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H. COOKMAN

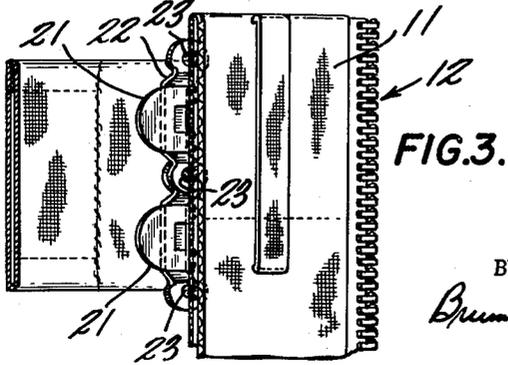
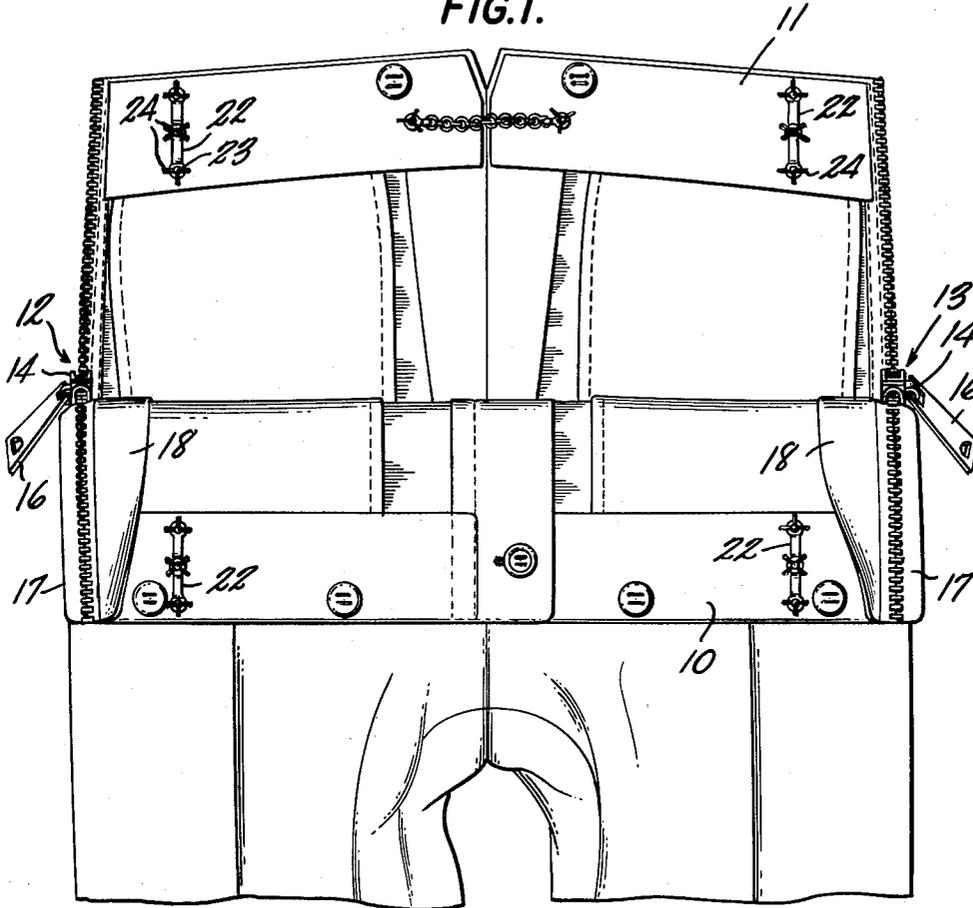
2,923,009

TROUSERS FOR A HANDICAPPED PERSON

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2 Sheets-Sheet 1

FIG. 1.



INVENTOR.
HELEN COOKMAN

BY
Brennan, Fox, Gears & Donohue
her ATTORNEYS

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H. COOKMAN

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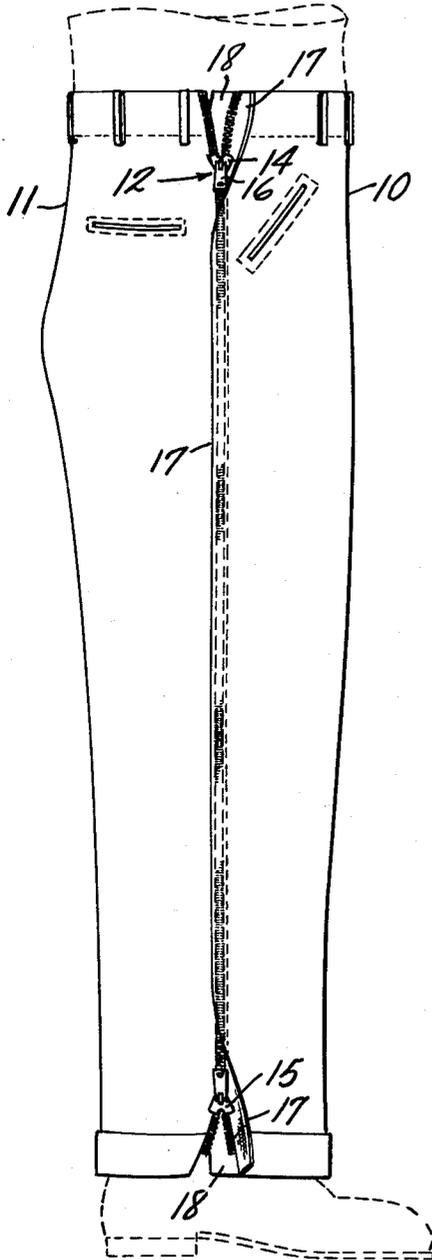


FIG. 4.

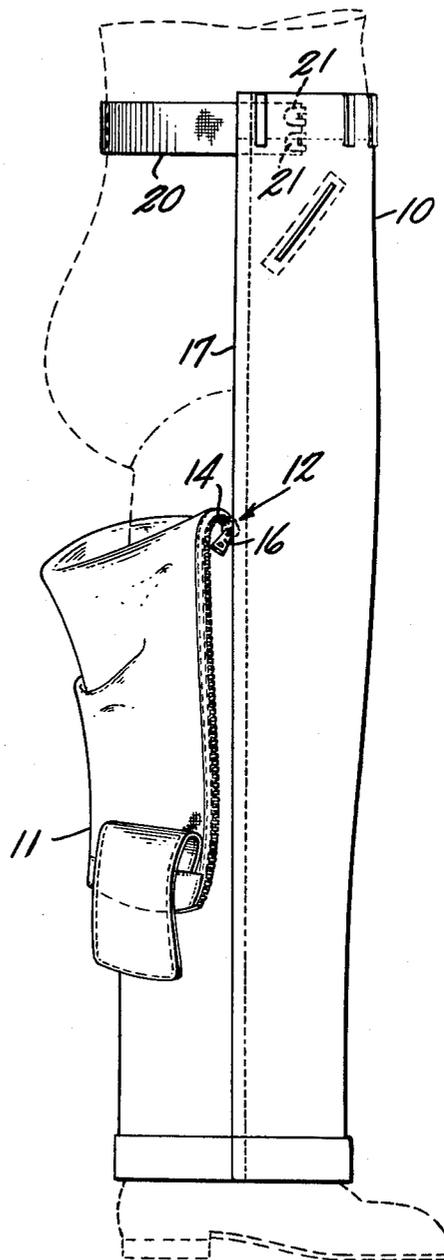


FIG. 5.

INVENTOR.
HELEN COOKMAN

BY

B. M. Kaufman, New York & London
her ATTORNEYS

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TROUSERS FOR A HANDICAPPED PERSON

Helen Cookman, New York, N.Y.

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2 Claims. (Cl. 2--227)

This invention relates to trousers for the physically handicapped.

There are many physically handicapped, such as paraplegics, who have great difficulty in dressing and undressing, particularly in putting on and taking off trousers. Many of these people must be assisted in this daily routine. Others are able to dress and undress themselves only with great difficulty. This routine becomes particularly burdensome when during the day normal bodily functions must be attended to, necessitating repetitions of the dressing and undressing routine. Under these circumstances, it is not surprising to find that it is the practice of such handicapped people to procure and wear relatively loose-fitting garments inasmuch as they are somewhat easier to put on and take off. Loose-fitting garments are, however, considerably less attractive than fitted garments. This, therefore, is still another strain on the morale of the physically handicapped.

The object of the present invention is to provide trousers of special design for the physically handicapped which so greatly facilitate the dressing and undressing routine, whether by the physically handicapped person himself or someone rendering him assistance, that it is feasible to make the trousers to fit the form of the person. In addition, the trousers of the present invention are of such design as to make it possible for the physically handicapped to attend to the normal bodily functions throughout the day without necessitating that the dressing and undressing routine be repeated each time.

The trousers of the present invention are provided at both sides with continuous plackets which extend the entire length of the trousers from waist to cuff. The side plackets are each adapted to be opened and closed by two-way slide fasteners, each of which is operated by two riders or slides, one at each end. The front and rear waist portions of the trousers are separated by sliding both of the upper riders downwardly, and the leg or cuff portions of the trousers can be opened by sliding both of the lower riders upwardly. Thus, the garments can be easily donned when the riders or slides are moved away from the ends of their slide fasteners by placing the feet in the leg openings of the trousers, moving the mid-part of the garment to the approximate proper position relative to the legs of the person, and then closing the slide fasteners. Because the slide fasteners permit opening the waist and cuff portions of the trousers to such a great extent, the trousers can be fitted to the form of the person to present a more pleasing appearance. In addition, the slide fasteners are concealed by flaps of the plackets, so that they appear to be ordinary trousers.

Once the trousers have been donned in this manner, it is not necessary to substantially remove them in order to attend to the normal bodily functions. By sliding the upper set of riders downwardly, the upper front and rear waist portions of the trousers are separated in such fashion that either can be dropped as a flap. In addition,

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provision is made for supporting either the upper front or rear waist portion of the trousers when it is desired to drop the other portion as a flap. This is accomplished by providing a belt, the ends of which are attachable to and detachable from either the upper front or rear portions of the trousers. Thus, if it is desired to drop the upper rear portion of the trousers as a flap, the belt would be worn at the rear of the body, with one end of the belt attached to one side of the upper front portion of the trousers and the other end of the belt attached to the other side of the upper front portion of the trousers. In this way, the trousers, including the upper front part thereof, are supported by the body while the rear flap is dropped. This flap, of course, can be restored to normal position merely by closing the upper ends of the slide fasteners. Similarly, if it is desired to drop the front flap, the belt can be worn at the front to support the rear portion of the trousers. It is evident, therefore, that either a front or rear flap can be dropped and then restored to position with great ease, without the necessity of substantially removing the trousers each time.

For a more complete understanding of the present invention, reference may be had to the detailed description which follows and to the accompanying drawings, in which:

Figure 1 is a front elevational view of the upper portion of the trousers of the present invention, showing the upper front flap dropped;

Figure 2 is a view of the belt used to support one waist portion of the trousers when the other is dropped as a flap;

Figure 3 is a view showing one end of the belt attached to the trousers;

Figure 4 is a general side elevation view of the trousers; and

Figure 5 is a view generally similar to Figure 4, illustrating the trousers with the rear flap dropped.

Referring to the drawings, the trousers of the present invention are provided with plackets at both sides which extend the entire length of the trousers from waist to cuff, separating the upper end of the trousers into front and rear portions 10 and 11, respectively. The plackets are opened and closed at both ends by continuous two-way slide fasteners, generally designated 12 and 13, which run vertically from the upper waist edge to the lower cuff edge and may be adapted to separate the two portions of each placket. As best shown in Figure 4, each slide fastener is provided with two separate riders, an upper rider 14 and a lower rider 15, both using the same track but at opposite ends. The riders are of the conventional type and are gripped by tabs 16 to facilitate sliding them. It is understood that both the upper and lower riders 14 and 15 of each slide fastener have the free run of the entire corresponding track with which they are associated from one end until they come into engagement with the other rider using the same track. When the trousers are donned, the slide fasteners are adapted to be concealed by the outer flaps 17 of the plackets which overlie the slide fastener throughout its entire length. The flaps 17 are preferably formed integrally with the front portion 10 of the trousers so that the flaps extend rearwardly. The plackets are also formed with inner flaps 18 which separate the slide fasteners from underclothing and skin.

Trousers so fabricated can be donned with relative ease by sliding the upper riders downwardly, thereby separating the upper front and rear ends of the trousers, and by sliding the lower riders upwardly, thereby opening the trouser legs. The legs of the person can be placed through the leg openings defined in part by the closed lengths of the slide fasteners and the trousers adjusted relative to

the person before closing the upper and lower ends of the slide fasteners, thus bringing together the front and rear waist portions of the trousers and closing the legs and cuffs of the trousers. When the slide fasteners are closed throughout their entire lengths, the trousers will be properly draped on the person and will give the appearance of conventional trousers.

As explained above, the trousers of the present invention also make provision for dropping the upper front or rear waist portions of the trousers while supporting the other portion in place. This is accomplished by a belt 20 (see Figure 2) which can be attached to either the upper front or rear portion of the trousers to permit the other upper portion of the trousers to be dropped as a flap. The belt 20 is provided with a pair of hook fasteners 21 at opposite ends thereof. These hook fasteners are engageable with metal strips 22 sewn near the upper corners of both the front and rear waist portions of the trousers. The strips 22 are each provided with three openings 23, one at each end and one in the middle, by means of which the strip may be sewn by thread 24 to the inner side of the respective front and rear portions of the trousers. The strips 22 are applied vertically or lengthwise of the trousers. Intermediate the three openings 23, the strips are bent so as to be offset from the respective surfaces of the trousers to which they are affixed. In this way, the hooks 21 may be readily looped around the offset portions of the strips 22 when it is desired to support either the front or rear upper portion of the trousers and to permit the unsupported upper portion thereof to be dropped as a flap.

In Figure 5, the belt 20 is shown as being attached at opposite ends to the fastener strips 22 of the upper front portion of the trousers, with the belt encircling the back of the person wearing the trousers. When the belt is so applied to support the upper front portion of the trousers, the upper back portion of the trousers may be dropped as a flap by sliding the riders 14 of the slide fasteners downwardly. Thus, the trousers are supported by the belt while the back flap is dropped. By wearing the belt in the front and attaching it to the sides of the rear portion of the trousers, the belt can be used to support the rear upper portion of the trousers while the front portion is dropped as a flap. If preferred, the trousers may be donned initially by utilizing separate belts 20 to support the front and rear flaps 10 and 11. In this way, one of the flaps can be dropped by detaching the appropriate belt and opening the upper ends of the slide fasteners.

The invention has been shown in preferred form and by way of example only, and obviously many variations and modifications may be made therein without departing from the spirit of the invention. The invention, therefore, is not to be limited to any specified form or embodiment, except in so far as such limitations are set forth in the claims.

I claim:

1. Tailored trousers for physically handicapped persons comprising, at each side of the trousers, slide fasteners extending downwardly from the upper waist edge and upwardly from the lower edge of the leg portion, separating the upper and lower portions of the trousers into front and rear portions, the downward movement of

the upper slide fasteners separating the upper front and rear portions of the trousers into front and rear flaps and the upward movement of the lower slide fasteners opening the leg portions of the trousers, a belt, fastening means at both ends of the belt, companion fastening means on the inside of the front flap near the slide fasteners for anchoring the belt thereto, fastening means on the inside of the rear flap near the slide fasteners for anchoring the belt thereto, whereby the belt is capable of being connected at both ends to either of said flaps, said belt extending around the opposite side of the person to support the trousers and one of said flaps while the other flap is dropped, said belt and fastening means being hidden beneath the trousers when the upper ends of the slide fasteners are closed, and cover flaps carried by the trousers along the forward edge of the slide fasteners and extending rearwardly so as to overlie and hide the slide fasteners.

2. Tailored trousers for physically handicapped persons comprising a continuous placket extending lengthwise of the trousers at each side thereof from the upper waist edge to the lower cuff edge of the trousers, separating the trousers into front and rear portions, a slide fastener for opening and closing each of said plackets at either or both ends, said slide fastener extending continuously from the upper waist edge to the lower cuff edge of the trousers, each of said slide fasteners including a pair of slides which in closed position are at opposite ends of the slide fastener, each of said slides being movable from closed position at one end of the slide fastener toward and into engagement with the other slide in the closed position, the downward movement of the upper slides of both of said slide fasteners separating the upper front and rear portions of the trousers into front and rear flaps, a belt, multiple fastening hooks at both ends of the belt, companion fastening strips inside both the front and rear flaps near the slide fasteners, each of the one-piece fastening strips being affixed to the trousers at both ends and intermediate both ends, the hook-receiving portions of each of the strips being in tandem and raised from the surface of the material of the trousers to facilitate the attachment of the multiple hooks thereto, whereby the belt is capable of being connected at both ends to either of said flaps, said belt extending around the opposite side of the person to support said trousers and to hold said flap up while the other flap is dropped, and a cover flap extending along both sides of the trousers from the upper waist edge to the lower cuff edge, each cover flap being affixed to the trousers along the front edge of the respective slide fastener and extending rearwardly to overlie and hide the slide fastener along its entire length.

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