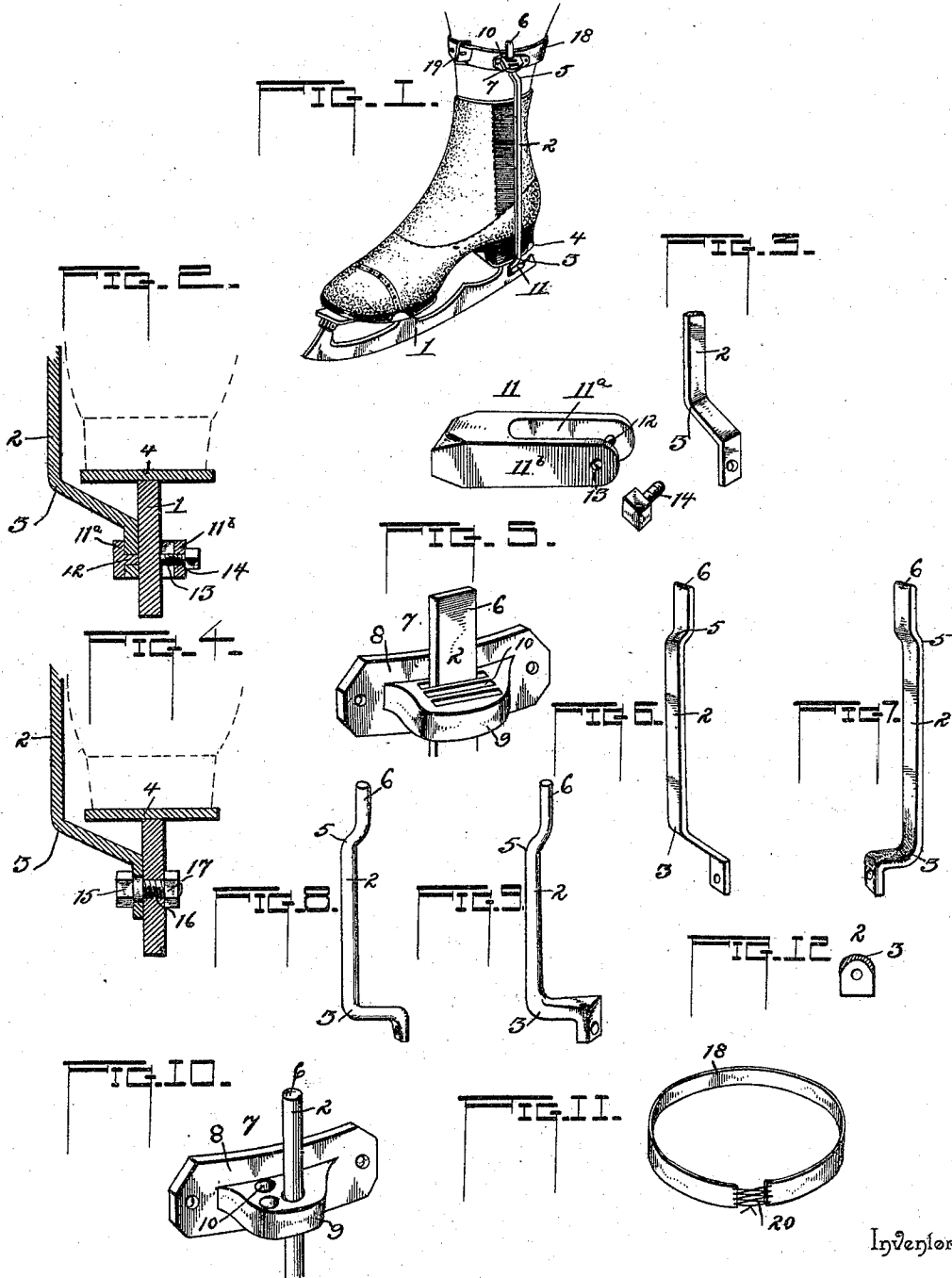


(No Model.)

E. M. THEBIAY.
ANKLE BRACE FOR SKATERS.

No. 584,731.

Patented June 15, 1897.



Inventor

Witnesses

Milton O'Connell,
[Signature]

By his Attorneys,

Edward M. Thebiay,

[Signature]

UNITED STATES PATENT OFFICE.

EDWARD M. THEBIAY, OF WOOLSTOCK, IOWA.

ANKLE-BRACE FOR SKATERS.

SPECIFICATION forming part of Letters Patent No. 584,731, dated June 15, 1897.

Application filed March 24, 1896. Serial No. 584,691. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. THEBIAY, a citizen of the United States, residing at Woolstock, in the county of Wright and State of Iowa, have invented a new and useful Ankle-Brace for Skaters, of which the following is a specification.

My invention relates to an ankle-brace for skaters, and has for its object to provide means for relieving the ankle of the skater from lateral strain without depriving it of the necessary freedom of movement; to provide means for adjusting the brace to insure the necessary stiffness, and thus afford greater or less support, as may be required, and, furthermore, to provide efficient and durable means for connecting the brace to the skate and to the ankle of the wearer, the attachment to the former being such as to adapt it for application to a skate of the ordinary construction without previous preparation.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a brace constructed in accordance with my invention attached to a skate, the same being shown applied. Fig. 2 is a detail transverse section to show the means for attachment to a skate. Fig. 3 is a detail view in perspective of the means for attachment to a skate, the same being shown detached. Fig. 4 is a detail transverse section showing a modified construction of means for attachment to the skate, the runner of the latter being perforated. Fig. 5 is a detail view in perspective of the means for connecting the extremity of the brace to the ankle strap or band. Figs. 6, 7, 8, and 9 are detail views in perspective of different forms of bars employed as braces. Fig. 10 is a detail view showing a form of bracket which is used in connection with a brace of rounded cross-sectional construction. Fig. 11 is a detail view showing a modified construction of means for fastening the ankle strap or band. Fig. 12 is a detail transverse section of the lower portion of the brace shown in Fig. 7 contiguous to the offset to show the concavity thereof.

Similar numerals of reference indicate cor-

responding parts in all the figures of the drawings.

To the outer side of the runner 1 of a skate is pivotally attached the lower extremity of a spring-metal brace 2, consisting of a bar which may vary in cross-sectional construction, as hereinafter explained, the form shown in Fig. 1 being flat with an approximately right-angled or slightly obtuse offset 3 below the plane of the heel-rest 4 of the skate to carry the body portion of the brace beyond the line of the outer side of the shoe of the wearer, as shown clearly in Fig. 2.

This brace is also provided contiguous to its upper extremity with a similar offset 5, which extends inwardly to arrange the tongue 6 at the end of the brace contiguous to the outer side of the ankle of the wearer, said offset 5 being above the ankle bone or joint. This tongue or upper extremity of the brace fits for free movement in a keeper 7, which is adapted to be secured by suitable means to the leg of the wearer above the ankle, and said keeper preferably consists of a securing-plate 8, from which projects the lateral bracket 9, having a plurality of seats 10 arranged at different distances from the plane of the plate. Either of these seats is adapted to receive the upper extremity of the brace to vary the tension of the spring and thus the resistance offered thereby to the lateral bending of the ankle. The seats 10 are of greater length, parallel with the length of the skate, than the width of the engaging portion of the brace, whereby the latter is allowed freedom of movement forwardly and rearwardly in the seats to permit forward and rearward rocking movement of the ankle.

Various means for securing the lower extremity of the spring-brace to the runner of a skate may be employed, but in Figs. 1, 2, and 3 I have shown means for application to a runner which is not perforated to adapt the brace for use in connection with any ordinary form of skate. In this construction I use a bifurcated or forked clamp 11, of which the arms 11^a and 11^b are respectively provided with an inwardly-extending projection or trunnion 12 and a threaded aperture 13 for the reception of a set-screw 14. This clamp is adapted to straddle the rear end of the runner with the trunnion 12, upon which is fitted

the perforated lower extremity of the spring-brace, in contact with one side surface and the extremity of the set-screw 14 in contact with the opposite side surface.

5 When a skate is manufactured with the brace applied as a permanent part thereof, a shouldered pivot-screw 15, as shown in Fig. 4, is employed, the same extending through a perforation 16 in the skate-runner and being engaged at the opposite side of the latter by a nut 17.

The means which I have shown for attaching the keeper to the ankle of the wearer consists of a strap or band 18, to which the securing-plate 8 is attached by rivets, and said strap or band is adapted to be provided with an adjusting device 19, consisting of a buckle, as shown in Fig. 1, or lacing 20, as shown in Fig. 11.

20 In Figs. 6 to 9, inclusive, I have shown different forms of spring-braces. In Fig. 6 the brace is cross-sectionally flat, as illustrated in Fig. 1. In Fig. 7 the brace is also cross-sectionally flat with its lower portion contiguous to the offset strengthened by concaving at its outer side. This also reduces the width of the brace at this point and diminishes the risk of contact therewith of the foot of the skater. In Fig. 8 is shown a cross-sectionally round brace, and in Fig. 9 a similar brace is provided with an enlarged or thickened lower end to increase the strength contiguous to the offset.

35 An ankle-brace constructed as described is adapted not only for beginners and for those having weak ankles, but also for the general skater, inasmuch as it relieves the ankle of lateral strain and avoids that exertion which is necessary to maintain the ankle in its proper position, and hence the device, as described, is of advantage to skaters desiring to make extended trips.

45 The ankle is allowed freedom of movement forwardly and rearwardly, in the first place because of the pivotal connection of its lower end with the skate-runner, and in the second place because of the looseness of fit between its upper extremity and the keepers, and the tension of the spring may be varied to provide the desired lateral resistance by arranging the upper extremity of the brace in different seats in the keeper. The rolling of the ankle

laterally is also provided for by the sliding action between the brace and the ankle-band and the yielding of the spring.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a resilient ankle-brace adapted to be pivotally connected to the side of a skate, of a keeper provided with a plurality of seats to receive the upper end of the brace, and means for securing the keeper to the leg of the wearer above the ankle-joint, said seats being spaced apart laterally whereby the tension of the brace-bar may be varied by the engagement thereof with different seats, substantially as specified.

2. An ankle-brace for skaters provided at its upper end with means for attachment to the side of the leg of the wearer above the ankle-joint, and attaching devices for the lower end of the brace including a forked clamp adapted to straddle the rear end of a skate-runner and having one arm provided with a trunnion perpendicular to the plane of the skate-runner for the lower end of the brace and having the other arm provided with a set-screw to bear against the opposite side of the runner, substantially as specified.

3. The combination of a laterally-resilient brace adapted to be pivotally attached at its lower end to the side of a skate-runner, a keeper having a lateral seat for the reception of the upper extremity of the brace, and means, as a band or strap, for securing the keeper to the outside of the leg of a wearer above the ankle-joint, said brace having lateral outward offsets contiguous to its upper and lower extremities to avoid contact at intermediate points with the ankle of the wearer, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD M. THEBIAY.

Witnesses:

W. P. OWENS,
F. PINDHON.