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M. LOBEL

2,022,247

ARCH SUPPORT

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Fig. 1

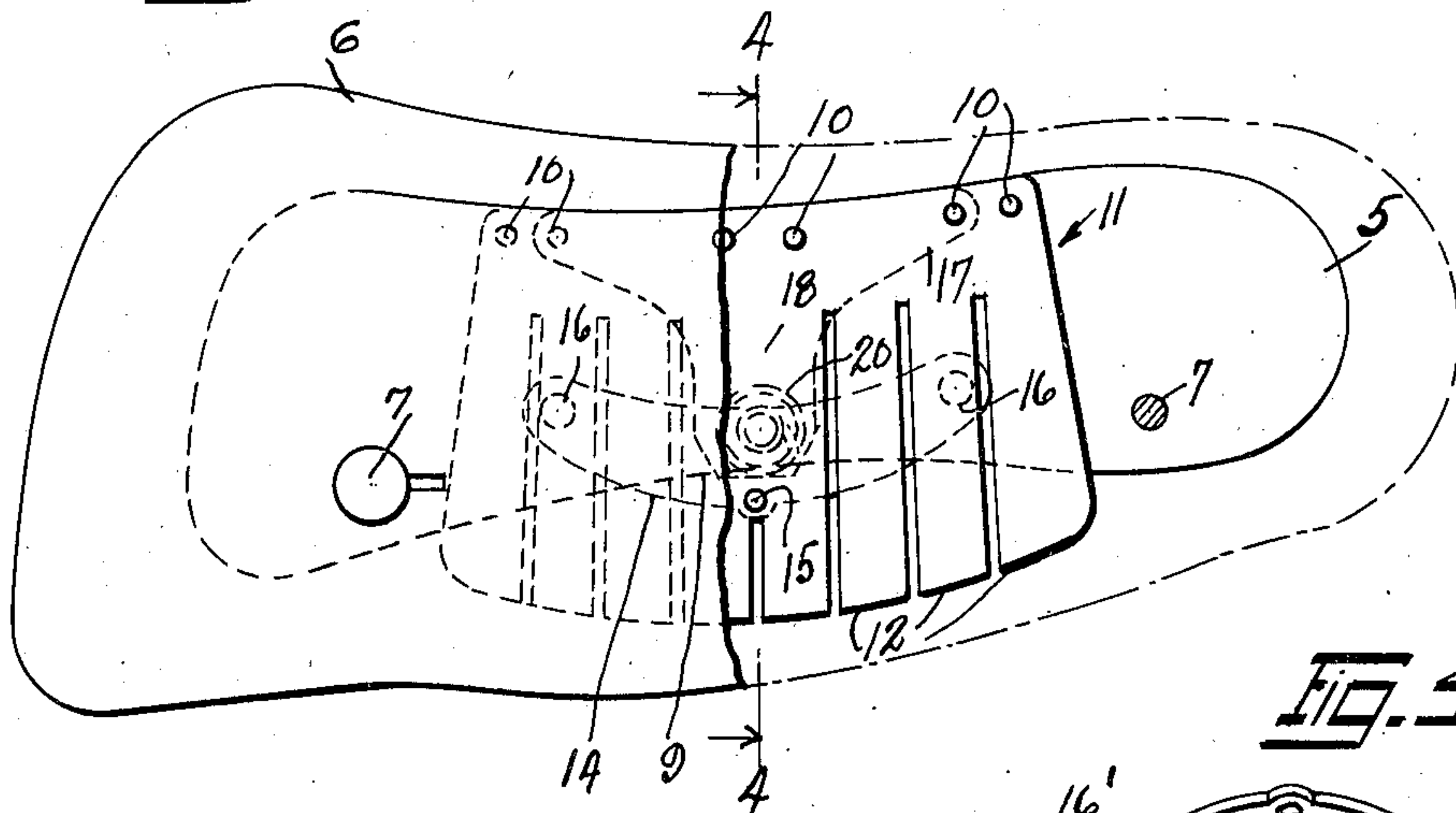


Fig. 4

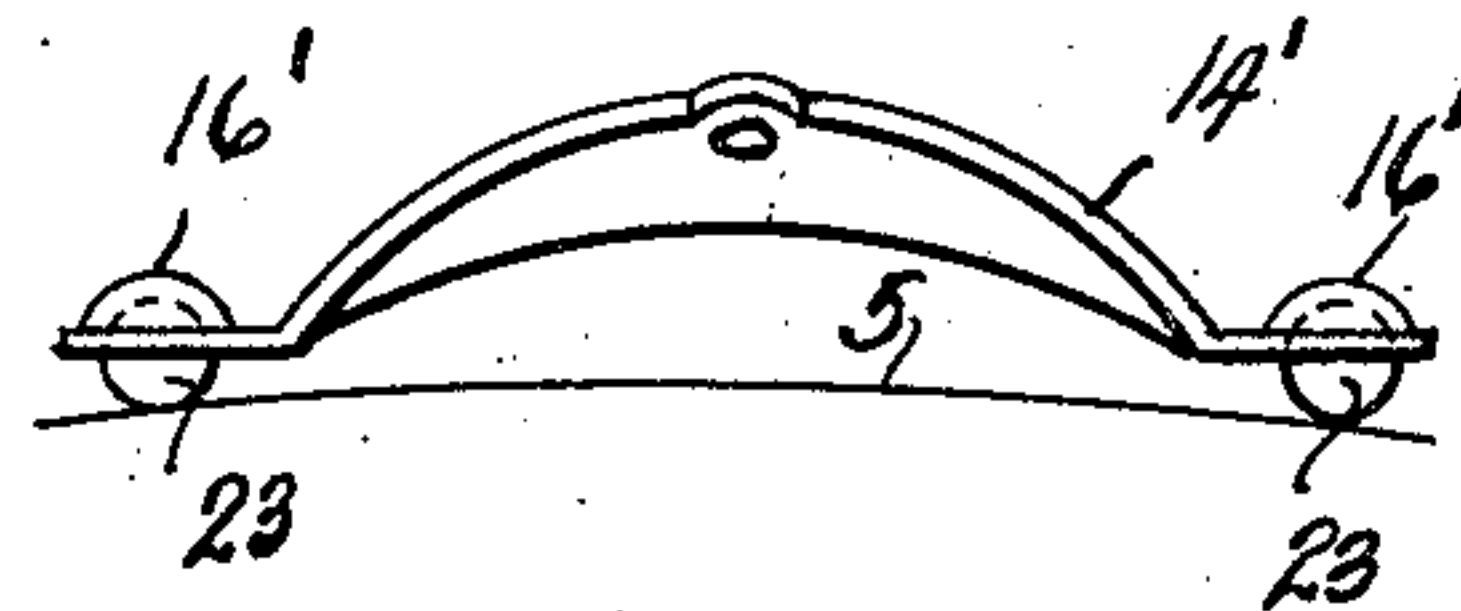


Fig. 2

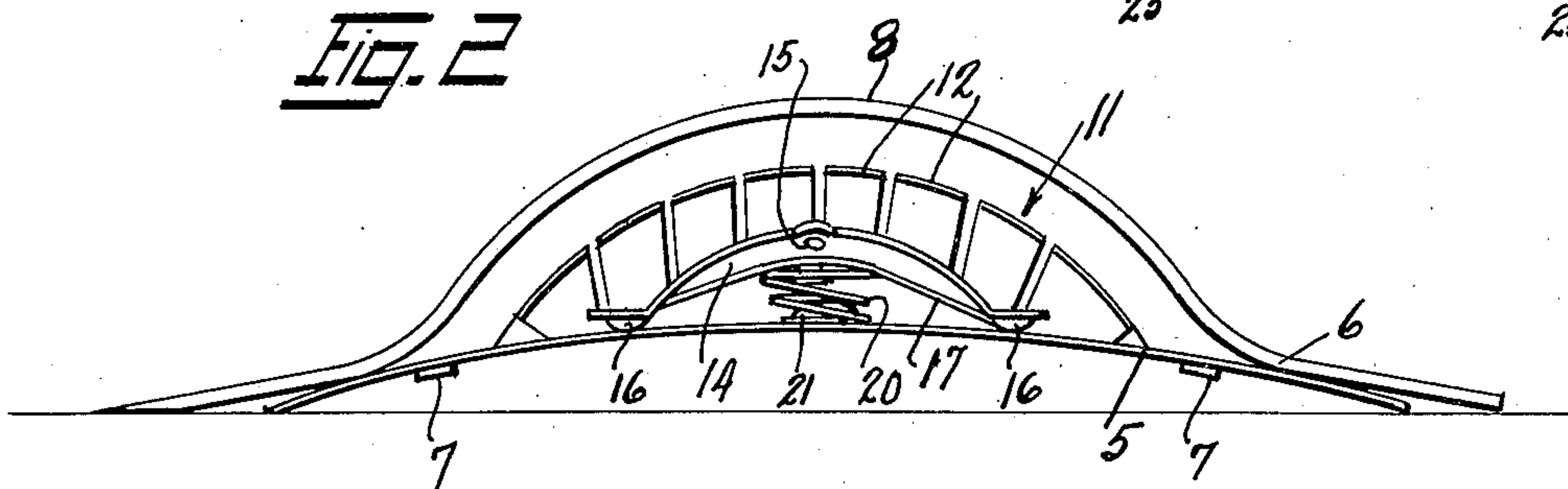
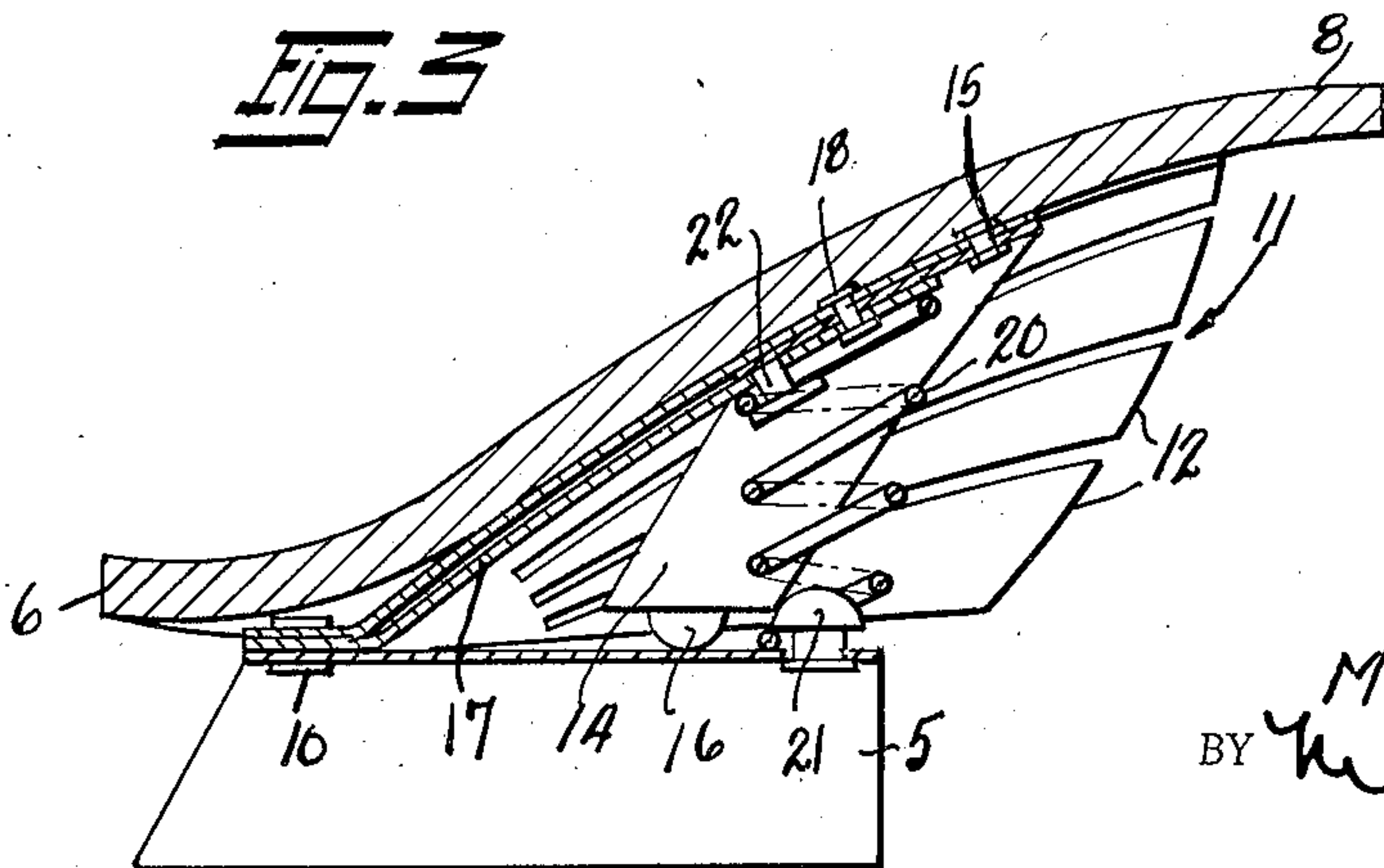


Fig. 3



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ARCH SUPPORT

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3 Claims. (Cl. 36—71)

This invention relates to arch-supporters of the type shown in Patent Number 1,261,042 dated April 2nd, 1918 and has for one of its objects the provision of such an arch-supporter in which the arch or bridge supporting plate is provided with either rounded or ball bearing contact means where it rests upon the base plate, in order to produce a highly flexible arch-supporter.

Another object of the invention is to provide means for anchoring and holding the cushioning spring against accidental displacement.

A further object of the invention is to provide a substantially reenforced yet highly flexible arch-supporter that may be readily inserted into a shoe without alteration to the insole on the said shoe.

Another object is to produce a device of the character described in which the maximum simplicity of construction and operation is secured.

Other objects and advantages will appear as the nature of the improvements is better understood, the invention consisting substantially in the novel arrangement and co-relation of parts herein fully described, and illustrated in the accompanying drawing, wherein similar reference characters are used to describe corresponding parts throughout the several views, and then finally pointed out and specifically defined and indicated in the appended claims.

The disclosure made the basis of exemplifying the present inventive concept suggests a practical embodiment thereof, but the invention is not to be restricted to the exact details of this disclosure, and the latter, therefore, is to be understood from an illustrative, rather than a restrictive standpoint.

The inventive idea involved is capable of receiving a variety of mechanical expressions, one of which, for the purpose of illustration, is shown in the accompanying drawing, in which—

Figure 1 is a top plan view of my improved arch-supporter, with parts broken away for the sake of clarity.

Figure 2 is a side view thereof.

Figure 3 is an enlarged sectional view taken on line 4—4, Figure 1, and

Figure 4 is a detail view of a modified form of the bridge supporting plate.

Referring now to the drawing in detail 5 indicates a base plate which is made of relatively

thin resilient metal preferably steel. The base plate is normally arched (see Figure 2) and has secured thereto a leather cover 6 by means of rivets 7. The central portion of the cover 6 is arched as at 8 to conform to the shape of the arch of the foot. The base plate 5 is provided at one side thereof with a substantial curve 9 to conform to the contour of the inner sole portion of the shoe and to add to the resiliency of the plate.

Secured to the plate 5 by means of rivets 10 is a spring-like supporting bridge or arch 11 provided with a plurality of resilient tongues or fingers 12, the said fingers being shaped similar to the arched portion 8 of the leather cover 6 to fit the arch of the foot. An arch supporting plate 14 is secured to the arch 11 by means of a rivet 15 and may be provided at the bottom thereof with cupped or partly spherical contacts 16 which are in contact with and rest upon the upper surface of the base plate 5. The bridge 11 and supporting plate 14 are reenforced by a reenforcing plate 17 secured to the spring arch 11 by means of a rivet 18 and to the base plate 5 by means of some of the rivets 10.

A supplemental cushioning device is provided between the arch reenforcing plate 17 and the base 5, the said device comprising a coiled spring 20 which is anchored to the base plate by means of a stud 21 and to the plate 17 by a stud or rivet 22.

In Figure 4, I have shown a modified form of the arch-supporting plate, 14', in which the cups, 16', are inverted and act as housings for balls, 23, which contact with and ride upon the top surface of the base plate, 5.

During the ambulatory movements, the ends of the supporting plate 14 will expand and retract and due to the cups 16 or balls 23 the friction between the said plate and base will be greatly reduced, thus adding to the resiliency of the device.

I also find that due to the reenforcing plate 17, spring anchors 21 and 22, a very efficient arch support is provided in which the parts are highly flexible yet strong enough to withstand hard wear and the cushioning spring cannot accidentally be displaced.

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

1. In an arch-supporter, a resilient normally
arched base-plate, a resilient bridge secured
thereto, an arched resilient bridge supporting
plate secured to the bridge, rounded contact
5 means on the said supporting plate in contact
with the base-plate, a reenforcing plate secured
to the base plate and supporting plate, and a
spring interposed between the base plate and
supporting plate and anchored at the top and
10 bottom thereof.
2. In an arch-supporter, a resilient normally
arched base-plate, a resilient bridge secured
thereto, an arched resilient bridge supporting
plate secured to the bridge, ball-bearing contact
15 means on the said supporting plate in contact

with the base-plate, a reenforcing plate secured
to the base-plate and supporting plate, and a
spring interposed between the base-plate and
supporting plate and anchored at the top and
bottom thereof. 5

3. In an arch-supporter, a resilient normally
arched base-plate, a resilient bridge secured
thereto, an arched resilient bridge supporting
plate secured to the bridge, a re-enforcing plate 10
secured to the base-plate and supporting plate,
and a spring interposed between the base-plate
and supporting plate and anchored at the top
and bottom thereof.

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