

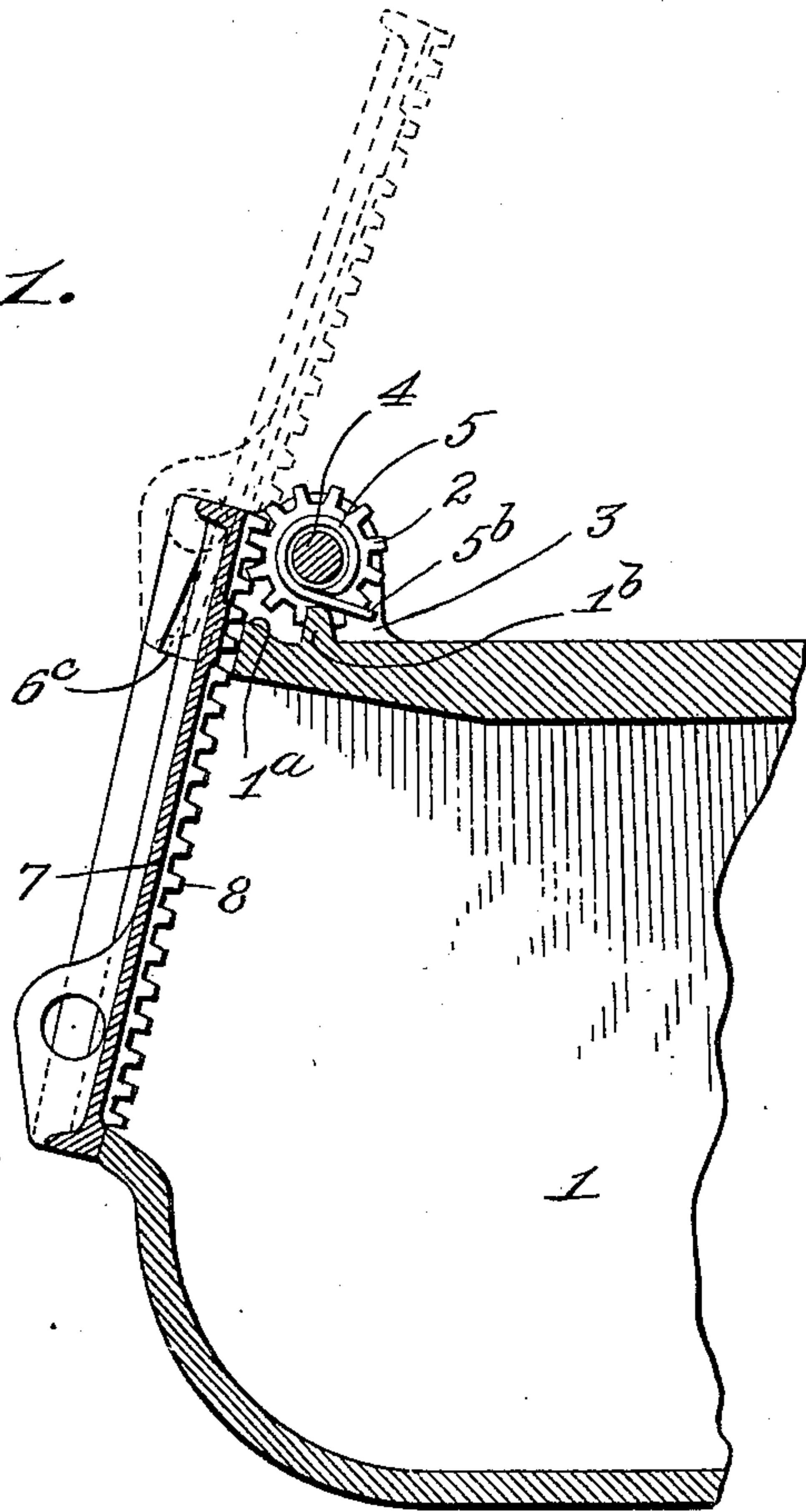
No. 824,406.

PATENTED JUNE 26, 1906.

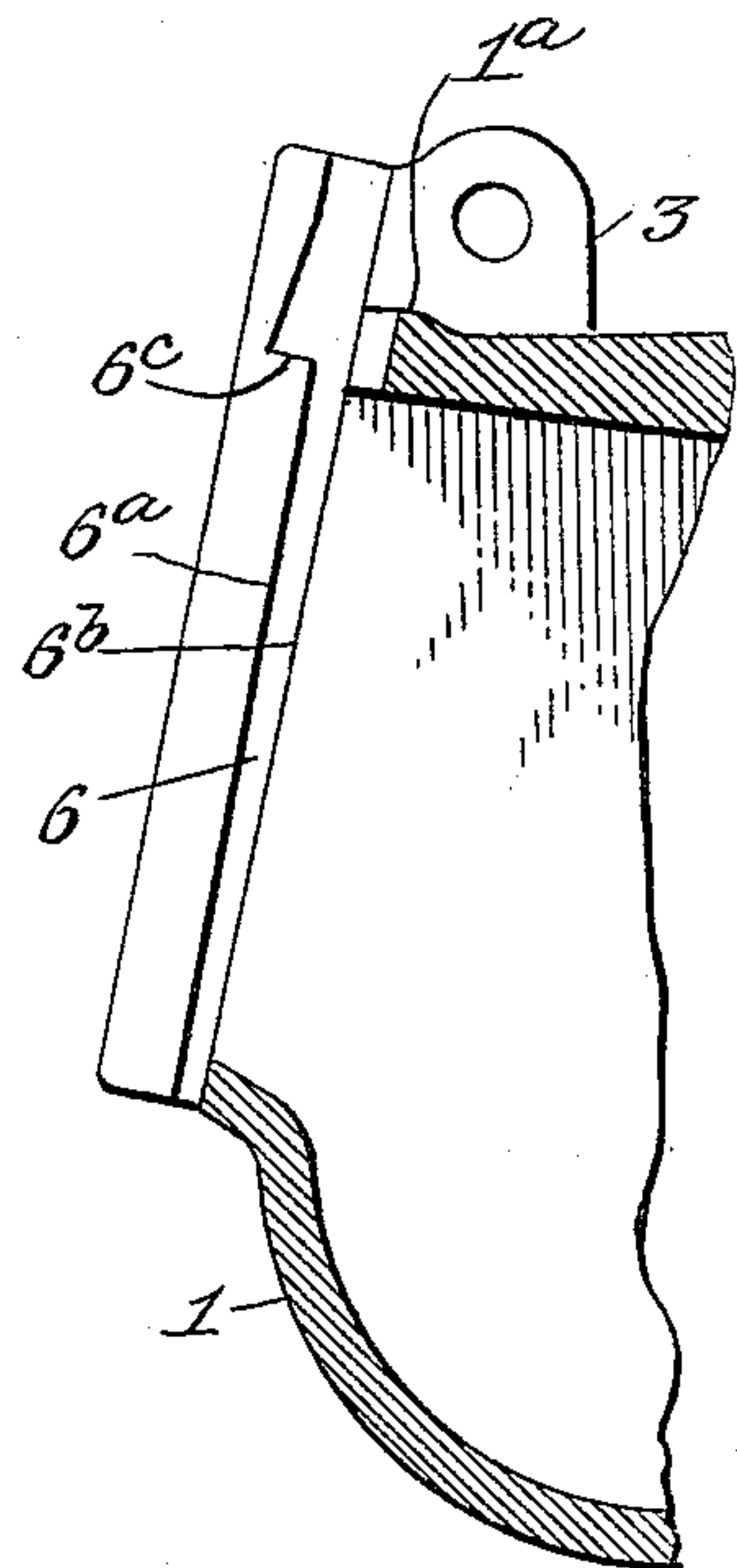
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JOURNAL BOX.

APPLICATION FILED JUNE 20, 1905

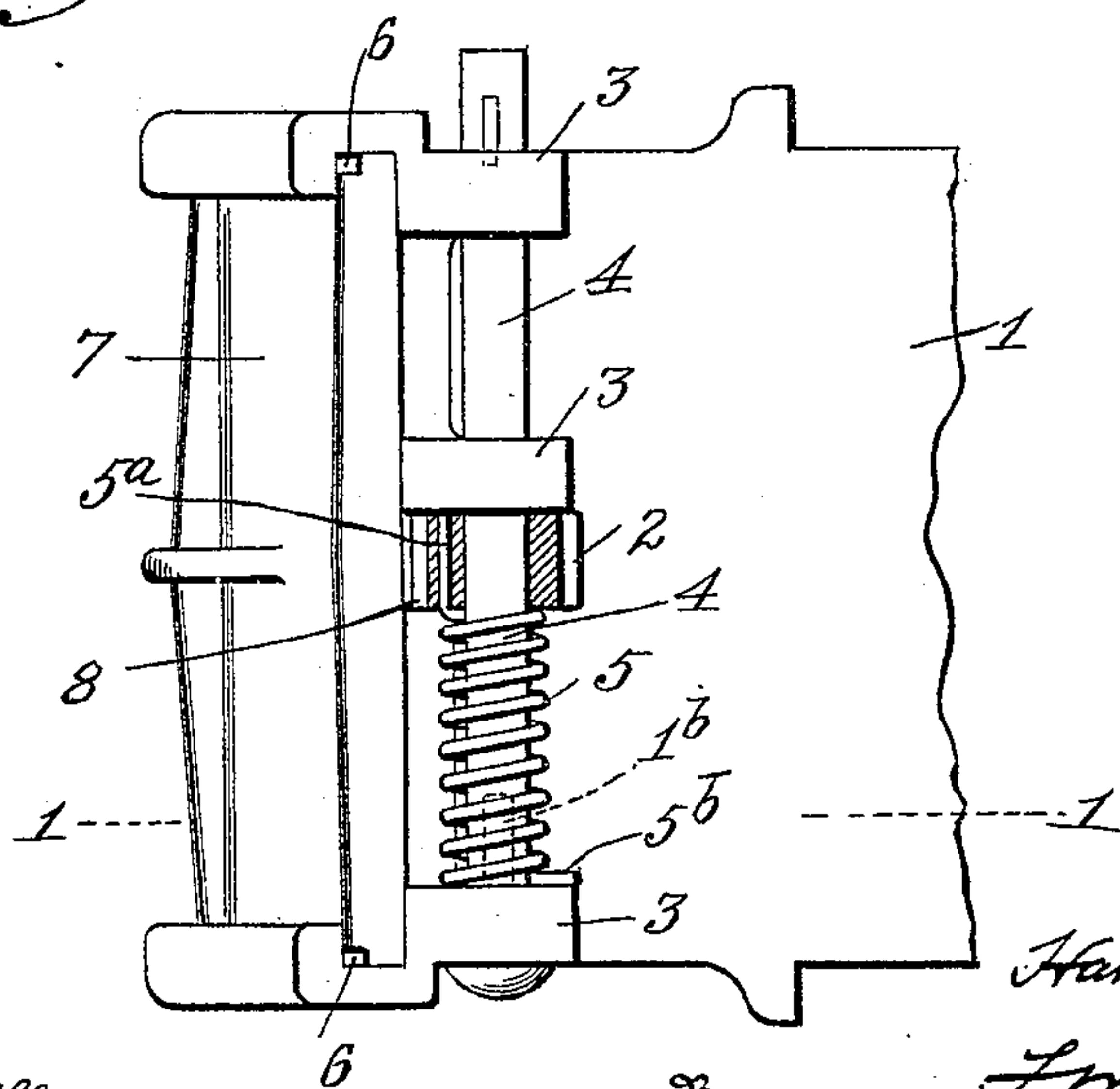
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

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## JOURNAL-BOX.

No. 824,406.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed June 20, 1905. Serial No. 266,097.

*To all whom it may concern:*

Be it known that I, HARRY C. BUHOUP, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Journal-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the construction of journal-boxes for car-trucks, and has for its object to provide a lid therefor which shall effectually prevent the entrance of dust and which shall be so retained in open position that the jar of the parts when the truck is in motion will cause the said lid to be released and forced to closed position.

To this end my invention, generally stated, may be said to reside in a construction wherein the journal-box and lid are each provided with corresponding inclines, said lid being acted upon by a spring constantly tending to cause said inclines to tightly engage each other.

There are other features of invention residing in particular constructions and elemental combinations, all as will hereinafter more fully appear.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, Figure 1 is a vertical section of a portion of a journal-box embodying my invention, taken in a plane indicated by the line 1 1, Fig. 2, the relation of the parts when the lid is in open position being shown in dotted lines. Fig. 2 is a plan view of the construction shown in Fig. 1, the lid being in closed position and the pinion which meshes with the rack upon the inner face of the lid being shown in section to disclose the manner of attachment to the spring. Fig. 3 is a vertical central section of the journal-box, the lid and actuating parts removed.

Like symbols refer to like parts wherever they occur.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings chosen for the purpose of illustrating my invention, the scope whereof is pointed out in the claims, 1 is a journal-box which is provided with suitable means for mounting a pinion or gear-wheel 2 there-

on—as, for example, a plurality of horizontally-perforated lugs 3, through which and the said pinion preferably passes a pin 4, which forms an axle for the latter and maintains the lid-actuating spring 5 in proper position.

The aperture upon the outer end of the journal-box, through which the oil, packings, and bearings are inserted and removed, is provided with means for guiding the journal-box lid or cover during the opening and closing thereof, said means preferably consisting of channels 6 adjacent to the sides of the said aperture, said channels being adapted to receive complementary portions of the lid or cover, thus forming a tongue-and-groove connection.

The guide-channels 6 are preferably tapered, the outer wall 6<sup>a</sup> thereof being inclined with respect to the inner wall 6<sup>b</sup>, by which means the lid or cover is caused to tightly engage the end of the journal-box when said lid is in closed position, thereby preventing the entrance of dust. The upper ends of the channels 6 are preferably formed with notches or shoulders 6<sup>c</sup>, which are adapted to support the lid or cover when in an open position; but such notches are not essential, as the lid may be supported upon the top of the journal-box, as at 1<sup>a</sup>, if desired.

The journal-box lid or cover 7, which is longitudinally slidable in the guideways 6 of the journal-box, is provided on its inner face with suitable means for driving or actuating the pinion 2, said means being preferably a rack 8 integral therewith. The portions of the lid 7 which engage the channels 6 of the journal-box may be tapered or inclined to correspond with the said channels.

The gear-wheel or pinion 2, which meshes with the rack 8, is secured to one end of the torsion-spring 5, as by having the end 5<sup>a</sup> of the latter inserted in a hole drilled in said pinion, the other end 5<sup>b</sup> of the said spring being prevented from rotating in any suitable manner, as by bearing upon and engaging a bridge-wall 1<sup>b</sup>, formed upon the top of the journal-box.

From the foregoing description of the several parts of the journal-box and lid it will be seen that when the lid or cover is raised the rack 8 upon the inner side of the said lid 7 actuates the pinion 2, which in turn causes a torsion upon the spring 5, attached thereto. The lid may be retained in open position by allowing the same to engage the notch 6<sup>c</sup> or



the upper portion 1<sup>a</sup> of the journal-box, as heretofore described. While the box-lid may be thus maintained in open position, it is to be noted that the energy stored in the spring  
 5 by the opening movement of the cover 7 always tends to return the said cover or lid to a closed position through the agency of the pinion 2 and rack 8 and that as a result it is impossible that the journal-box should remain  
 10 open when the train is in motion, for the reason that the jarring of the parts will displace the lid from its supporting-seat, whereupon the lid will be immediately and positively forced to a closed position. This prevents entrance of dust while the train is in motion  
 15 should the journal-box be carelessly left open.

When the cover or lid 7 is in closed position, it will be observed that the tapered form of the guideways or channels 6 of the  
 20 journal-box and the corresponding taper of the complementary parts of the said lid 7, acting in conjunction with the spring-pressed pinion 2 and engaging rack 8, cause the said cover 7 to tightly engage the end of the journal-box 1, thus forming an efficient dust-proof closure. In order that any jarring of the parts when in service shall not result in a movement of the lid, the spring 5 is preferably under slight strain when the box-lid is  
 25 closed.  
 30 closed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a journal-box, the combination with  
 35 the box, of a lid, and a pinion actuated by the movement of said lid.

2. In a journal-box, the combination with the box, of a lid, a rack upon said lid, and a pinion mounted upon said box.

3. In a journal-box, the combination with  
 40 the box, of a lid longitudinally slidable with respect thereto throughout its opening movement, and a spring acting upon said lid, said spring being energized by an opening movement of the lid and tending to close the same.  
 45

4. In a journal-box, the combination with a box having a pinion mounted thereon, of a lid provided with a rack, and a spring acting upon said pinion.

5. In a journal-box, the combination with  
 50 the box, of a lid longitudinally slidable with respect thereto throughout its opening movement, said lid and said box being each provided with tapered portions whereby the lid when closed is caused to tightly engage the  
 55

end of said box, and a spring said spring being energized by an opening movement of the lid and tending to close the same.

6. In a journal-box, the combination with the box, of a lid slidingly mounted thereon, said lid and said box being provided with means whereby the lid is caused to tightly engage the box when closed, a rack mounted on said lid, a pinion mounted on said box, and a spring adapted to be actuated by said pinion.  
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7. In a journal-box, the combination with the box, of a lid, a rack, a pinion meshing with said rack, and a spring adapted to be actuated by an opening movement of said lid.

8. In a journal-box, the combination with  
 70 a box having channels or guideways, of a lid slidingly mounted in said guideways, a rack mounted upon said lid, a pinion mounted upon said box, and a spring adapted to be actuated by said pinion.  
 75

9. In a journal-box, the combination with the box, of a lid longitudinally slidable with respect thereto, and a torsion-spring adapted to be actuated by said lid.

10. In a journal-box, the combination with  
 80 the box, of a lid longitudinally slidable with respect thereto, said lid and said box being provided with means whereby the lid is caused to tightly engage the box when closed, and a torsion-spring adapted to be actuated by said  
 85 lid.

11. In a journal-box, the combination with the box, of a lid longitudinally slidable with respect thereto throughout its opening movement, there being means upon the box adapted to support the lid in an open position, and a spring energized by the opening movement of the lid and tending to close the same.  
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12. In a journal-box, the combination with the box, of a lid therefor longitudinally slidable with respect thereto throughout its opening movement, there being means upon the box adapted to support the lid in an open position, and a spring energized by the opening movement of the lid and tending to close the same, said lid and box being each provided with tapered portions whereby the lid when closed is caused to tightly engage the end of said box.  
 95  
 100

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

HARRY C. BUHOUP.

Witnesses:

G. P. RITTER,  
 V. BIGELOW.