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FORM OR PAD FOR DEFORMED LIMBS AND ARTIFICIAL LIMBS

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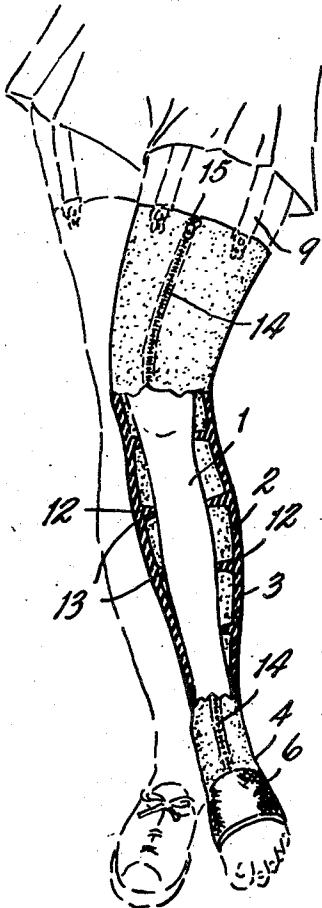


FIG. 1

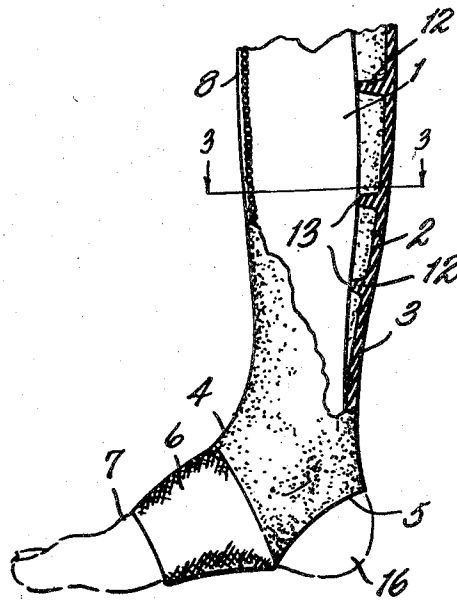


FIG. 2

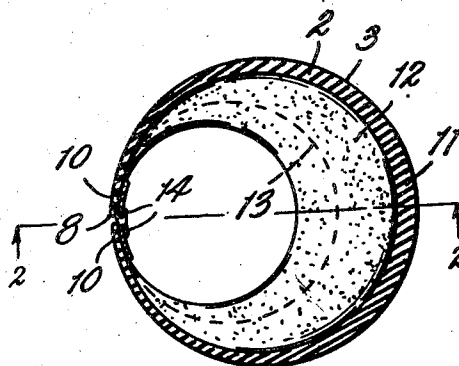


FIG. 3

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FORM OR PAD FOR DEFORMED LIMBS AND
ARTIFICIAL LIMBS

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5 Claims. (Cl. 2-267)

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This invention relates to forms or pads for deformed limbs and artificial limbs.

The main objects of this invention are:

First, to provide a form or band for a deformed leg which simulates a naturally formed leg and has a smooth imperforate wall surface and at the same time provides effective ventilation.

Second, to provide a structure of the character described which may be easily and quickly applied and at the same time maintains its position on the leg.

Third, to provide a structure of this character which may be fitted to deformed legs varying considerably in size.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary view partially broken away and in longitudinal section of a form or pad embodying the invention applied to a deformed leg.

Fig. 2 is a fragmentary view partially in longitudinal section on a line corresponding to line 2-2 of Fig. 3 with the pad or form applied to a deformed leg.

Fig. 3 is an enlarged transverse section on a line corresponding to line 3-3 of Fig. 2.

In the accompanying drawing, 1 represents a deformed leg or under-developed leg such as commonly results from infantile paralysis. The form or pad of the invention comprises a flexible resilient wall portion 2 desirably of molded rubber, either synthetic or artificial, the form being externally conformed to simulate a naturally formed leg and having a smooth exterior surface 3.

The form is provided with a foot portion 4 having a heel opening 5 therein and terminating in a relatively non-elastic or stretchable band 6 adapted to embrace the instep of the foot of the wearer indicated at 7. This band is desirably vulcanized to the wall 2. It serves to position and maintain in position the lower end of the form.

The wall has a longitudinal slit-like opening 8 extending from the band 6 to the top of the pad or form, this being desirably on the front of the form. The form extends well above the knee of the wearer and may be supported by hose supporters shown conventionally at 9 although un-

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der ordinary conditions it is not likely to become displaced downwardly as the wall desirably is of sustaining thickness. To that end, the wall is relatively thin at 10 adjacent the longitudinal opening thereof and is of uniformly increasing thickness from this opening to the rear of the wall, the thickest zone 11 being diametrically opposed to the opening.

To support the wall in position and prevent substantial movement thereof relative to the leg, I provide longitudinally spaced yieldable internal flange-like leg-engaging elements 12. These are substantially spaced and they merge into the wall adjacent the opening. They are designed to yield substantially to conform to the leg of the wearer but if desired their edges 13 may be cut away more or less as required to comfortably fit them to the particular wearer and thereby adapted through quite a wide range to legs of different sizes.

The opening is provided with closure members desirably zipper fastener elements shown conventionally at 14 and secured on the inner sides of the wall adjacent the slit or opening thereof, the slide being conventionally shown at 15.

In applying or putting on the form, the opening is opened the full length. The foot is slipped through the retaining band which is properly adjusted to the instep with the heel 16 of the wearer through the heel opening 5, the form brought around the leg of the wearer and the closure adjusted. If desired, the hose supporters may be applied and it is practically impossible for the form to become displaced. The spaced leg engaging supports provide ventilating spaces around the leg which open through the fastener. This prevents the leg becoming overheated.

I have illustrated and described my invention in what I regard as a highly practical embodiment thereof. I have not attempted to illustrate or describe other embodiments or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt the invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A form for a deformed leg comprising a flexible resilient wall portion of molded rubber externally conformed to simulate a naturally formed leg and having a smooth exterior surface and extending substantially above the knee of the wearer and terminating in a conformed

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foot portion at its lower end having a heel opening therein, the foot portion terminating in a relatively non-elastic instep embracing band, the wall having a front opening extending from its upper end to the foot band and being relatively thin at the edges of its front opening and gradually increasing in thickness from the front to the rear thereof, the zone of greatest thickness being opposite the front opening, the wall having integral transversely disposed longitudinally spaced internal yieldable leg engaging wall supporting flanges merging at their front edges into the relatively thin portions of the wall, and zipper fastener elements arranged on the inner side of the wall at the edges of the front opening thereof and extending from the said foot band to the upper edge of the form.

2. A form for a deformed leg comprising a flexible resilient wall portion of molded rubber externally conformed to simulate a naturally formed leg and having a smooth exterior surface and extending substantially above the knee of the wearer and terminating in a conformed foot portion at its lower end having a heel opening therein, the foot portion terminating in a relatively non-elastic instep embracing band, the wall having a front opening extending from its upper end to the foot band, the wall having integral transversely disposed longitudinally spaced internal yieldable leg engaging wall supporting flanges merging at their front edges into the wall, and zipper fastener elements arranged on the inner side of the wall at the edges of the front opening thereof and extending from the said foot band to the upper edge of the form.

3. A form for a deformed leg comprising a flexible resilient wall portion of molded rubber externally conformed to simulate a naturally formed leg and extending substantially above the knee of the wearer and connected at its lower end to a conformed foot embracing portion having a heel opening therein and terminating in an instep embracing band, the wall having a front opening extending from said band to its upper end and being relatively thin at the edges of its front opening and gradually increasing in thickness from the front to the rear thereof, the zone

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of greatest thickness being opposite the front opening, the wall having integral transversely disposed longitudinally spaced internal yieldable leg engaging wall supporting flanges merging at their front edges into the relatively thin portions of the wall, and closure means for the front opening.

4. A form for a deformed leg comprising a flexible resilient wall portion of molded rubber externally conformed to simulate a naturally formed leg and extending substantially above the knee of the wearer and connected at its lower end to a conformed foot embracing portion having a heel opening therein and terminating in an instep embracing band, the wall having a front opening extending from said band to its upper end, the wall having integral transversely disposed longitudinally spaced internal yieldable leg engaging wall supporting flanges merging at their front edges into the wall, and closure means for the front opening.

5. A pad for deformed or artificial limbs formed of elastic material and externally conformed to simulate a naturally formed limb and comprising a flexible resilient wall portion terminating in a conformed foot portion at its lower end having a heel opening therein, the foot portion terminating in a relatively non-resilient instep embracing band, the wall having an opening extending from the band to its upper end, the wall having integral transversely disposed longitudinally spaced internal yieldable limb engaging supporting flanges, and closure means for said opening arranged within the wall.

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