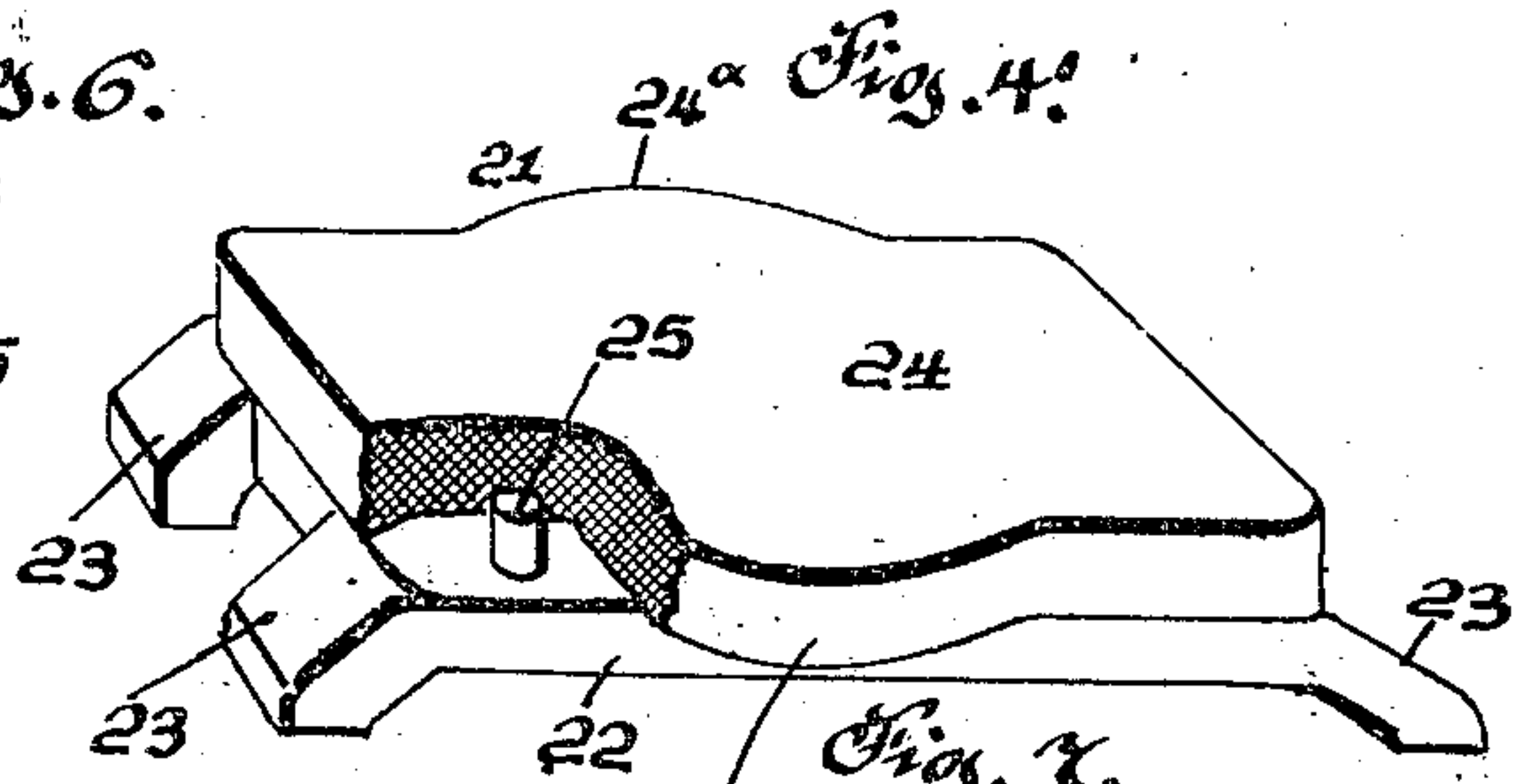
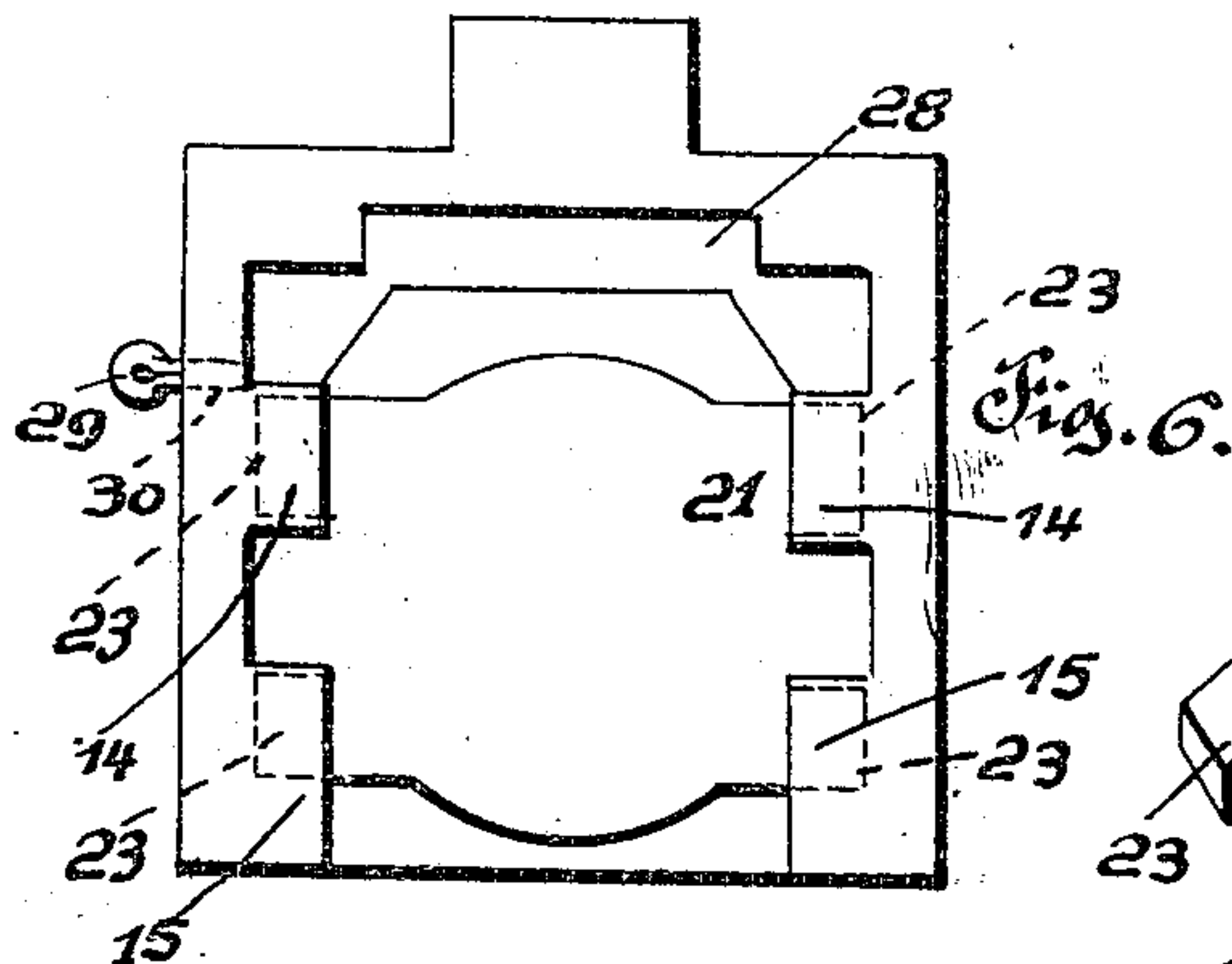
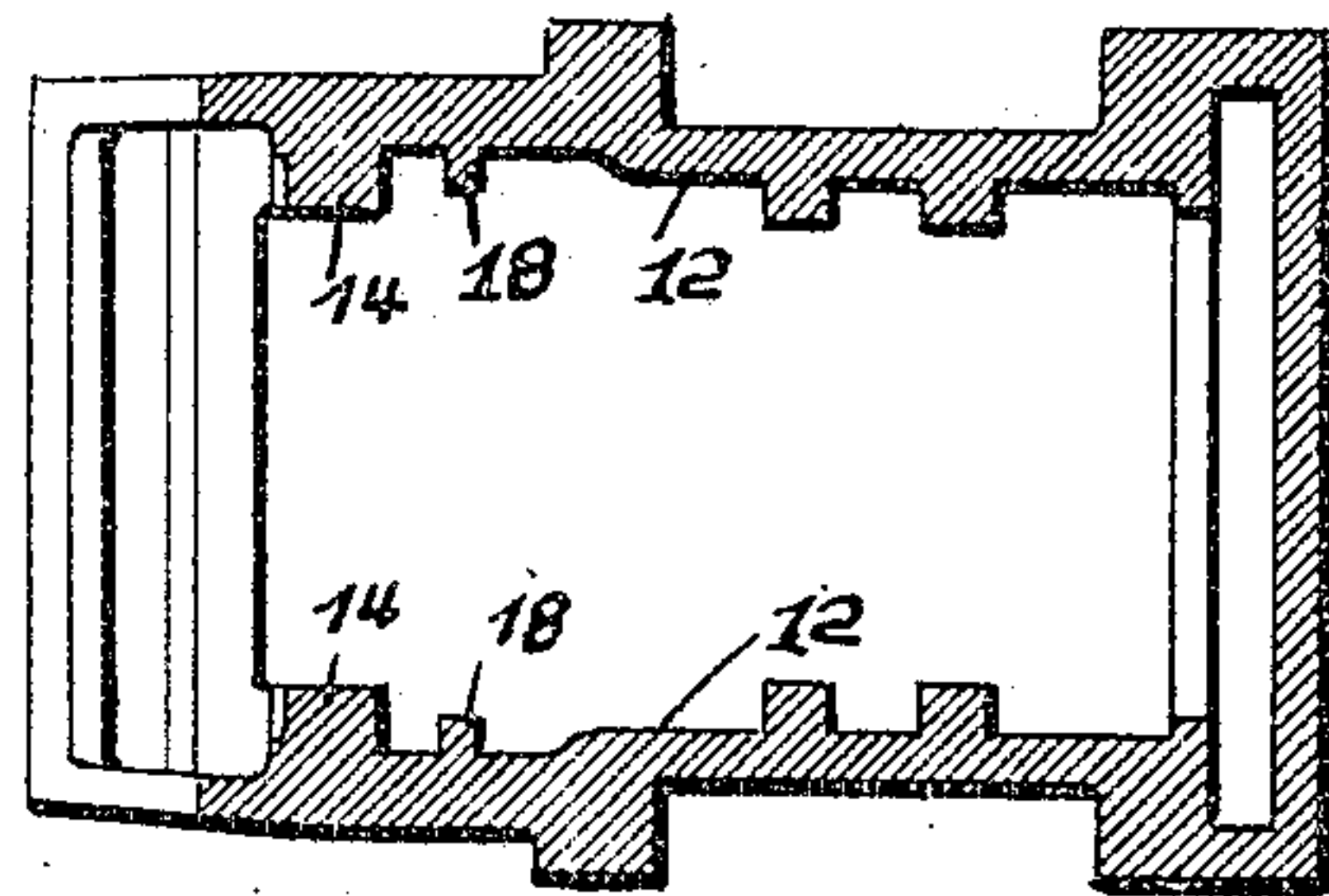
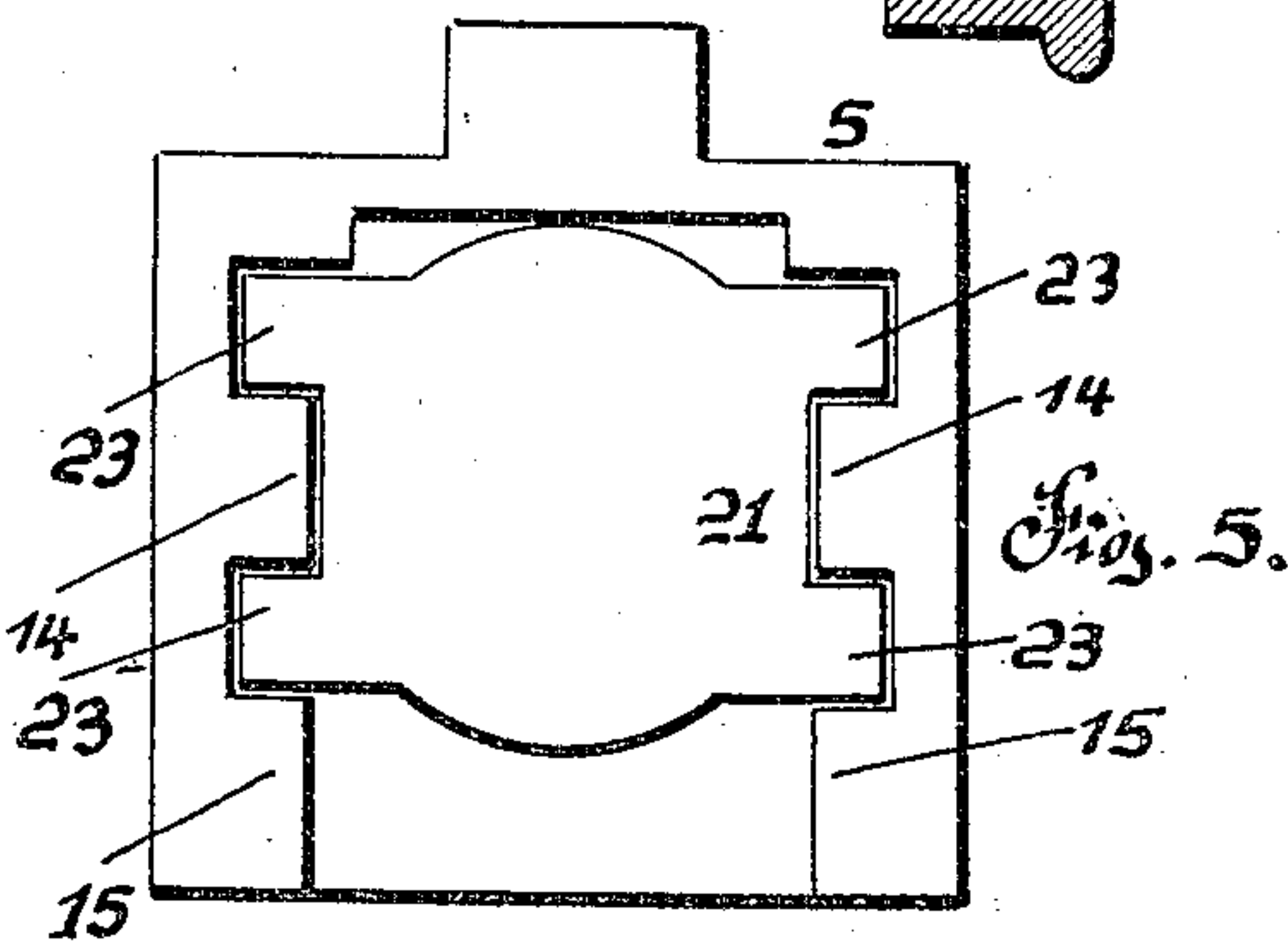
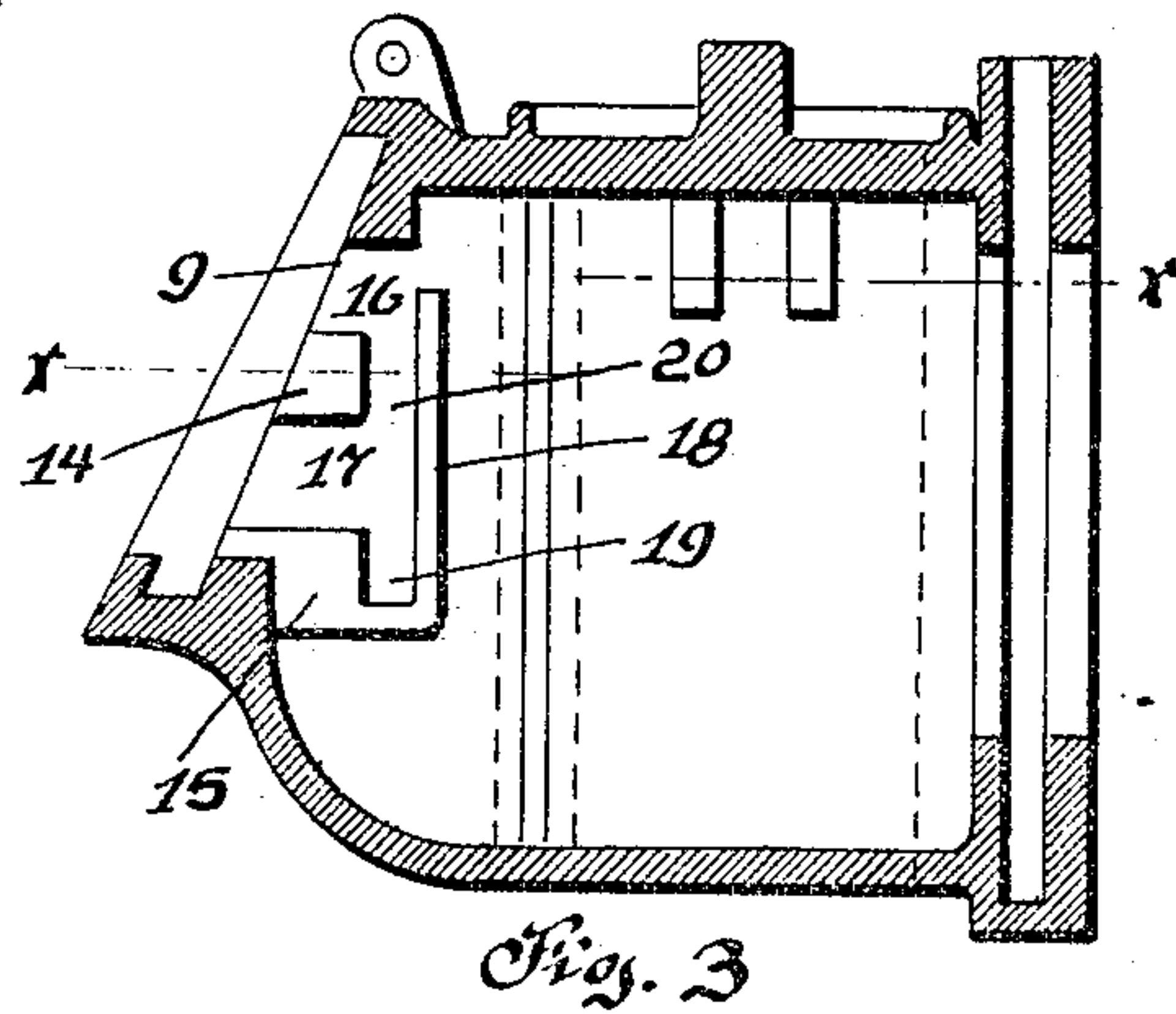
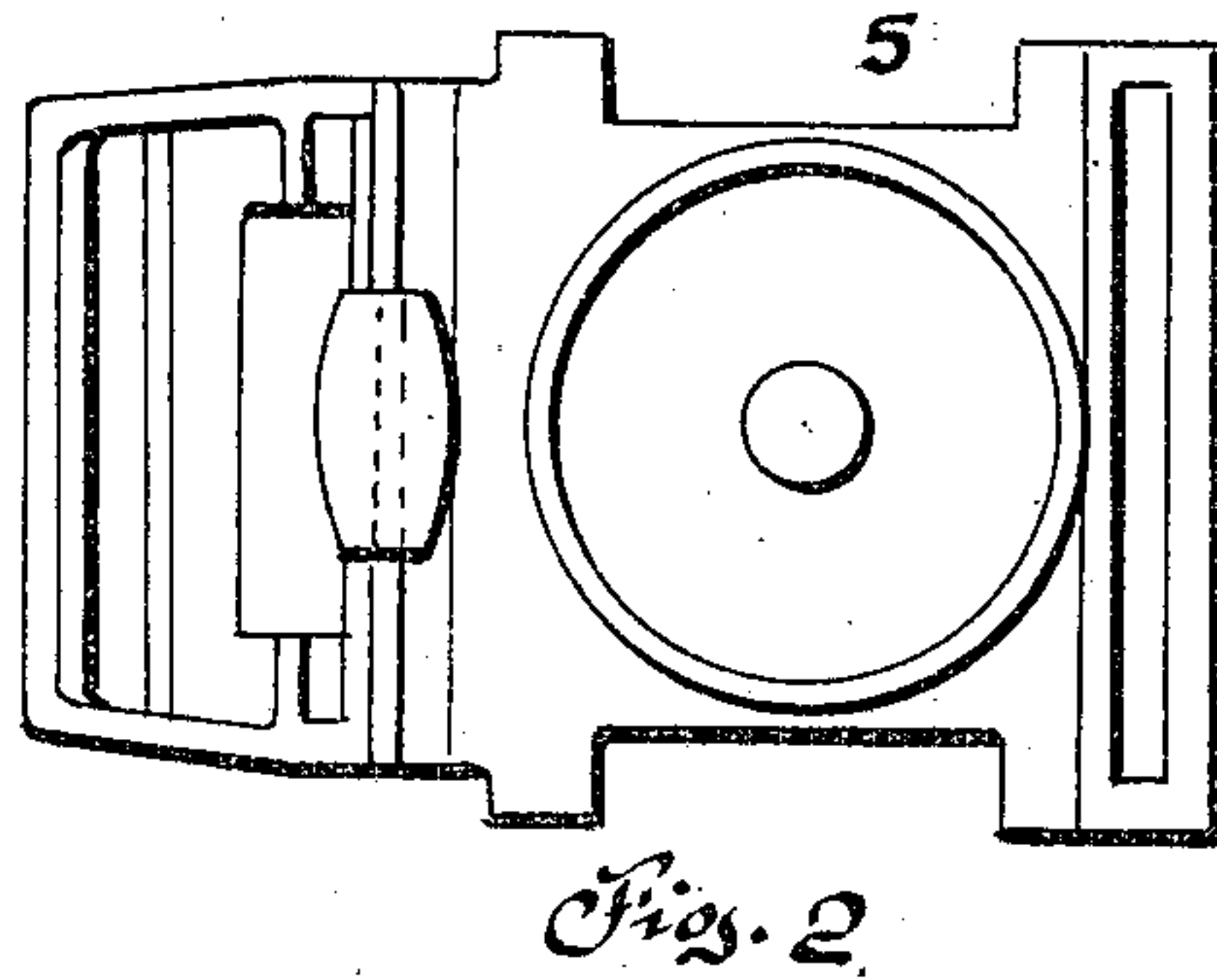
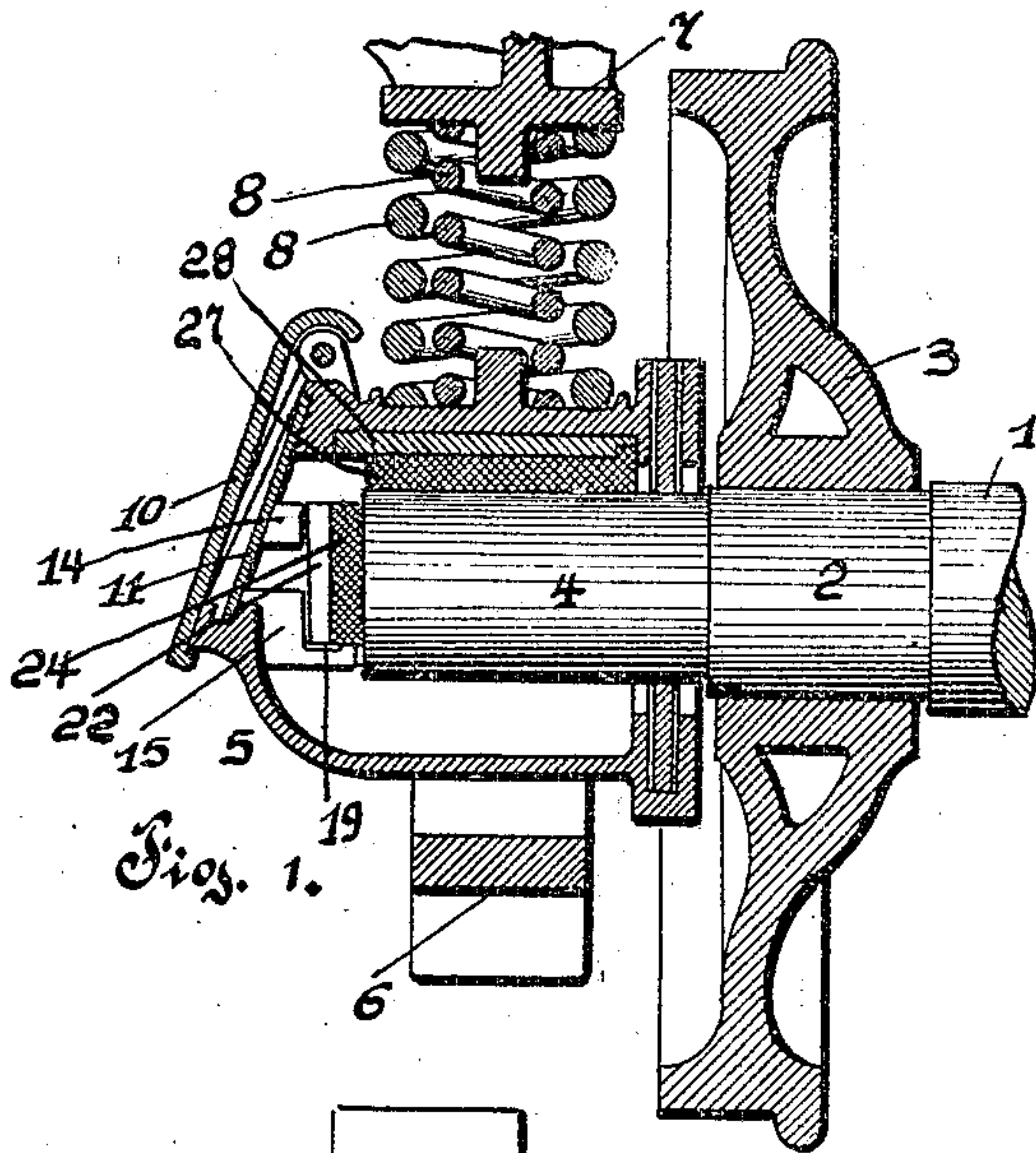


P. J. HARRIGAN.
STOP FOR JOURNAL BOXES.
APPLICATION FILED JAN. 22, 1906.



Witnesses:
C. Klostermann
P. J. Harrigan

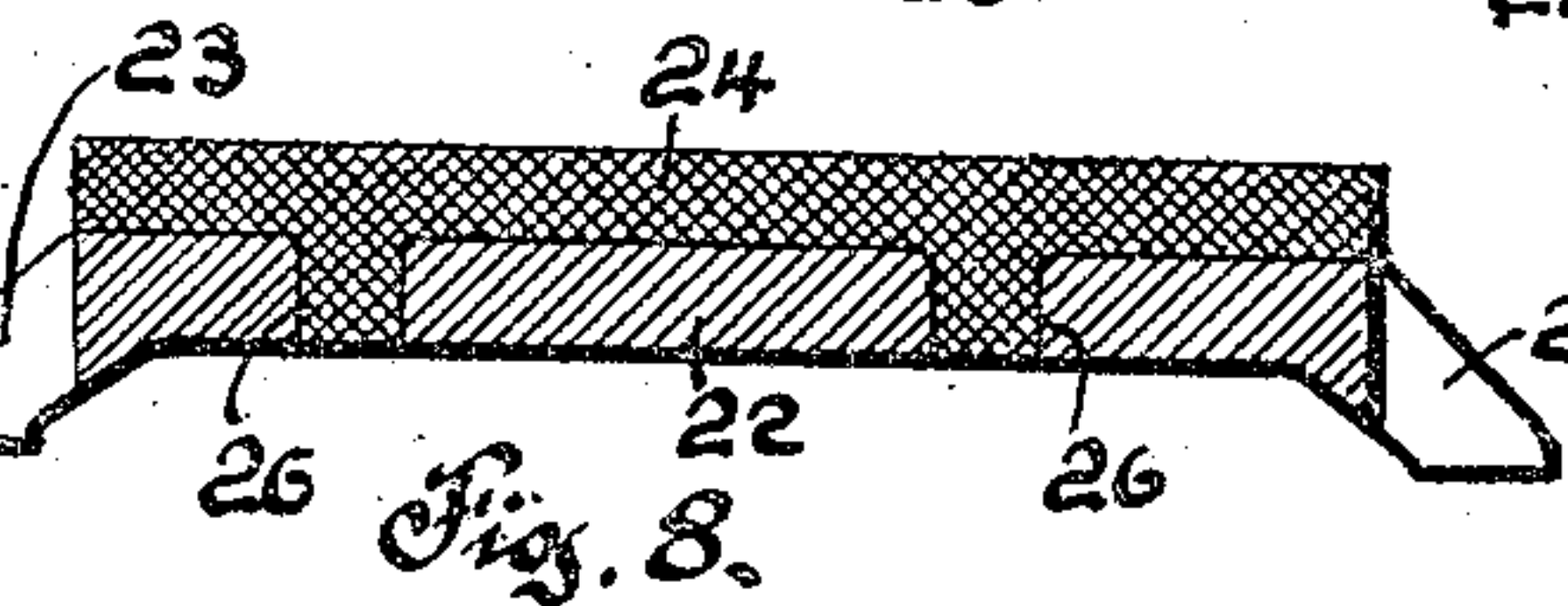


Fig. 7.
Inventor.
P. J. Harrigan.
by N. C. Everett & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

PATRICK J. HARRIGAN, OF McKEESPORT, PENNSYLVANIA.

STOP FOR JOURNAL-BOXES.

No. 830,832.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed January 22, 1906. Serial No. 297,218.

To all whom it may concern:

Be it known that I, PATRICK J. HARRIGAN, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Stops for Journal-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in journal-stops as used in journal-boxes for preventing the end thrusts of axles or shafts journaled in the boxes, also to receive the wear and tear of the axle or shaft within the boxes and protect the contents thereof.

The invention aims to provide a novel form of journal-stop which will wear a considerable period of time and may be renewed in part without disposing of the entire stop. In this connection I have devised a journal-stop particularly adapted to be used in connection with the journal-boxes of rolling-stock, although the use of my improved journal-stop relative to a certain type of journal-box is arbitrary, my invention not residing in the location of the stop, but in the detail construction thereof, which will presently be described and claimed.

Reference will now be had to the accompanying drawings, wherein like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a vertical sectional view of a conventional form of journal-box equipped with my improved journal-stop. Fig. 2 is a plan of the journal-box with the lid thereof removed. Fig. 3 is a vertical longitudinal sectional view of the box. Fig. 4 is a horizontal sectional view taken on the line *xx* of Fig. 3. Fig. 5 is a front elevation of the box, illustrating my improved stop partly positioned therein. Fig. 6 is a similar view illustrating a stop as seated and in proper position relative to said box. Fig. 7 is a perspective view, partly in section, of my improved journal-stop; and Fig. 8 is a central longitudinal sectional view of a journal-stop, illustrating a slightly-modified form of construction.

In the accompanying drawings I have illustrated the end of a conventional form of axle 1, having an axle-bearing 2, upon which

is mounted a conventional form of car-wheel 3. The contracted or spindle end 4 of the axle extends into a conventional form of journal-box 5, which is supported by the framework 6 and is adapted to support a frame 7, which rests upon springs 8 8, mounted upon the top of the journal-box 5. The journal-box is provided with a contracted opening 9, which is normally closed by a spring-pressed lid 10 and a plate 11. The side walls 12 12 of the journal-box adjacent to the opening 9 are provided with outwardly-extending lugs 14 14 and 15 15, forming parallel slots 16 17. The lugs 15 are provided with upwardly-extending ribs 18, forming sockets 19 between the lug 15 and the rib 18 upon each side wall of the journal-box. By providing the ribs 18 vertically-disposed slots 20 are formed, being a continuation of the sockets 19 and being intersected by the parallel slots 16 and 17.

My invention resides in a novel form of journal-stop 21, which is clearly illustrated in Figs. 1, 5, to 7, inclusive. The stop consists of a strong and durable metallic foundation-plate 22, the ends of which are provided at the upper and lower edges with rearwardly-extending bearing or supporting legs 23 23, while the foundation-plate 22 is provided with an axle-bearing of Babbitt metal or the like material 24.

In order that the Babbitt metal or a similar metal may be secured to the foundation-plate 22, I provide the plate with outwardly-extending lugs 25, which are adapted to engage in the Babbitt metal 24 when the same is molded upon the foundation-plate 22, thereby providing an extra grip for the Babbitt metal besides the face of the foundation-plate. In some instances the foundation-plate 22 may be provided with a plurality of openings 26, (see Fig. 8,) and when molding the Babbitt metal 24 upon the foundation-plate 22 the metal may descend into the openings 26 and in this manner become fixed upon the foundation-plate. Even with these two methods of securing the Babbitt metal upon the foundation-plate it is obvious that other means may be devised for accomplishing the same purpose. Therefore I do not care to confine myself to the manner of uniting the Babbitt metal with the foundation-plate. The formation of the Babbitt

metal 24 upon the foundation-plate 22 is substantially rectangular in plan, and I provide the upper and lower edges of the Babbitt metal with enlargements 24^a 24^a, the object of which will presently be described.

After the journal-bearing 27 has been placed in the journal-box upon the contracted or spindle end 4 of the axle and the journal-bearing key 28 placed therein my improved journal-stop is mounted in the journal-box to bear against the end of the contracted end or spindle 4 of the axle. In Fig. 5 of the drawings I have illustrated the position of the stop within the journal-box before it is seated, this position of the journal-stop being assumed when the stop is moved toward the axle. The bearing or supporting legs 23 of the stop pass within the slots 16 and 17 until the Babbitt metal 24 engages the end of the journal-bearing 27 and the axle 1, at which time it is forced downwardly, the legs 23 riding within the vertically-disposed slots 20 until said legs engage behind the lugs 14 14 and within the sockets 19 behind the lugs 15 15. When in this position, (see Fig. 6,) the Babbitt metal 24 is positioned between the ribs 18 18 and in engagement with the end of the contracted or spindle end 4 of the axle. The lugs 14 14 and 15 15 are adapted to prevent a rearward movement of the journal-stop, it being only possible to remove the journal-stop by elevating the same until the legs 23 23 register with the parallel slots 16 and 17; but when the stop is being used I employ a key 29, which is mounted in an opening 30, formed in one of the side walls 12 of the journal-box, to engage upon the top of one of the legs 23 and prevent the journal-stop from being elevated until the key is removed.

When the journal-stop is in position within the journal-box, the formation of the legs 23 23 relative to the foundation-plate 22 forms a transverse bridge structure for supporting the Babbitt metal, and as this metal receives the wear and tear from the axle occasioned by end thrusts a certain resiliency maintained by the foundation-plate 22 on account of its bridge-like structure will to a certain extent permit of the foundation-plate receding before breaking.

By constructing the journal-stops in the manner above described the entire destruction of the stops incurred by sudden thrusts or blows which they receive is entirely eliminated, and by protecting the foundation-plate with a softer material than the plate I am enabled to use the foundation-plates a number of times by simply renewing the Babbitt metal which they carry. The enlargements 24^a 24^a are provided to insure a greater contacting surface of the Babbitt metal with the end of the shaft than if they were not used, said enlargements tending to

brace the contracted or spindle end 4 of the axle during its rotation, also receiving the wear and tear of the axle should the same assume an angle not parallel with the journal-bearing 27.

An important advantage derived from my invention is its adaptability to any type of journal-box which is reinforced by the lugs 14 and 15, providing slots 16 and 17 on the side walls of the box, whereby the journal-stop can be properly supported therein. Throughout the description of the journal-stop I have specifically described the use of Babbitt metal in connection with the stop; but I desire it to be understood that brass, bronze, or the like composition can be readily used. By the construction of my improved journal-stop, together with the box in which it is used, a large end-bearing surface is provided for an axle and the stop is not dependent on the action of the lid or journal-liner, but may be removed or replaced with ease and without elevating the car, it only being necessary to sever the cotter-pins employed to lock the journal-stops in position and to prevent persons from tampering with the same.

In the drawings accompanying this application I have illustrated a conventional form of journal-box, the detail construction of which will be familiar and apparent to those skilled in the art of rolling-stock construction, and while I have herein illustrated and described the stop as being used in connection with this type of journal-box it is obvious that it may be readily used in connection with the journal boxes and bearings for shafts.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a journal-box provided adjacent the forward end of its side walls with oppositely-disposed lugs arranged in pairs, and having ribs on said side walls spaced away from the lugs to form a groove between the ribs and the lugs and joining with the lowermost pair of lugs, of a stop-plate provided at each end with a pair of feet adapted to engage in the grooves between the ribs and the lugs and seat against said lugs.

2. The combination with a journal-box having lugs projecting inwardly from the opposite side walls thereof adjacent the forward end of the box, said lugs being arranged in pairs, and ribs carried by the side walls back of the lugs and forming a groove between said lugs and the ribs, the said ribs joining with the lowermost pair of lugs, of a stop-plate provided at each end with a pair of feet adapted to engage in said groove and seat between the respective pairs of lugs and the ribs, and a facing of Babbitt metal secured to said stop-plate, as and for the purpose described.

3. The combination with a journal-box
having two vertically-disposed parallel lugs
on each inner side wall and horizontal slots
formed in one lug in each wall, of a thrust-
5 block having legs at each side, adapted to
pass through said slots and seat between said
vertical lugs, substantially as described.

In testimony whereof I affix my signature
in the presence of two witnesses.

PATRICK J. HARRIGAN.

Witnesses:

K. H. BUTLER,
E. E. POTTER.