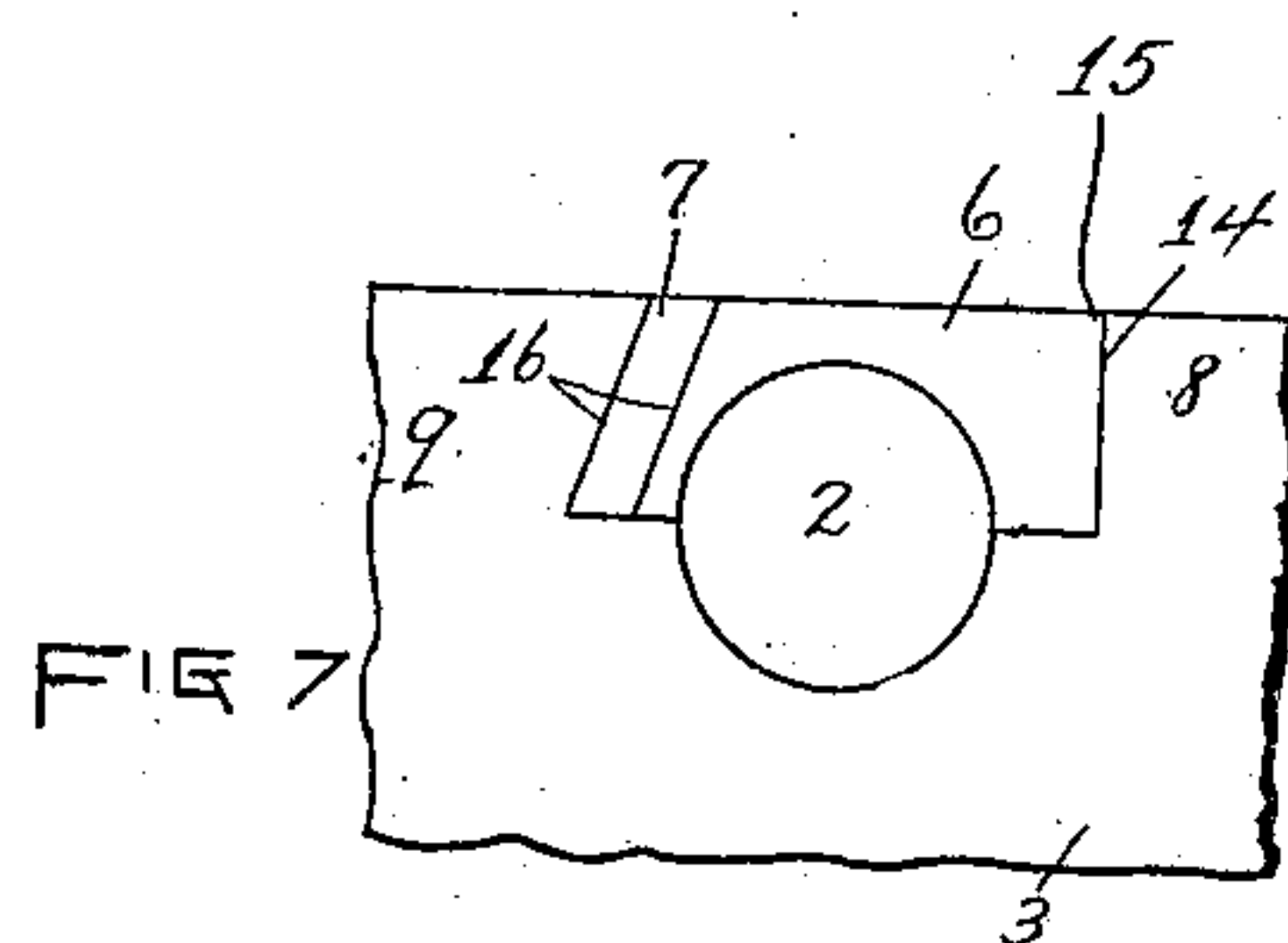
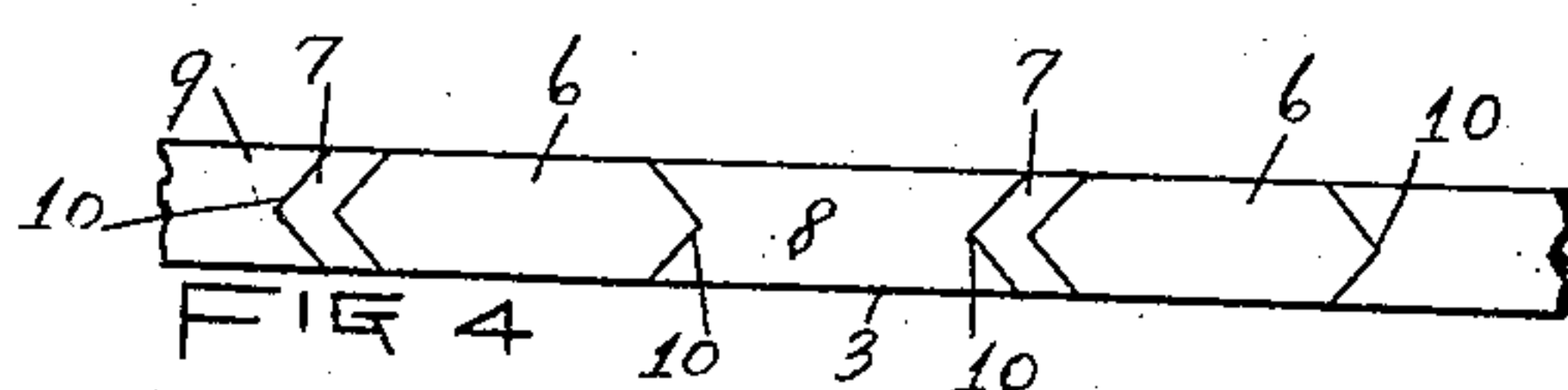
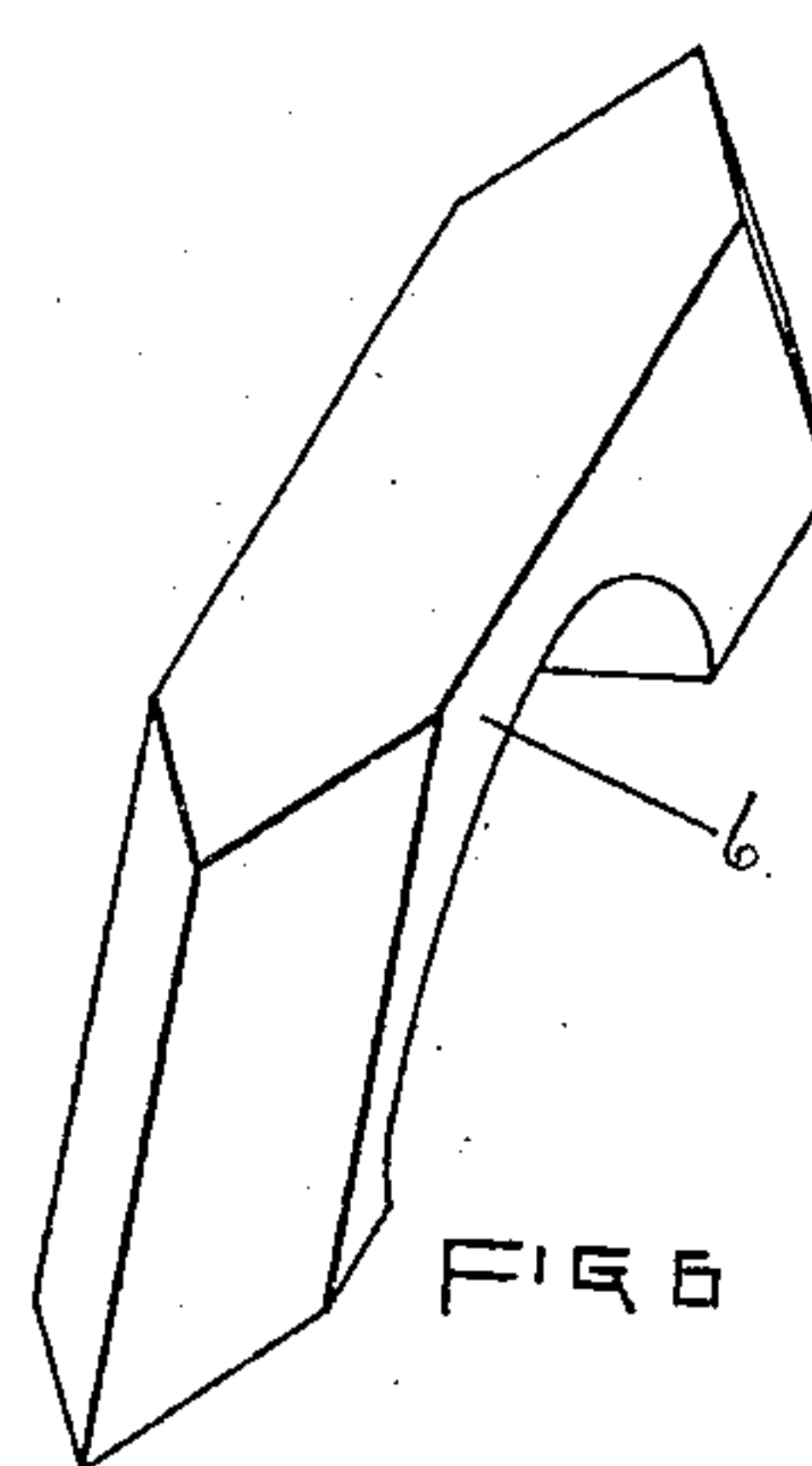
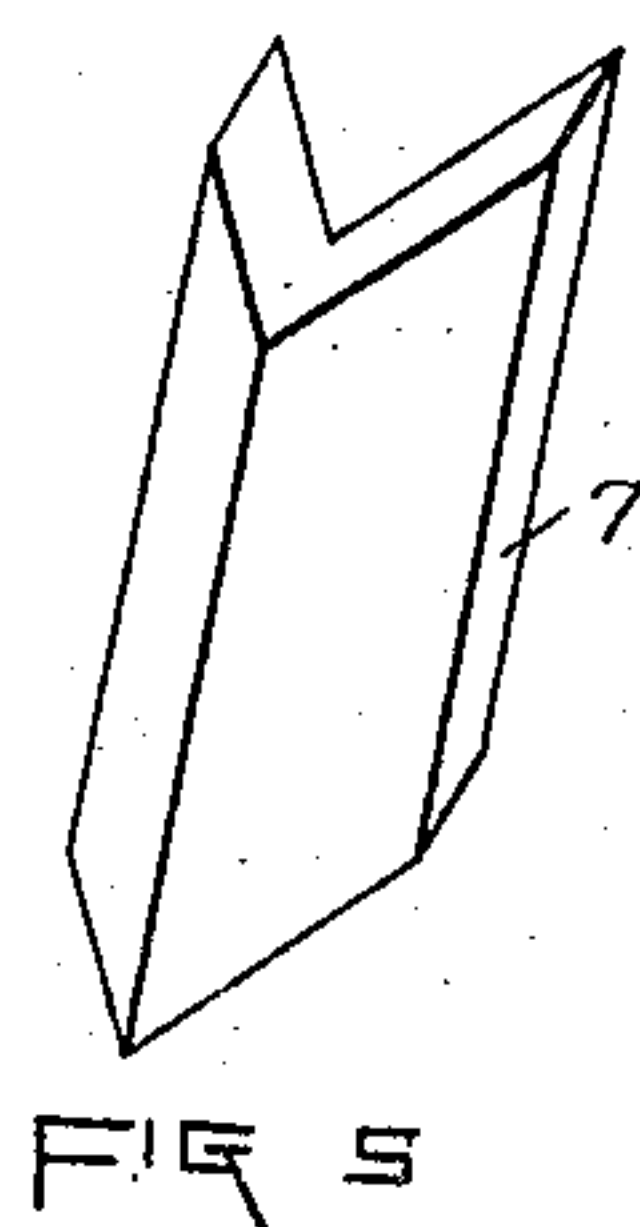
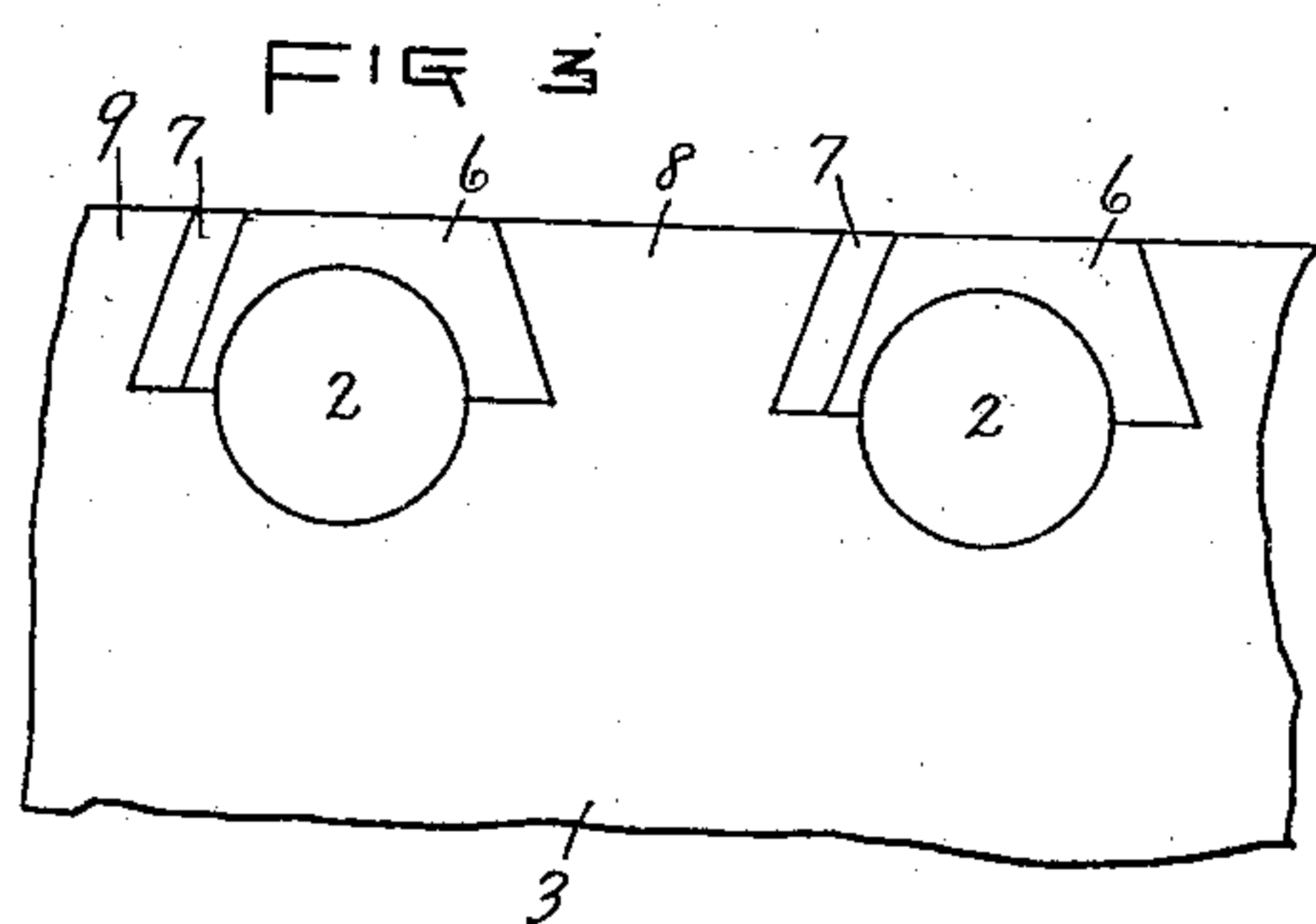
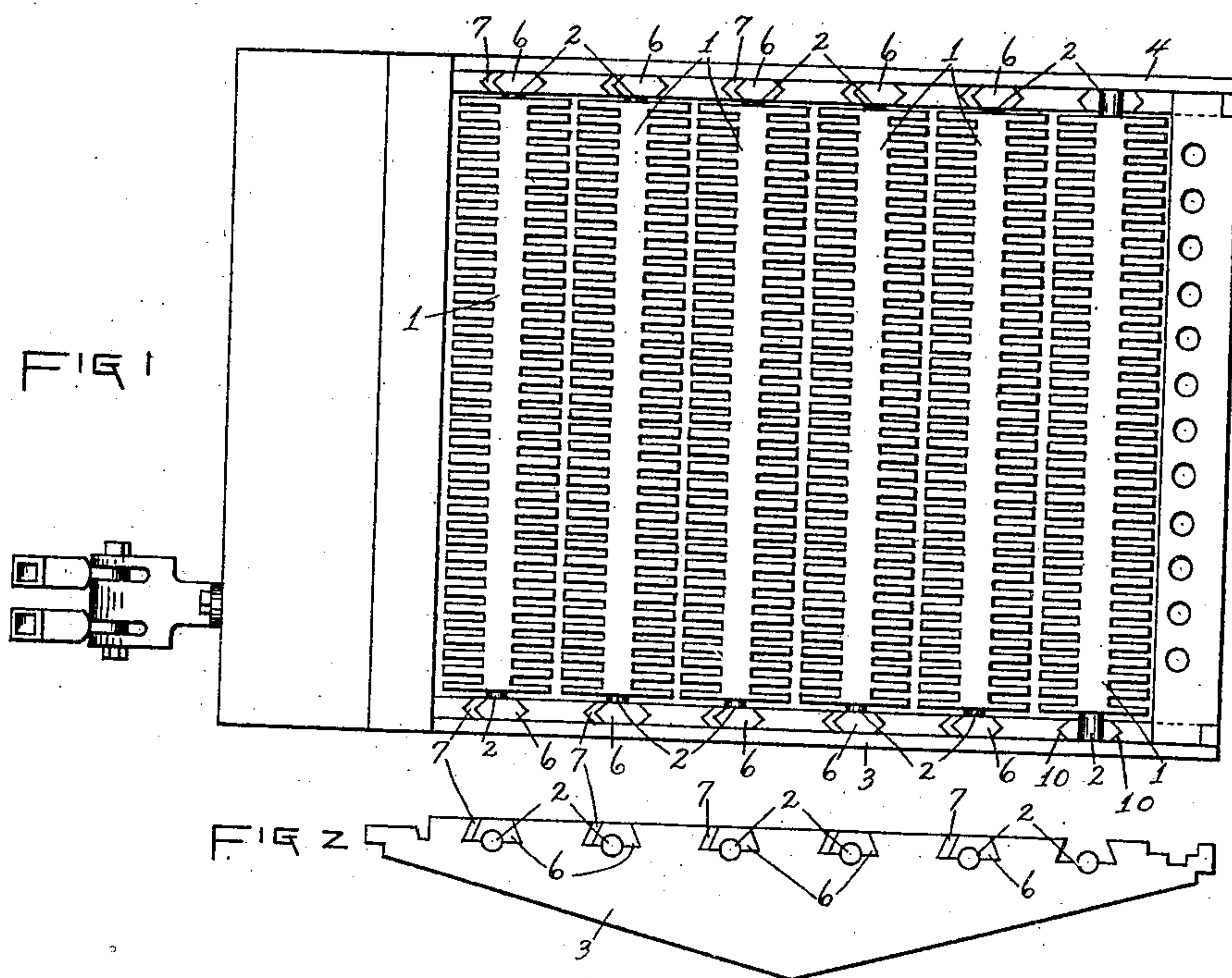


No. 814,390.

PATENTED MAR. 6, 1906.

S. NEEMES.
JOURNAL BEARING.
APPLICATION FILED MAR. 27, 1905.



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UNITED STATES PATENT OFFICE.

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JOURNAL-BEARING.

No. 814,390.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed March 27, 1905. Serial No. 252,220.

To all whom it may concern:

Be it known that I, SPENCER NEEMES, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Journal-Bearings, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

While my improved journal-bearing is applicable to journals and trunnions of all kinds, it is especially adapted for use in connection with grate-bars supported by trunnions in side frames of the grate and adapted to be rocked—as, for example, in the rocking grate shown in my application filed August 19, 1903, Serial No. 169,968.

The objects of this invention are to provide convenient means for inserting the journals or trunnions in the bearings and to prevent the displacement of the bearings while the grate-bars are being rocked for the purpose of shaking or dumping the grate.

Figure 1 of the drawings is a top plan view of a furnace-grate provided with my improved journal-bearings. Fig. 2 is a side elevation of the grate-frame. Fig. 3 is a fragmentary view of a portion of the part shown in Fig. 2 made on an enlarged scale. Fig. 4 is a top plan view of the part shown in Fig. 3. Fig. 5 is a view in perspective of the key detached. Fig. 6 is a similar view of the cap detached. Fig. 7 is a view similar to that shown in Fig. 3 embodying my invention in modified form.

The grate-bars 1 are supported by trunnions 2 in the bearings located in the side frames 3 and 4 of the grate. As shown in the drawings, the side frames 3 and 4 form the pillows for all the bearings and each bearing is provided with a separate detachable cap 6 and detachable key 7. The pillows are provided with uprights 8, forming between them seats which have oppositely-disposed side walls upwardly and convergently inclined toward the contracted open end of the seat, as shown, adapted to loosely receive

between them a cap 6, which cap is similarly inclined, so that its sides incline upwardly and inwardly toward each other. For certain purposes of the invention said seat may be provided with a contracted open end in any known manner. The caps are made narrow enough so that they may be easily inserted in the spaces between the uprights, and after being inserted a block or key 7 is inserted in the space between one side of a cap and one of the uprights which forms a slideway to receive the same, as shown in the drawings, thereby securely locking the cap in position between the uprights.

To prevent the displacement of the detachable parts lengthwise of the bearings—that is, laterally of the grate-frames 3 and 4—the inclined bearing-surfaces of the uprights are provided with a V-shaped groove 10 and the sides of the cap are made wedge-shaped to fit said wedge-shaped grooves, as shown in Fig. 4, and the key is made wedge-shaped on one side and V-shaped on the opposite side, so as to fit the spaces between one of the uprights and one side of the cap. It is obvious that this interlocking feature may be varied as desired, it only being necessary that some projection on one part and depression on another should be brought into engagement with each other, so as to prevent the displacement of the cap longitudinally of the bearing, the vertical displacement being prevented by the key 7, as before described.

The inner surface of one of the uprights may be vertical, as shown at 14 in Fig. 7, the adjoining side 15 of the cap being also made vertical, the other side of the cap and the other upright being inclined, as shown at 16 and in the other figures of the drawings.

In Fig. 1 at the right-hand end of the figure I have shown the caps and keys detached, showing the trunnions of the first rocking bar resting in the bearing of the pillows.

I am thus able to produce a journal-bearing especially adapted for grate-trunnions and the like, which can be cheaply made of rough castings and which are easily and quickly put together without bolts or screws and which can be loosely fitted, so as to allow for contraction and expansion and which cannot be displaced or disarranged in use which can be easily and cheaply replaced if broken.

The removable block, shown in the form of

a cap 6, may be any known form of bearing-block adapted to afford more or less bearing-support to the journal.

In the preferred form of my invention the journal-bearing is wholly open upwardly when the cap is detached, permitting both side frames 3 and 4 to be fixed in their proper position before the grate-bars 1 are placed, thus greatly facilitating the operation of setting up and repairing the grate. Such an opening between the inclined uprights permits of a key-slideway between the cap and one of such uprights opening at the top through the contracted open end of the seat, where it is easily accessible. By having the key-slideway open and upright—that is, open upwardly—and provided with interlocking connections between it and the key, as shown, the key will not be displaced while the grate is in use, being held in place by gravity and the interlocking connections.

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

1. A journal-bearing comprising in combination a supporting-frame provided with a seat having a contracted open end; a journal-bearing block loosely insertible in said seat; and a key insertible through the contracted open end of said seat and with said block substantially filling the seat.

2. A journal-bearing comprising in combination a supporting-frame provided with a seat having a contracted open end; a journal-bearing block loosely insertible in said seat having one of its sides engageable with the side wall of said seat, and its opposite side parallel with the opposite side wall of said seat and forming therewith a key-slideway opening through the contracted open end of the seat; and a key insertible through the open end of said seat and slideway.

3. A journal-bearing comprising in combination a supporting-frame provided with an open seat having a side wall inclined inwardly toward its open end; and a journal-bearing block and key separately insertible, the key after the bearing-block, in said seat and together substantially filling said seat, one of said insertible parts having a side surface engageable, and inclined to correspond with, said inclined side wall.

4. A journal-bearing comprising in combination a supporting-frame provided with a seat having a contracted open end; a journal-bearing block loosely insertible in said seat, and a key interlockable with the bearing-block and separately insertible through the contracted open end of the seat.

5. A journal-bearing, comprising in combi-

nation a supporting-frame provided with an open seat having a side wall inclined inwardly toward its open end; a journal-bearing block and key separately insertible, the key after the block, in said seat through the open end thereof, said block having an inclined side parallel with said inclined seat-wall, and said key having its opposite sides engageable, and corresponding in inclination with, the respective inclined seat-wall and inclined side of the journal-block.

6. A journal-bearing comprising in combination a supporting-frame provided with an open seat having its side walls inclined inwardly toward the open end thereof and each formed with a longitudinal V-shaped groove; a journal-bearing block loosely insertible within said seat having its opposite sides formed with similarly V-shaped tongues and corresponding in inclination with the respective seat-walls with one of which one side of said cap is engageable; and a key insertible in said seat having its opposite sides corresponding in inclination with one of said seat-walls and the neighboring side of said cap between which said key is insertible through the open end of the seat and having on one side a V-shaped tongue fitting the groove in said seat-wall and provided on the opposite side with a similar V-shaped groove to receive the tongue on the neighboring side of the block.

7. A journal-bearing comprising in combination a pillow provided with an open seat leading to a journal-bearing surface having the seat-walls inclined inwardly toward the open end thereof and each formed with a longitudinal V-shaped groove; a cap insertible within said seat having on its inner end a complementary journal-bearing surface and having its opposite sides formed with V-shaped tongues and corresponding in inclination with the respective seat-walls with one of which one side of said cap is engageable; and a key insertible in said seat having its opposite sides corresponding in inclination with one of said seat-walls and the neighboring side of said cap between which said key is inserted and having on one side a V-shaped tongue fitting the groove in said seat-wall and provided on the opposite side with a V-shaped groove to receive the tongue on the neighboring side of the cap.

In testimony whereof I have hereunto set my hand this 22d day of March, 1905.

SPENCER NEEMES.

Witnesses:

E. M. O'REILLY,
H. E. CURTIS.