

No. 815,000.

PATENTED MAR. 13, 1906.

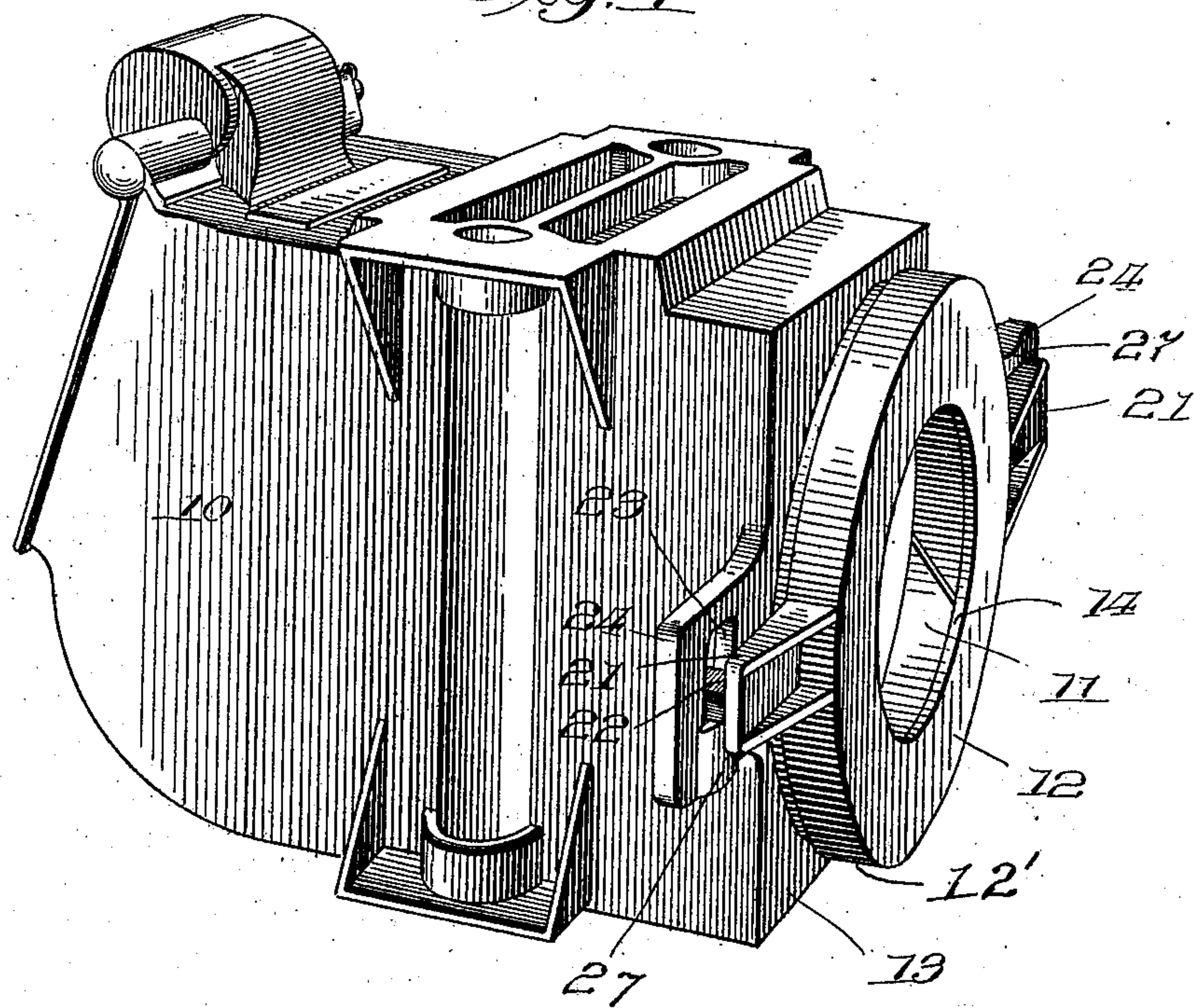
G. A. WOODMAN.

DUST GUARD.

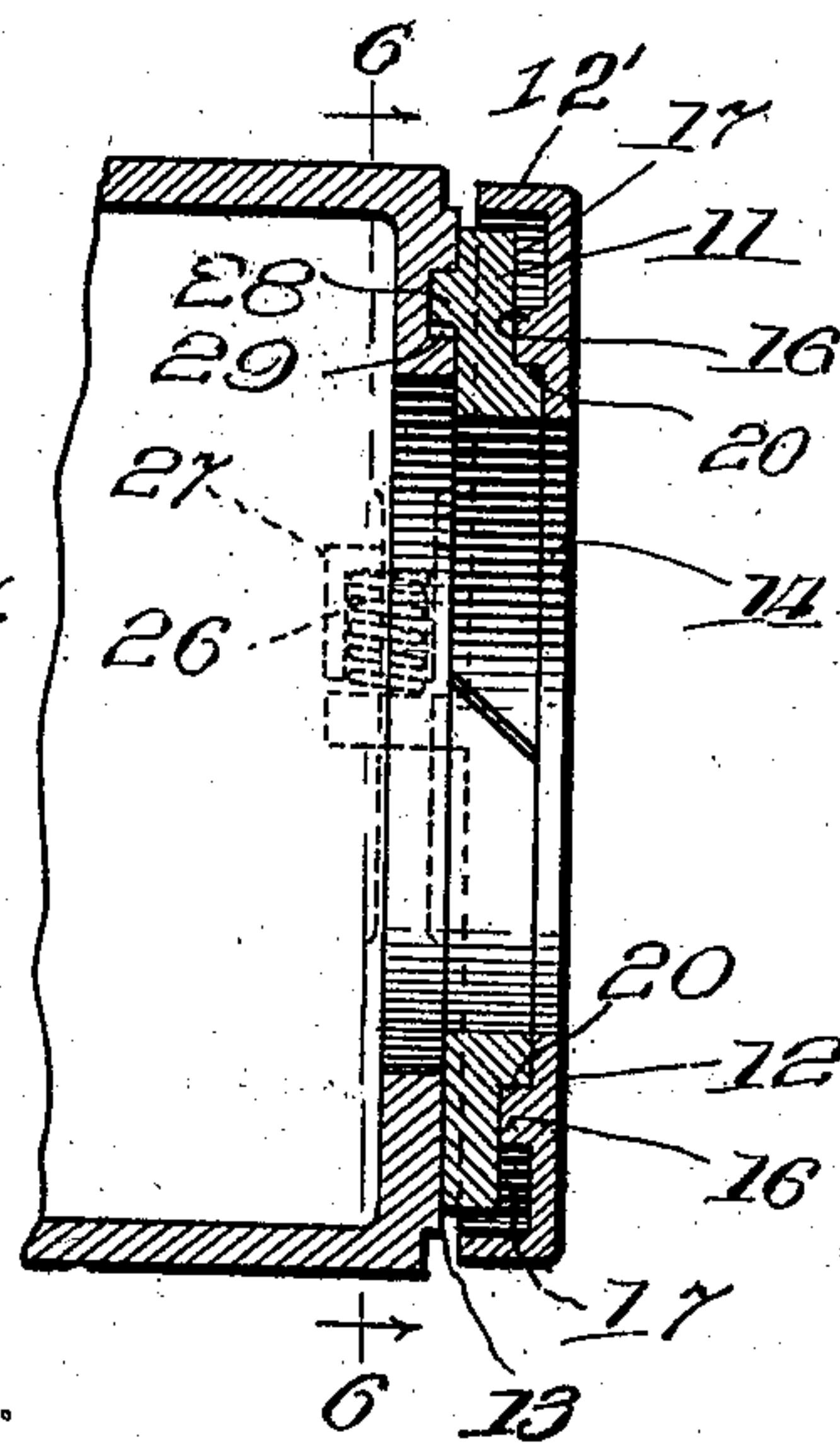
APPLICATION FILED MAR. 9, 1905.

2 SHEETS—SHEET 1.

*Fig. 1*



*Fig. 2.*



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Inventor:

*George A. Woodman*  
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*att'y*

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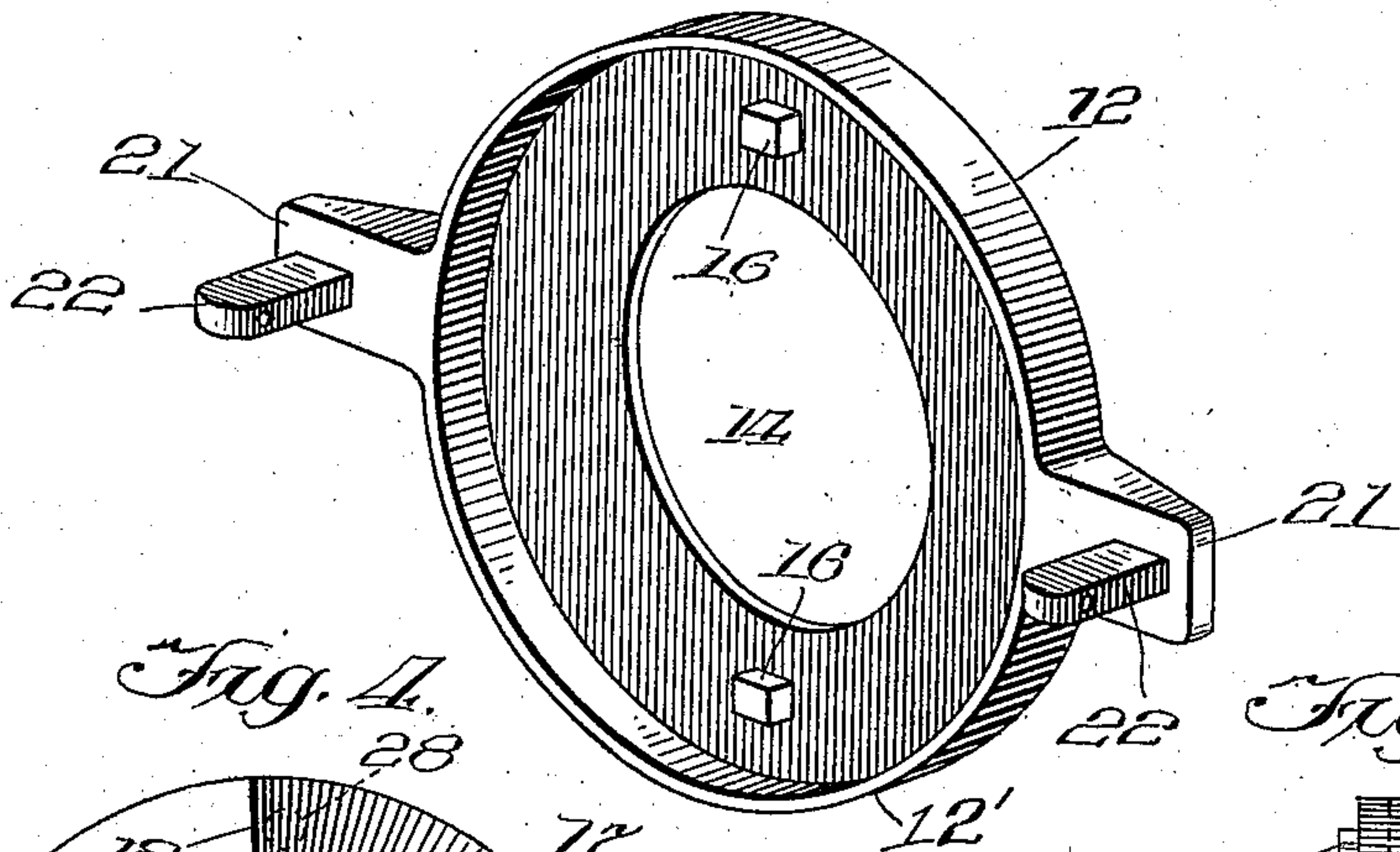
G. A. WOODMAN.

DUST GUARD.

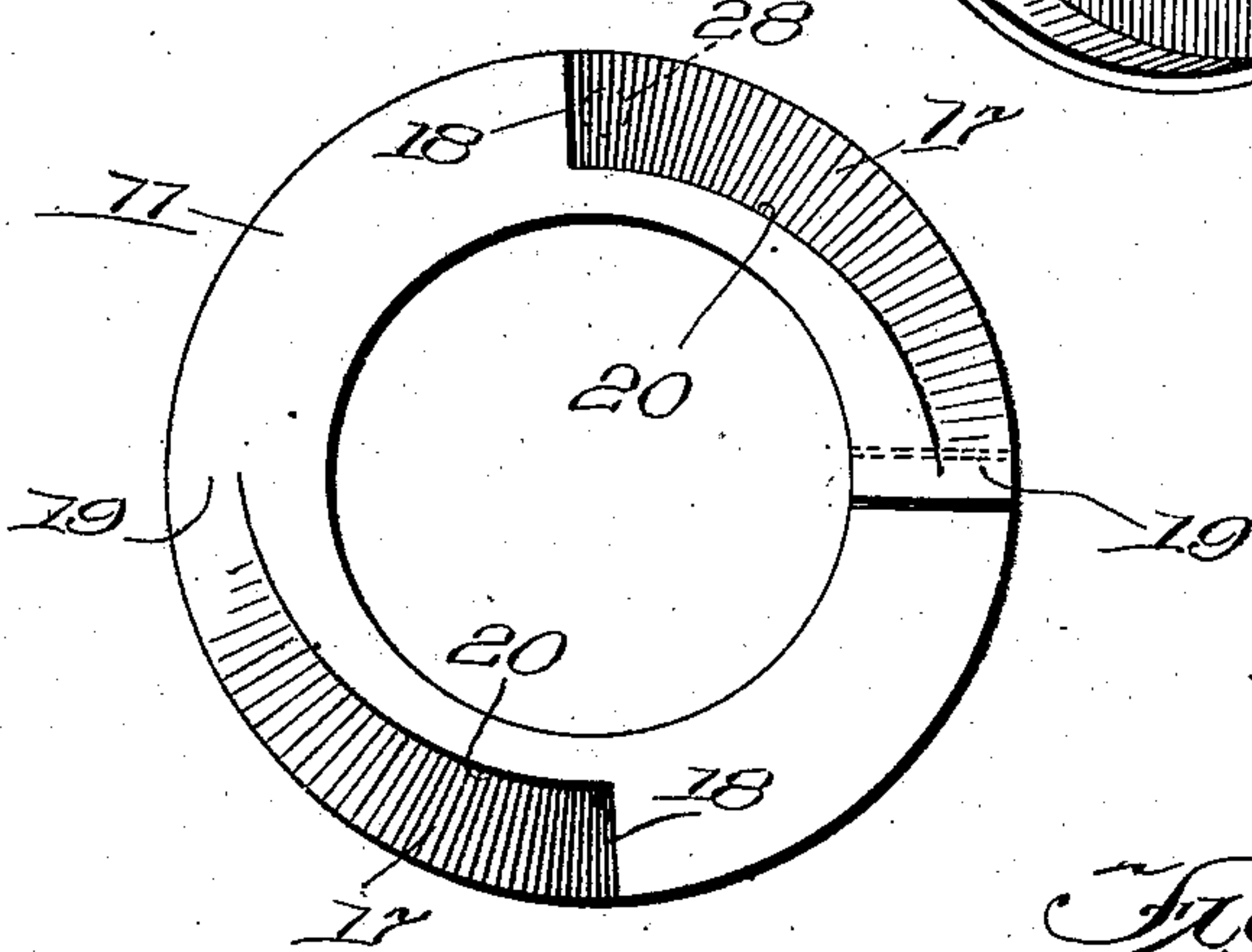
APPLICATION FILED MAR. 9, 1905.

2 SHEETS—SHEET 2.

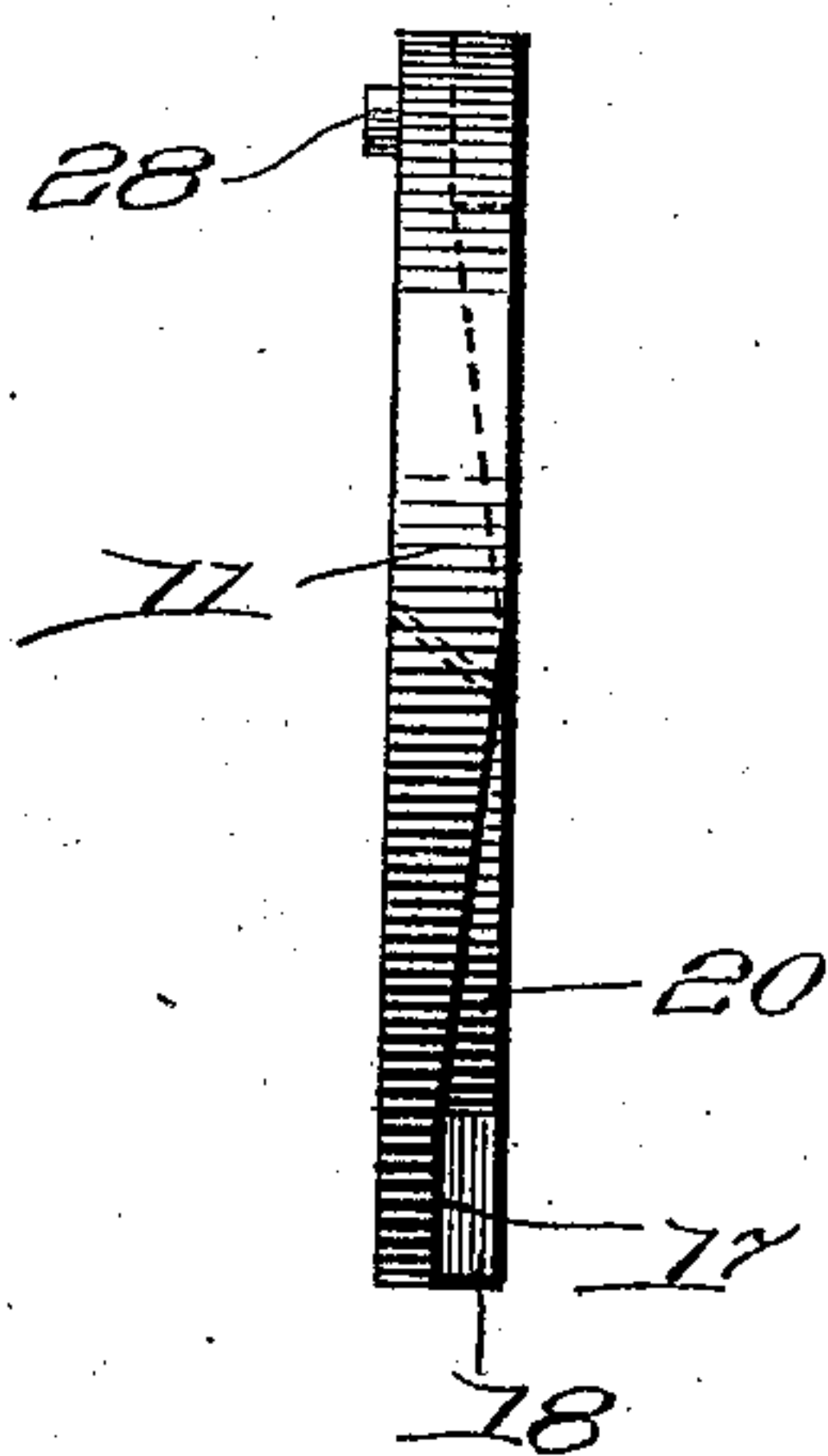
*Fig. 3.*



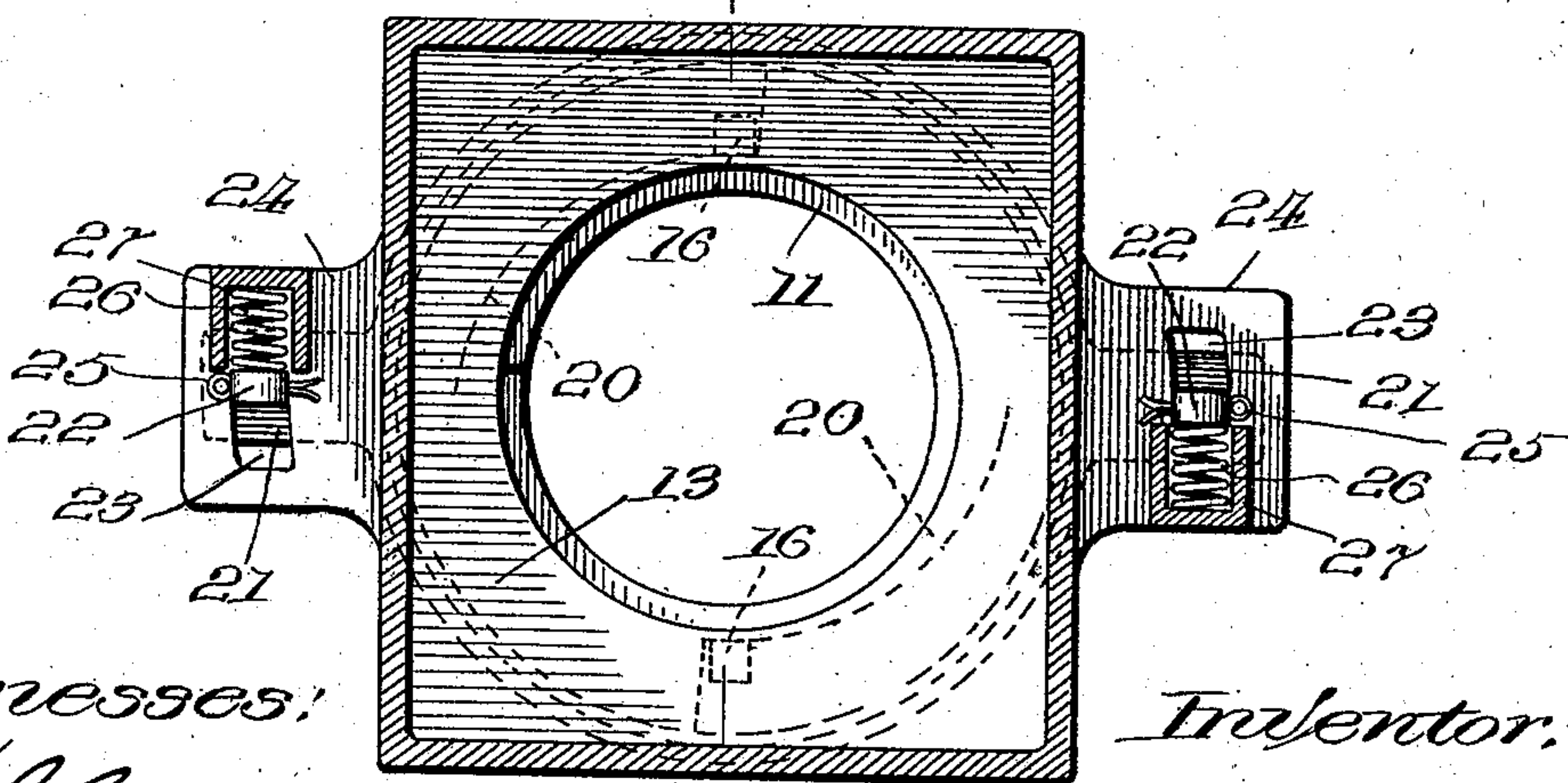
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

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## DUST-GUARD.

No. 815,000.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed March 9 1905. Serial No. 249,198.

*To all whom it may concern:*

Be it known that I, GEORGE ALVERADO WOODMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Dust-Guards, of which the following is a specification.

The object of this invention is to provide a dust-guard for car-journal boxes which will effectually prevent the entrance of dust and dirt into the box from its back end by constantly maintaining a close fit against the box and on the journal and automatically adjust itself thereto as it becomes worn in actual use.

A further object of the invention is to make a metal dust-guard which will automatically adjust itself to maintain a close fit on the journal.

I have illustrated one embodiment of the invention in the accompanying drawings, in which—

Figure 1 is a perspective view of a journal-box with my improved dust-guard applied thereto. Fig. 2 is a sectional view on the line 2 2 of Fig. 6. Fig. 3 is a perspective view showing the inside of the clamping member. Fig. 4 is a plan view of the packing-ring. Fig. 5 is an edge view of the packing-ring. Fig. 6 is a sectional view on the line 6 6 of Fig. 2.

Referring to the drawings, 10 designates a journal-box which is selected simply for illustrative purposes to show the application of my invention, and it will be understood that I may use the dust-guard in connection with various types of journal-boxes with such changes and alterations as may be necessary or desirable to suit the particular box.

The dust-guard comprises a divided packing-ring 11 and a clamping member 12, by which the packing-ring is securely fastened in place on the journal and against the back end 13 of the box. The packing-ring is made of a size to fit the journal, and the clamping member is made in the form of a plate with an annular flange 12' and is provided with an opening 14 for the journal.

For the purpose of automatically adjusting the ring to maintain a close fit on the journal at all times the clamping-plate is provided with one or more studs 16, which are arranged to operate against eccentric bearings on the packing-ring. In the drawings I have shown two studs oppositely disposed on the clamping-plate and two correspondingly-

disposed bearings on the ring; but this is not an arbitrary number, and I may use more or less if desired. Each bearing is formed by a depression 17 in the side of the ring, and this depression is wider and deeper at one end 18 than at its other end 19, where it merges into the flat side of the ring. The inner wall 20 of the bearing is eccentric to the center of the ring, and the bottom of the depression is eccentric to the thickness of the ring.

The clamping-plate is provided with outwardly-extending ears 21, having forwardly-projecting lugs 22 to enter openings 23 in the ears 24 on the box. The clamping-plate is secured to the box by cotter-pins 25 in the ends of the lugs. Springs 26, arranged in cups 27 on the ears 24, bear constantly upon the lugs 22 and impart to the clamping-plate a constant tendency to rotate slightly in a direction which will cause the studs to ride up the inclined bottom and against the inner eccentric wall of the bearings of the packing-ring. After the dust-guard is once applied it requires no attention, for the clamping-plate is constantly under tension of the springs, which gives it a rotatable movement relative to the ring and causes it to automatically tighten the packing-ring on the journal as it wears.

When the clamping-plate is in place, the studs bear against the bottom of the bearings and against the eccentric inner walls thereof, and hence it will be readily understood that as the clamping-plate is turned by the action of the springs the studs will ride up on the bottom and forward against the eccentric inner wall of the bearings and not only clamp the ring tightly against the back end of the box, but also tighten the fit on the journal, this double adjustment being automatically and simultaneously effected. This provides for a constant fit of the packing-ring against the box and the journal with sufficient tightness to prevent the entrance of dust and dirt into the box. While the springs induce only a comparatively slight rotatory movement of the clamping member, it will be sufficient to automatically maintain a close and effective fit of the ring against the box and on the journal.

The invention is simple in construction, can be manufactured at a low cost, and can be easily and readily applied. By reason of the fact that it can be made entirely of metal it will last a long time in actual service, and hence the cost of maintenance is greatly re-



duced. I have shown the ring divided at only one point; but I may divide the ring into two or more sections, if desired. The ring will ordinarily be prevented from turning on the journal by frictional engagement with the back end of the box; but as a further precaution against it turning I may provide the ring with a pin 28, Figs. 2, 5, to fit in an opening 29 in the box or otherwise lock the ring in some simple manner against turning. It will be readily understood that if the ring is prevented from turning, whether by friction or by the pin and opening 28 29, one bearing and one stud (those at the bottom of the ring and plate, for example) will be sufficient to obtain the desired clamping action. The cotter-pins hold the clamping-plate securely in place against the back end of the box and prevent it from working back on the journal.

Without limiting myself to the exact construction and arrangement of parts herein shown and described, what I claim, and desire to secure by Letters Patent, is—

1. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, and means having a constant tendency to rotate relative to the ring and concentric therewith for tightening the ring on the journal.

2. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, and spring-actuated means rotatable relative to the ring and concentric therewith to draw the ends thereof toward each other and exert a constantly-tightening action of the ring on the journal.

3. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, and spring-actuated means rotatable relative to the ring and concentric therewith for clamping the ring with a constantly-tightening action against the back end of the box.

4. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, and means having a constant tendency to rotate relative to the ring and concentric with the ring for simultaneously tightening the ring on the journal and clamping the ring against the back end of the box.

5. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, and means having a constant tendency to rotate relative to the ring for simultaneously tightening the ring on the journal and clamping the ring against the back end of the box.

6. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, a clamping member rotatable relative to the ring for tightening the ring on the journal and clamping the ring against the back end of the box, and means operating on the clamping member for continuously imparting a rotatory movement thereto to thereby exert a constant tightening and clamping action on the ring.

7. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being an eccentric bearing on said ring, and a clamping member rotatable relative to the ring, there being a part on said member arranged to operate in said bearing to clamp the ring on the journal and against the back end of the box.

8. A dust-guard for car journal-boxes comprising a packing-ring to encircle the journal, there being a depression in said ring gradually increasing in depth from one end to the other, and a clamping member rotatable relative to the ring, there being a stud on said clamping member arranged to operate on the bottom of said depression to clamp the ring against the back end of the box.

9. A dust-guard for car journal-boxes comprising a packing-ring to encircle the journal, there being oppositely-disposed depressions in one side of said ring each gradually increasing in depth from one end to the other, and a clamping member rotatable relative to the ring, there being studs on said clamping member arranged to operate on the bottom of said depressions to clamp the ring against the back end of the box.

10. A dust-guard for car journal-boxes comprising a packing-ring to encircle the journal, there being a depression in said ring gradually increasing in depth from one end to the other, a clamping member rotatable relative to the ring, there being a stud on said clamping member arranged to operate on the bottom of said depression, and means acting on the clamping member to impart thereto a constant tendency to rotate and thereby clamp the ring against the back of the box.

11. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being a wall on said ring eccentric to the center of the ring, and a clamping member rotatable relative to the ring, there being a stud on the clamping member arranged to operate against said wall to tighten the ring on the journal.

12. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being oppositely-disposed walls on one side of said ring each eccentric to the center of the ring, and a clamping member rotatable relative to the ring, there being studs on the clamping member arranged to operate against said eccentric walls to tighten the ring on the journal.

13. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being a wall on said ring eccentric to the center of the ring, a clamping member rotatable relative to the ring, there being a stud on said member arranged to operate against said eccentric wall, and means constantly acting on the clamping member to impart thereto a tendency to rotate and thereby tighten the ring on the journal.



14. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being oppositely-disposed eccentric bearings on said ring, and a clamping member rotatable relative to the ring, there being oppositely-disposed studs on the clamping member arranged to operate in said bearings to simultaneously clamp the ring in place on the journal and against the back end of the box.

15. A dust-guard for car journal-boxes comprising a divided ring, there being bearings on one side of said ring formed by depressions in the ring each deeper at one end than at the other and each provided with an inner wall eccentric to the center of the ring, and a clamping member rotatable relative to the ring, there being studs on the clamping member arranged to operate against the bottom and inner wall of the bearings to simultaneously clamp the ring in place on the journal and against the back end of the box.

16. A dust-guard for car journal-boxes comprising a divided ring, there being bearings on one side of said ring formed by depressions in the ring, each deeper at one end than at the other end and each provided with an inner wall eccentric to the center of the ring, a clamping member rotatable relative to the ring, there being studs on the clamping member arranged to operate against the

bottom and inner wall of the bearings, and means constantly acting on the clamping member to impart thereto a tendency to rotate and clamp the ring on the journal and against the back end of the box.

17. A dust-guard for car journal-boxes comprising a ring to encircle the journal, there being eccentric bearings on said ring, a clamping member rotatable relative to the ring, there being studs on the clamping member to operate on said bearings, and outwardly-projecting ears on said clamping member, and springs operating on said ears to impart to the clamping member a constant tendency to rotate.

18. A dust-guard for car journal-boxes comprising a divided ring to encircle the journal, there being eccentric bearings on said ring, a clamping member rotatable relative to the ring, there being studs on said clamping member to operate on said bearings, and outwardly-projecting ears on the clamping member, springs operating on said ears to impart to the clamping member a constant tendency to rotate, and means for preventing backward movement of the clamping member on the journal.

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