Jan. 10, 1939. H. S. FRANK 2,143,309

FITTING FASTENER

Filed Oct. 17, 1938

Fig. 1.

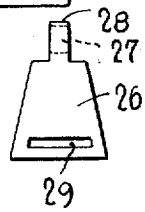


Fig. 2.

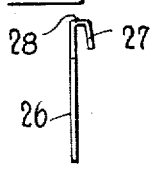


Fig. 5.

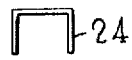


Fig. 3

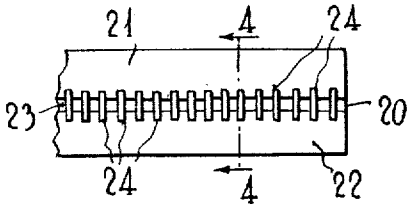


Fig. 4.

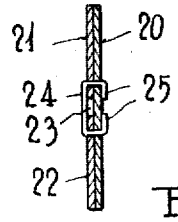


Fig. 6.

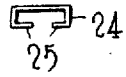


Fig. 7.

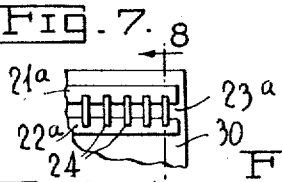


Fig. 9.

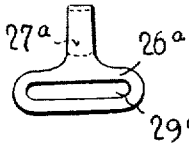


Fig. 10.

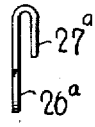


Fig. 8.

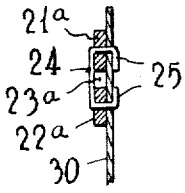


Fig. 17.

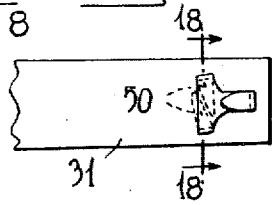


Fig. 11.

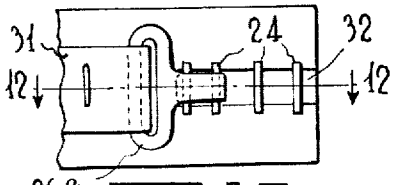


Fig. 18.

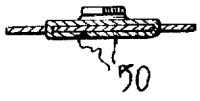


Fig. 12

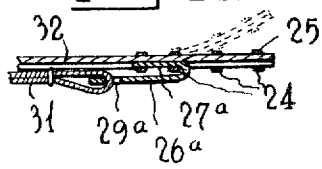


Fig. 13.

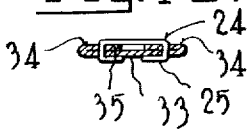


Fig. 16.

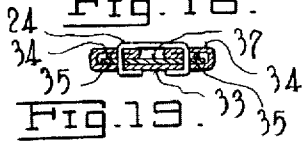


Fig. 14.

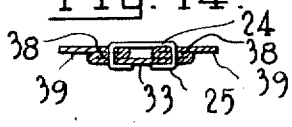


Fig. 19.

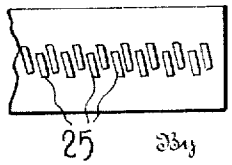
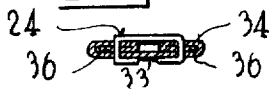


Fig. 15.



Inventor

H. S. Frank,

Karl Fruwirth

his Attorney

Patented Jan. 10, 1939

2,143,309

UNITED STATES PATENT OFFICE

2,143,309

FITTING FASTENER

Henry Seymour Frank, Glendale, Calif.

Application October 17, 1938, Serial No. 235,486

9 Claims. (Cl. 24—206)

The invention relates to an adjustable fitting fastener which may have a great number of uses. Among others it may be adapted for underdrawers, pajamas, trousers, aprons, etc., or for any device or material which it is desired to fasten or adjust where the girth, length or measure is variable.

In general the fastener consists of two parts. One part may be a hook which is attached to one side or portion of a garment or article and the second part may consist of a series of bars attached to or mounted on another portion or side of a garment or article. The two sides, portions or ends of the garment or article may be adjusted or fastened together by the hook engaging whichever one of the bars is suitable for an exact fit or measurement or according to the user's desire.

The accompanying drawing shows preferred forms of mechanism embodying the invention. Figure 1 is a plan view of one form of hook, Fig. 2 is a side elevation of the hook. Fig. 3 is a plan view of a series of bars in position on a strip of fabric. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is an elevation of a staple which may be employed to form a bar. Fig. 6 is a detailed separate elevation of a staple after it has been bent to form a bar when attached to a fabric.

Fig. 7 is a fragmentary plan view of a bar attached to a portion of a garment for instance. Fig. 8 is a section on the line 8—8 of Fig. 7. Fig. 9 is a plan view of an optional form of hook. Fig. 10 is a side elevation of the hook shown in Fig. 9. Fig. 11 is a plan view of the hook of Fig. 9 applied to a series of bars. Fig. 12 is a sectional view on the line 12—12 of Fig. 11. Figs. 13, 14, 15 and 16 are sections showing bars associated with fabrics in additional arrangements. Figs. 17 and 18 are plan and section showing optional attaching schemes for the hook. Fig. 19 is a rear plan view showing an optional fastening arrangement.

A tape or base member 20 or the like of any suitable size or of any suitable material may have laid on it tapes or risers 21 and 22 which may be narrower and leave a channel 23 between them. A series of bars may be provided across the channel. For instance a staple 24 may be placed across the channel 23 and forced through the fabric and its ends bent over as at 25 to engage the tapes 20, 21 and 22 and hold them together and in place. As illustrated in Fig. 3 a series of such staples 24 may be put in place at regular intervals across the channel 23.

A hook 26 having a tongue 27 carried by a portion 28 at right angles to the main member of the hook 26 may be attached by means of the slot 29 or in any other suitable way to any desired piece of fabric or the like. The hook may then be associated with a series of bars such as is illustrated for instance in Fig. 3 by inserting the tongue 27 between and under the bars 24. Room for the tongue 27 is provided by the groove 23 left between the members 21 and 22. The tongue 27 may be inserted between the adjacent bars 24 and by being adjusted between one or another pair of bars may cause any suitable adjustment of the materials to which the hooks and the bars are applied.

The tape structure such as illustrated in Fig. 3 may be applied to any fabric, garments or the like which it is desired to have adjustable or parts of which it is desired to connect together. This tape arrangement is adapted to be manufactured and sold as a unit for application, in whole or in part, in any situation where desired.

In Figs. 7 and 8 is illustrated a scheme which may be employed for applying the bars 24 directly to the position in which the device is to be used. Thus, for illustration, the portion or base member 30 may be considered a garment or the like. On this may be placed spacing members or risers 21a and 22a. The members 21a and 22a may be of any suitable or desired size, shape and material. They preferably will be placed so as to leave a channel 23a between them and they may be held in place by fastening the staples 24 through both the strips 21a and 22a and also through the base member 30, the ends of the staples 25 being turned over to hold the whole together and in position.

The shape of the hook like the bars may be widely varied. For instance, instead of the rectangularly formed hook 26 illustrated in Figs. 1 and 2 there may be employed a hook 26a having curvilinear shape as illustrated in Figs. 9, 10, 11 and 12. The hook 26a thus has a tongue 27a and an attaching groove 29a. As illustrated in Figs. 11 and 12 the hook 26 may be attached for instance to a strap 31 and may be caused to engage one or another of the bars 24 applied to a tape or fabric 32. As illustrated in Figs. 17 and 18 the hook may be attached to the member 31 by integral prongs 50 which may pass through the member 31 and be bent over. When desired for better holding the prongs 50 may overlap as shown.

In order to insure the hook staying in place when once positioned it may be preferred to have

the tongue 27 or the tongue 27a longer than the distance between adjacent bars 24. Thus when the hook is once put in place it cannot become free without special manipulation. As indicated in Fig. 12 for instance, the tongue 27a cannot be removed by rectangular relative movement between the hook 26a and the bars 24. As illustrated in dotted lines in 25 the fabric carrying the bars may be bent and thus the interfering bar 24 may be removed from the path of the tongue 27a and so the hook may be freed from the bars. A similar bending or shifting manipulation may be employed for applying the hook to the device and inserting the tongue into the channel so as to fit into proper engagement with the desired bar 24.

Instead of having the base and supporting members separate pieces of fabric they may consist of a single piece of fabric as illustrated in Figs. 13 to 16. Thus in Fig. 13 a fabric 33 may have its edges bent inwardly and separated to leave a channel 35 and the bars 24 may be applied to hold the fabric in this position and provide the adjustable attaching mechanism. In Fig. 15 an arrangement similar to Fig. 13 is illustrated but in order to provide a deeper channel 24 for the engagement of the tongue of the hook the turned in portions 34 are turned over onto themselves as at 36. In Fig. 16 is illustrated an arrangement like Fig. 15 but in addition there has been inserted a reinforcing strip 37 lying under the inturned portions 34. This arrangement may be particularly desirable when the material to which the adjusting fitting is applied is light, thin or fragile and susceptible to damage by the tongue of the hook.

In Fig. 14 is shown an arrangement in which the fabric 33 is doubled on itself as at 38 on both sides of the channel and held in this position by the staples 24. This leaves free the edges 39 of the fabric 33 for adjustment to any desired material or garment or the like. Instead of putting the bars on a separate tape, by the construction illustrated in Fig. 14 the bars 24 may be applied directly on any place near the edge or in the midst of a wide piece of fabric and the extending portions 39 may be taken to illustrate portions of a wider fabric, the extending unitary portions of which may thus form a garment or a part thereof or other article for use on which the adjusting fitting is adapted.

The bent ends 25 have been shown as not overlapping but as illustrated in Fig. 19 they may be somewhat longer so that the ends overlap or extend beyond the center line X thus tending to insure a better hold in the material. To prevent one end 25 from lying on top of the other they may be turned or twisted slightly as they are turned down so that their ends lie side by side.

The base material 20 may be of any suitable material and if desired may match or contrast with the article to which the fitting fastener is to be applied. Likewise the risers such as 21 and 22 may be of any suitable material and may correspond to or contrast with the base member 20 or the fabric or material or article to which the fitting member is to be applied.

In Fig. 4 the base member and risers are shown of substantially the same thickness. This, however, is not essential. As illustrated in Fig. 8 the base member and risers may be of different thicknesses. Likewise the base members and risers may be of different materials. The webbing with the bars affixed is light and flexible. The device may be made in any suitable or desirable length. The number of bars 24 applied in any particular arrangement may be varied at will. Such devices as the tape illustrated in Fig. 3 for instance may be made in long sections and cut into proper or desired lengths for application to various positions where the fitting fastener is to be used. The tape may be fitted and fastened to the article by sewing or in any other suitable or desired way. When desired two or more hooks may be associated with a single series of bars or there may be provided a plurality of groups of bars to cooperate with a single hook. The invention is not limited to the specific way of forming and attaching bars illustrated.

The invention is adapted to use with various materials and the term fabric is here used to indicate any woven or knitted material as well as such materials as leather, imitation leather, oil cloth, rubber, rubber substitute and various other materials which may be employed in the manufacture of articles of any sort where an adjustment or attachment is desired.

This application is a continuation-in-part of my application Ser. No. 205,016 filed April 29, 1938.

I claim:

1. Two separated edges of fabric arranged to leave a channel between them, means passing through the fabric to hold the edges in place, members passing over the channel and separated from each other along the channel, a hook to engage one of the members, and a tongue on the hook longer than the distance between the members and lying in the channel.

2. A fabric, two separated pieces of fabric arranged to leave a channel between them on the first fabric, means passing through the fabrics to hold them in place, members passing over the channel and separated from each other along the channel, a hook to engage one of the members, and a tongue on the hook longer than the distance between the members and lying in the channel.

3. A fabric, two separated pieces of fabric arranged to leave a channel between them on the first fabric, means passing through the fabrics to hold them in place, members fastened to the separated pieces and passing over the channel and separated from each other along the channel, a hook to engage one of the members and having a tongue longer than the distance between the members and lying in the channel.

4. Two separated pieces of fabric arranged to leave a channel between them, members crossing the channel at regular intervals, a plate, a hook on the plate extending at right angles thereto, a tongue on the hook substantially parallel to the plate and longer than the intervals between the members so that the plate may be inclined to cause the hook to engage a member by passing the tongue between adjacent members and into the channel so that its tendency to engage an adjacent member will tend to prevent direct disengagement of the hook.

5. Two separated pieces of fabric arranged to leave a channel between them, members crossing the channel at regular intervals, a hook, a tongue on the hook longer than the intervals between the members so that the hook may engage a member by passing the tongue when inclined between adjacent members and into the channel so that its tendency to engage an adjacent member will tend to prevent direct disengagement of the hook.

6. Two separated pieces of fabric arranged to

leave a channel between them, members crossing the channel at regular intervals, a plate, a hook on the plate, a tongue on the hook substantially parallel to the plate and longer than the intervals between the members so that the plate may be inclined to cause the hook to engage a member by passing the tongue between adjacent members and into the channel so that its tendency to engage an adjacent member will tend to prevent direct disengagement of the hook.

7. Two separated pieces of fabric arranged to leave a channel between them, members crossing the channel at regular intervals, a plate, a hook on the plate, a tongue on the hook longer than the intervals between the members so that the hook may engage a member by passing the tongue when inclined between adjacent members and into the channel so that its tendency to engage an adjacent member will tend to prevent direct disengagement of the hook.

8. Two separated edges of fabric arranged to leave a channel between them, members passing over the channel and separated from each other along the channel, integral prongs on the members passing through the fabric and overlapping each other, a hook to engage one of the members, and a tongue on the hook longer than the distance between the members and lying in the channel.

9. Two separated edges of fabric arranged to leave a channel between them, means passing through the fabric to hold the edges in place, members passing over the channel and separated from each other along the channel, a separate piece of fabric, a hook to engage one of the members, prongs on the hook passing through the separate piece of fabric and overlapping each other, and a tongue on the hook longer than the distance between the members lying in the channel.

HENRY SEYMOUR FRANK.