M. C. CLARK.

MANUFACTURE OF RUBBER FOOTWEAR.

APPLICATION FILED NOV. 6, 1909.

1,047,750.

Patented Dec. 17, 1912

3 SHEETS—SHEET 1.

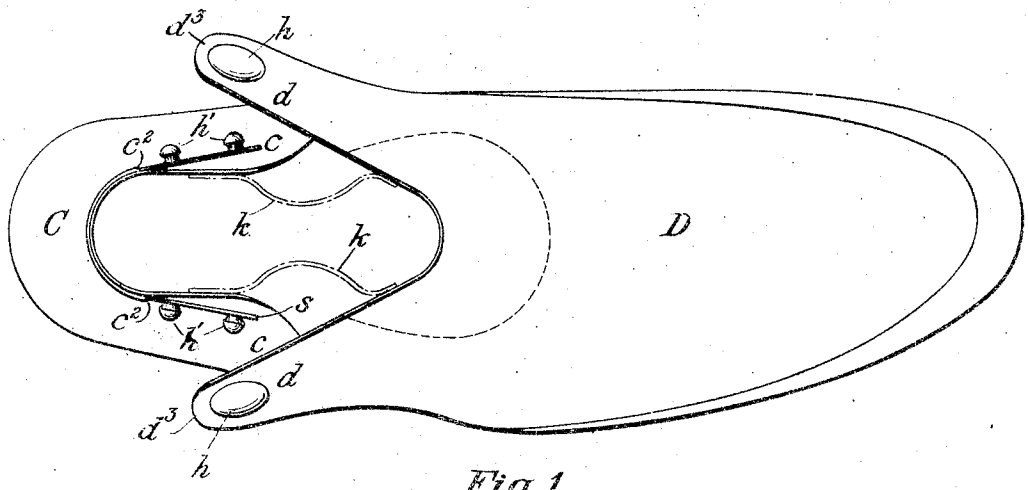

Fig. 1.

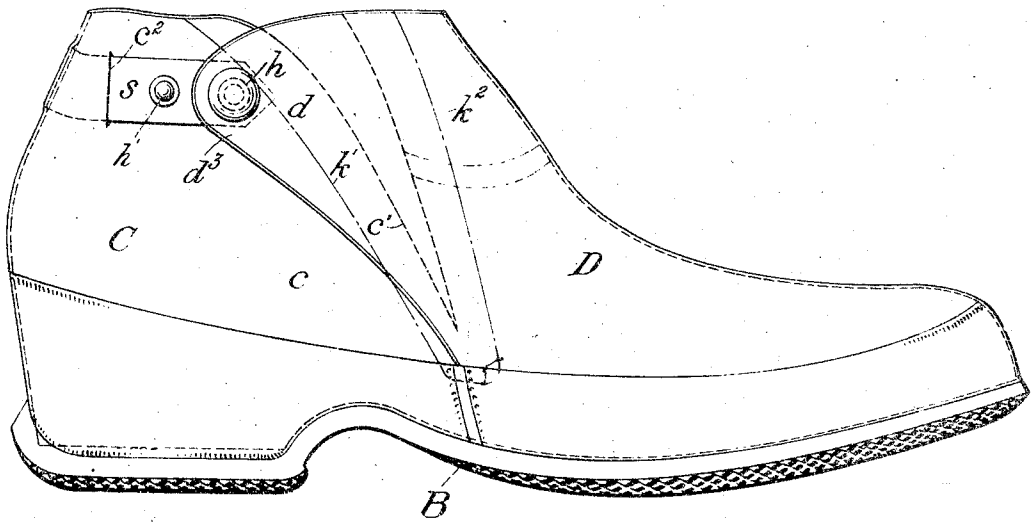

Fig. 2.

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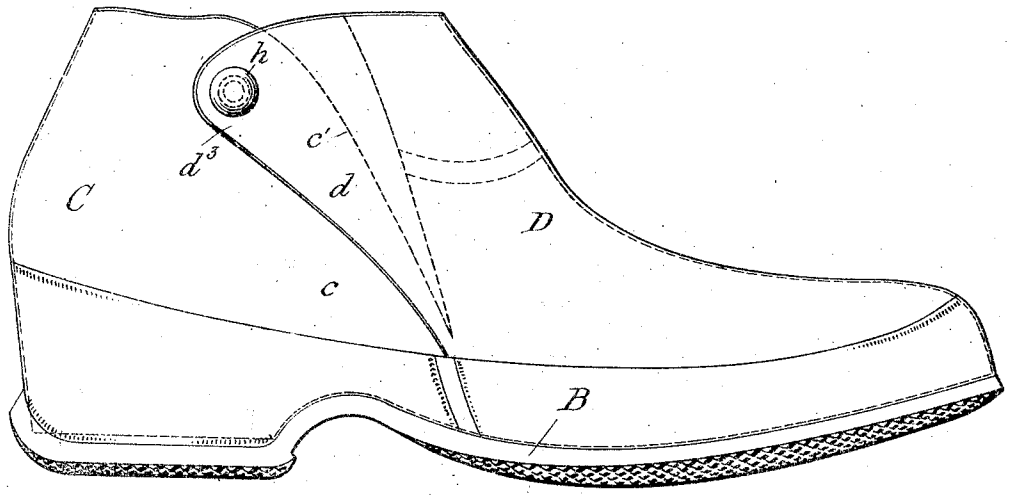

Fig. 3.

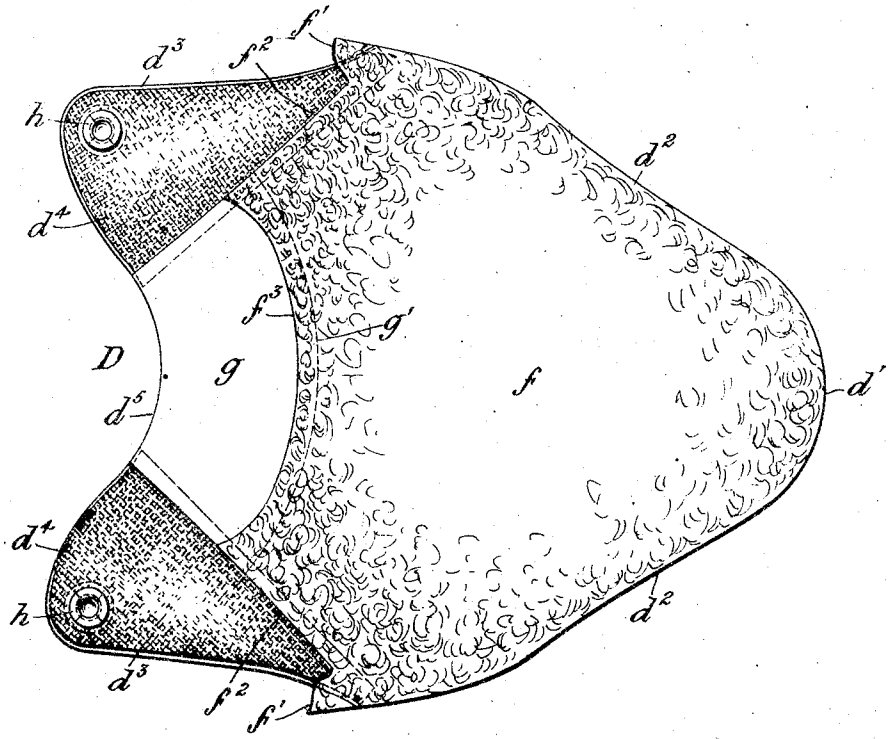

Fig. 4.

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3 SHEETS—SHEET 3.

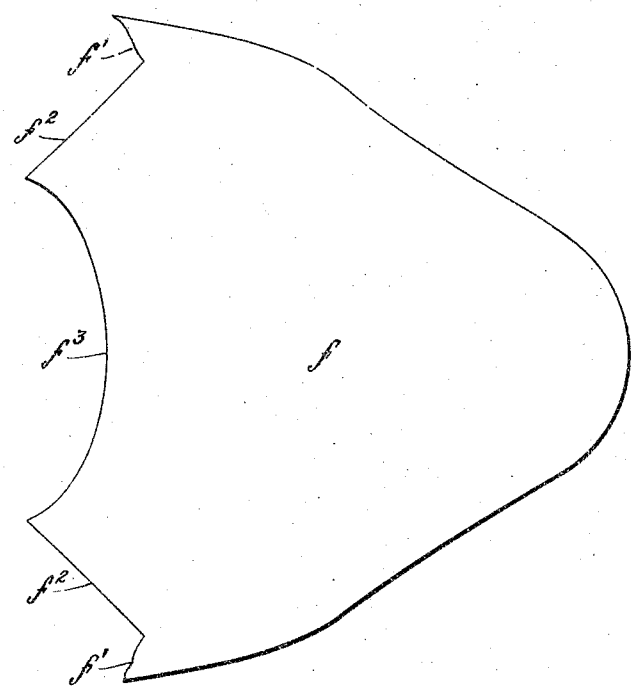

Fig. 5.

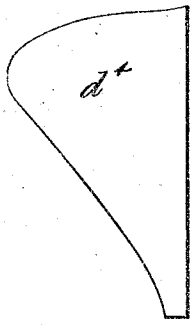

Fig. 6.

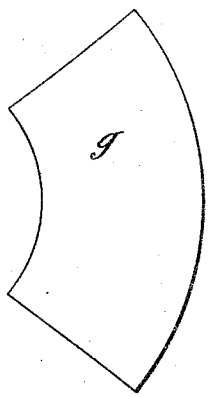

Fig. 7.

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF RUBBER FOOTWEAR.

1,047,750. Specification of Letters Patent. Patented Dec. 17, 1912.

Application filed November 6, 1909. Serial No. 526,553.

To all whom it may concern:

Be it known that I, MAURICE C. CLARK, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Manufacture of Rubber Footwear, of which the following is a specification.

My invention relates to improvements in the art of manufacturing rubber footwear and consists of a novel form of overshoe or "arctic" constructed of cloth and rubber.

The object of my improvement is to provide a practical and efficient overshoe adapted to adjust itself closely to the shoe-clad foot of the wearer and to be fastened thereon without any buckle, clasp or other fastening device over the instep.

A further object of my improvement is to provide for better protection from the weather than that afforded by the usual form of overshoe by forming the front or vamp of the shoe of a single, unbroken piece without openings or gaps, thereby better adapting it to shed snow or water encountered in walking.

My invention is fully described in the following specification, illustrated by the accompanying drawings, in which:

Figure 1 is a plan view of my improved overshoe; Fig. 2, a side elevation of the same; Fig. 3, a side elevation of the shoe showing a modification of the fastening arrangement; Fig. 4, a plan view of the vamp of the overshoe viewed from the inner side and showing the method of constructing it from the several parts of fabric, rubber and lining; Fig. 5, a view showing the pattern of the lining piece for the vamp; Fig. 6, a view showing the pattern of the fabric and stays for the side pieces or wings of the vamp; Fig. 7, a view showing the pattern of the rubber piece which forms the yielding part of the vamp.

Referring to Figs. 1 and 2, my improved overshoe is shown as constructed with a rubber sole B of conventional form with a fabric upper C—D attached thereto in the usual manner. The upper of the shoe consists of two parts; the counter C and the vamp D. The counter C is preferably formed in one piece of non-elastic material with the quarters c, c extending from the sides of the shoe around the back and joined to the sole and heel. The front edges of the quarters extend up from the sides of the sole just forward of the heel, as represented by the dotted line c' in Fig. 2, and round off into the top edge of the counter. My improvement consists essentially in forming the vamp D or front portion of the upper in one continuous piece extending over the top of the toe and instep, around the sides of the shoe, and overlapping the quarters at d, d. The shape of the vamp D is shown in Fig. 4, its forward end being rounded at d' to conform to the toe of the shoe; the edges d^2, d^2 adapted to follow the contour of the sides of the sole of the shoe; and the extensions or wings d^3, d^3 designed to overlap the quarters of the counter and be secured thereto by suitable fastening devices.

The vamp is preferably formed of two thicknesses of material, shaped as shown in Fig. 4, with the inner or lining portions cut to the patterns illustrated in Figs. 5, 6 and 7. The outer vamp is made in one piece of elastic textile material of the form shown in Fig. 4, shaped to fit the toe and sides of the sole B and lined with four pieces of various materials as now described: The main portion of the lining, as designated by f, is preferably of felt or other cold-resisting material, made in the same piece with the lining for the counter of the shoe. The portions which extend around the sides and back of the upper to line the counter are not here shown, however, these extensions from the vamp lining, proper, being broken off at f', f', see Figs. 4 and 5. This felt portion of the lining is cemented to the inside of the fabric vamp but does not completely cover the latter, being cut away at f^2, f^2 where the vamp extends in the wings or flaps d^3, d^3, and also at f^3 so that it does not reach clear to the edge d^5. The flaps d^3, d^3 are preferably faced on the inside with pieces d^4, d^4 of the same material as the outer portion of the vamp, cut to the form shown in Fig. 6. To make these flaps non-elastic and relatively inflexible so that they will set close to the sides of the shoe when secured by the fasteners, I reinforce them with stays of canvas or other stiffening material cemented between the cloth of

the outer vamp and the inner lining pieces d^4, d^4. Extending across the top of the vamp along the edge d^5 is a segmentally shaped strips g of thin sheet rubber, see Fig. 7, which is cemented to the under side of the fabric of the vamp and preferably overlaps the edges of the pieces d^4, ^{4}, see Fig. 3. The edge f^3 of the felt lining f is shown as overlapping the edge g' of the rubber strip g, see dotted lines. The rubber strip g is attached to that portion of the vamp which fits over the instep of the wearer's foot and gives the required elasticity to make the vamp conform to the shape of the foot.

The openings between the vamp and the counter provide for inserting the shoe-clad foot into the overshoe and the upper part of the overshoe is fastened snugly around the ankle by securing the flaps d^3, d^3 to the sides of the shoe. Any suitable form of fastening device might be used for this purpose, but I have preferred to show the flaps secured by "snap" fasteners h, h, which make a convenient arrangement and present a neat appearance. These fasteners are of the usual male-and-female type used for gloves and other articles of apparel. In Figs. 1 and 2 I have shown a strap s fastened to the back of the shoe and this may be slightly elastic and is secured by leading it through suitable openings c^2 in the outer fabric and thence between the fabric and the lining to make a neat finish. The strap s is cemented in place between the two thicknesses of material and the free ends are covered with cloth to match the upper of the shoe. Riveted to the straps at their ends are the male members h' of the fasteners, formed with mushroom heads adapted to snap into the circular cavities of the female button-shaped portions h. I have shown two male fasteners attached to each strap and a greater number might be used to provide for taking up the top of the shoe so that it can be adjusted to variations in size of ankle. In Fig. 3 the shoe is shown with a single fastener and in this modification of my improved arrangement the vamp is fastened directly to the counter without the use of a strap around the back of the ankle.

The shoe shown in Fig. 3 is adapted for ordinary uses and makes a very light and neat article for ladies' wear. To make it completely water-proof and absolutely impervious to the insinuation of moisture when used for walking in heavy snow or slush I have provided a further protection to seal the opening between the vamp and the counter. This consists of a flexible gore k of substantially V-shape, represented by dot-and-dash lines in Figs. 1 and 2, and having its edges attached to the vamp and counter at k' and k^2. This gore may be elastic to adapt it to stretch to allow the overshoe to be drawn over the shoe, or it might be made of waterproof fabric of ample width to permit the opening of the mouth of the overshoe and arranged to fold upon itself when the upper is fastened about the ankle.

It will be seen from reference to the drawings that my improved overshoe presents a very neat and stylish appearance and is far less cumbersome and awkward than articles of this character now manufactured. It can be made considerably lighter than the ordinary form of overshoe now in use; is adapted to fit the foot much more closely; and can be fastened around the ankle without the bungling appearance of overshoes in which the upper is fastened in front by buckles or other exposed fasteners. The use of a buckle or other fastener over the instep is open to serious objections for several reasons: In the first place, it catches in the clothing of the wearer and is apt to tear the lace or trimming on women's underskirts. It also catches in the hem of the trousers when worn by men and, besides tearing the apparel, acts as a hindrance to walking. If the overshoe is fastened tightly on the foot, the buckle will press on the sensitive part of the instep, or cause the buttons or lacing fasteners of the under shoe to bind against the instep and ankle, making it very uncomfortable to walk. My improvement obviates all of these objections by providing a neat and simple arrangement for securing the parts of the upper at the sides of the overshoe where the fasteners will not be liable to catch in the garments of the wearer or cause an uncomfortable pressure on the instep, besides giving a smooth, close-fitting appearance to the front of the shoe.

Another most important feature is the better weather-resisting qualities of my improved overshoe. In the usual style of overshoe the quarter extends over the vamp and forms a pocket or trough at the front where the two sides meet. This makes a veritable catch-basin for snow and water so that the moisture eventually finds its way into the interior of the overshoe. In the present arrangement the vamp overlaps the quarter and forms a shed at the front of the overshoe which directs the moisture back over the sides without allowing it to enter the interior.

Various modifications might be made in the form and material of certain parts of my improved overshoe without departing from the scope of my invention, therefore, I do not limit myself to the precise structure and arrangement described, but

What I claim is:—

As a new article of manufacture, an overshoe comprising the sole and upper, with the upper formed of the counter C and vamp D, the vamp D being constructed of elastic textile fabric shaped to cover the entire fore

part of the shoe and having flaps extending around the sides of the shoe and overlapping the counter, said vamp lined throughout its forward part with a cold-resisting material, the flaps of the vamp lined with stay pieces of stiffening material, and a thin sheet-rubber lining secured to that portion of the vamp which extends over the instep to adapt the vamp to conform to the shape of the foot.

In testimony whereof I affix my signature in presence of two witnesses.

MAURICE C. CLARK.

Witnesses:
GEO. W. BUNGE,
LUCY BAUMAN.