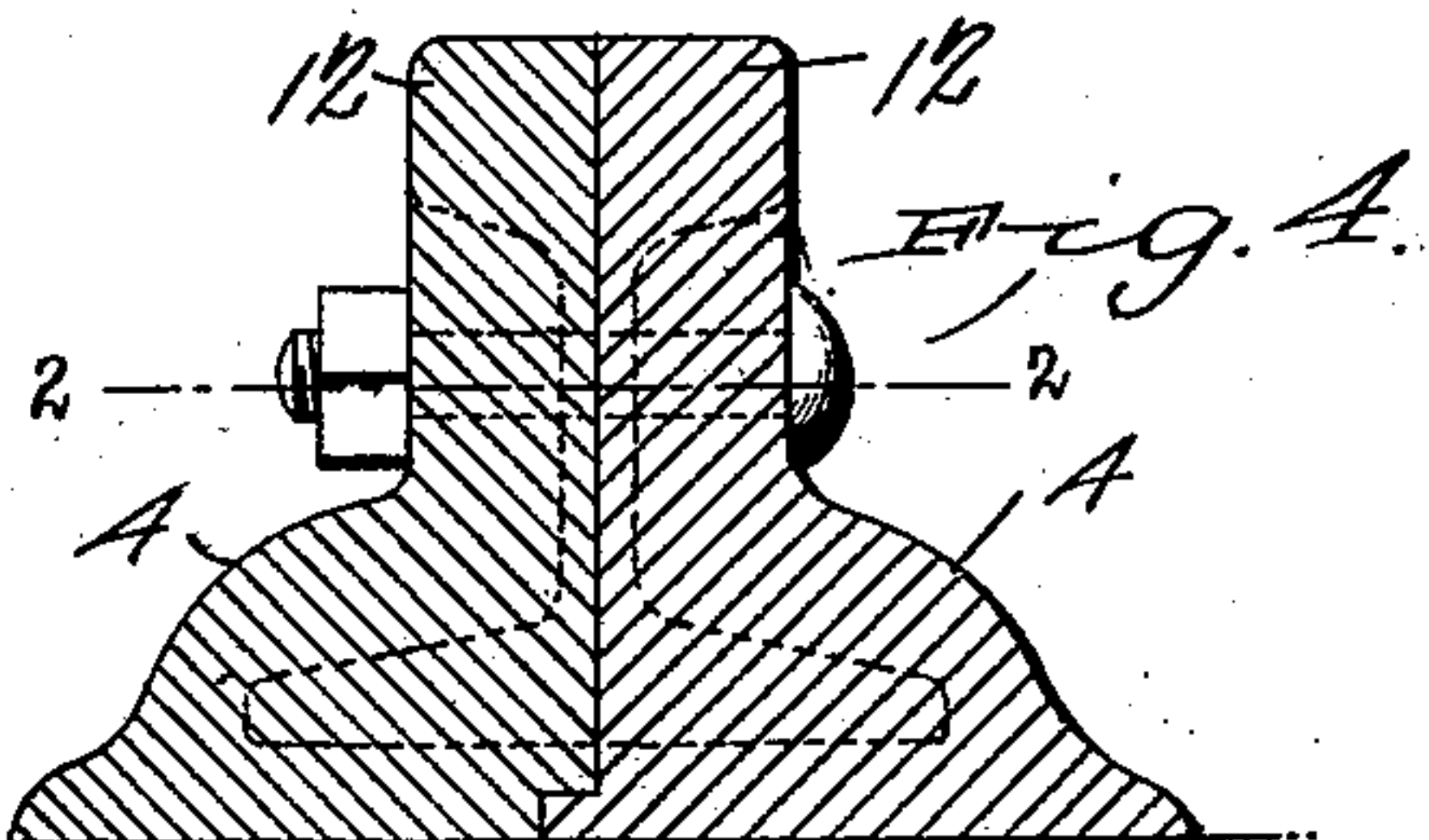
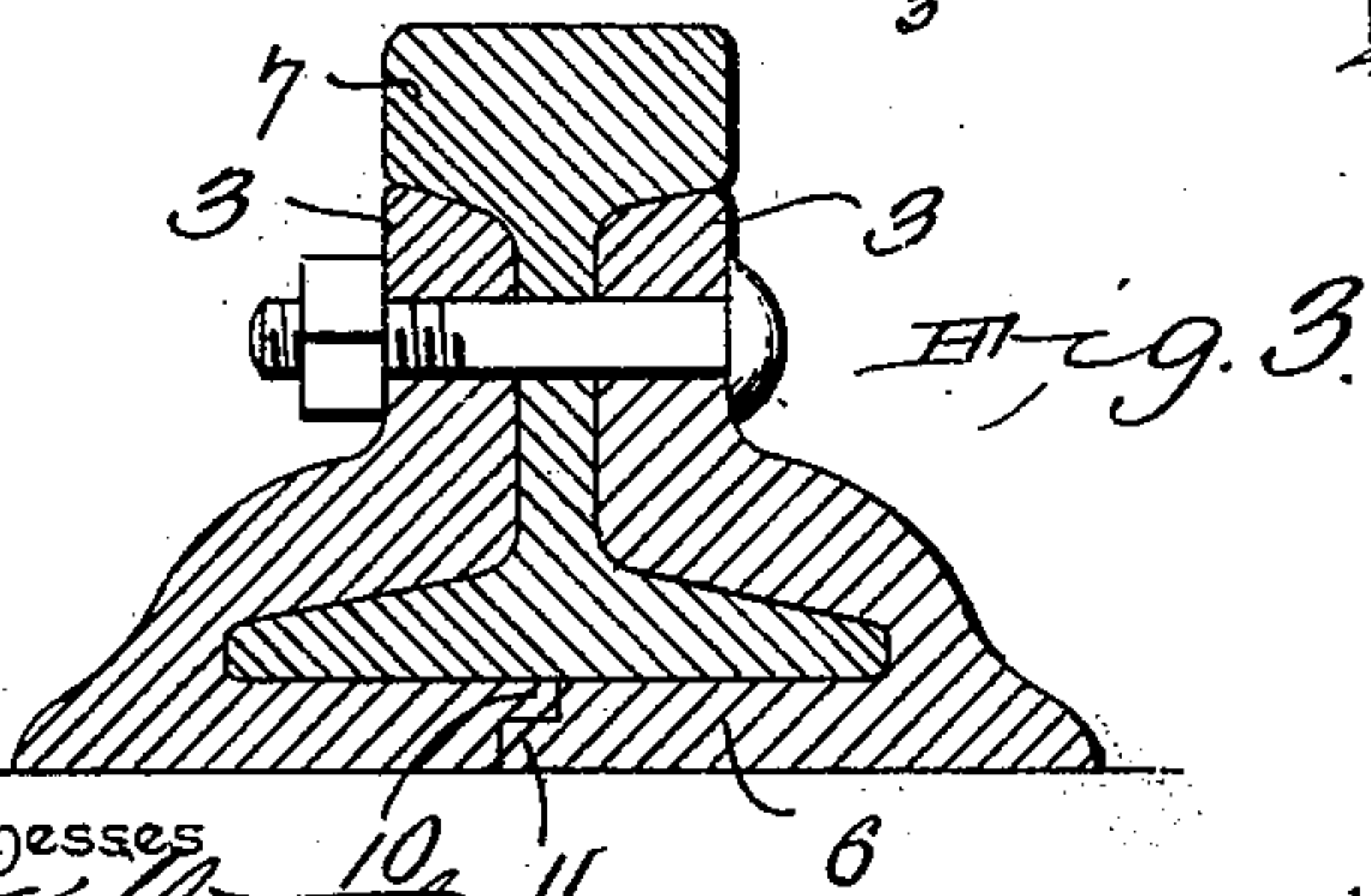
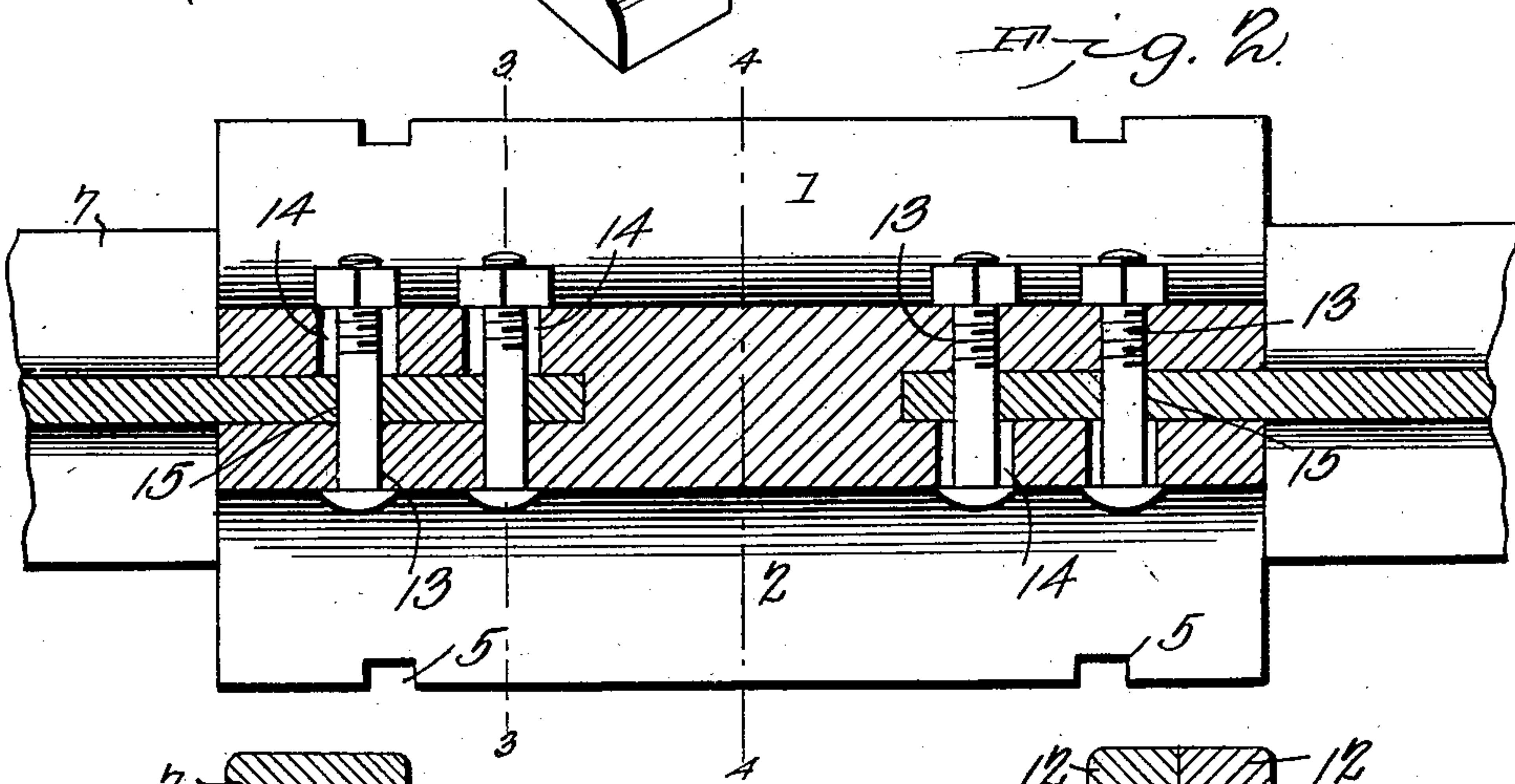
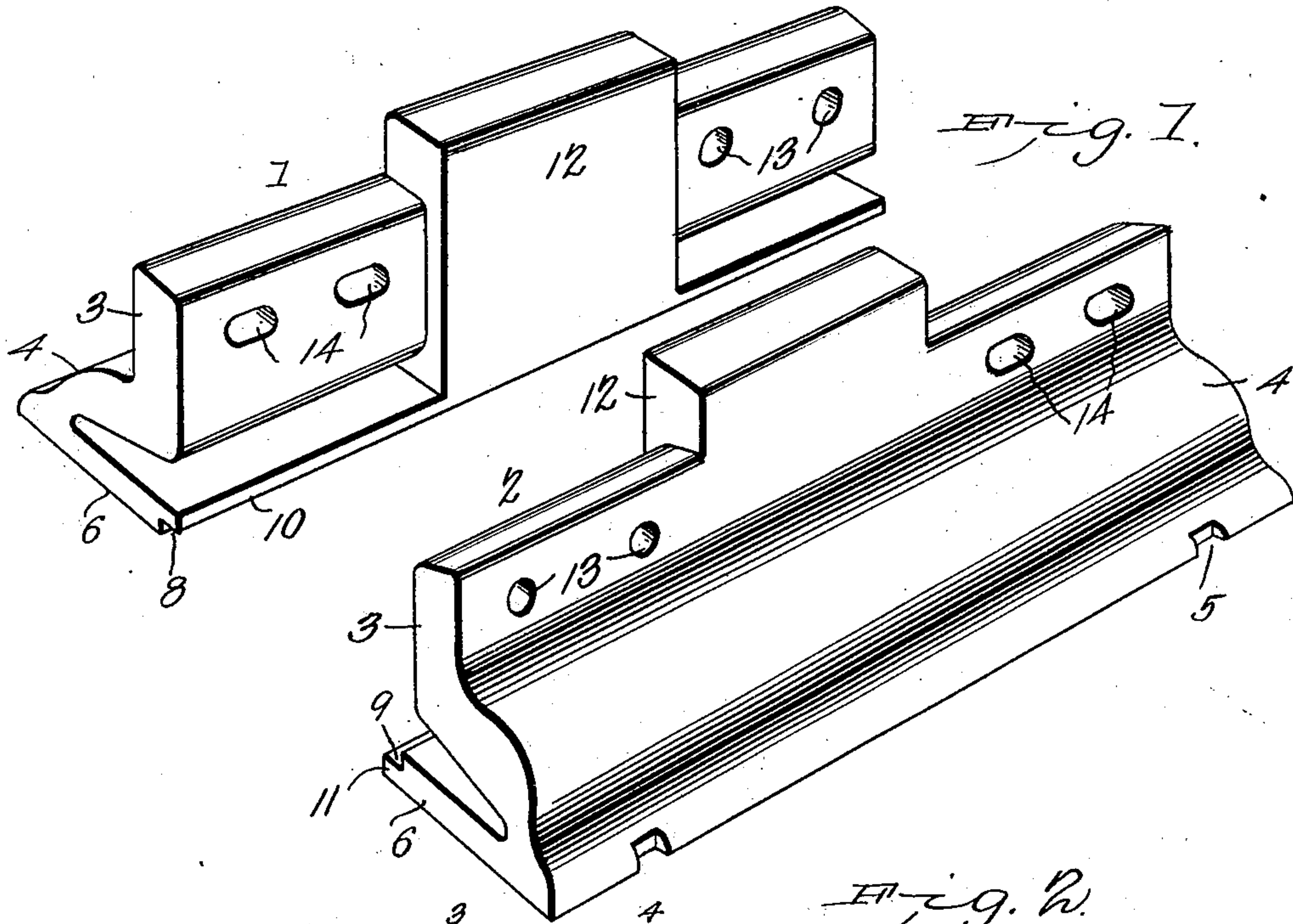


No. 722,971.

PATENTED MAR. 17, 1903.

H. GLOVER.
RAILROAD RAIL JOINT.
APPLICATION FILED JAN. 9, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

HERSCHEL GLOVER, OF TOLEDO, MISSOURI, ASSIGNOR OF ONE-HALF TO
WILLIAM E. BROOKS, OF TOLEDO, MISSOURI.

RAILROAD-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 722,971, dated March 17, 1903.

Application filed January 9, 1903. Serial No. 138,415. (No model.)

To all whom it may concern:

Be it known that I, HERSCHEL GLOVER, a citizen of the United States, residing at Toledo, in the county of Callaway and State of Missouri, have invented a new and useful Railroad-Rail Joint, of which the following is a specification.

This invention relates to joints for the ends of railroad-rails; and it has for its object to provide a device of this class which will be simple in construction, which will form a solid support for the meeting ends of the rails, which will be provided with bridge-pieces to span the space between the meeting ends of the rails, and which shall be in all respects efficient for the purposes for which it is intended.

With these ends in view my invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view showing the parts or members of my improved rail-joint separated or detached from each other. Fig. 2 is a horizontal sectional view taken on the line 2 2 in Fig. 4. Fig. 3 is a transverse sectional view taken on the line 3 3 in Fig. 2. Fig. 4 is a transverse sectional view on the line 4 4 in Fig. 2.

Corresponding parts in the several figures are indicated by similar characters of reference.

The device which constitutes my improved rail-joint is composed of two parts or members, which are designated, respectively, 1 and 2, the part 1 being what I prefer to call the "inner" member, and the part 2 the "outer" member of the device. Each of the parts or members comprises a vertical flange 3, which constitutes a fish-plate, a bulged body portion 4, which extends over the rail-flange and which is provided at its outer edge with notches 5 to receive the spikes by means of which the device is preferably secured in position, and the base or supporting portion 6, which extends under the rail-flange, as will be clearly seen in Figs. 3 and 4 of the drawings. It is obvious that the members 1 and 2 are constructed in conformity with the shape of the rail 7, in connection with which

they are to be used, so that the web or flange of said rail shall be firmly held between the side members 1 and 2, the flanges of which constituting the fish-plates will closely hug the under sides of the heads of the rails which are to be joined together by the device.

The base or supporting portions 6 of the members 2 meet and engage each other centrally below the rail-flange and are provided with shoulders or recesses 8 and 9, whereby flanges 10 and 11 are formed, the flange 10 of the inner member 1 overhanging the flange 11 of the outer member 2. The reason for this specific construction will be presently referred to.

Each of the members 1 and 2 is provided with a centrally-disposed enlargement 12, said enlargements combining to form an abutment for the meeting ends of the rails that are to be joined together by the device, the shape of said abutment being practically that of a centrally and vertically divided short rail end. The enlargements 12 are obviously integral with the members 1 and 2 of my improved rail-joint.

The vertical flanges forming the fish-plates of the members 1 and 2 of the device are provided at their opposite ends with openings for the reception of the bolts by means of which the device is connected with the ends of the rails that are to be joined together. These openings at one end of each fish-plate are ordinary bolt-holes 13, which are merely sufficiently large to admit a bolt of the desired diameter. The bolt-openings at the opposite end of each fish-plate are in the form of elongated slots 14, which will permit of a longitudinal play or movement of the bolts inserted therethrough. It will be seen that the openings 13 of one member are disposed opposite to the slots 14 of the other member. The meeting ends of the rails are provided with bolt-holes 15, which when the ends of the rails are in close contact with the enlargements 12, forming the central abutment, shall at the same time aline with the bolt-holes 12 of one of the adjacent members of my improved rail-joint. It will thus be seen that when the connecting-bolts 16 are placed in position the said bolts will connect each rail end rigidly and immovably with one of the

adjacent members of the device, while the connection with the other member, through the slots 14 of which connecting-bolts extend, will admit of a longitudinal sliding movement which will be amply sufficient to compensate for expansion and contraction, while at the same time the rails are connected with the connecting device and through it with each other with a great degree of rigidity which precludes the possibility of the rails ever getting out of joint or out of alignment with each other. Accidents from sprung and dislocated rails will thus be practically avoided by the use of my improved device.

15 When my improved railroad-rail joint is in position for operation and rolling-stock passes over the line, it is obvious that the tread of the wheels will exercise its strongest pressure in an outward direction upon the
20 inner member 1 of the joint wherever the joint is encountered. It is when this takes place that the flange 10 of the inner member 1, which overhangs the flange 11 of the outer member 2, by the downward and outward
25 pressure exercised thereon causes the rail ends to be gripped and clamped with increased force and tenacity, thus joining and uniting them together in the most efficient manner at the most critical moment.

30 It is obvious that the enlargements 12 on the members of my improved rail-joint being firmly connected with the respective rail ends will form a smooth and unbroken surface upon which the wheels of the rolling-stock
35 are transferred from one rail to the other, thus avoiding the unpleasant and detrimental jolting which is apt to occur when rail-joints of ordinary construction are employed. It will also be seen that this practically un-
40 broken surface will exist at all stages of expansion and contraction of the rails. The condition known in railroad parlance as "low joints" is thus rendered absolutely impossible by the employment of my invention.

45 I am aware that certain features of my invention have been heretofore known and successfully used; but I am not aware that the valuable features of my invention have heretofore been combined in the manner set forth
50 in the foregoing description and illustrated in the drawings. Thus, for instance, fish-plates have been used provided with circular openings or bolt-holes at one end and with
55 slots at the opposite end to admit of longitudinal movement, such fish-plates consti-

tuting a joint, being each connected in this manner firmly with one of the rail ends to be united. I am not aware, however, that such fish-plates have been provided with body portions extending over the rail-flanges and
60 with seat portions or bases extending under said flanges, thus supporting the sliding movement, which, however limited, would be liable to bring the rail ends out of alinement. Again, I am aware that rail-joints have been
65 constructed with seat portions extending under the rail-flange; but I am not aware that such devices, when formed with centrally-disposed engaging flanges have also been provided with the enlargements form-
70 ing abutments for the meeting ends of the rails, whereby the construction alluded to is rendered especially efficient. I desire it to be understood, therefore, that I do not claim, independently, such features as are already
75 well known in the art. On the other hand, I do not limit myself to the precise construction herein shown and described, but reserve the right to any changes and modifications which may be resorted to without departing
80 from the spirit and scope of my invention or detracting from the utility of the same.

Having thus described my invention, I claim—

A railroad-rail joint comprising parts or
85 members consisting of bulging body portions having upwardly-extending flanges forming fish-plates, inwardly-extending flanges forming seats and centrally-disposed enlarge-
90 ments forming abutments for the meeting ends of the rails, said fish-plates being provided at opposite ends with circular bolt-holes and with elongated slots, and said base-
95 flanges being provided at their meeting edges with flanges, the flange of the inner member overhanging that of the outer member, in combination with rail ends having circular
bolt-holes which, when said rail ends are seated upon the base-flanges of the members, in contact with the enlargements forming
100 the abutments, will register with the circular bolt-holes of the fish-plates, and suitable connecting-bolts.

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

HERSCHEL GLOVER.

Witnesses:

T. L. LINK,
L. C. BROWN.