

No. 715,262.

Patented Dec. 9, 1902.

E. HARRIS.

DUST GUARD.

(Application filed Oct. 22, 1901.)

(No Model.)

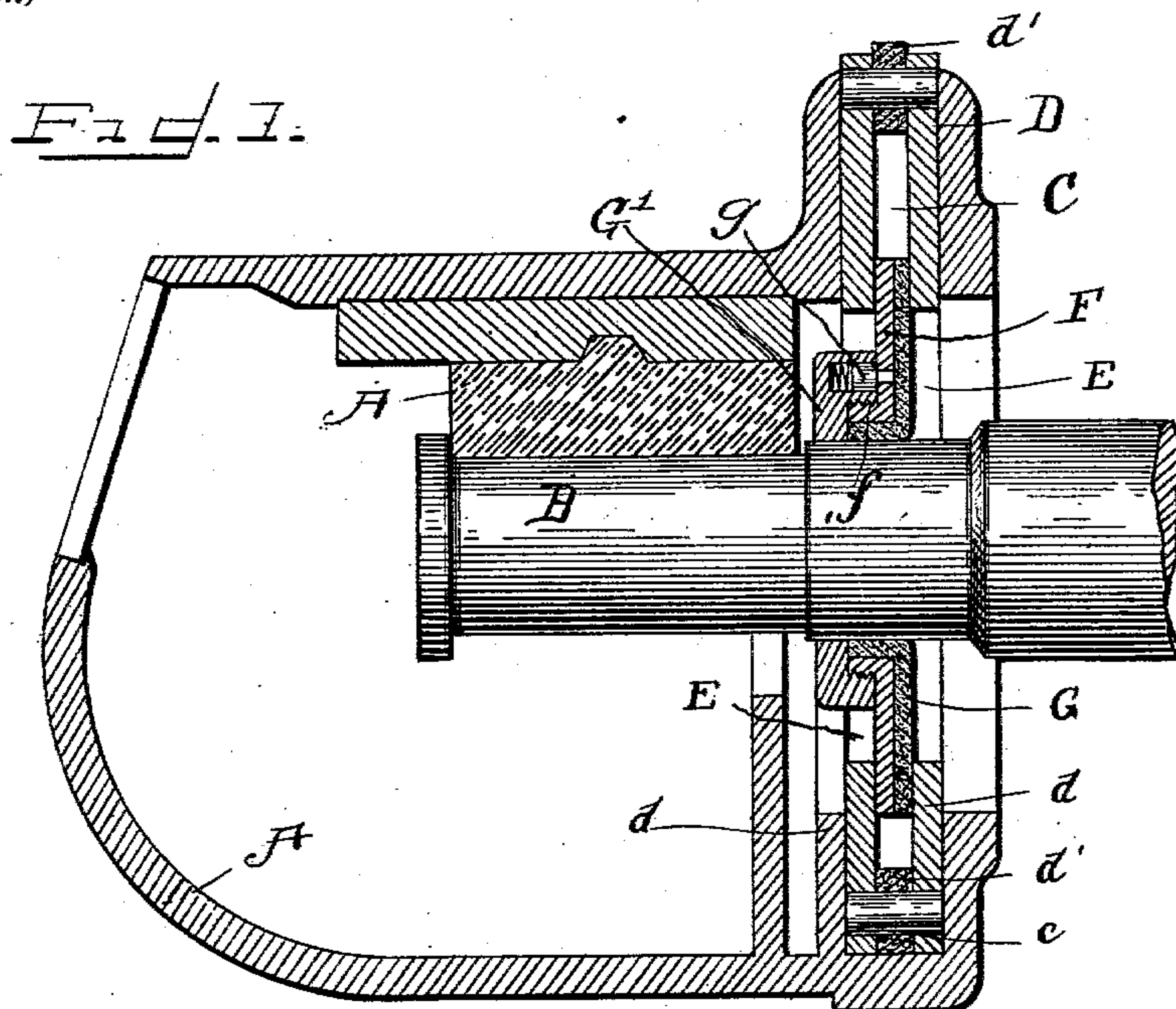


Fig. 2.

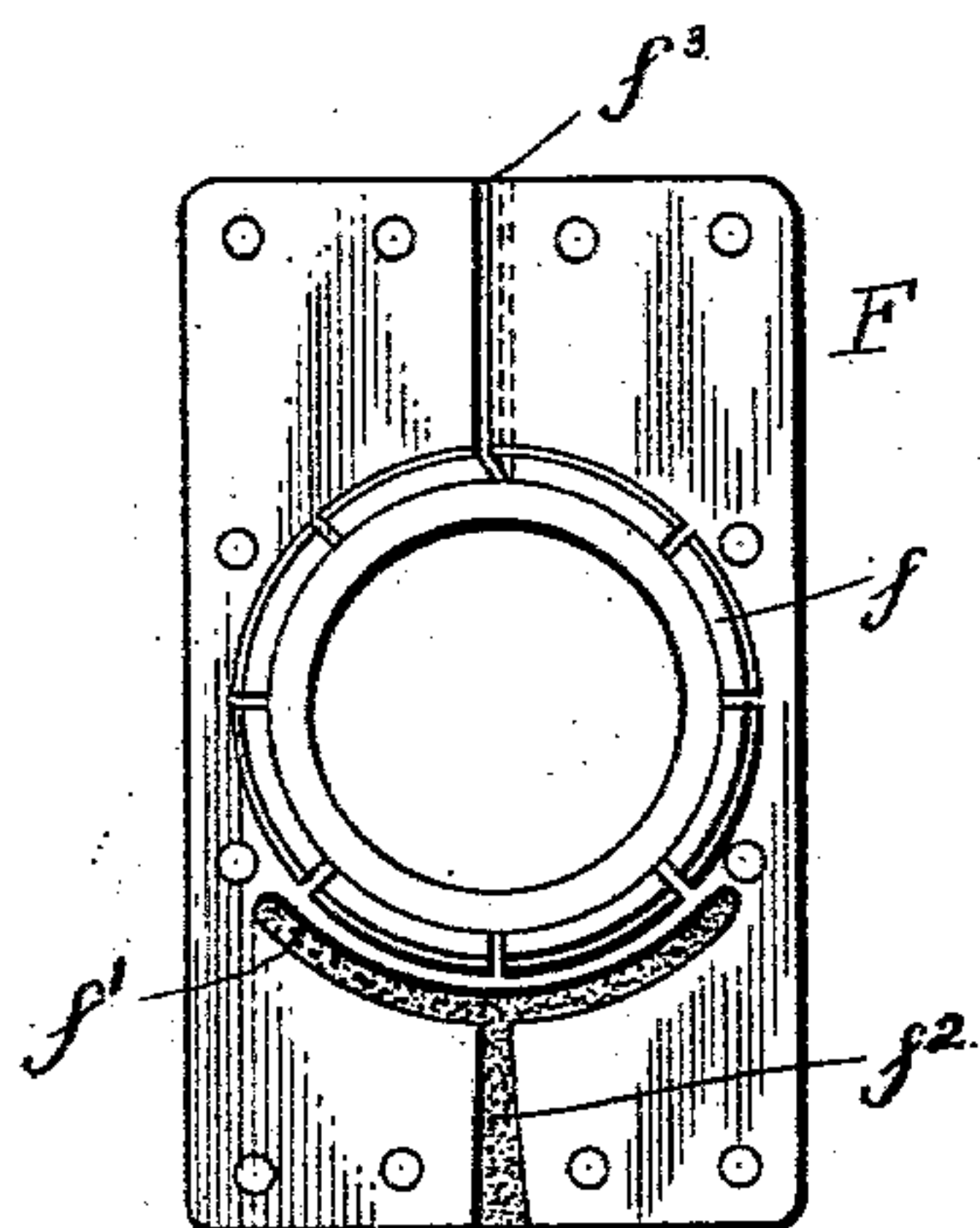


Fig. 3.

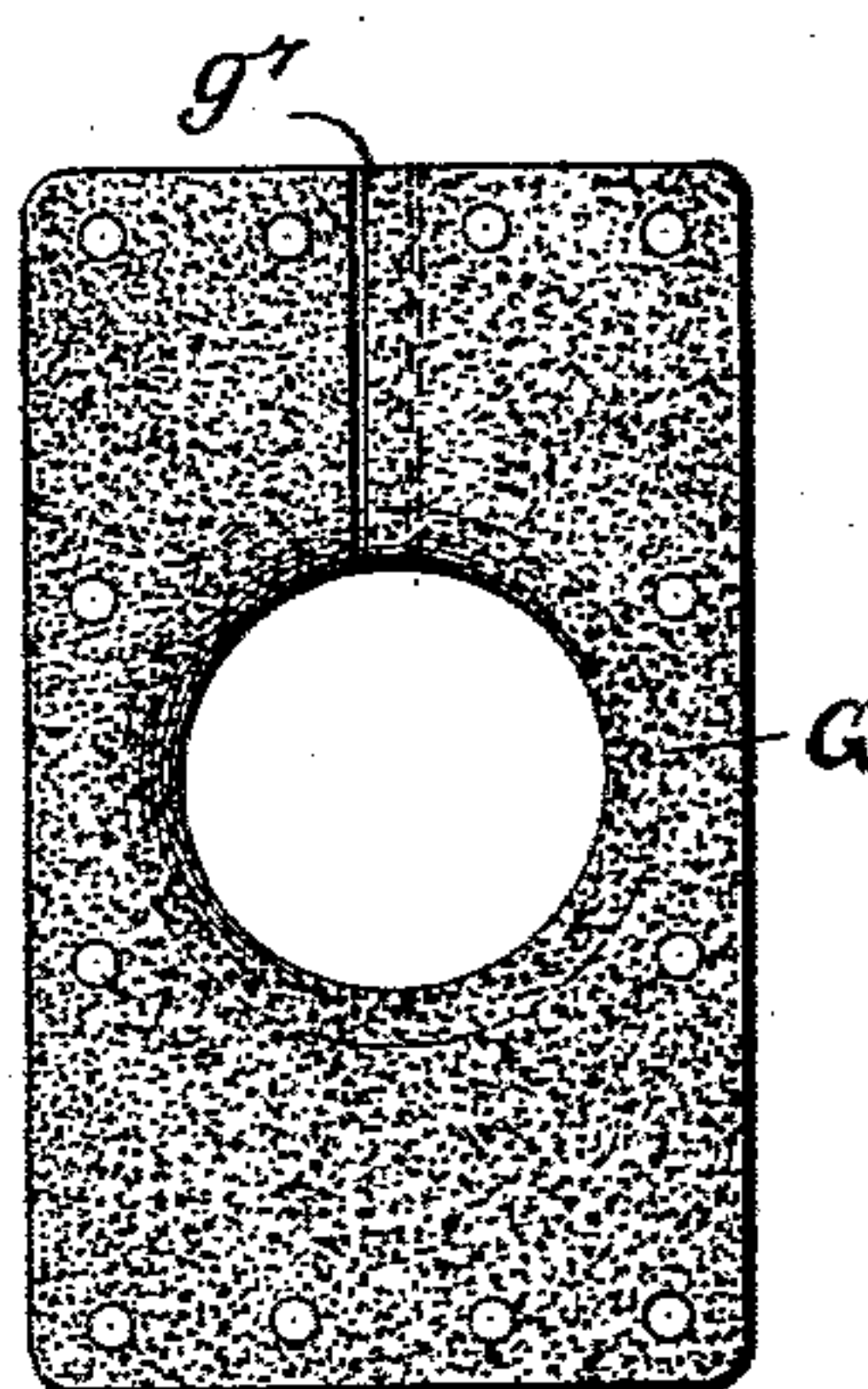
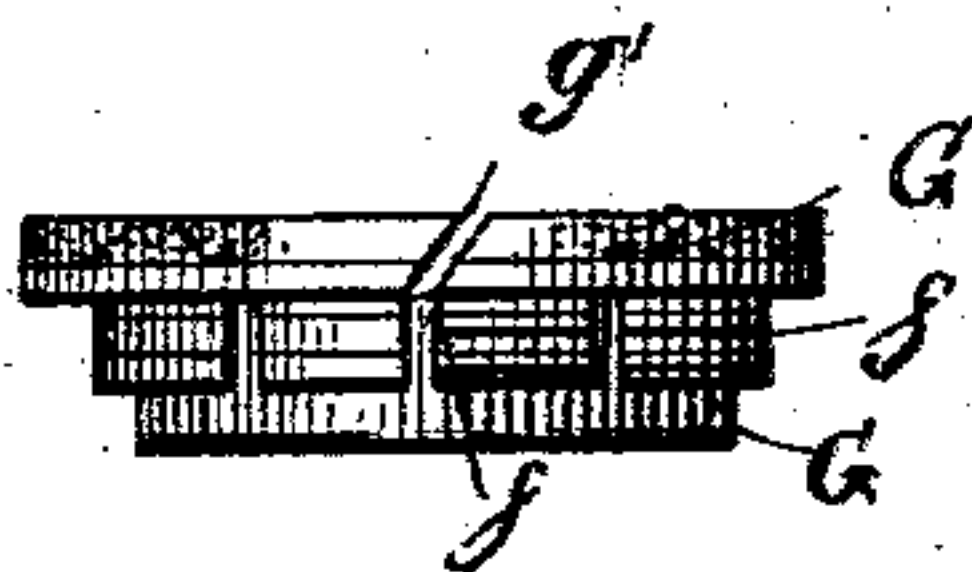


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD HARRIS, OF BREWSTER, NEW YORK.

DUST-GUARD.

SPECIFICATION forming part of Letters Patent No. 715,262, dated December 9, 1902.

Application filed October 22, 1901. Serial No. 79,581. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HARRIS, of Brewster, Putnam county, New York, have invented a new and useful Improvement in Dust-Guards, of which the following is a specification.

My improvement relates to that kind of dust-guard which is the subject of United States Patent No. 542,852, granted July 16, 1895, to me and to Theodore Phelps. In that dust-guard was a plate having a circular opening provided with a flange slit at intervals to divide it into segments, which were intended to be individually resilient for the purpose of holding packing material, which was combined with said plate, into contact with the shoulder portion of the journal of a car-axle. Owing to the variations in sizes of shoulders, occasioned by inaccuracy of manufacture or wear, it was found that the resilient segments were insufficient in compensatory action.

The object of my improvement is to provide additional resilience in the plate where it surrounds the shoulder of the joint, and to this end the plate is so constructed as to constitute of itself a spring.

In the accompanying drawings, Figure 1 is a longitudinal section through a car journal-box provided with a dust-guard embodying my improvement. Fig. 2 is a front view of a dust-guard plate embodying my improvement. Fig. 3 is a rear view of such plate. Fig. 4 is a top view of the plate.

Similar letters of reference designate corresponding parts in all the figures.

A is a car journal-box. It may be of any desired or approved form and supplied with the usual journal-bearing A', resting upon the axle B.

C is the dust-guard chamber arranged at the rear of the box. It is formed in part by channels c, located in the bottom and at the sides of the box, and may be of the usual form provided in car journal-boxes for holding the dust guard or diaphragm, whose function is that of preventing the entrance of dust, dirt, and other extraneous matter into the journal-box and contaminating the lubricating mixture within.

D represents my improved dust-guard. It will be seen to consist of two outer plates d d,

separated a slight distance from each other by a suitable washer d', preferably of leather, which is interposed between the edges of the plates upon the four sides of the same and upon which washer the plates d d are securely clamped by any desirable means—for instance, rivets. The washer d' projects beyond the edges of the plates d d and provides simple means for fixing the dust-guard securely and almost, if not quite, hermetically tight in the dust-guard chamber, since the dust-guard may be inserted in the channels c and driven down into the same, the projecting washer at the sides affording an effectual seal against the egress of oil or the ingress of dust. Both plates d d are provided at their central portions with openings E E, through which the journal protrudes into the box.

F is a plate arranged between and adapted to move within the chamber formed between the two plates d d.

The plate F is provided with a transversely-extending circular flange f, surrounding the axle, while upon the side of the plate F opposite to that from which the flange f extends there is secured a plate of packing material, such as rawhide G, the combined thickness of which, together with that of the plate F, is equal to the width of the opening between the plates d d. Adjacent the inner surface of the flange f the rawhide G is carried laterally inward (see flange g) to bear upon and form a tight joint with the periphery of the axle. To assist in forming this joint, I preferably provide the flange f with a number of cuts or slits, forming from the flange, in effect, a series of segments or fingers spring-like in nature, which force the underlying flange g firmly against the axle. The composite plate F and G being movable between the plates d d and being provided with an aperture whose edges closely embrace and form a joint with the revolving axle constitutes a device which readily yields to any swaying or vibration of the axle relatively to the box. As the sidewise movement of the axle is comparatively very slight and the vertical movement of the axle relatively to the journal-box must be considerable to provide for the wear of the journal-bearings A', the apertures E E may be made oblong in shape, but should not be so large as to permit the

exposure of the edges of the plate F or G at any part of their movement.

As an additional feature of construction and the one constituting my present improvement I form in the lower portion of the plate F, close to the flange f , an arc-shaped slot f' concentric therewith. Below this slot and extending therefrom down through the lower edge of the plate I also form a vertical slot f^2 . Through the entire upper part of the plate, the packing G, and through the flange, I also form a vertical slot f^3 . Thus the whole plate is made to form a spring having a tendency to embrace the shoulder of the journal, and this spring will have quite a considerable scope, as it will have a long resilient portion bounded by the inner surface of the flange and the adjacent surface of the arc-shaped slot.

Preferably the sides of the slot f^3 will be constructed to overlap. This may be accomplished by forming the slot obliquely through the plate. The material G is also provided with a slot g' , corresponding to the vertical slot f^3 in the plate F, and this slot g' will preferably have its edges constructed similarly to those of the slot f^3 to overlap.

G' designates a cap which is adapted to be detachably secured to the plate F to assist in making a dust-tight joint at the periphery of the axle. This cap is applied after the dust-guard is put in position in the journal-box. g represents a catch device to prevent the cap from becoming loose on the plate F.

The parts of the dust-guard are assembled and fastened together before its insertion in the channel c of the chamber C.

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

1. The combination with a car journal-box of a slideway affixed to said box and having an opening so constructed that a car-axle may

pass transversely through it, of a plate and packing fitted to said slideway and provided with an opening for the shoulder of a car-axle journal, and flanges surrounding said opening, the body of said plate being vertically slotted above the flange and provided with an arc-shaped slot beneath the flange so that said plate shall constitute a spring.

2. The combination with a car journal-box of a slideway affixed to said box and having an opening so constructed that a car-axle may pass transversely through it, of a plate and packing fitted to said slideway and provided with an opening for the shoulder of a car-axle journal, and flanges surrounding said opening, the body of said plate being vertically slotted above the flange and provided with an arc-shaped slot beneath the flange so that said plate shall constitute a spring and the edges of said vertical slot being constructed to overlap.

3. The combination with a car journal-box of a slideway affixed to said box and having an opening so constructed that a car-axle may pass transversely through it, of a plate and packing fitted to said slideway and provided with an opening for the shoulder of a car-axle journal, and flanges surrounding said opening, the body of said plate being vertically slotted above the said flanges and provided with an arc-shaped slot below said flanges so that said plate shall constitute a spring, the edges of said vertical slot being constructed to overlap, and the packing having a vertical slot in its upper portion to correspond with the plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD HARRIS.

Witnesses:

K. H. HAYDEN,
T. B. WHITLOCK.