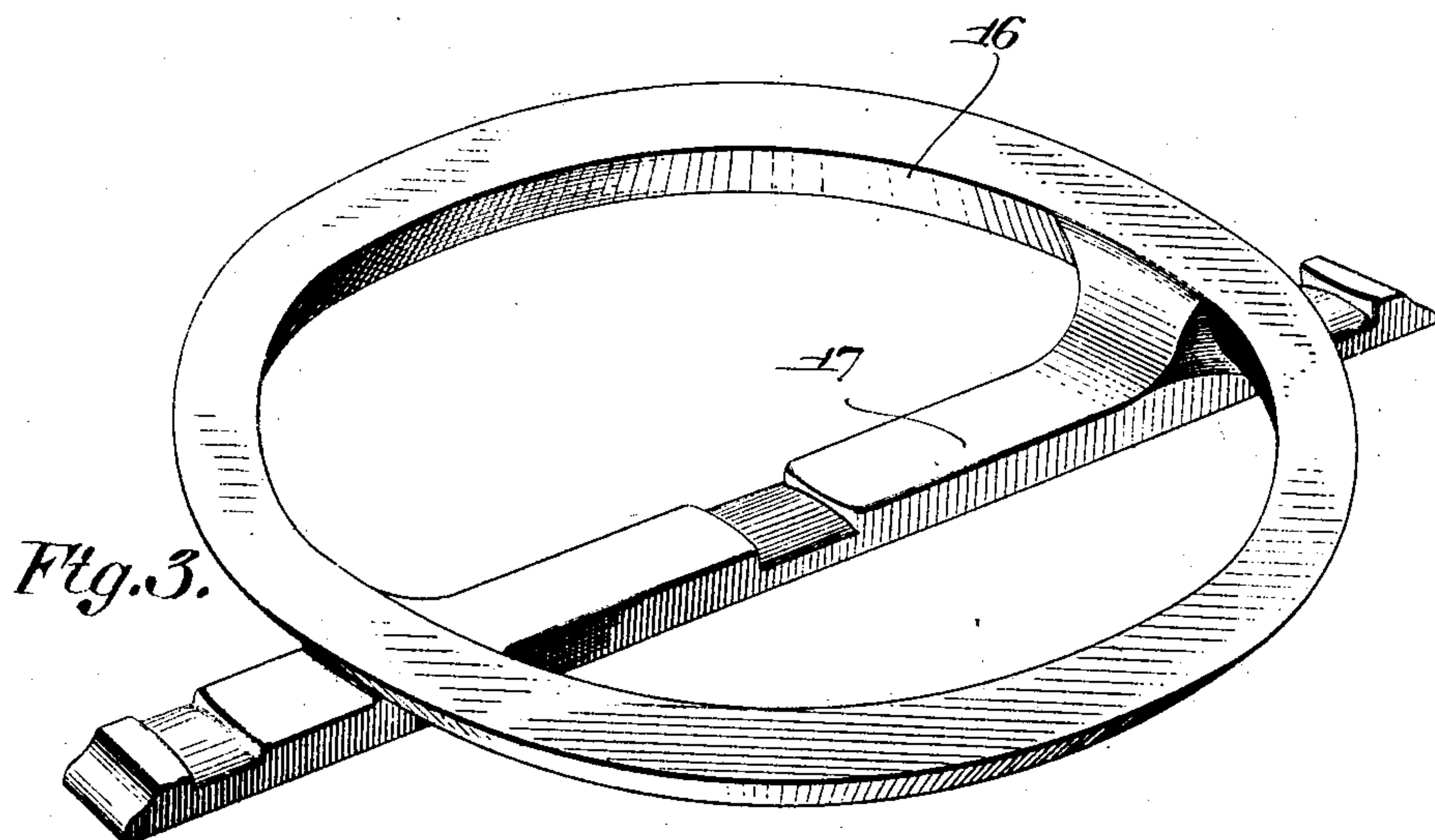
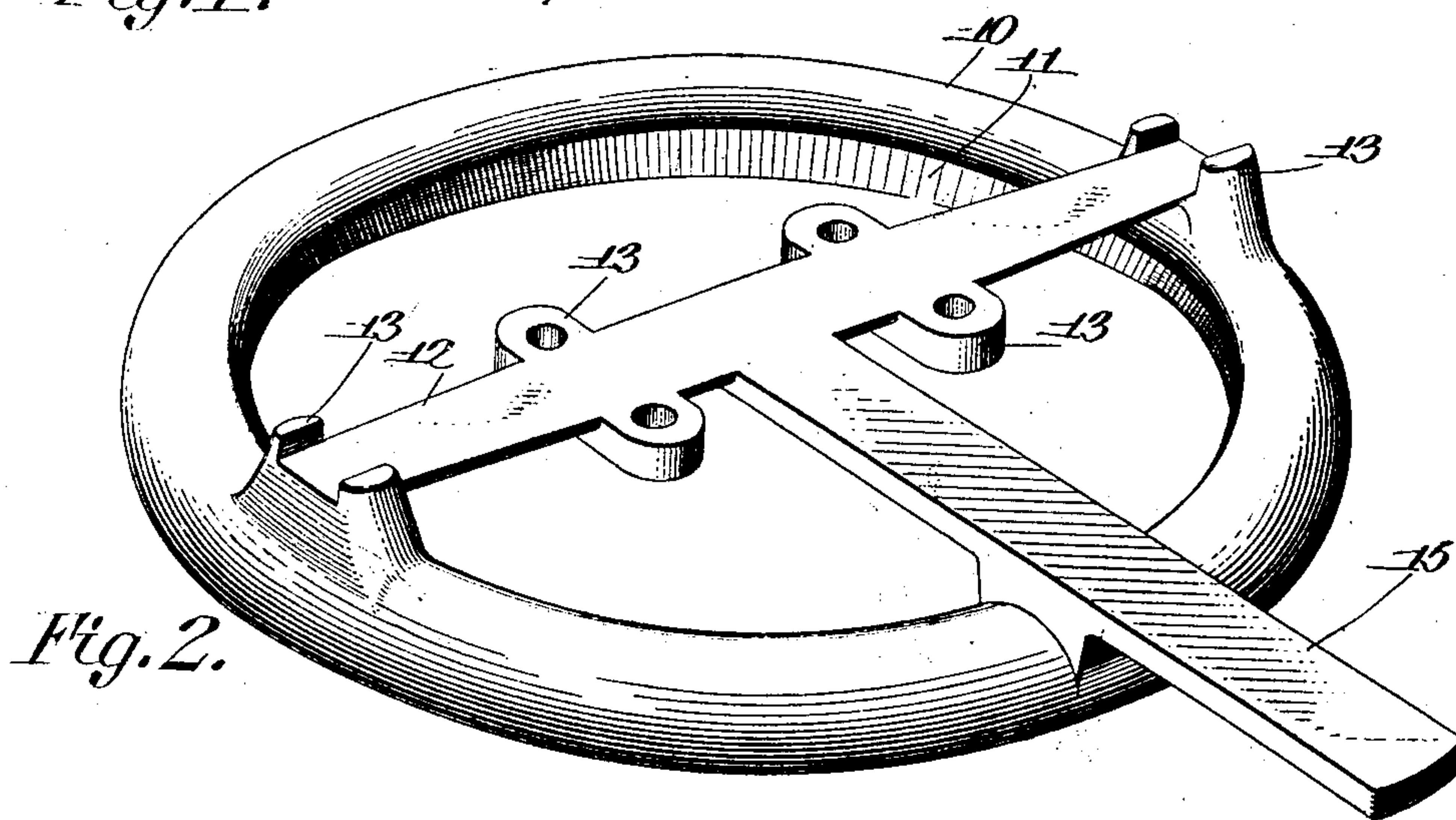
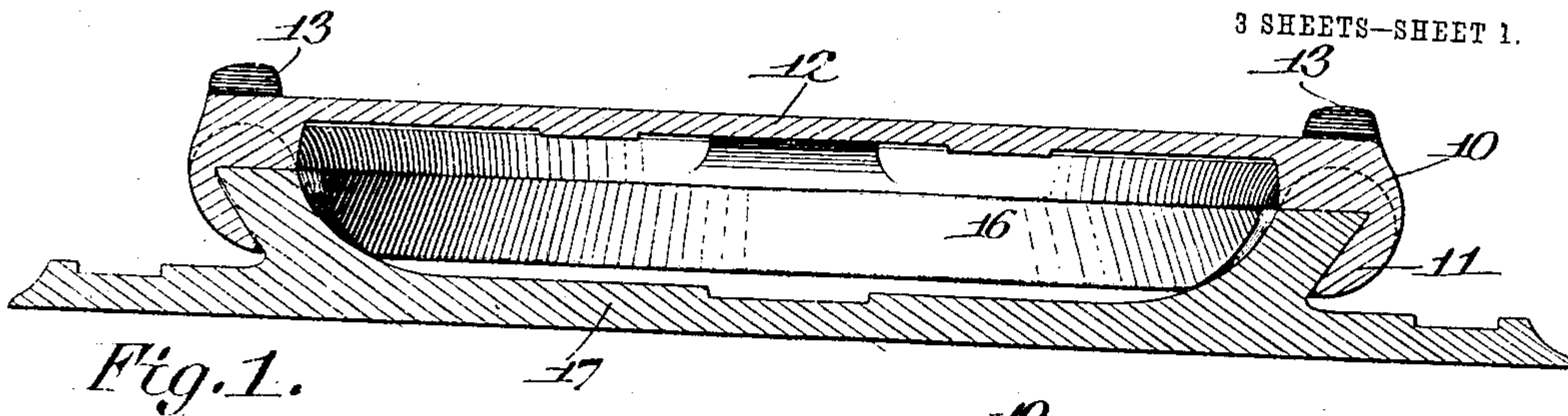


No. 810,546

PATENTED JAN. 23, 1906.

J. KREIZIGER.  
FIFTH WHEEL.  
APPLICATION FILED JULY 3, 1905.

3 SHEETS—SHEET 1.



Witnesses  
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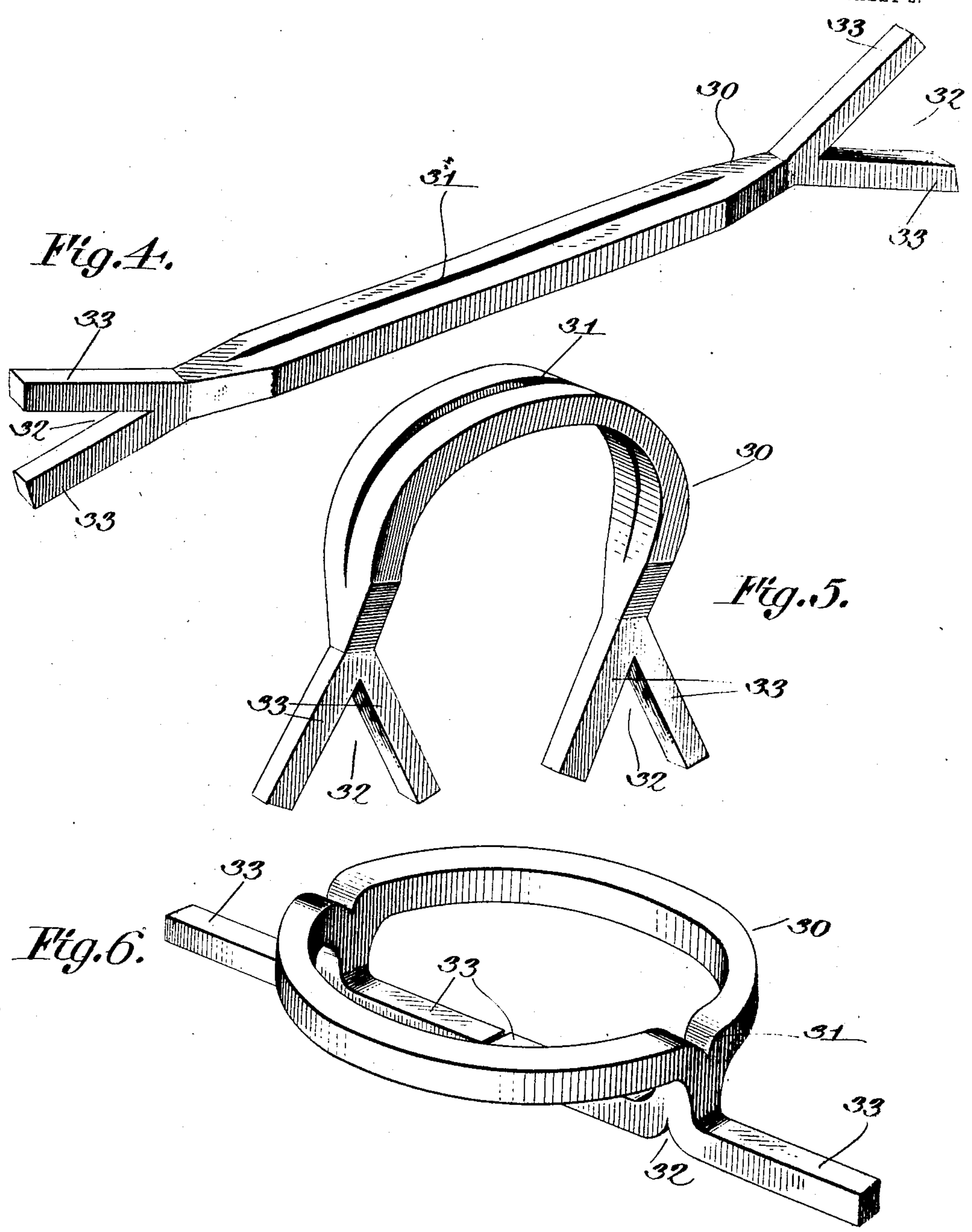
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3 SHEETS—SHEET 2.



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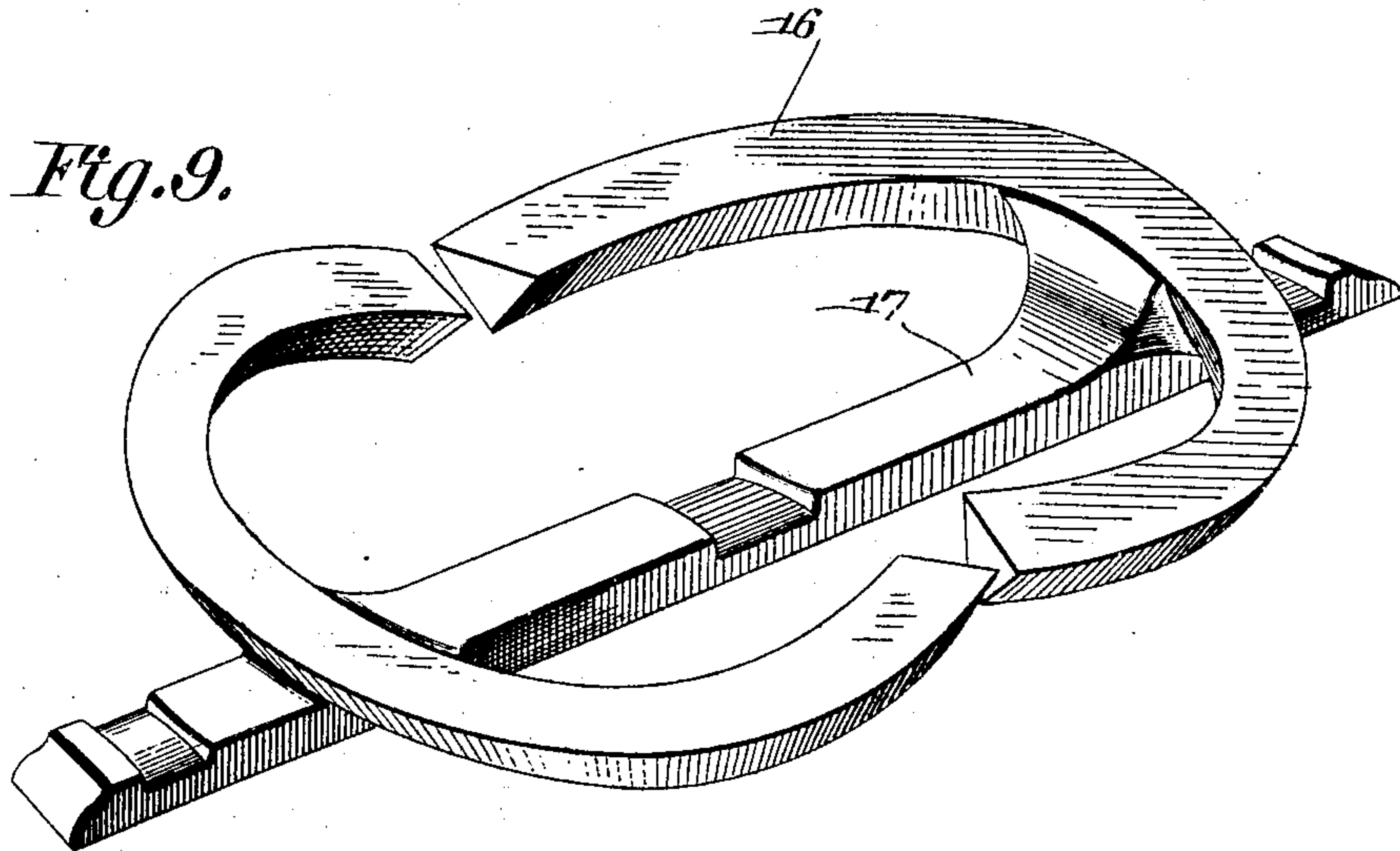
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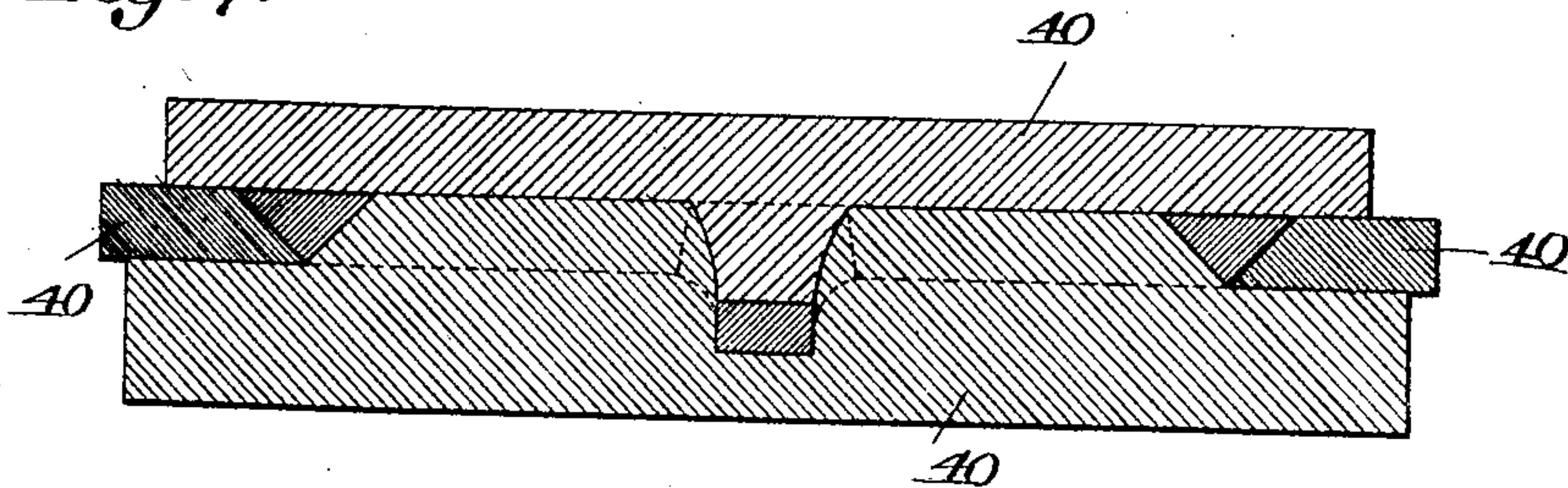
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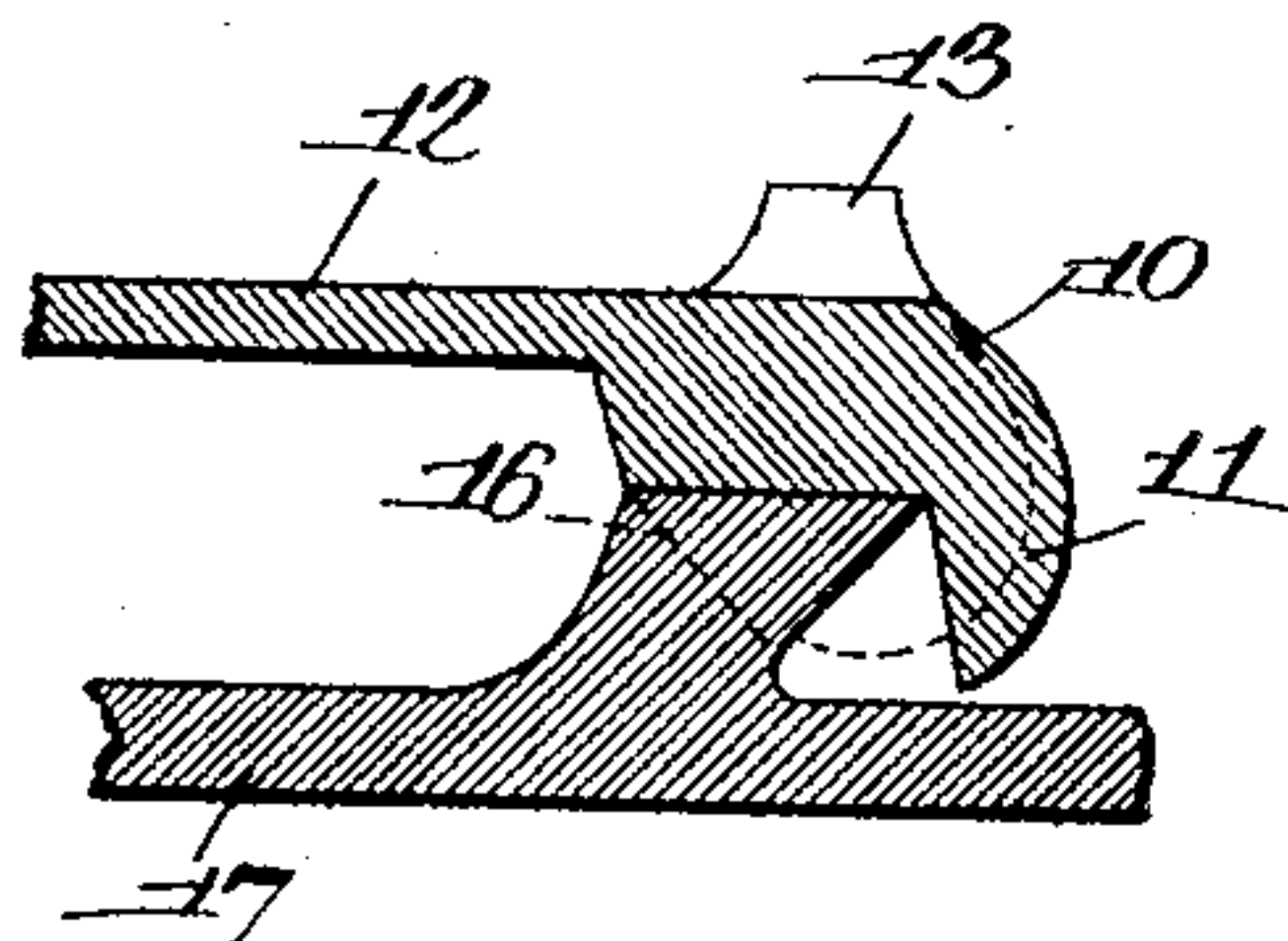
3 SHEETS—SHEET 3.



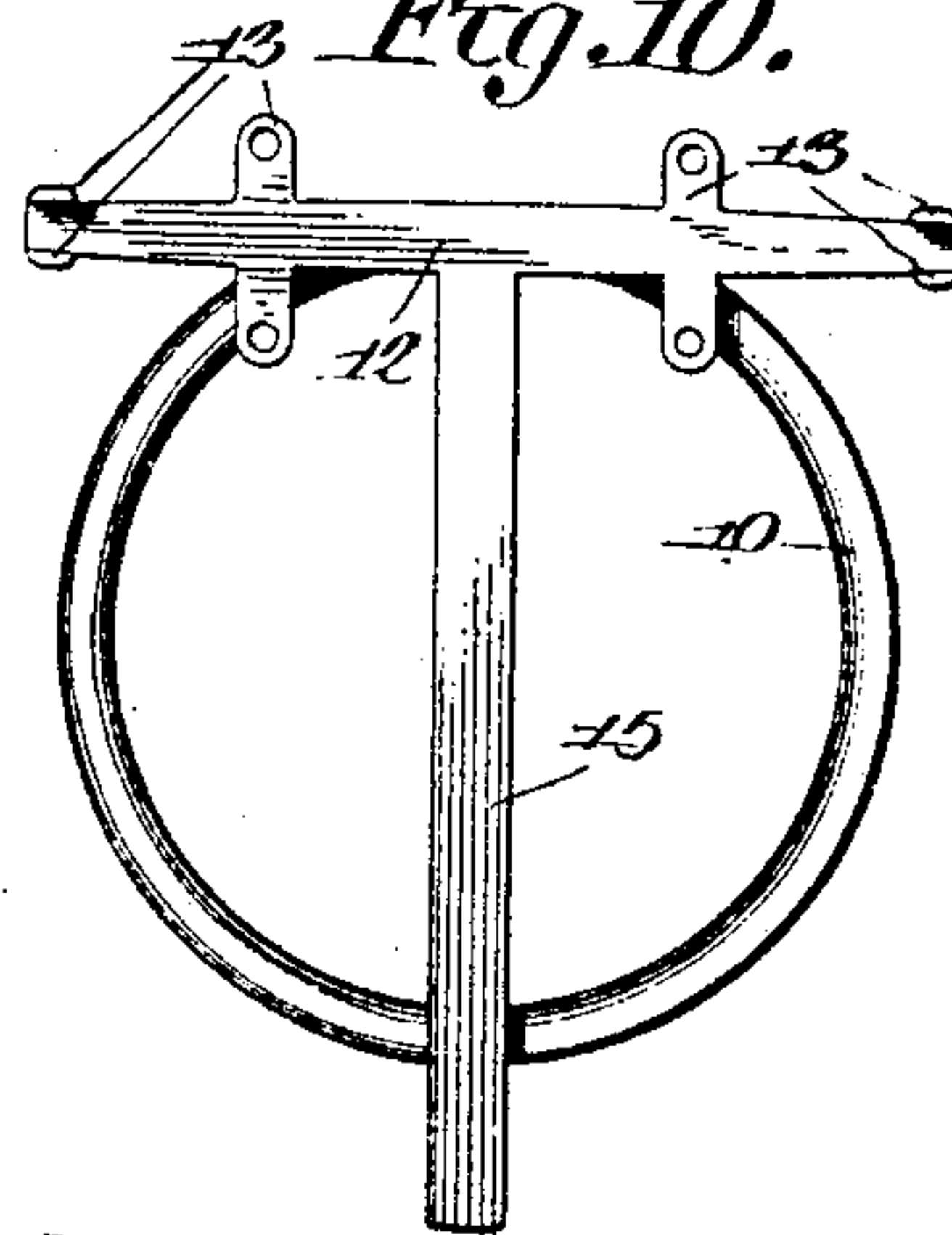
*Fig. 7.*



*Fig. 8.*



*Fig. 10.*



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSEPH KREIZIGER, OF SUPERIOR, WISCONSIN, ASSIGNOR OF ONE-HALF  
TO THOMAS J. SOLON, OF SUPERIOR, WISCONSIN.

## FIFTH-WHEEL.

No. 810,546.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed July 3, 1905. Serial No. 268,164.

*To all whom it may concern:*

Be it known that I, JOSEPH KREIZIGER, a citizen of the United States, residing at Superior, in the county of Douglas and State of Wisconsin, have invented a new and useful Fifth - Wheel and Method of Making the Same, of which the following is a specification.

This invention relates to fifth-wheels for vehicles.

One object of the invention is to provide a fifth-wheel in which a king-bolt will not be necessary and in which the parts are so united as to prevent independent lateral or vertical play.

A further object of the invention is to provide a fifth-wheel in which a continuous groove formed in one member is entirely filled by the other member for the purpose of adding to the strength of the device and for excluding dirt and grit.

A still further object of the invention is to provide a fifth-wheel formed of but two members fitted one into the other and held in proper relative position without the aid of bolts, rivets, or other securing devices.

A further object of the invention is to provide a fifth-wheel structure formed of a pair of interfitting members, each in the form of a continuous ring, presenting a continuous bearing-surface and preventing the entrance of dirt or grit.

A still further object is to simplify and materially improve the construction of such devices, and particularly to avoid the welding of the metal at points exposed to frictional wear, so that the character of the metal will be practically uniform throughout its bearing-surfaces and uneven wear will be avoided.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a fifth-wheel constructed in accordance with the in-

vention. Fig. 2 is a detail perspective view of the upper member of the fifth-wheel detached. Fig. 3 is a similar view of the lower member of the fifth-wheel. Fig. 4 is a detail perspective view of a bar of metal from which the lower fifth-wheel member is to be made, showing the initial cutting and shaping of the metal. Fig. 5 shows a second step, in which the bar of metal is curved to approximately U shape. Fig. 6 represents a third step, in which the central portion of the bar is opened out to form the circle or ring and the end portions are bent into continuous alinement to form the members which rest upon the axle, bolster, or other support. Fig. 7 illustrates the manner in which the member shown in Fig. 6 is reshaped by dies. Fig. 8 shows one method of fitting the upper ring over the lower. Fig. 9 is a perspective view of the lower ring or member, showing the manner in which it is split and bent for introduction into the upper member, this being a modification of the method of assembling shown in Fig. 8. Fig. 10 illustrates a slight modification of the fifth-wheel.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The device forming the subject of the present invention comprises two main members, the upper of which is designed to be secured to the spring-block reach or other members of the running-gear, while the lower member rests upon and is secured to the axle of the vehicle. Each member is in the form of a continuous ring, the upper member 10 being provided with a depending flange 11, which is turned inward and embraces the outer edge of the lower member, thus forming a groove that is approximately V-shaped in cross-section. Secured to or formed integral with the upper portion of the ring 10 is a cross-bar 12, having suitable lugs 13 for convenience in securing the ring to the spring-block or other member of the running-gear, and extending from this cross-bar 12 is a second bar 15, which may be arranged under the reach. The lower member 16 is in the form of a continuous ring that is approximately of V shape in cross-section in order to fit in and entirely fill the correspondingly-shaped groove 16, and formed integral with this lower ring is a cross-bar 17, extending diametrically across the ring and projecting beyond the edges thereof



for convenience in attaching the device to the axle or other support. The two members when assembled form a continuous annular friction-surface in which the weight is  
5 divided equally throughout and wherein the flange 11 serves not only to prevent lateral displacement, but will form a guard to prevent the entrance of dust and dirt.

If a continuous ring is formed by turning  
10 or bending a straight bar into circular form and welding its ends, the character of the metal at the weld will be different from the remaining portion of the bar, being either harder or softer, in accordance with the man-  
15 ner in which the iron is treated during the welding operation. This will produce uneven wear, and the fifth-wheel will soon work loose and become ineffective. In one method of carrying out the present invention pro-  
20 vision is made for forming the continuous ring without welds. A bar 30, Fig. 4, of generally rectangular form in cross-section is first provided with a longitudinal slot 31, extending nearly from end to end thereof, and  
25 then the end portions are slit in a direction at a right angle to the central slit, as indicated at 32, and the split ends are bent outward slightly, forming arms 33. The bar is then bent into approximately U-shape form, as  
30 shown in Fig. 5, and then the split central portions of the bar are separated, being bent to the position shown in Fig. 6 in order that the split faces may be arranged in the same horizontal plane, while the arms 33 are bent  
35 outward in continuous alinement, the adjacent ends of the innermost bars being afterward welded together. The partly-formed fifth-wheel member (shown in Fig. 6) is then  
40 placed in suitable shaping-dies 40 of the character shown in Fig. 7 and subjected to pressure until it assumes the shape shown in Fig. 3, the upper bearing-surface being faced, if necessary.

In assembling the two rings the flange 11  
45 of the upper member, which may initially be arranged at a right angle to the general plane of said upper member, as shown in Fig. 8, is turned over the outer inclined edge of the lower ring by suitable flanging or spinning  
50 tools, as shown by dotted lines in Fig. 8, so that the two rings will be united in such manner as to prevent any independent lateral or vertical play, and as the groove of the upper member is entirely filled by the ring of the  
55 lower member all dust and grit will be excluded.

Another method of assembling the two rings, especially where the upper ring is formed of cast metal or is otherwise so formed that the  
60 flange 11 is in position to form the annular groove shown in Fig. 1, the opposite sides of the ring of the lower member may be split and the split ends bent inward, as shown in Fig. 9, and then by slightly bending the lower  
65 bar 17 of said lower member the diameter of

the ring may be reduced to such an extent as to permit its ready introduction into the annular groove of the upper member, after which the bar 17 is again straightened and the split ends of the ring are forced out to re-  
70 assume the normal position, so that the groove will be entirely filled.

It is evident that the two members may be fitted together in a number of ways and that said members may be of either cast or mal-  
75 leable metal. If the lower member is cast, the upper member will be malleable, and the flange 11 is then turned over the outer inclined face of the lower member, as shown in Fig. 8, while if the upper member is cast the  
80 lower member is malleable and may be cut or bent in any suitable manner to facilitate its introduction into the groove of the upper member. The method described, however, is preferable, inasmuch as it permits the for-  
85 mation of a lower ring that is practically weldless, especially at the juncture of the ring with the cross-bar that is secured to the axle or bolster and where the strain of the  
90 draft is imposed.

It is obvious that the cross-bars of both members may be arranged either diametrically across the fifth-wheel or at points to one or other side of the center of the wheel, one of these modifications being illustrated in  
95 Fig. 10.

A fifth-wheel of the construction shown presents two continuous annular bearing-sur-  
faces, each of which is of uniform character throughout, so that the wear will be uniform,  
100 and the weight will be evenly distributed, while any independent lateral movement is prevented, and the bearing-surfaces are shielded from dirt and dust by the flange 11.

Having thus described the invention, what  
105 is claimed is—

1. In a fifth-wheel, a pair of superposed rings, each forming a complete annulus, and each having an integral cross-bar for connection with the running-gear, the lower ring be-  
110 ing approximately V-shaped in cross-section, and the horizontal contacting faces of the two rings being coextensive in width, the upper ring having a marginal flange encircling the tapered outer edge of the lower ring, and  
115 serving to maintain the rings in proper relative positions.

2. In fifth-wheel construction, an upper grooved ring having an integral cross-bar arranged for connection to a portion of the run-  
120 ning-gear, and a lower ring also having an integral cross-bar, the lower ring being approximately V-shaped in cross-section and being split or divided to permit its introduction within the groove of the upper ring.  
125

3. As a new article of manufacture, a fifth-wheel formed of a bar of metal split and opened out to form an unwelded ring having a friction-surface of uniform character through-  
130 out.

4. As a new article of manufacture, a fifth-wheel formed of a bar of metal, split and opened out to form an unwelded ring, the end portions of the bar being split to form arms  
5 that are arranged in continuous alinement and form an integral part of said ring.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH KREIZIGER.

Witnesses:

THOMAS J. SOLON,  
JOHN BENHAM.