearers regardless of age, sex or size, thereby rendering the same practicable for stocking by hospitals and physicians, whereby the belts are immediately available for use and application at any time.

Another and still further important object of the invention is to provide a belt and binder which is applicable for maternity as well as surgical cases, and which, furthermore, may be used for the immobilization of the chest or parts thereof, and any other parts of the body, whereby fractures may be handled and repaired in a satisfactory manner.

A still further important object of the invention is to provide a belt of this type which may be adjusted to the various requirements of an individual or for different individuals, while at the same time affording a perfect fit in each case without alteration and wherein the tension thereof can be varied without removal. In post-operative cases, the belt may be applied while the patient is still on the operating table, and the type of the belt permits ready application of varying quantities and sizes of dressings and pads thereunder and the convenient changing of same when necessary.

Another important advantage of the invention is the provision of a belt which can be promptly cleaned and sterilized, which will not stain the body or clothing, and which, furthermore, will not absorb body secretions or excretions or any chemicals or drugs used in treating the wounds, and which, furthermore, has no exposed metal in any of its parts, thereby eliminating corrosive or galvanic action.

A further important object of the invention is the provision of a post-operative binder and ambulatory support which dispenses with post-operative belts, and which, furthermore, dispenses with the objectionable use of adhesive tape after operations, which tape is particularly disagreeable when it becomes necessary to change dressings. The belt of this invention may be readily removed without any pain to the patient, while at the same time it will positively remain in the desired position under all circumstances and conditions of body movement or the like.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a plan view of one of the tabs of the improved combination post-operative binder and ambulatory supporting belt of this invention.

Figure 2 is an elevational view of the belt, showing the same as it appears when in position on a patient.

Figure 3 is a plan view of an appurtenance for the binder and belt used when the same is applied for the complete or partial immobilization of certain portions of the anatomy such as, for example, in conjunction with broken ribs or other bones, or in conjunction with the reduction of sprains or the like.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a sectional view similar to Figure 4, showing a slight modification of this portion of the invention.

Figure 6 is a plan view of one of the combined post-operative binders and supporting belts used chiefly on women patients with large hips and small waists.

Figure 7 shows another embodiment of the invention, this type being adapted for use with dislocated joints such as hip or shoulder joints.

Figure 8 is an enlarged plan view of a portion of a representative belt, showing particularly the non-slipping and ventilating features.

Figure 9 is a sectional view taken on the line 9—9 of Figure 8.

As shown in the drawings:

The reference numeral 10 indicates generally

the body of the improved combination post-operative binder and supporting belt of this invention. This body is preferably formed of rubber or some other flexible solid material, having openings 11 therein for ventilation purposes and also to make for lightness.

The body 10 is provided with integral tabs, flaps or extensions 12 and 14 at each end thereof, there being preferably five of the extensions 12 and preferably four of the extensions 14.

The tabs have button-holes 16 and 18 at their ends respectively adapted to cooperate with buttons 20 and 22 as best shown in Figures 1 and 2. Obviously, some other fastening means may be employed, if desired, and it will be noted that the fastening means is preferably adjustable as indicated by the number of button-holes 16 and 18 in each of the flaps.

The body of the belt is preferably cut away at its top and bottom portions as best shown at 13, this being for the purpose of providing a better fit across the back of the wearer and also to allow the use of bed pans or the like whenever the apparatus is used upon bed patients or invalids.

The belt is applied to the body in the manner shown in Figure 2 by overlapping the flaps 12 and 14, and fastening the buttons in the respective button-holes at the desired points. The buttons are preferably placed in pairs as shown at 20 and 22 for better attaching purposes.

Obviously, the belt may be made of any width so as to encircle or support any desired portion of the wearer's or patient's body, as, for example, in an ambulatory belt, the same may be made wide enough to encircle the hips and provide proper support for any portions of the anatomy.

An appurtenance adapted to be used with the belt is illustrated in Figure 3, this comprising a spring-like metal strip or the like 26 which is preferably entirely covered with a coating of rubber or the like 24, and has projecting buttons 28 which buttons are of a size and spaced apart a sufficient distance so as to be readily fitted into adjacent openings 11 in the body 10. These resilient reinforcing elements in any number may be applied to the belt, preferably inside the same, and will form a suitable stiffening or reinforcing element at points wherever needed or desired, such as, for example, in the necessary supporting of broken ribs or for binding up fractures or in any similar cases.

As shown in Figure 4, the buttons 28 are formed integral with the coating 24, and in Figure 5, a slight modification is illustrated wherein the reinforcing resilient strip 26*a* has rivets or the like 30 passing therethrough, which rivets are provided with integral heads 32 around which the coating is molded, thereby providing a more substantial button.

In Figure 6 is shown a slight modification of the invention wherein the body 34 is formed with the usual ventilating openings which are separated and outlined by ridges 35 which are integral with the body and which contact with the skin of the wearer, thereby preventing slippage and also eliminating any great area of contact between the belt and the skin of the wearer, whereby greater ventilation is afforded, and a consequent cooler reaction takes place.

It will be noted that the tabs 36 and 38 are increasingly shorter toward the bottom of the belt, whereby greater width of body results, this making this type of belt particularly adaptable for patients with large hips and small waists as is common with many women. The usual buttons or other securing means 40 and 42 are provided, and the edges of the openings 11 may be beaded as shown at 15 in Figures 8 and 9.

In Figure 7 is illustrated another modification of the invention which is particularly for use in retaining dislocated hip joints or the like in position, the body 44 being provided with a plurality of extending tabs 46, 48 and 50 as shown. The tab 48 is much longer than any of the others, extending preferably to the middle of the body as shown by the cut 58, and is adapted to be passed between the legs and under the crotch of the wearer, thereby providing an adjustable tensional support for the hip joint. The tab 48 is provided with the usual button-holes 52 which cooperate with buttons 54 in a space 56 formed for the reception thereof.

Many other modifications of the belt may be employed as occasion requires, but a stock of two or three types and sizes will meet practically all requirements except in the most unusual cases.

It will be evident that herein is provided a combination post-operative and ambulatory belt which is particularly applicable for use by persons after operations or in other similar cases, both while confined to bed and also during convalescence, and in fact, at any time when support of certain organs of the body is required. The adjustable and non-slipping features together with the improved ventilation render the same very desirable, and the reinforcing features enable its use under many conditions and for a variety of treatments. The same can be easily applied and as readily removed, and can most conveniently be kept clean and sterile under any and all conditions and treatment of the patient is greatly facilitated. The use of the objectionable adhesive tape is eliminated, and a far better support results than could be accomplished with either tape or with the ordinary bandages or semi-elastic belts now in use and on the market.

We are aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention, and we, therefore, do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

We claim as our invention:

A post-operative and ambulatory binder and belt, comprising an integral rubber strip adapted to be positioned about the body of the wearer, and ventilating and non-slipping elements integral with the strip, said elements including integral ridges and beaded ventilating openings associated with the ridges, and reinforcing means adapted to be used with the strip, said reinforcing means comprising a semi-resilient length of metal adapted to be removably associated with the binder and belt, said length of metal having integral button-like extensions thereon adapted to be fitted into the ventilating openings in the binder and belt, and integral adjustable fastening means therefor, said means including integral flaps of different lengths, one of said flaps being considerably longer than the other flaps and adapted to be passed between the legs of the wearer, with auxiliary means for fastening the end of said flap in desired supporting position, and cooperative fastening means on the other flaps and strip.

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