

Dec. 3, 1929.

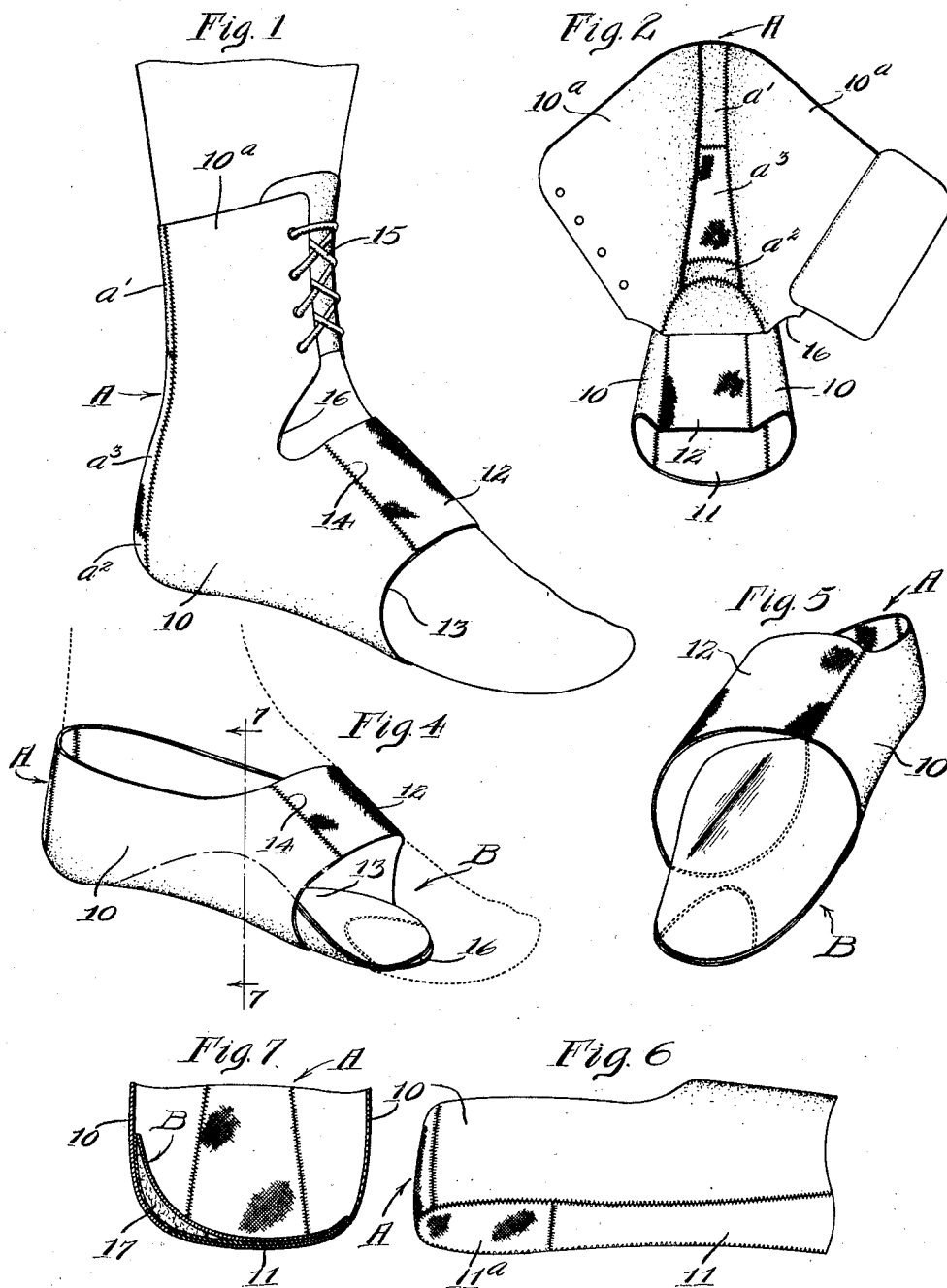
J. A. SKOGLUND

1,737,897

FOOT BRACE

Filed May 12, 1924

2 Sheets-Sheet 1



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Fig. 3

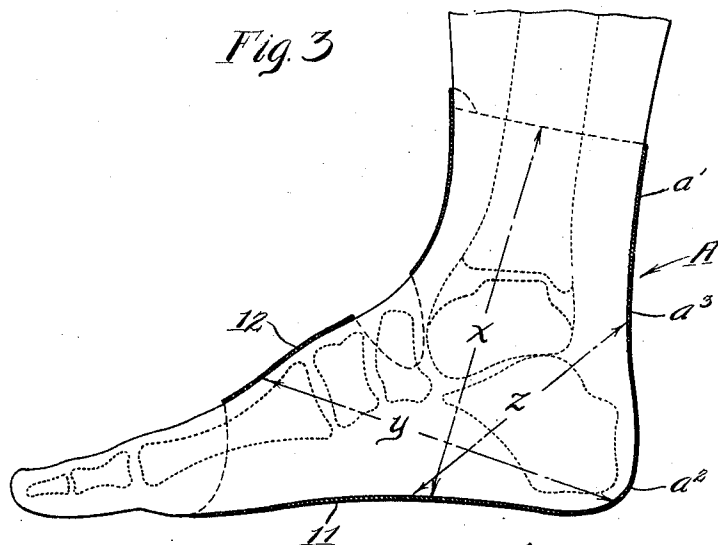


Fig. 8

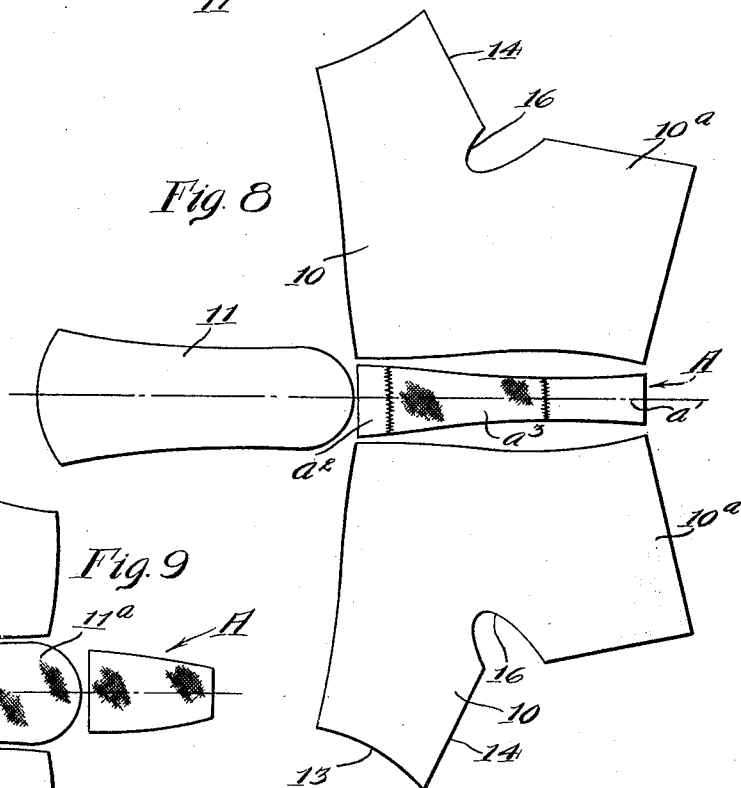
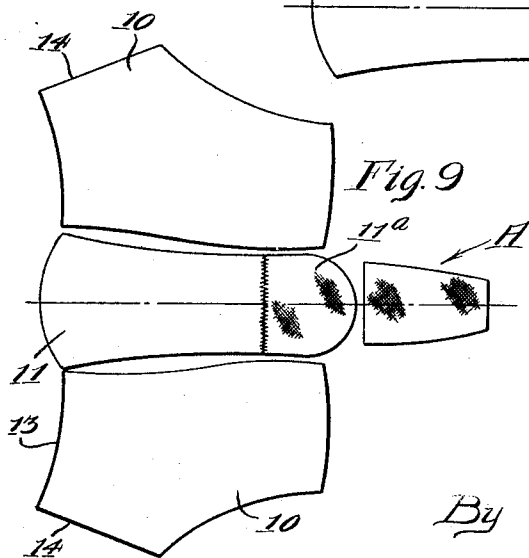


Fig. 9



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UNITED STATES PATENT OFFICE

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FOOT BRACE

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My invention relates to improvements in foot braces.

An object of the invention is to supply an article of the present nature designed and constructed to provide a comfortable, snug fitting and effective brace adapted to correct and also to prevent impairments of the foot of a wearer.

With the foregoing and other objects in view, which will appear in the following description, the invention resides in the novel combination and arrangement of parts and in the details of construction hereinafter described and claimed.

In the drawings, Fig. 1 is a perspective view of a brace embodying my invention, said brace being illustrated as applied to a wearer's foot; Fig. 2 is a perspective view of the brace looking downward at the front thereof; Fig. 3 is a longitudinal, central sectional view of the brace in connection with which is the outline (solid) of a wearer's foot and the outlines (dotted) of the principal bones of the foot; Figs. 4, 5 and 6 are perspective views taken from different angles and illustrating an alternate form of brace; Fig. 7 is a transverse sectional view taken as on the line 7—7 of Fig. 4; Fig. 8 is a plan view of certain parts of the form of brace shown in Figs. 1, 2 and 3, said parts being arranged in their proper relative position for assembly and Fig. 9 is a view similar to Fig. 8, the parts illustrated being that of a brace, the form of which is shown in Figs. 4, 5, 6 and 7.

Referring to the drawings and particularly to Figs. 1, 2, 3 and 8, it will be observed that the form of invention, disclosed in said views, constitutes a brace adapted to receive that portion of a foot back of the ball thereof. This structure includes quarters 10 formed with top members 10^a, a sole 11, gusset stay A and instep strap 12. The sole 11 reaches well forward beneath the foot, the quarters 10 being cut back, as at 13, at their front ex-

tremities to clear the joints at either side of the foot. The strap 12, secured at its ends to the edges 14 at the upper, forward portions of the quarters 10, overreaches the instep of a foot, as shown. Laces 15, threaded in the top members 10^a, bind the upper portions of the brace about the angle, the sides of said brace between the top members 10^a and instep strap 12 being notched as at 16 to permit of freely bending the foot.

The sole 11, quarters 10 and tops 10^a are preferably formed of leather or other suitable non-elastic material, while the instep strap 12 consists of elastic webbing. The gusset stay A has upper and lower sections *a'*, *a''* of leather and medial section *a'''*, the latter being elastic like the instep strap 12. The parts just enumerated have shape, in blank form, as shown in Fig. 8, the meeting edges of the quarters 10, tops 10^a and gusset A being cut to form a snug fit back of the ankle and in this connection, it will be noted that the elastic section *a'''* of said gusset A overlies the hip of the heel bone of a foot.

Referring to Figs. 1 and 3, particularly the latter, it will be seen that the top members 10^a snugly laced together will brace the ankle and at the same time co-operate with the sole 11, through the quarters 10 in sustaining the longitudinal arch of the foot. The transverse arch of the foot is also sustained by the brace, the same being effected through the action of the elastic strap 12 and the forward portions of the quarters 10 and sole 11 in yieldingly binding the foot against spreading. In addition to the above mentioned function of the strap 12, attention is invited to the yielding pull caused by said strap between the instep of the foot and the tip of the heel. This yielding pull or tie between instep and heel trusses up the arched bones of the foot, thus preserving the same in their natural relation. Supplementing said yielding pull or tie between instep and heel tip is the action of the gusset stay section *a'''*, which effects a yielding

upward pull upon the sole 11 of the brace at a point beneath the arch of the foot. Thus, it will be understood that in addition to bracing the ankle and sustaining the transverse arch of the foot by preventing the spreading of the bones forming said arch, my device has three other longitudinal arch sustaining features, one residing in the suspension action on the line X (Fig. 3), another in the yielding tie or pull on the line Y and the third in the yielding pull on the line Z.

The present brace is designed primarily for corrective purposes, but serves effectively in relieving foot fatigue and in preventing impairment of the feet under different conditions. My alternate form of brace, Figs. 4-6, is similar to the form above described, one exception being that the top members 10^a are omitted to permit of the use of the device with low shoes. Other differences are found in the gusset stay A and sole 11. The former is formed entirely of elastic material and the sole 11 has an elastic heel portion 11^a. The parts of both forms, as illustrated in Figs. 8 and 9, are preferably sewed together, edge to edge, by a butting, zig-zag stitching machine. Thus assembled, the parts are made secure, one to the other, in a comfortably fitting device devoid of bulging, lapping edges. The alternate form of brace, of course, lacks the ankle bracing feature of the first form and the longitudinal arch suspending action (line X, Fig. 3). The other arch bracing features remain, however, and an additional feature is produced in the elastic heel tip embracing portion of the brace. In this connection it will be understood that the elastic gusset A and sole portion 11^a (Fig. 6) co-operate with the elastic instep strap 12 in effecting a yielding pull or brace between heel tip and instep.

Taking advantage of the action of the elastic gusset stays and instep straps in both forms of braces, I embody in my improvement an arch supporting pad B constructed substantially along conventional lines. This pad, supplied with a removable metatarsal cushion 16 and a removable longitudinal arch cushion 17, is placed within the brace, as shown, and held thereby in proper position snugly against the wearer's foot.

Changes in the specific form of my invention, as herein disclosed, may be made within the scope of what is claimed without departing from the spirit of my invention.

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

A foot brace comprising quarters of non-elastic material of angular formation, said quarters being slit at the ankle thereof, a sole connecting the lower portions of said quarters, the upper portions thereof falling short of one another throughout their extent at the heel, an elastic member connecting the upper edges of the forward portions of said quar-

ters, an elastic member interposed between the lowermost part and the rearward portions of said quarters, a non-resilient member connecting the upper part of the rearward portions of said quarters, fastening members connecting the upper part of the forward portions of said quarters, said slit separating said first named elastic members from said fastening members.

In testimony whereof, I have signed my name to this specification.

JOSEPH A. SKOGLUND.