

**Aug. 20, 1935.**

**J. W. BRANDT**

2,011,842

SADDLE

Filed Feb. 17, 1933

2 Sheets-Sheet 1

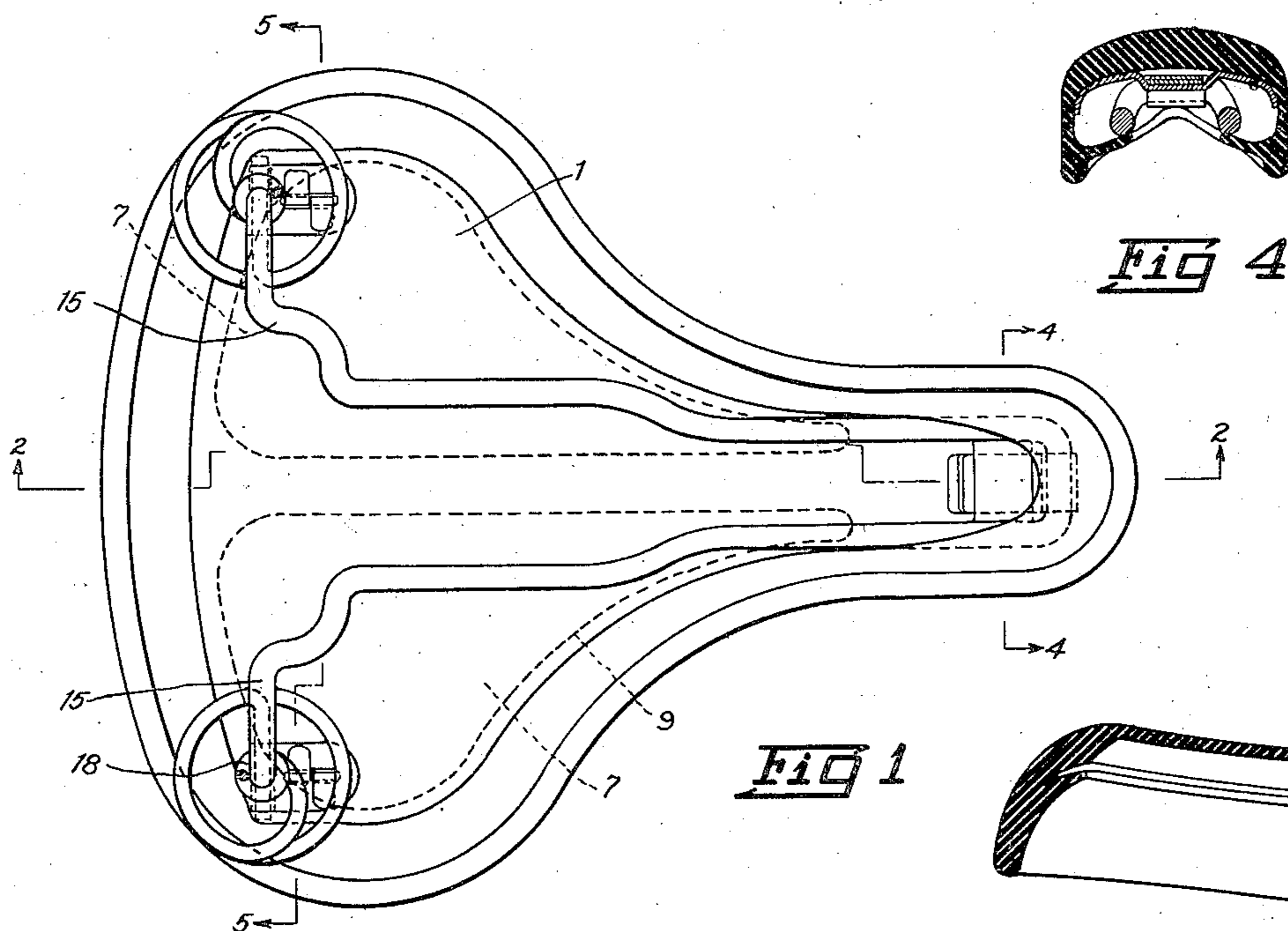
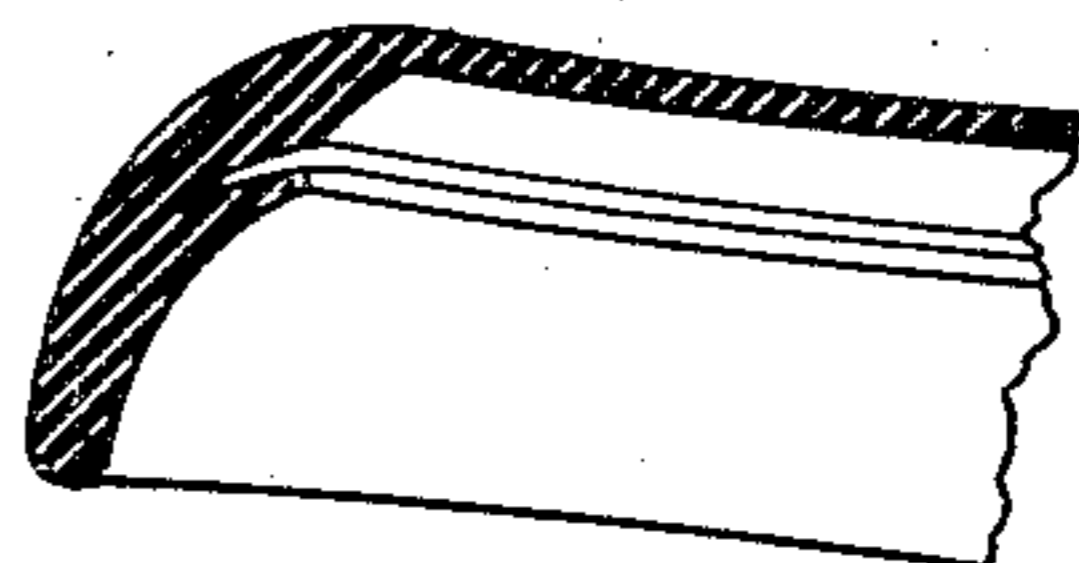
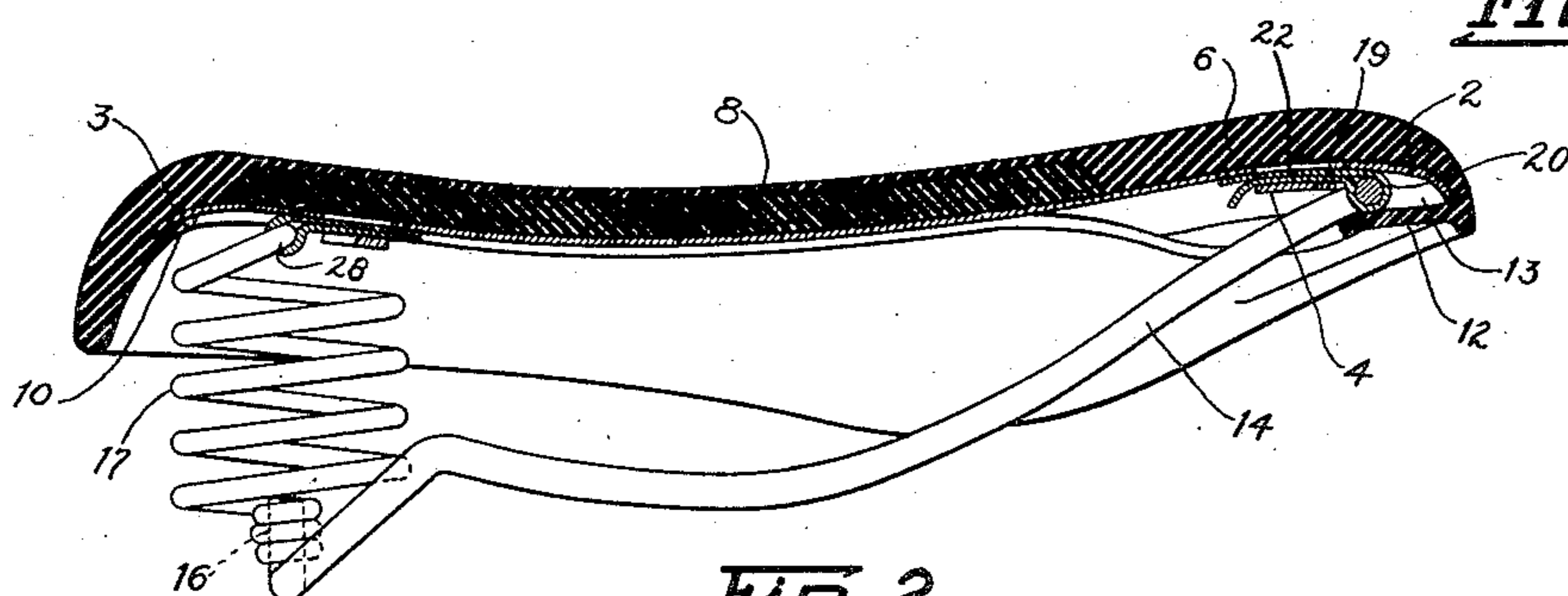


Fig 4

**Fig 1**



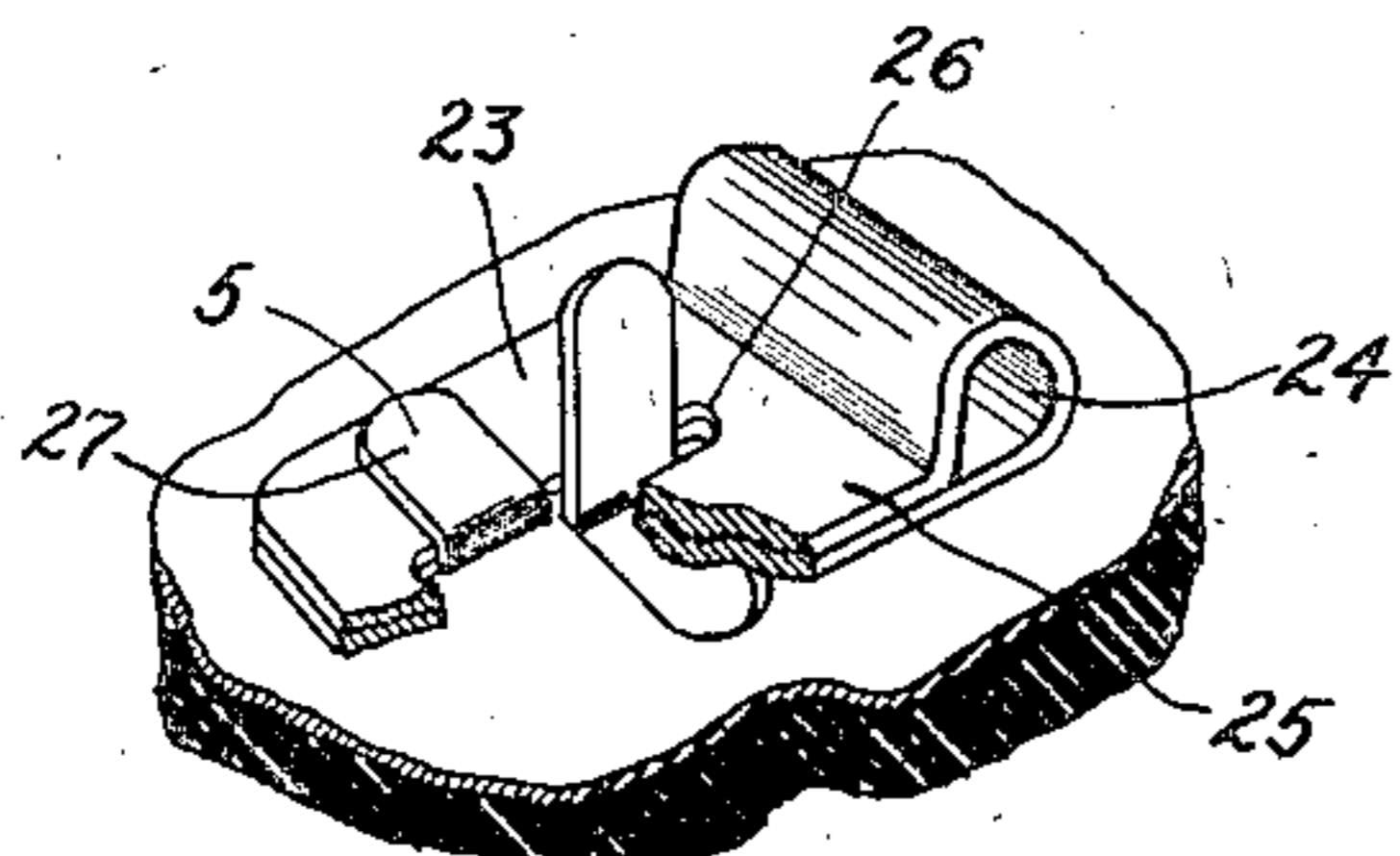
**Fig 6**



**Fig 2**



**Fig 5**



**FIG 3**

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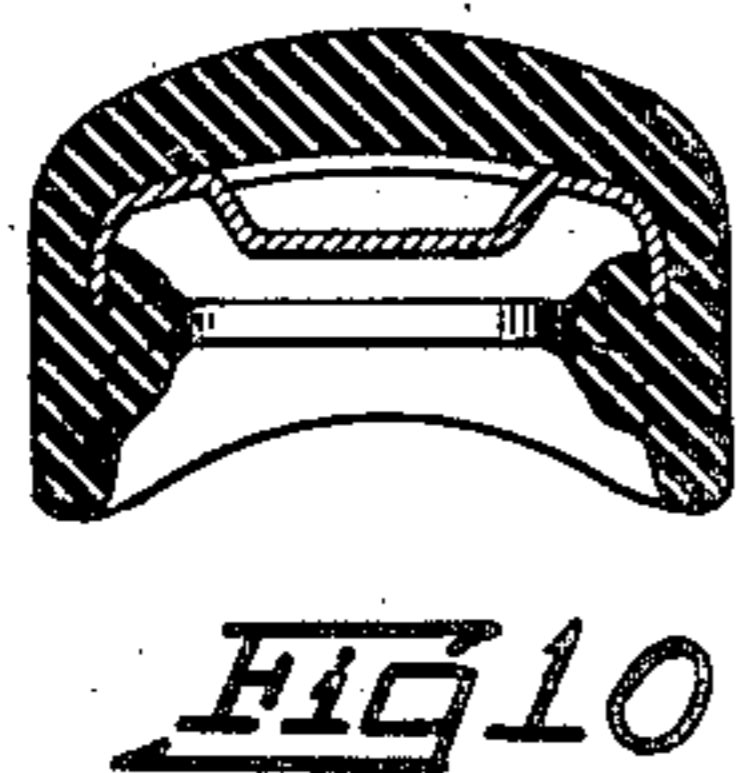
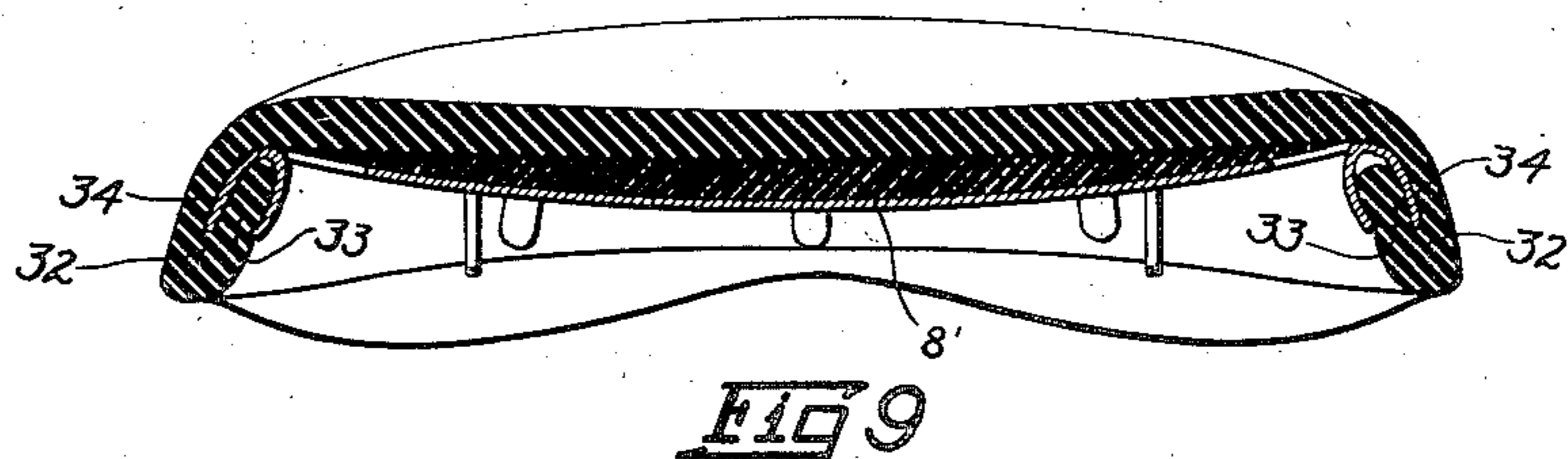
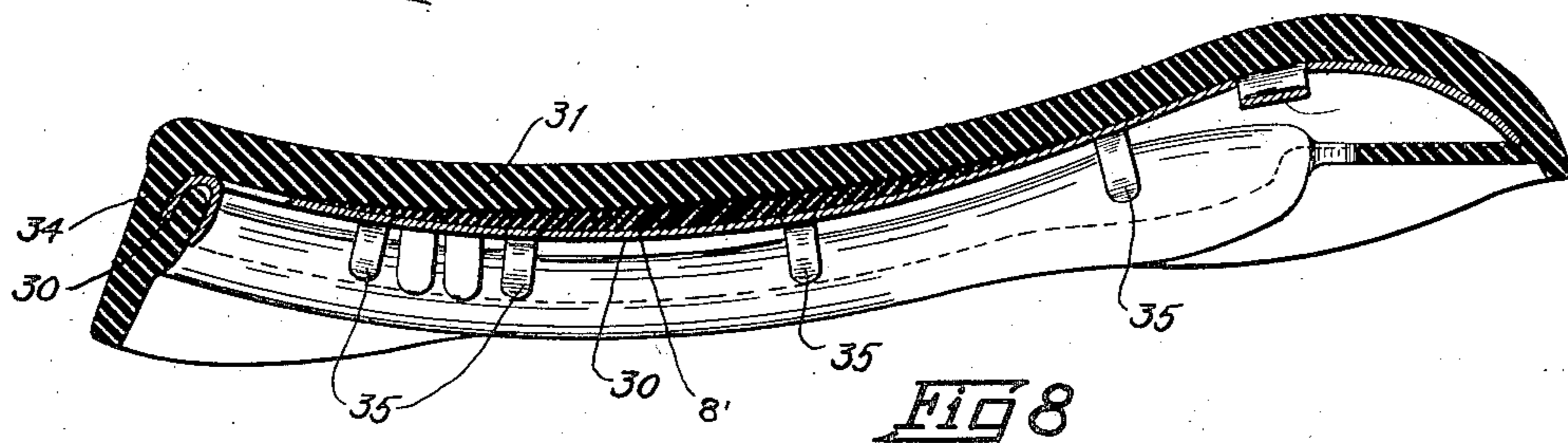
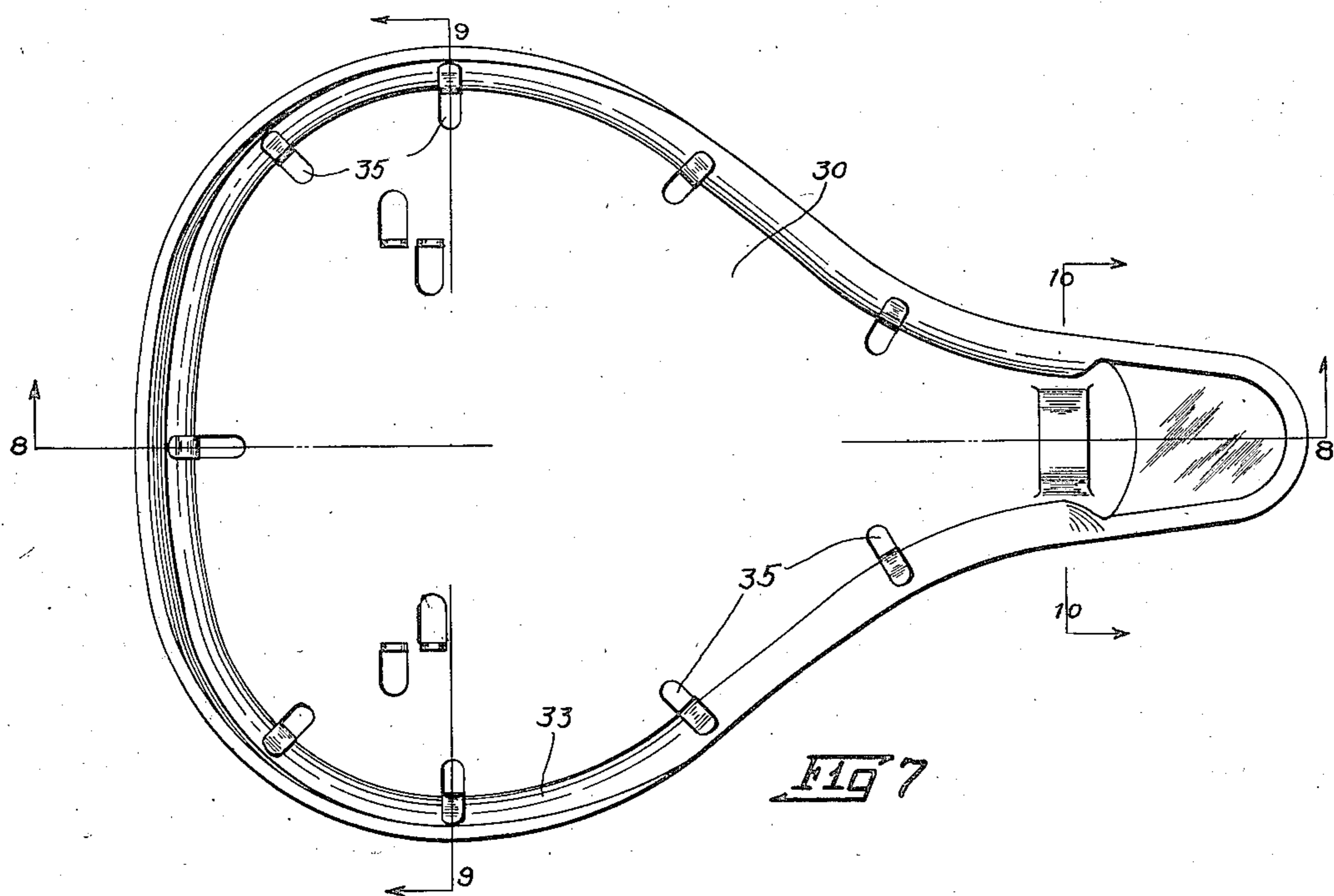
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2 Sheets-Sheet 2



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## UNITED STATES PATENT OFFICE

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## SADDLE

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Trexel Manufacturing Company, Elyria, Ohio,  
a corporation of Ohio

Application February 17, 1933, Serial No. 657,223

12 Claims. (Cl. 208—15)

My invention relates generally to saddles, and more particularly to saddles of the general type employed on cycles.

Saddles heretofore proposed, although variously constructed, have been subject to a number of objections.

One class of saddles is made with a seat composed substantially of leather but these saddles do not have the quality of riding comfort to a satisfactory degree. To provide greater comfort saddles have been made with a seat composed of layers such for example as a leather layer overlying a layer of cushioning material such as felt, hair-filling or the like, and a layer of leather or cheaper material such as canvas under the layer of cushioning material, and the different layers stitched together. Such a saddle is relatively expensive, and in addition, to support the saddle it is commonly found necessary to provide a sheet metal or like base and to affix the saddle thereto.

In order to reduce the cost of these expensive saddles, leather substitutes have been brought into use. Such leather and leather substitute materials, however, absorb moisture and when exposed to the elements deteriorate and soon lose the smooth glossy frictionless surface so much desired by the riders of cycles.

Furthermore, saddles of the type referred to comprising a relatively soft comfortable seat secured to a base have usually been constructed, in those features which secure the seat to the base, so that when the saddle seat becomes worn or unsightly and it is desired to replace it, the entire saddle including the seat and the base structure must be discarded, thus rendering the replacement expensive.

It is therefore an object of my invention to provide an improved saddle of the class adapted for use on cycles and which will be comfortable to the rider and durable in use and relatively inexpensive.

Another object of my invention is to provide such a saddle of the class comprising a base structure and a seat proper and in which the seat is secured to the base in an improved manner whereby it may readily be removed for replacement.

Another object of my invention is to provide, for saddles of the class comprising a base structure and a seat proper thereon, an improved seat construction.

Another object of my invention is to provide an improved saddle of the class referred to comprising a supporting base portion and a seat

proper of molded rubber detachably secured to the base and maintained thereon by its own inherent resiliency.

Another object of my invention is to provide a saddle seat of improved construction composed generally of rubber or like material comprising relatively hard portions detachably engageable with portions of a supporting base and comprising relatively soft seat portions for supporting the rider.

These and other objects of the invention will become increasingly apparent from a consideration of the following description and drawings, wherein:—

Fig. 1 is a bottom plan view of a vehicle saddle embodying a preferred form of my invention;

Fig. 2 is a medial sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary view illustrating the manner of attaching the seat base to the spring;

Fig. 4 is a transverse sectional view taken along the line 4—4 of Fig. 1;

Fig. 5 is a transverse sectional view taken along the line 5—5 of Fig. 1;

Fig. 6 is a fragmentary view showing a rubber plate which I may employ before the introduction of a reinforcing element or plate.

Fig. 7 is a bottom plan view of a modified form which I may employ;

Fig. 8 is a medial sectional view taken along the line 8—8 of Fig. 7;

Fig. 9 is a transverse sectional view taken along the line 9—9 of Fig. 7, and

Fig. 10 is a transverse sectional view taken along the line 10—10 of Fig. 7.

Referring to the drawings, I have indicated at 1 a sheet metal plate generally triangular in contour and conforming to a desired saddle shape, the plate comprising a pommel portion 2 and a cantle portion 3. The pommel portion 2 of the metal plate 1 is preferably provided with a downwardly extending U-shaped strap 4 formed by providing spaced transversely extending slits and pressing the intervening metal downwardly.

The cantle portion of the plate 1 is provided with downwardly extending tongues 5 formed by perforating the plate in a Z-shaped manner and bending the perforated portion downwardly whereby the tongues will be contained in a plane extending longitudinally of the plate.

The saddle top construction is adapted to be supported by the plate and comprises a preferably molded rubber body 6 provided with a pocket or pockets 7 on the under side of the unit within which is disposed cushioning means 8 secured

therein in any suitable way, such as by use of an adhesive, by molding integrally with the body 6, or by merely fitting it therein. The cushioning means 8 preferably comprises sponge rubber and may, as best illustrated in Fig. 1, conform generally to the saddle contour, being usually as shown spaced inwardly from the border portions thereof as indicated at 9. Although I have shown two pockets 7—7, it is understood that a single pocket or any desired number of pockets may be employed.

For the purpose of securing the rubber body constituting the top of the saddle to the metal reinforcing and supporting plate 1, I provide a preferably continuous inturned flange of the rubber body disposed near its borders on the underside of the body, said flange comprising the rear flange portion 10 and lateral flange portion 11, and a forward flange portion 12, which is in the form of a wedge bridging the two lateral flange portions, and providing a socket 13.

The reinforcing plate 1 is secured to the rubber plate 6 within the pocket 13 and stretching the borders of the rubber body 6 whereby the aforementioned inturned flanges of the body 6 will be snapped within the channel or groove provided under and towards the sides as a result of the provision of the flanges 10, 11, and web flange 12.

In normal use, the reinforcing plate 1 will thus be entirely gripped by the downwardly extending lateral and rear portions of the rubber body 6. The plate 1 and rubber body portion 6 will thus be easily and permanently secured together due to the constricting action of the rubber, which, retracting after deformation during assembly, will cause the channel groove to receive the border portions of the reinforcing plate 1. The channel groove is so formed as to tightly engage the reinforcing plate thus insuring absence of play between plates 1 and 6 despite severe and constant usage.

I provide a reach rod 14 generally triangular in shape and having a U-shaped front portion and provided with laterally extending prongs 15—15 at the cantle or rearward end of the rod. The prongs 15 terminate in upwardly extending projections 16 adapted to engage laterally spaced helical springs 17—17; the bottom convolutions of the springs 17 are closely spiraled to encircle the portions 16 of the reach rod at the spring axis. The upper end convolutions of the springs 17 are bent laterally inwardly as indicated at 18, whereby the springs may be secured to the saddle in a manner to be hereinafter described.

To secure the U-shaped front portion of the reach rod to the saddle, I provide a clip 19 having an eye 20, and a body portion 22 comprising superimposed planular extensions. The planular extensions are forced over the reach rod so that the eye 20 forms a hinging support therefor and the planular extensions or body portion is forced through the U-shaped strap 4 of the reinforcing plate 1, the end of one of the planular extensions being bent downwardly whereby the clip 19 is securely locked to the saddle. This provides a simple and inexpensive locking means and permits of a desired hinging action between the pommel of the saddle and the reach rod.

The springs 17 are secured to the reinforcing plate 1 in a manner best illustrated in Fig. 3. I provide a clip 23 having an eye 24 and a body portion 25 comprising superimposed planular extensions, the body portion being provided with a central slot as indicated at 26. The tongues 5

are projected through the slot 26 and bent laterally as indicated at 27. The laterally extending spring end 18 thus hingingly engages the eye 24.

To remove the rubber plate 6 from the reinforcing plate 1, the rear and lateral inturned flange portions 10 and 11 will be stretched to remove from the border portions of plate 1 which the flanges constrictingly engage. The plate 6 will then be forced forwardly to remove the pommel portion of reinforcing plate 1 from its enclosing socket 13 formed by web flange 12, the plates thus being quickly and easily disengaged.

I have illustrated in Figs. 7, 8, 9 and 10 another embodiment of my invention which employs somewhat different means to secure the body member to the reinforcing plate.

As shown in the drawings, this form employs a reinforcing plate 30 and a saddle top 31 of molded rubber generally similar in construction to that employed in the form shown in Figs. 1—6. The saddle top has a substantially continuous peripheral flange 32 which has on its inner face an inturned bead portion 33. A pocket 34, into which the edge of the reinforcing member projects, is located between the bead and the flange 32. The bead and the flange may be constructed if desired so as to tightly engage the edges of the reinforcing plate to assist in securing the saddle top to the reinforcing plate.

The saddle top may be provided with any suitable cushioning means, such as sponge rubber 8', as also shown at 8 in Figs. 2 and 5, or it may be omitted entirely as desired.

The reinforcing plate is provided with a plurality of depending tongues 35 located adjacent the edges of the plate along the sides and at the rear of the plate. These tongues may be formed by perforating the metal and bending the perforated portion down.

After the saddle top portion 31 is in place with the edges of the plate 30 in the pocket 34 the tongues 35 are bent down against the bead to clamp the bead in place. It will be seen that when these tongues are pressed against the bead that the cover 31 is securely locked on the reinforcing plate 30. If it is desired at any time to remove the cover, the tongues 35 may be bent away from the bead to release the bead.

Although it is understood that any desired under structure may be employed, I preferably employ the aforementioned structure due to the added resiliency and flexibility attained by the hinging action effected at both the pommel and cantle portions of the saddle.

It will be seen that the saddle provided by my invention is relatively inexpensive, possesses great resiliency, and has a top structure comprising a molded unit easily and removably secured to the reinforcing plate.

Although I have shown and described in detail certain embodiments of my invention, I contemplate that numerous and extensive departures may be made therefrom without departing from the spirit of my invention and the scope of the appended claims.

Having thus described my invention, what I claim is:—

1. A saddle for cycles comprising a molded rubber body, a sheet metal reinforcing plate conforming generally to the form of the saddle, a body of relatively soft cushioning material disposed nearest the upper surface of the body and embedded therein, said plate underlying the cush-

ioning material body and being constrictingly engaged by the molded rubber body.

2. The saddle substantially as set forth in claim 1, characterized by the said metal plate being fitted within intumed under flanges of the molded rubber body.

3. The saddle substantially as described in claim 1, wherein the rubber body and the cushioning material body are integrally molded together.

4. A saddle of the class described comprising a molded rubber body, having a continuous peripheral groove disposed inwardly, a sheet metal reinforcing plate conforming generally to the form of the saddle and fitting the said groove at the border portions, a body of relatively soft cushioning material disposed nearest the upper surface of the molded rubber body and embedded therein, said metal plate underlying the cushioning material body.

5. The saddle substantially as described in claim 1, wherein the said metal plate is embedded within intumed under flanges of the rubber molded body and the pommel portion secured within an integrally formed pocket of the rubber body.

6. The saddle substantially as described in claim 1, characterized by the relatively soft cushioning material body comprising two laterally spaced portions conforming generally to the contour of the saddle.

7. The saddle substantially as described in claim 1, wherein the rubber body constrictingly engages the peripheral portions of the sheet metal reinforcing plate.

8. A saddle for cycles comprising a molded rubber plate and having downwardly extending lateral and rear portions, a continuous inwardly disposed flange embodying a continuous groove beneath the plate and inwardly of the lateral and rear portions, a sheet metal reinforcing plate constrictingly engaged at the border portions by the said flange, a cushioning body of relatively soft resilient material embedded in the rubber plate disposed above the reinforcing steel plate, and means for pivotally securing the reinforcing plate to a vehicle.

9. A saddle comprising a molded rubber body member having adjacent its periphery an intumed bead portion, a reinforcing member disposed below and within said body member, the

reinforcing member being constrictingly engaged by the body member, and a plurality of depending members associated with the reinforcing member and cooperating with the bead portion of the body member to secure said body member to said reinforcing member.

10. In a saddle, a molded body member having adjacent its periphery, an intumed bead portion, a reinforcing member disposed below and within said body member, a plurality of depending tongues carried by the reinforcing member, the bead portion of the body member being clamped between said depending tongues and the reinforcing member.

11. A saddle of the class described comprising a substantially rigid base having relatively thin oppositely disposed edge portions and a cover of rubber or like resilient material superposed on the base, the cover overlapping the opposite edge portions of the base and provided with oppositely disposed inwardly open recessed portions, the cover being adapted to be resiliently stretched to dispose the said opposite base edge portions in the opposite cover recessed portions to detachably attach the cover portion to the base by the inherent retractile resiliency of the cover material.

12. In a cycle saddle of the full-skirted type, a molded body member comprising an integral structure including a top and depending peripheral skirt portions, said peripheral skirt portions comprising an inwardly directed bead disposed closely below said top, a sheet metal reinforcing frame member disposed below and within said body member and including a portion projected between said top and the upper surface of said bead, and having bead retaining portions depending inwardly of said bead and closely adjacent thereto, said retaining portions being outwardly deformable and bent outwardly into close engagement with the inner surfaces of said bead to prevent relative displacement of said body member and said frame member during ordinary use of the saddle, said skirt portion comprising a downwardly directed extension extending substantially below said bead and effectually concealing said bead and bead retaining portions of said frame during ordinary use of the saddle.

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