

No. 667,437.

Patented Feb. 5, 1901.

F. HACHMANN.
DUST GUARD.

(Application filed June 8, 1900.)

(No Model.)

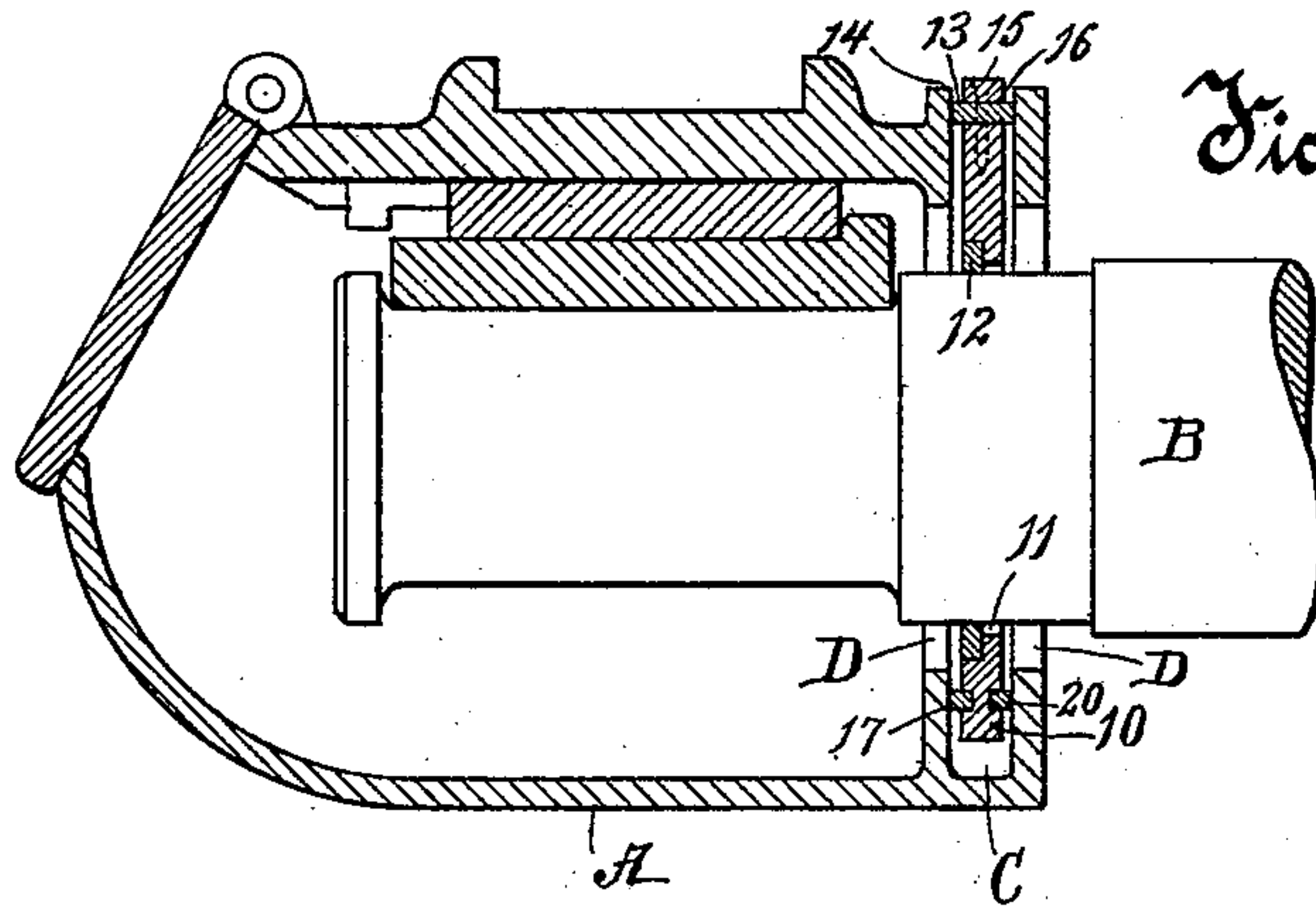


Fig. 1.

Fig. 2.

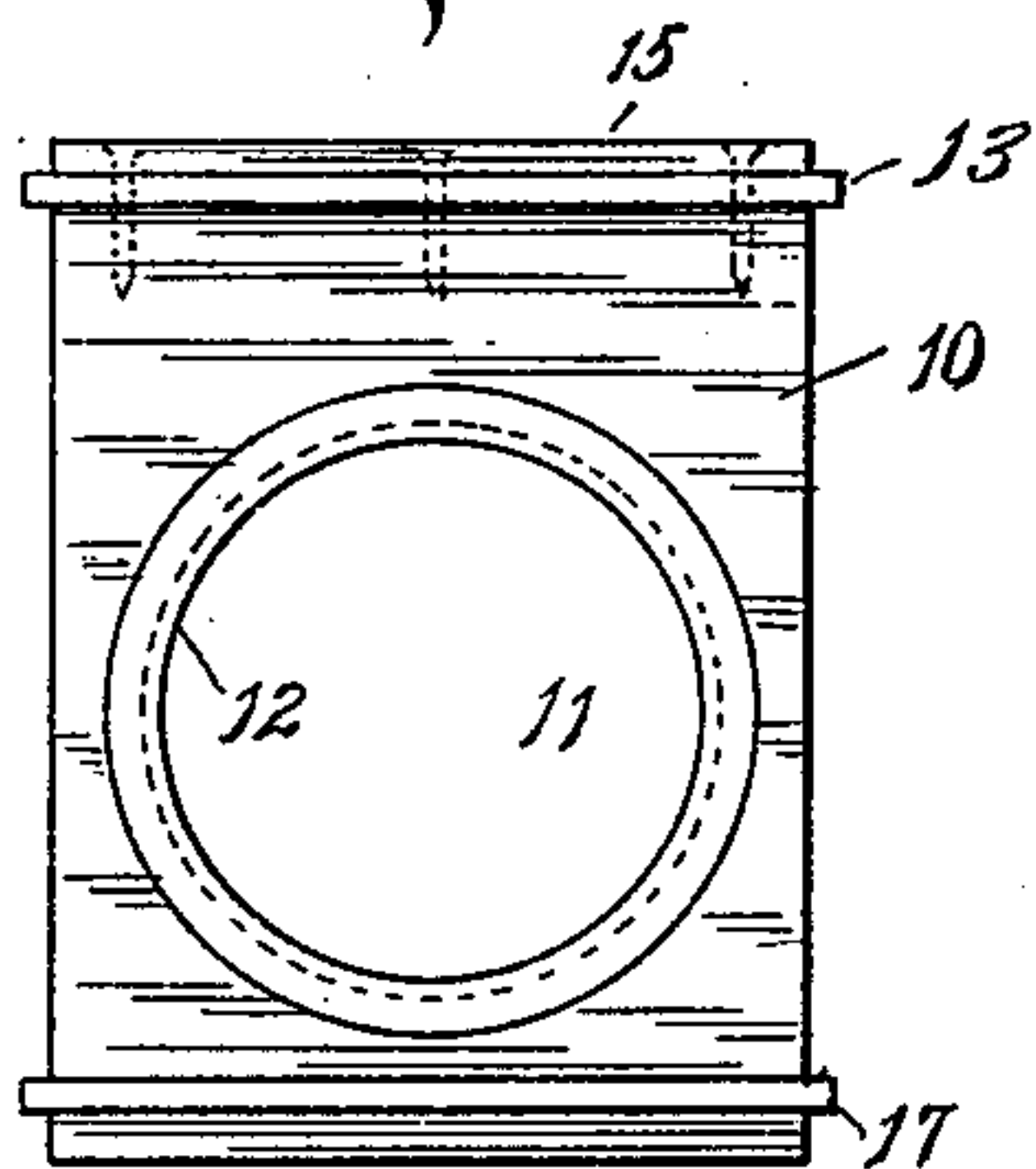


Fig. 3.

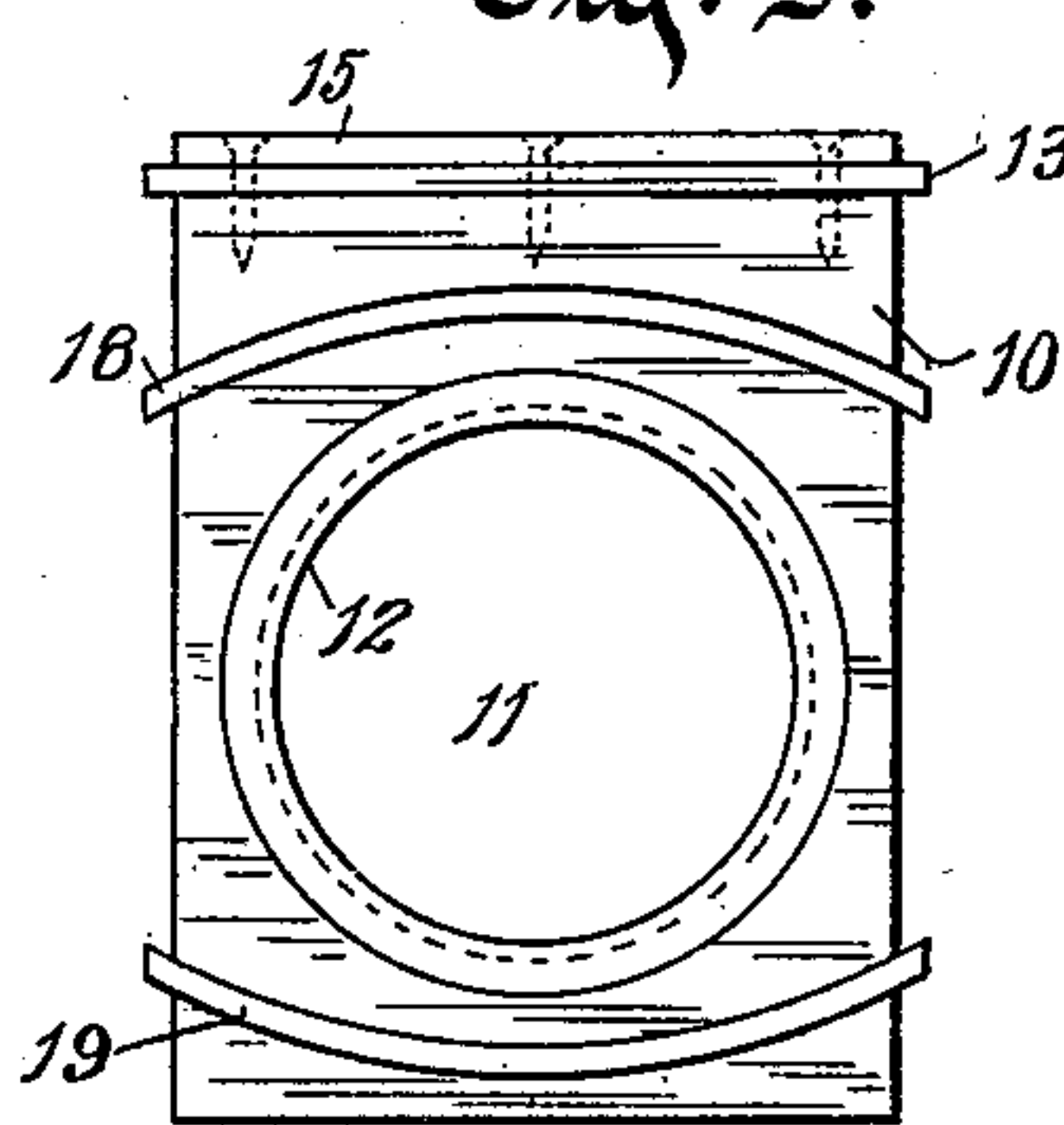


Fig. 4.

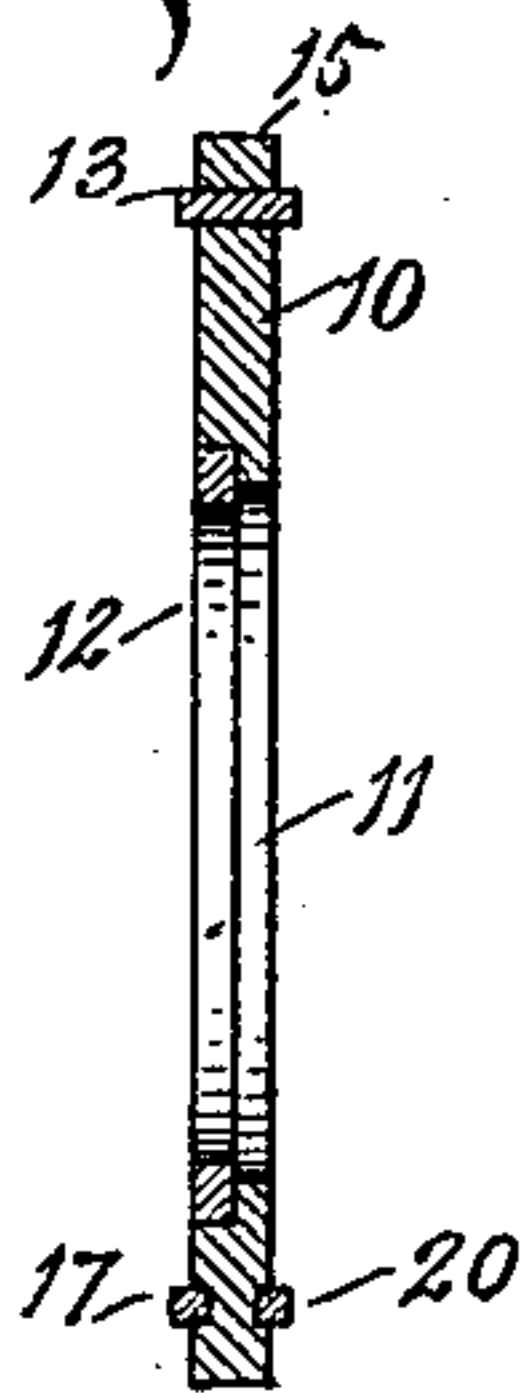


Fig. 5.

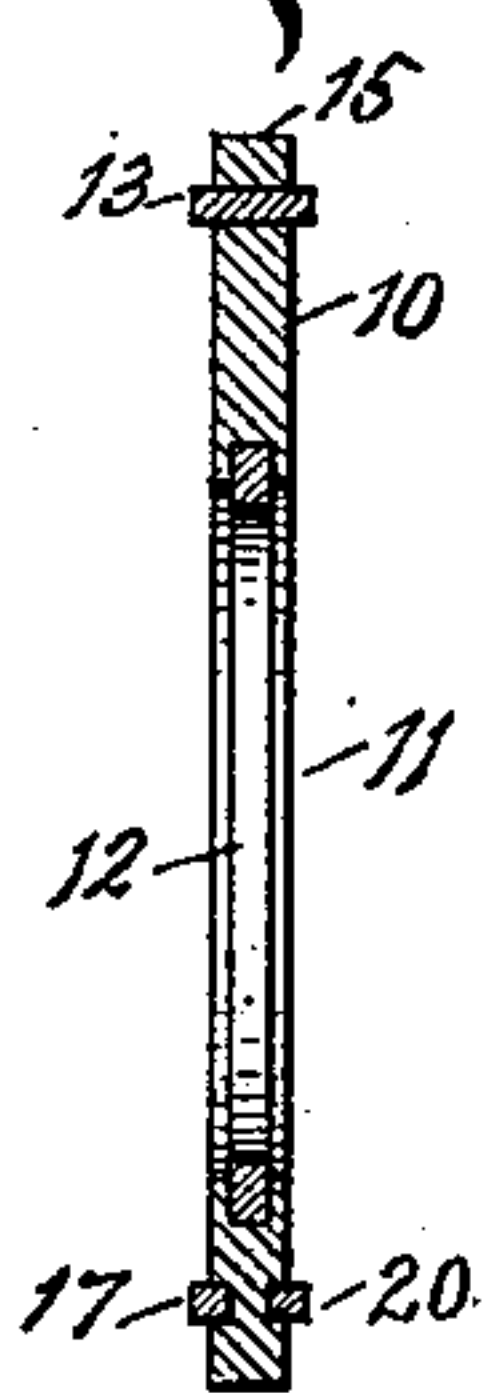


Fig. 6.

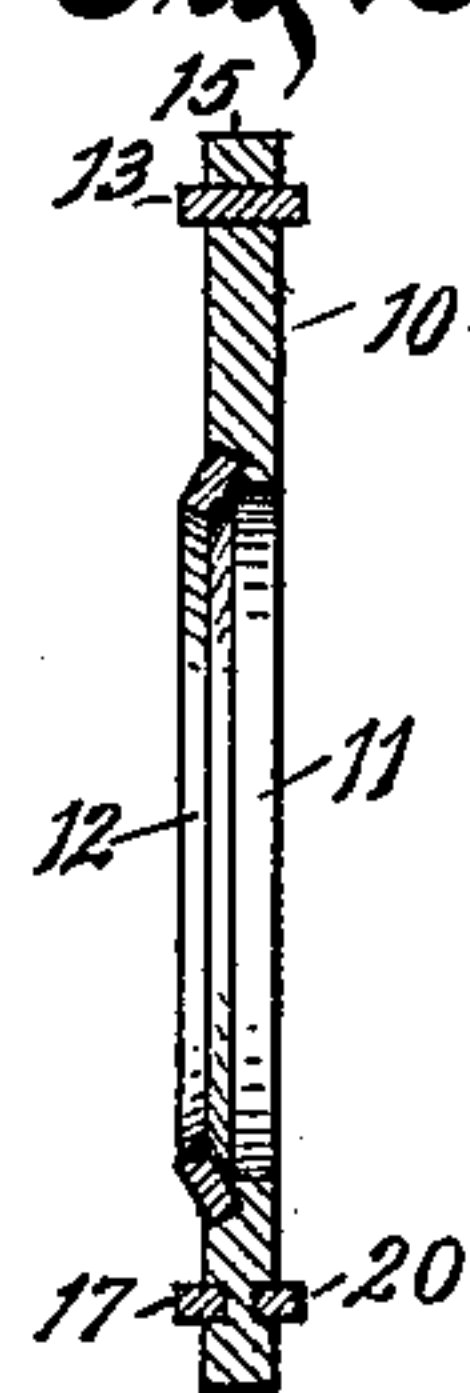
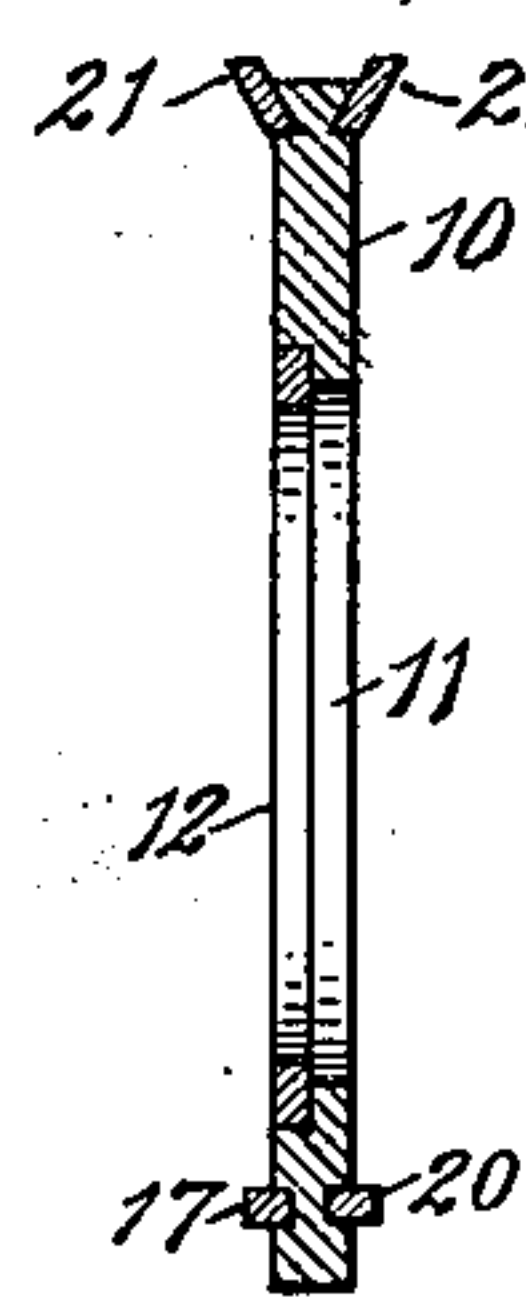


Fig. 7.



Witnesses.
O. H. Keener,
Anna V. Faust.

Inventor.
Frederick Hachmann
By Benedict & Morrell
Attorneys.

UNITED STATES PATENT OFFICE.

FREDERICK HACHMANN, OF ST. PAUL, MINNESOTA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO PAUL MARTIN, HENRY MARTIN, HANS MADSON, ASA M. JOHNSON, AND JOHN B. AREND, OF SAME PLACE, AND THE RAILROAD SUPPLY COMPANY, OF RED WING, MINNESOTA.

DUST-GUARD.

SPECIFICATION forming part of Letters Patent No. 667,437, dated February 5, 1901.

Application filed June 6, 1900. Serial No. 19,207. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HACHMANN, of St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful
5 Improvement in Dust-Guards for Journal-Boxes for Car-Axles, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

10 My invention relates to improvements in dust-guards adapted to be placed about a car-axle in a chamber therefor in the rear portion of the journal-box, whereby dust and foreign substances are more completely excluded
15 from the journal-box and oil is more securely retained than by means heretofore employed.

The invention consists of the device, its parts and combinations of parts, as herein described and claimed, or the equivalents
20 thereof.

In the drawings, Figure 1 is a longitudinal vertical section of a journal-box of the form in common use on railway-cars with a fragment of an axle in place therein and my improved dust-guard, also in section, in connection therewith. Fig. 2 is a front view of my improved guard. Fig. 3 is a front view of a guard of slightly-modified construction. Fig. 4 is a transverse section of the guard shown
30 in Fig. 2. Figs. 5, 6, and 7 are central transverse sections vertically through dust-guards, each being of a slightly-modified form.

In the drawings, A indicates a journal-box. B is the fragmentary end of an axle projecting into the journal-box through the rear walls thereof. In the rear end of the journal-box there is a dust-guard chamber C, substantially as wide as the width of the journal-box and closed at the bottom, but open at the
40 top. The apertures D through the rear walls of the journal-box are larger than the axle B, thereby providing for slight movement vertically and laterally of the axle in the journal-box. This construction of the journal-box and the disposition of the axle with reference thereto are in common use.

My improved dust-guard consists of a plate 10, provided with a transverse medially-disposed aperture 11, in circular form, which ap-

erture is slightly greater in diameter than the 50 diameter of the car-axle in that part that passes through the guard. In this aperture, entirely around its peripheral edge, I provide a ring of felt 12 or analogous material, which is secured to the plate 10 and projects in- 55 wardly sufficiently far to contact with and bear against the axle B entirely around it when the axle is inserted through the aperture 11. By reference to Fig. 1 it will be seen that the plate 10 is inserted in the chamber 60 C and that the axle B is then inserted through the rear of the journal-box and through the aperture 11 of the dust-guard, and it will be understood that by this construction the ring of felt 12 serves as a packing or guard, pre- 65 venting any dust or foreign substances from entering the journal-box from the rear and oil from escaping through the apertures D D in the walls of the journal-box. I also provide a strip of felt 13 or analogous material 70 adapted to serve for a packing or closure of the space between the plate 10 and the walls of the dust-chamber, above the apertures D in those walls. This strip of felt 13 is preferably located across the top of the plate 10 75 and extends from edge to edge thereof and is conveniently secured to the plate 10 by a strip of wood or metal 15, secured to the plate 10 by pins or screws. This strip of felt 13 or packing not only entirely closes the 80 space between the plate 10 and the front wall 14 of the dust-chamber, but preferably extends rearwardly of the surface of the plate 10 and bears against the inner surface of the rear wall 16 of the dust-chamber. These 85 walls 14 and 16, denominated, respectively, the "front" and the "rear" walls of the dust-chamber C, are also the rear walls of the journal-box A, as hereinbefore stated, the dust-chamber C being a portion of the journal-box as com- 90 monly constructed. I also provide a strip of felt or analogous material 17, which is secured to the front surface of the plate 10, preferably in a groove provided therefor below the aperture D, and projects from the front surface 95 of the plate 10 far enough to bear against the adjacent surface of the wall 14 of the dust-chamber. Also a strip of felt or analogous

material 20 is secured to and extends across the plate 10, on the rear surface thereof below the aperture 11, adapted to bear against the adjacent wall of the dust-guard chamber.

5 As the plate 10 extends entirely across the chamber C from edge to edge thereof it will be understood that the strips of felt 13, 17, and 20, projecting from the surfaces of the plate 10 at localities above and below the
10 apertures D and bearing against the walls of the chamber, completely shut off or close the passage to the interior of the journal-box for any dust or foreign matter through the aperture D in the wall 16, and also through the
15 space that would otherwise exist between the plate 10 and the wall above or below the aperture D. The rings or packings 12 and 17 especially and to some extent the other packings serve not only to exclude the dust and foreign
20 substances from the journal-box, but also prevent the escape of the oil or other lubricant held in the journal-box for lubricating the bearing between the axle and the brasses or bearing-blocks.

25 In Fig. 3 I have shown a slightly-modified form of construction in which additional strips of felt 18 and 19, respectively above and below the aperture 11, are inserted in grooves therefor in the front surface of the
30 plate 10 in slightly-curved directions.

In Fig. 5 a modified form of dust-guard is shown in which the ring of felt 12 is secured to the plate 10 by being inserted in an annular groove about the aperture 12 instead of
35 being secured thereto in a recessed groove, as shown in the forms in Figs. 1 and 4.

In Fig. 6 the ring of felt 12 is shown as secured in the plate 10 by being inserted in an annular oblique groove in the wall of the aperture 11.
40

In the form of dust-guard shown in Fig. 7 the construction is changed from that shown in Figs. 1 and 2 in that there are two strips of felt 21 21, secured to the upper edge of the
45 plate 10 in positions oblique to the surfaces of the plate, the strips being preferably inserted in recesses therefor along the top edge of the plate, which recesses are undercut in such manner as to cause the strips of felt in-
50 serted therein and secured to the plate to project laterally from the plate.

In the several drawings I have shown different methods of securing the ring of felt and the strips of felt to the plate, but the
55 means of securing the felt or analogous ma-

terial to the plate is a matter of minor importance, the invention being more especially in the construction that involves the employment of strips of felt and a ring of felt on the dust-guard and as a part thereof to close the
60 otherwise open spaces between the dust-guard and the axle and between the dust-guard and the wall or walls of the dust-guard chamber in the rear wall of the journal-box, for the purpose both of excluding dust and for-
65 eign material and of retaining oil or similar lubricating material in the journal-box.

It is not necessary that the strip 20 should be employed or that the strip 13 should be extended rearwardly toward and against the
70 wall 16, as if this portion of the strip 13 were omitted and the strip 20 were omitted the guard would rest against the wall 16 of the dust-chamber and the forwardly-projecting portion of the strip 13, and the strip 17 would
75 still bear against the wall 14 and close that space, while the ring 12 would close the space around the axle.

What I claim as my invention is—

1. A dust-guard for a car-axle journal-box, 80 comprising an integral plate with an axle-aperture, a ring of felt or analogous material secured to the plate about said aperture adapted to bear against the inserted axle and close the aperture, and strips of felt or anal-
85 ogous material on the plate projecting from the surface thereof above and below the axle-aperture adapted to bear against the adjacent wall or walls of the dust-chamber of the journal-box and close the chamber above and be-
90 low the axle.

2. The combination with a car-axle journal-box provided with a dust-guard chamber, and an axle extending through the walls of the dust-guard chamber into the journal-box, of
95 a dust-guard in the chamber about the axle, the dust-guard comprising an integral plate with an axle-aperture, felt or analogous material on the plate about and closing the axle-aperture around the axle, and strips of felt
100 on the guard-plate above and below the axle-aperture closing the space between the plate and the adjacent wall of the guard-chamber.

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

FREDERICK HACHMANN.

Witnesses:

W. H. AMES,
A. R. TAYLOR.