J. MAY.

ARCH SUPPORTER.

APPLICATION FILED DEC. 31, 1907.

1,033,184. Patented July 23, 1912.

Fig. 1.

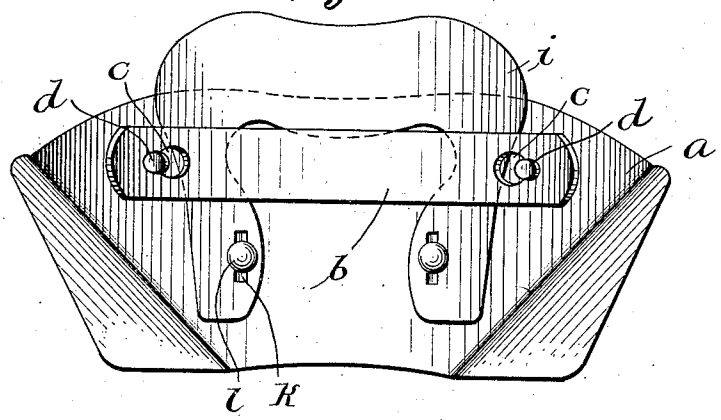
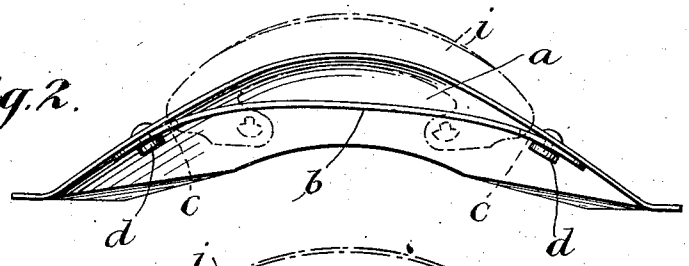


Fig. 2.



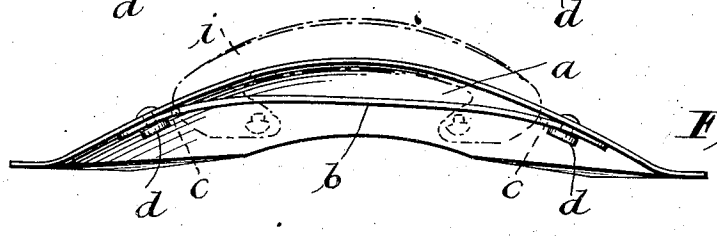


Fig. 3.

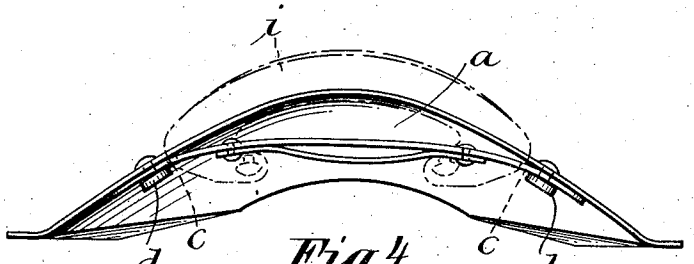


Fig. 4.

Witnesses:

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ARCH-SUPPORTER.

1,033,184. Specification of Letters Patent. Patented July 23, 1912.

Application filed December 31, 1907. Serial No. 408,847.

To all whom it may concern:

Be it known that I, JOSEPH MAY, a citizen of the German Empire, residing at Frankfort-on-the-Main, Germany, have invented new and useful Improvements in Arch-Supporters, of which the following is a specification.

My invention relates to improvements in arch-supporters for deformed or flat feet and the object of my invention is to provide a device of the kind referred to which may be fitted to the shape of any foot, and accordingly very conveniently adjusted to the same at any stage of the complaint of the foot or the recovery therefrom.

I attain my object by the construction illustrated on the drawing herewith, in which—

Figure 1 is a view from below of the bottom-side of an arch-supporter as herein described; Fig. 2 is a side view of the supporter as in its ordinary position, while Fig. 3 is a similar view showing the device as changed and accordingly flattened. Fig. 4 corresponds with Fig. 2, except that the adjustable tie-strap herein below referred to has an extra strengthening for very weighty persons.

My device comprises a loose insole consisting of a curved plate or body *a* of elastic material of some strength, the ends of the said body to rest on the bottom of the boot or shoe. To control the curvature of the arch of the body *a* I provide a tie-strap *b* which is on the drawing represented as a detachable strap having a perforation *c* near each end consisting of two portions of different sizes communicating with each other, the smaller of the two being the one nearest to the respective end, and the body *a* may have a pair of immovable flat-headed buttons or pins *d*, *d* the heads of which may be passed through the larger portions of the perforations, the stems or necks being moved into the smaller portions and engaged by the latter. As illustrated in Fig. 2 which shows the device in normal position, the curvature of the tie-strap *b* corresponds almost entirely with the arch of the plate or insole *a* while when the pressure of the foot acts upon the plate *a* the same flattens down, gliding freely along until restrained by the strap *b* which has become straight as shown in Fig. 3. There should be ready for every supporter a number of tie-straps *b*, each of different length between the said end-perforations, any of which straps may be used and particularly the length which corresponds with the curvature of the arch of the foot for the support of which the device is to be employed. Thus for a foot which is very flat and requires a flat-arched supporter I use a longer tie than for a high-arched foot. (Comp. Figs. 2 and 3). The detachability of the tie strap has the further advantage that it permits the replacement of the strap not only for the adjustment of the device to the shape of the foot, but also whenever an exchange becomes necessary by breaking or tearing. A very weighty person may use a tie which is strengthened by an additional strap *e*, as shown in Fig. 4, to take up part of his weight.

For the inner side-support of a deformed foot there may be removably and adjustably secured in the body *a*, crosswise of the tie-strap and on or beneath the body *a*, a support-piece *i* with a flap which is bent upward in a curve toward the ankle. It may be secured as shown in Fig. 1 of the drawing where there are provided slots *k*, *k* in which there may be transversely moved and adjusted by means of suitable nuts or heads the little screw-bolts *l*, *l* fixed in the body *a* though the said bolts may be fixed in the support-piece and instead thereof the slots provided in the body *a*. In order not to impair the flexibility of the latter the support-piece may be provided with a large notch. The office of the said support-piece being merely to afford a side-support for the foot, it may be of much softer and more flexible material than the body *a* and thus be made to adapt itself to the shape of any foot and adjusted to meet any deformity without causing any pain, even if the foot, be it flat or high arched, is very sensitive.

It is evident that changes, variations and modifications may be resorted to without departing from the spirit of my invention, and I therefore do not wish to restrict myself to the particular details of construction as shown in the drawing, but reserve the right to make such changes, variations and modifications as come properly within the said spirit.

I claim:

1. An arch supporter for deformed feet comprising a resilient adjustable supporting plate and a one piece interchangeable tie

strap extending lengthwise of said plate and having its ends removably secured to the supporting plate at points intermediate of the ends of said plate, said tie strap being arranged to maintain said plate in its adjusted position and to limit the compression movement thereof.

2. An arch supporter for deformed feet comprising a resilient adjustable supporting member, an interchangeable tie strap removably carried by said member and extending lengthwise thereof for maintaining said member in its adjusted position and for limiting the compression movement of said supporting member, and a plate extending beyond and mounted on said supporting member so as to be transversely adjustable thereto.

3. An arch-supporter for deformed feet comprising the combination of a resilient curved plate, a removable tie-strap strengthened by an additional strap, and rigid means located on said curved plate adapted to engage the said tie-strap, substantially as described and for the purpose set forth.

4. An arch-supporter for deformed feet comprising the combination of a resilient curved plate, a removable tie-strap, rigid means carried by the said plate adapted to engage the said tie-strap, a transversely adjustable support-piece having a flap upwardly bent and a screw in a slot adapted to secure the said support-piece in its adjusted position, substantially as described and for purposes set forth.

5. An arch supporter for deformed feet comprising a resilient adjustable supporting plate, a removable tie strap for maintaining said plate in its adjusted position, and stationary projections extending downwardly from said supporting plate for detachably engaging said tie strap.

6. An arch supporter comprising a resilient adjustable supporting plate, fixed projections carried by said plate, and a removable tie strap provided with slots adapted to detachably engage said projections and maintain said supporting plate in its adjusted position and limit its compression movement.

7. An arch supporter comprising a resilient adjustable supporting plate, fixed projections carried by said plate, a tie strap arranged to detachably engage said projections for maintaining said supporting plate in its adjusted position and for limiting its compression movement, and an additional tie strap secured to said first-named tie strap.

8. An arch supporter comprising a resilient adjustable supporting plate, a removable tie strap for maintaining said supporting plate in its adjusted position and for limiting its compression movement, fixed means on said supporting plate adapted to detachably engage said strap, a transversely adjustable support piece on said plate and having an upwardly extending flap and provided with slots, and screws carried by said supporting plate and adapted to cooperate with said slots to permit the transverse adjustment of said support piece and to secure it in its adjusted position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH MAY.

Witnesses:
JEAN GRUND,
CARL GRUND.