June 8, 1954 H. M. LAIRD ET AL 2,680,310

CLOSURE FOR OVERSHOE UPPERS

Filed Sept. 9, 1953

2 Sheets-Sheet 1

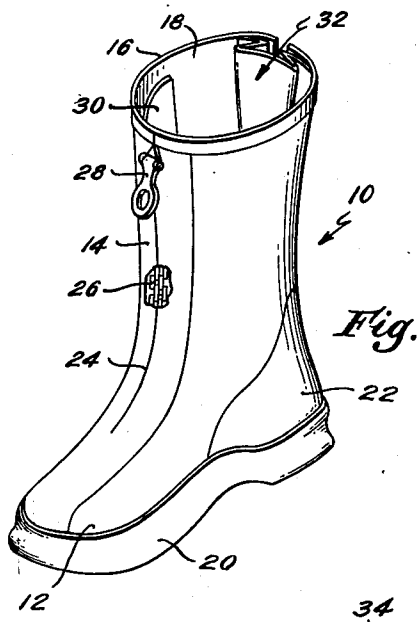

Fig. 1.

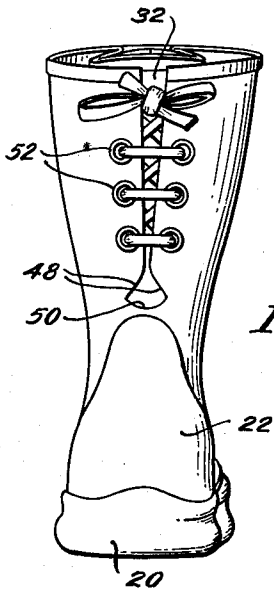

Fig. 2.

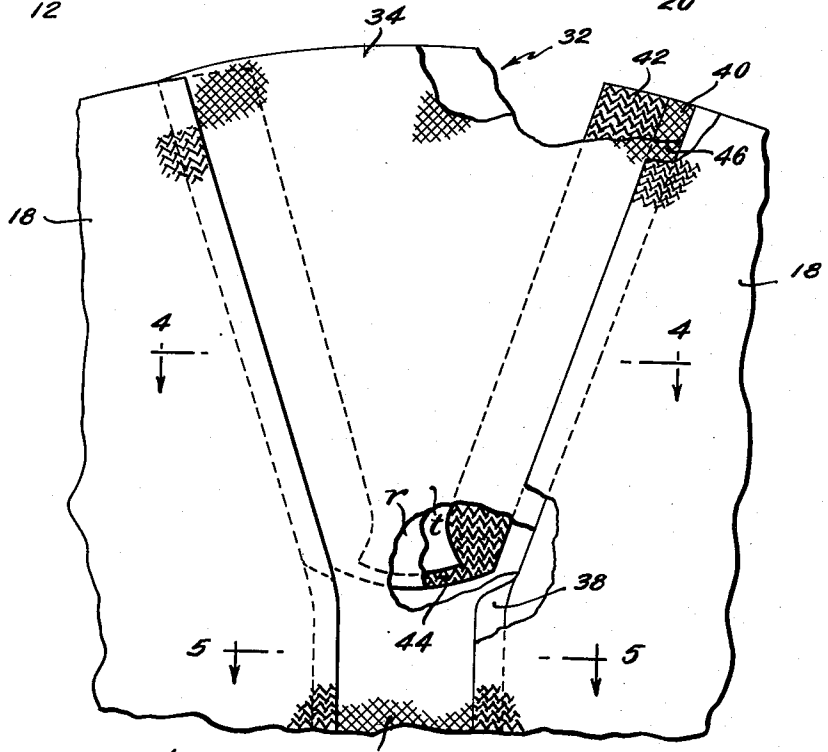

Fig. 3.

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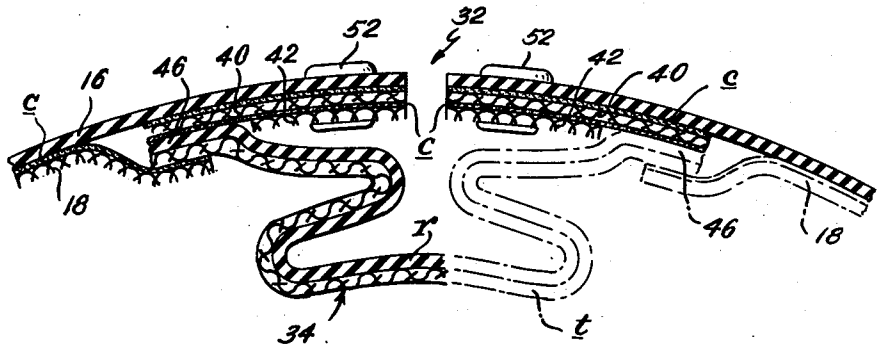

Fig. 4.

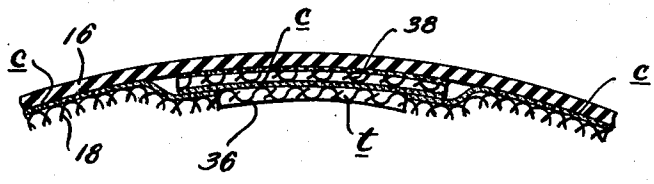

Fig. 5.

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CLOSURE FOR OVERSHOE UPPERS

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Application September 9, 1953, Serial No. 379,175

6 Claims. (Cl. 36—50)

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This invention relates to boots or overshoes of the kind having a waterproof foot and leg and has for its principal objects to provide the leg with a back vent and a special closure thereof which will afford a perfect barrier to the entrance of water and/or snow, which will supplement the conventional foot opening when extended to permit the foot to be inserted and withdrawn with maximum ease and when contracted conforms closely to the contour of the leg, and assists in shaping the leg of the overshoe to the leg girth throughout a reasonably wide range of leg sizes. Other objects are to provide a structure which is durable, is not bulky and is easiy to fabricate.

As herein illustrated the leg of the boot has a substantially V-shaped opening or gap at its back located above the top of the counter and extending upwardly therefrom to the top of the leg. The boot and leg are comprised of an outer waterproof layer, for example rubber and an inner textile lining in the form of a woven, knitted or felted fabric. The gap is filled by a foldable tongue having a substantially trapezoidal portion adapted to set into the V-shaped gap with its narrow end overlapping the apex of the gap and a narrow rectangular portion adapted to extend downwardly therefrom along the backseam forming a back stay. Prior to securing the tongue in the gap a reinforcing strip is made fast to the inside of the boot with a lower portion extending along the back seam from the bottom up to the gap and an upper portion forked to extend upwardly therefrom along the opposite margins of the gap. Additional reinforcement in the form of narrow eyelet stays are also made fast to the margins of the gap, the lower ends thereof being joined by a narrow web which overlaps the lower end of the gap. The opposite edges of the trapezoidal portion of the tongue are secured to the reinforcing strips inwardly of the eyelet stays so as to leave the eyelet stays accessable while the back stay portion is fastened to the inside of the boot below the gap. The lining is then fastened in place so that it overlaps the edges of the trapezoidal portion of the tongue and abuts the edges of the back stay portion. The reinforcing strip is preferably a fabric impregnated rubber and the interfacial surfaces of the various parts are joined together with a rubber cement or the like.

The invention will now be described in greater detail with reference to the accompanying drawings, wherein—

Fig. 1 is a perspective view of the overshoe embodying the constructional features of the invention;

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Fig. 2 is an elevation of the back part of the boot;

Fig. 3 is a greatly enlarged elevation of the inside of the back part of the boot projected on a flat plane showing the vent structure;

Fig. 4 is an enlarged horizontal section taken on the line 4—4 of Fig. 3; and

Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 3.

Referring to Fig. 1 there is shown an overshoe 10 consisting of a foot 12 and an upper or leg 14 which extends upwardly therefrom beyond the ankle for engagement with a portion of the leg between the ankle and the knee. The foot and leg are preferably comprised of some waterproof material 16, for example natural or artificial rubber and/or plastic, suitably lined with a textile material 18 for warmth such as woven, knitted or felted fabrics. The foot has a conventional bottom structure with a non-slip tread for both the sole and heel, a reinforcing fender or kick strip 20 extending around the bottom at the junction of the bottom structure and upper, and a high reinforced counter 22 at its heel end.

The leg 14 has a vent 24 in the front portion thereof extending from the open top downwardly and terminating substantially at the instep of the foot. The vent is normally held closed when the boot is worn, by a conventional closure fastener 26 consisting of complemental elements attached along the inner marginal edges of the vent and engageable by a slide having an operable tab 28. A bellows type tongue 30 is set into the vent at the inside of the upper in conventional fashion, being joined by cement and/or stitching along its opposite and lower edges to the marginal edges of the vent, behind the closure fastener elements. As constructed herein the edges of the tongue are sandwiched between the upper and lining. The tongue being full, may be extended when the fastener elements are disengaged to permit the vent to open, thus allowing the expansion of the upper part of the boot. When folded or pleated, the tongue will lie snugly about the fore part of the leg. Since the tongue is secured along its edges and bottom to the upper marginally of the vent, it excludes entrance of water and/or snow which may possibly penetrate the fastener elements.

Supplementing the front opening provided by the vent 24 there is a second vent 32 at the back of the overshoe, Fig. 2, within which there is set a bellows like tongue having a substantially trapezoidal portion 34 which fills the gap and a narrow rectangular portion 36 which extends downwardly from the narrow end thereof along the

inside backseam of the overshoe forming a backstay. The prolongation of the tongue which forms the backstay provides an uninterrupted smooth surface which greatly facilitates donning the overshoe when the foot is thrust into it. The tongue is comprised of a textile layer *t* of woven, knitted or felted fabric and has applied to the outer side of the trapezoidal portion thereof a layer of waterproof material such as rubber *r*. The tongue is full so as to allow expansion of the upper part of the leg, but when folded or pleated it will lie snugly about the calf of the leg.

The tongue according to this invention is secured in place in a special way as will now appear to insure absolute sealing against entrance of water and/or snow at this part of the boot. To this end as illustrated in Figs. 3, 4 and 5, a reinforcing strip of textile material is applied to the back of the overshoe along the back seam which is comprised of a woven, knitted or felted fabric having a substantially rectangular lower portion **38** rising from the bottom of the overshoe up to the vent and then forking so that narrow strips **40—40** of reinforcing material extend upwardly along the opposite margins of the gap to the top of the overshoe. This strip throughout its entire area is secured to the inside of the outer rubber layer by a body of rubber cement or the like. Next for additional reinforcement a pair of eyelet stays **42** in the form of narrow textile strips are applied to the margins of the gap inwardly of the reinforcing strips **40—40**. The lower ends of these stays are joined by a narrow bridge piece **44** which overlaps the bottom of the gap. These stays **42**, and the joining piece **44** at their lower ends, are fastened securely to the reinforcing strip at the junction of the strip portions **38** with the portion **40—40** and along the portions **40—40** by adhesive in the form of a body of rubber cement or the like. The tongue which as heretofore pointed out has a trapezoidal portion **34** and a rectangular portion **36** depending therefrom, is now set into the gap and its opposite edges **46—46** are adhesively secured to the reinforcing strips **40—40** at the opposite sides of the gap inwardly of the eyelet stays **42—42** so as to leave the latter free and unobstructed. The narrow end of the trapezoidal portion actually overlaps the apex of the gap and the portion **36** extends from thence down and is adhesively fastened to the reinforcing material throughout the area below the gap. Following this the lining material **18**, which may be a knitted fabric, is fastened over the edges **46—46** of the trapezoidal portion of the tongue, that is so as to overlap these edges, by a body of adhesive or rubber cement interposed between the two down to the junction of the trapezoidal portion with the rectangular back stay portion where the lining instead of overlapping the backstay is brought into abutting relation thereto.

To make the overshoe thoroughly waterproof at the junction of the tongue with the margins of the vent, the reinforcing layer including portions **38** and **40—40** is preferably impregnated with rubber, that is the fabric is treated to a rubberizing process which results in a thorough impregnation of the interstices of the fabric with rubber or other waterproof material, so that it will not take up moisture. Furthermore rubber adhesive *c* is employed to join the interfacial surfaces of the outer layer, reinforcing layer, eyelet strips, marginal edges of the tongue and lining. This may be in the form of a ribbon or liquid which when vulcanized or cured will form with the parts being joined a homogeneous joint.

It is to be understood that where the term waterproof or rubber layer is employed any equivalent material may be substituted such as impervious synthetic plastics in sheet form and fabrics coated or impregnated with waterproofing substances and that where the term fabrics is employed any of the woven, knitted, netted, or felted textiles are intended to be included, whether made of natural or artificial fibers.

The foregoing construction provides for expansion of the leg of the overshoe in addition to that afforded by the front vent thus facilitating donning the overshoe even when heavy socks are worn and the trouser leg extends down into the overshoe, and yet permits drawing the leg snugly about the calf thereof when heavy socks are omitted and/or the trouser leg is worn outside the overshoe and to conform closely and neatly to the leg of the wearer regardless of the girth. Other advantages reside in a very durable and permanent seal between the tongue and leg of the boot at the vent opening, trim appearance and comfort to the wearer.

The vent **32** has at its lower end oppositely flaring marginal edges **48—48** providing a substantially lenticular opening **50**. This opening prevents any water and/or snow which gains access to the space between the marginal edges of the vent and the tongue after the lacing has been drawn tight, from being trapped therein and freezing or tending to soak through the material of the boot. That is, any water and snow accumulating therein will gravitate to the bottom and pass out through the lenticular opening.

Grommets **52** are placed in the eyelet stays for receiving lacing and by adjustably drawing the vent at the back part of the overshoe closed it may be made to conform closely to the girth of the leg. The adjustment provided by the lacing makes it possible to secure a much closer fit than is ordinarily possible where the only opening is at the front of the overshoe, makes room for heavy stockings and when necessary for the legs of trousers tucked into the boots and so provides for maximum protection against the entrance of snow and water.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the appended claims.

This is a continuation-in-part of application Serial No. 193,910, filed November 3, 1950, since abandoned.

We claim:

1. Closure means for a substantially V-shaped vent opening at the back part of the leg of an overshoe which has outer and inner plies consisting of a waterproof outer material and a textile lining material comprising a narrow reinforcing layer of fabric fast to the waterproof layer inwardly thereof, said reinforcing layer extending upwardly from the foot along the back seam to the bottom of the vent, said reinforcing layer forking at the vent and extending upwardly along its margins to the top of the leg, a foldable tongue having a substantially trapezoidal vent-filling portion, from the narrow end of which extends a narrow substantially rectangular back-stay portion, said tongue being set into the vent with the opposite edges of the trapezoidal portion fast to the reinforcing layer along the margins of the vent, and its narrow end overlapping the bottom of the vent and with the rec-

tangular backstay extending downwardly from the bottom of the vent along the backseam of the overshoe to the bottom, said lining overlapping the opposite edges of the trapezoidal portion of the tongue at the vent and abutting the edges of the rectangular backstay portion below the vent.

2. Closure means for an overshoe according to claim 1 wherein the trapezoidal portion of the tongue consists of an outer waterproof layer and an inner fabric layer and the rectangular backstay portion consists solely of an extension of said inner fabric layer.

3. Closure means for an overshoe according to claim 1 wherein the opposite edges of the trapezoidal portion of the tongue are made fast to the reinforcing layed inwardly of the edges of the vent so as to leave uniformly wide eyelet flies along said margins, additional reinforcing strips are made fast to the eyelet flies which are coextensive therewith, and grommets are set into the flies for receiving lacing.

4. Closure means for an overshoe according to claim 1 wherein the reinforcing layer is comprised of a textile fabric impregnated with waterproof material.

5. Closure means for an overshoe according to claim 1 wherein bodies of waterproof adhesive are interposed between the interfacial surfaces of the outer layer of the overshoe, the reinforcing layer, the eyelet stay reinforcing strips, the margins of the tongue and the lining.

6. Closure means for an overshoe according to claim 1 wherein the reinforcing strip is a rubberized fabric and rubber cement is interposed between the interfacial surfaces of the outer layer of the overshoe, reinforcing strip, eyelet reinforcing stays, margins of the tongue and lining.

No references cited.