

(No Model.)

N. W. CUTTER.

CAR AXLE BOX.

No. 330,822.

Patented Nov. 17, 1885.

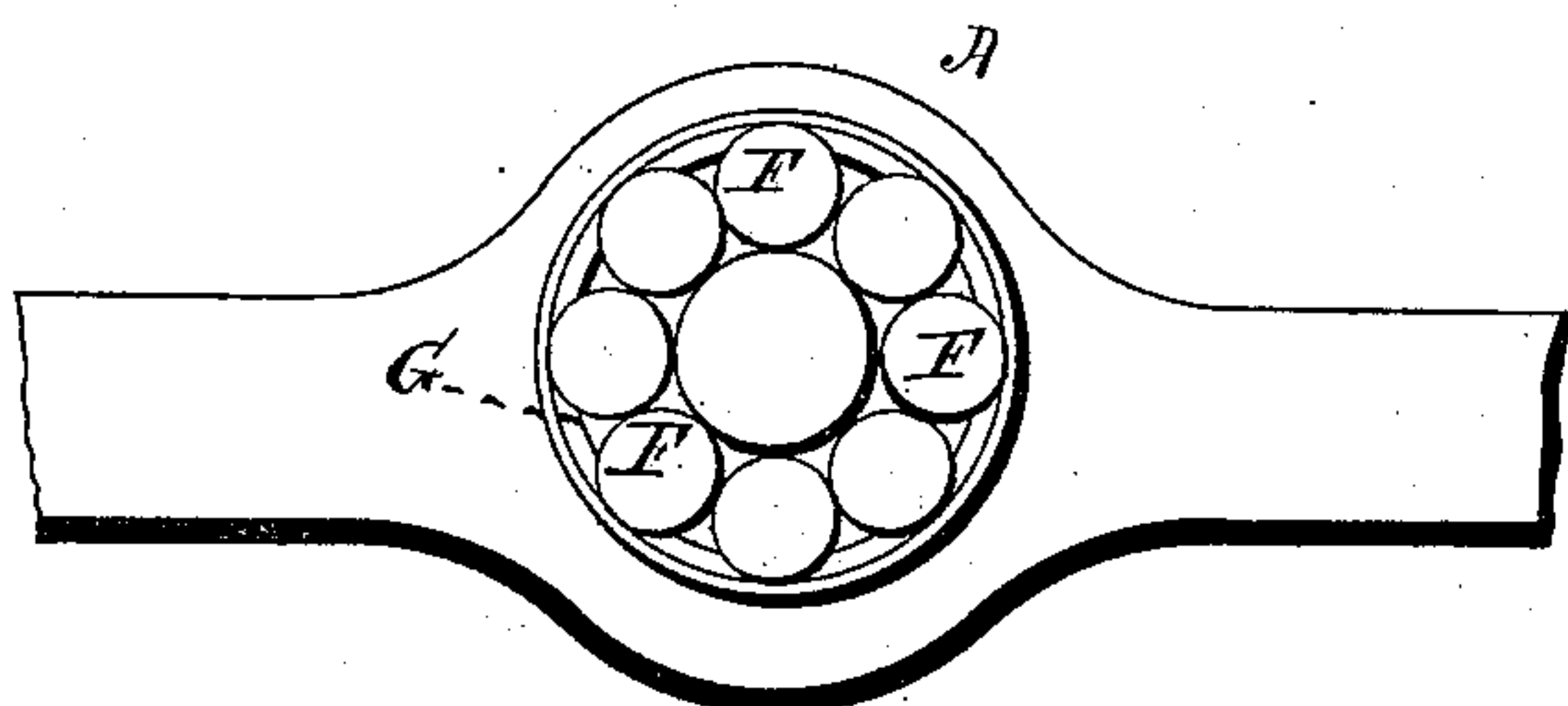


FIG. 1

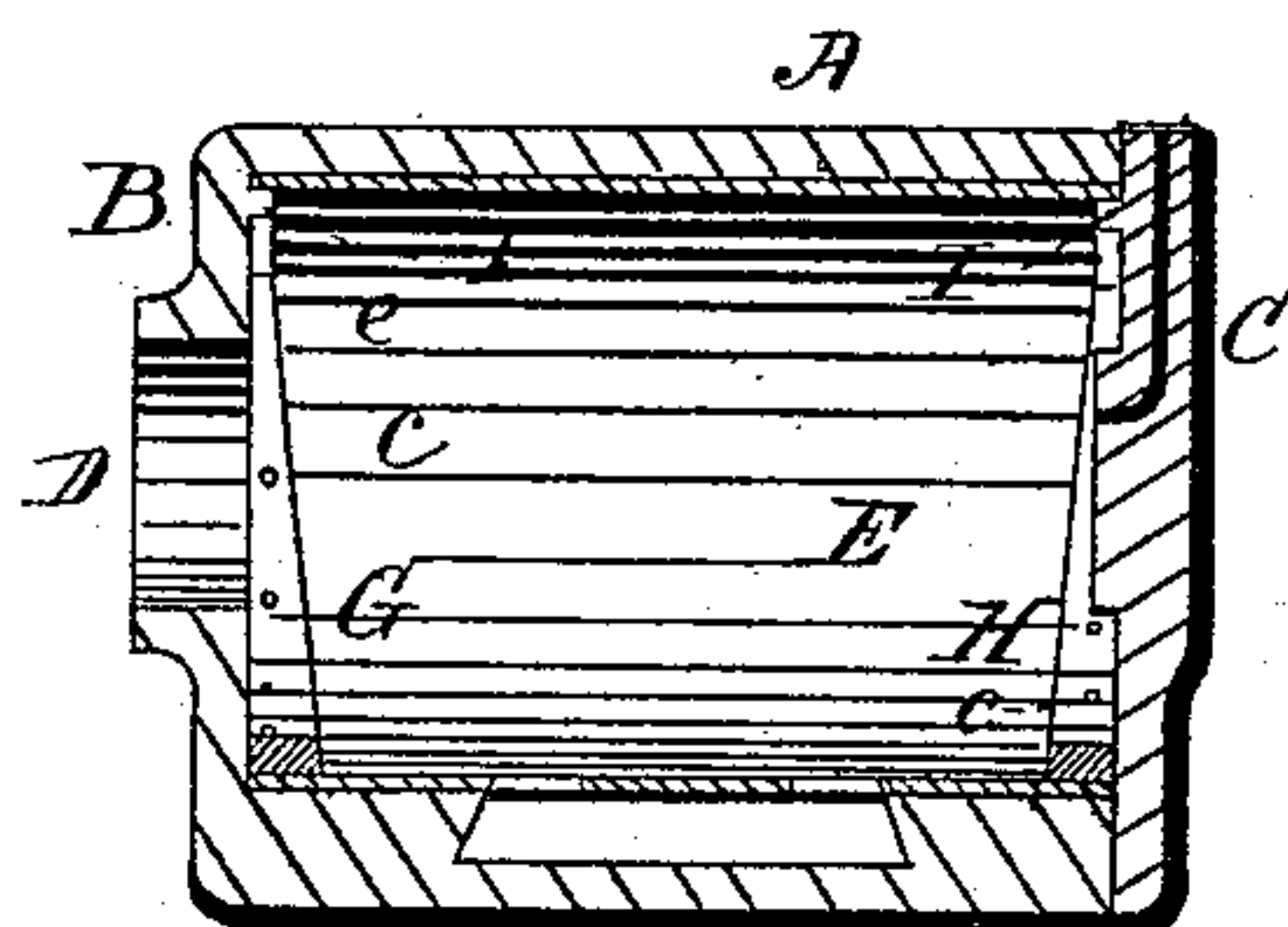


FIG. 3

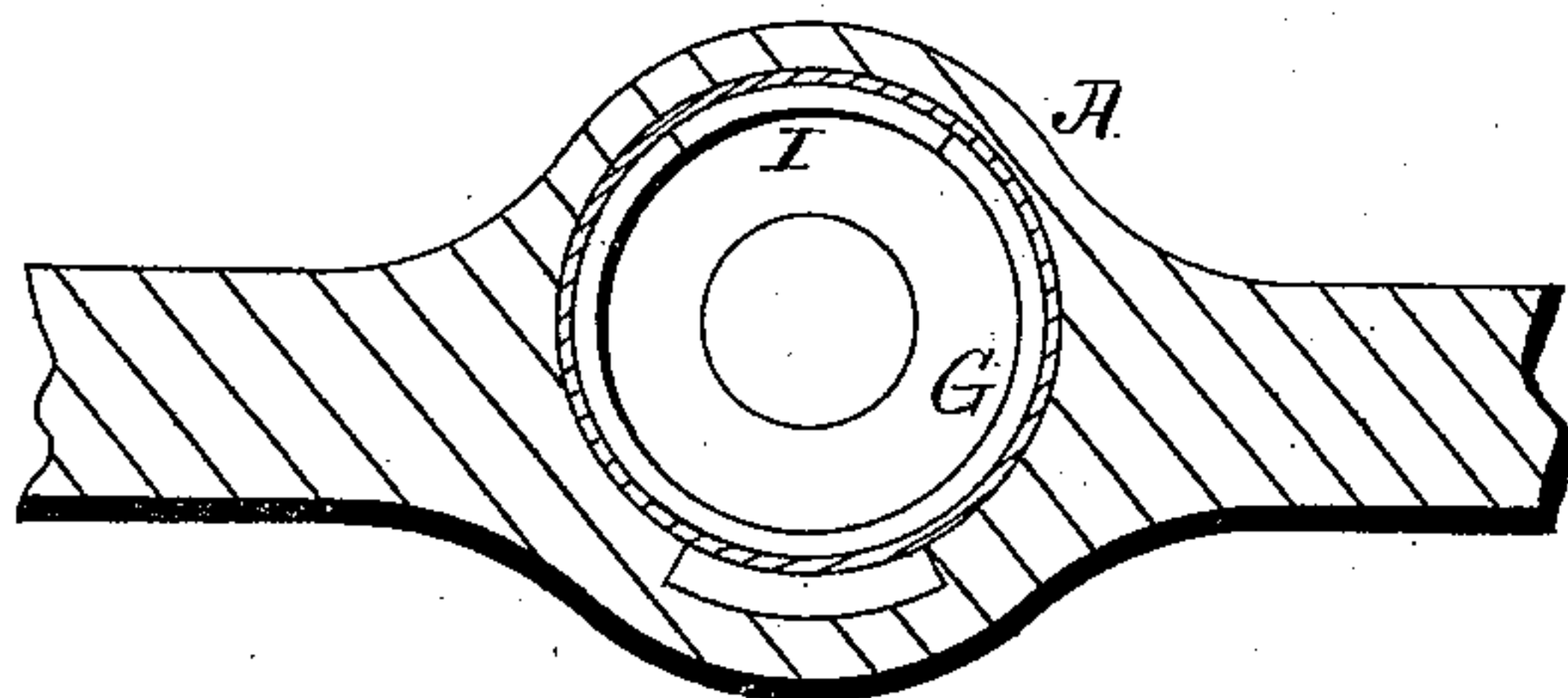


FIG. 2

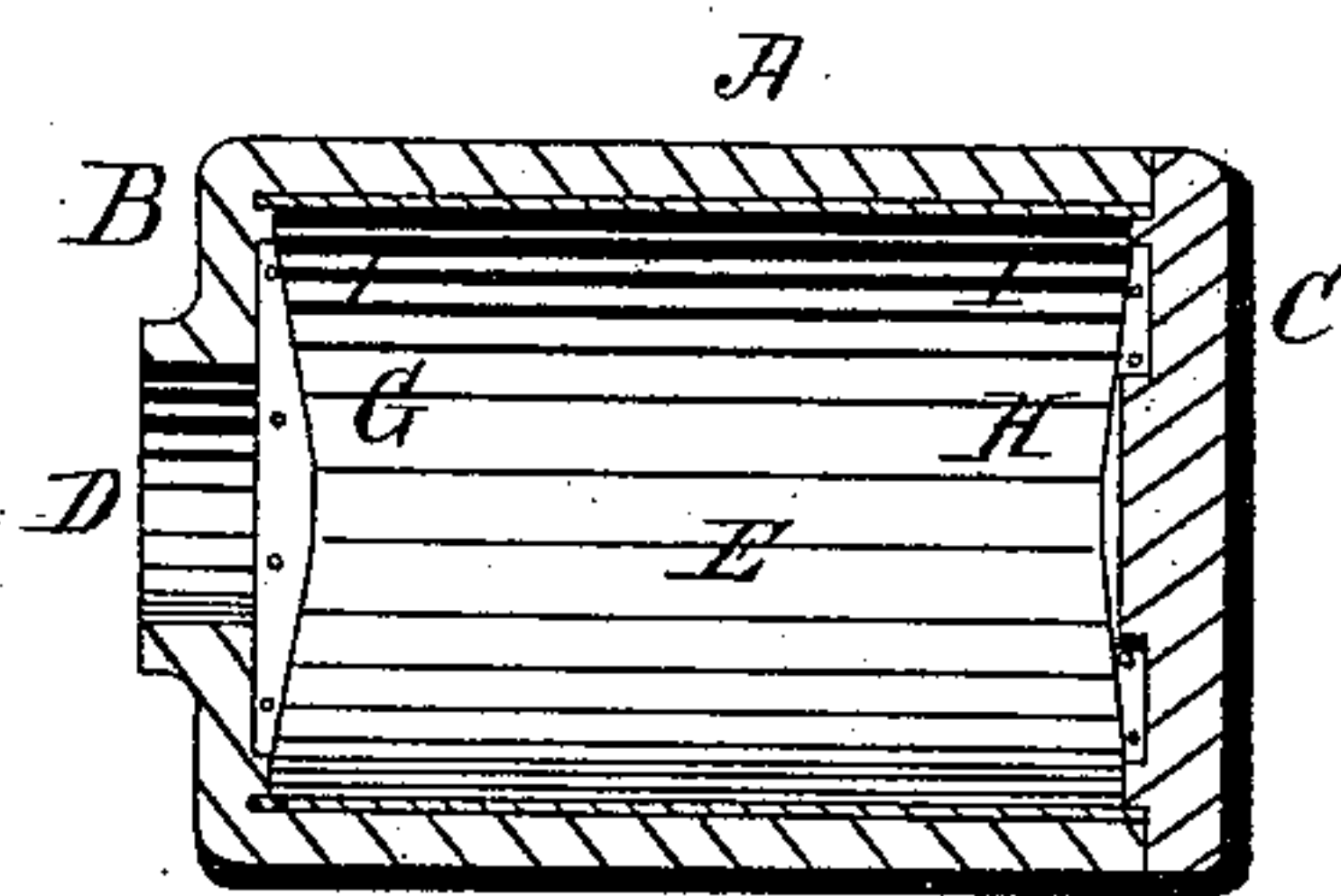


FIG. 4

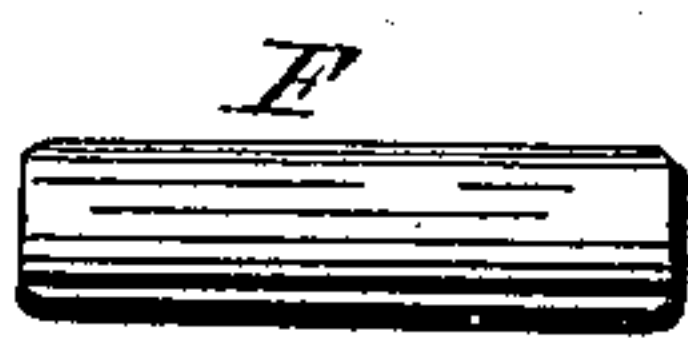


FIG. 5

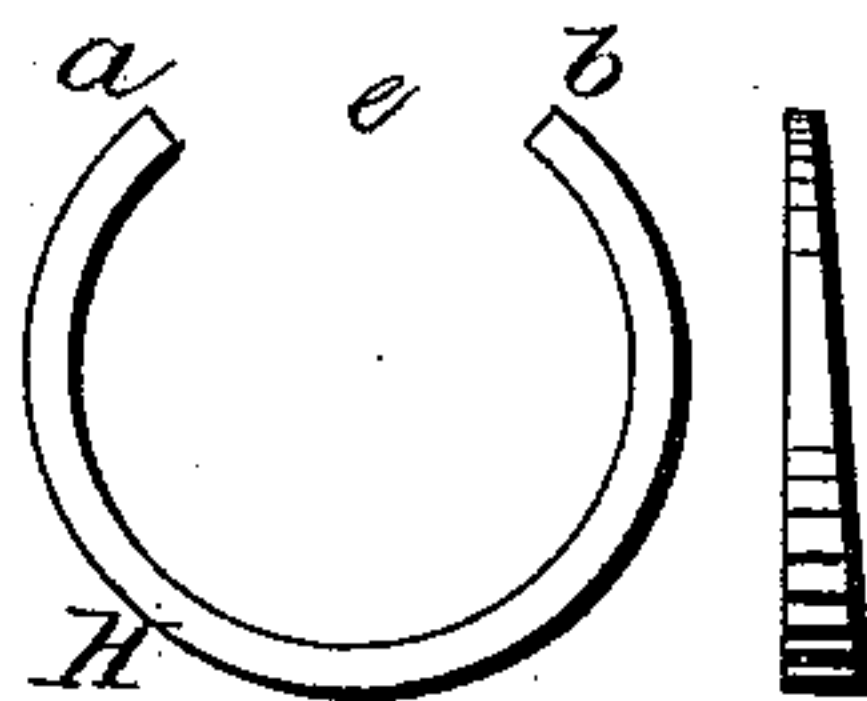


FIG. 6

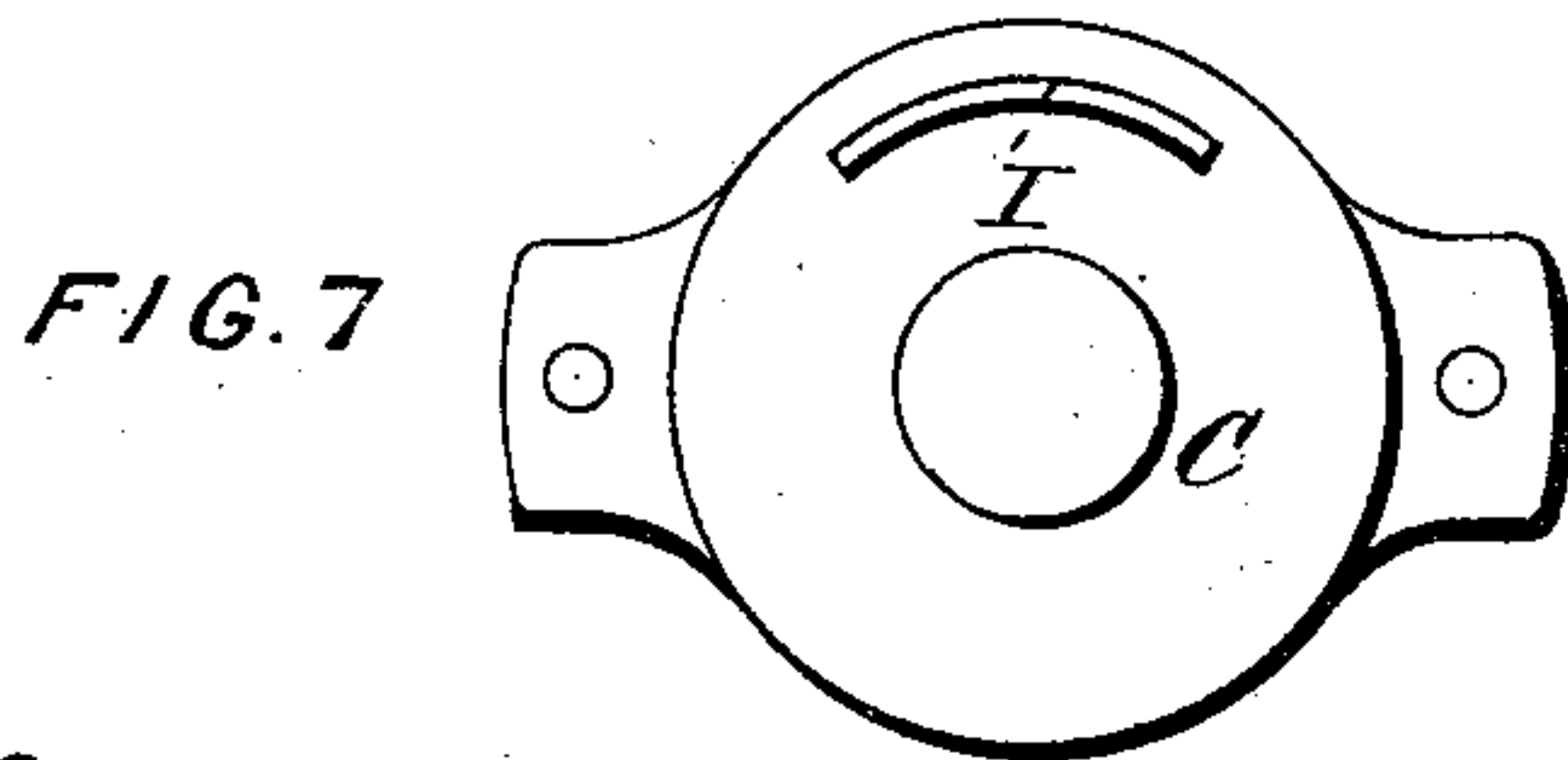


FIG. 7

WITNESSES  
J. H. Burridge  
A. M. Mather

INVENTOR  
N. W. Cutter  
J. H. Burridge  
att'y

# UNITED STATES PATENT OFFICE.

NORMAN W. CUTTER, OF CLEVELAND, OHIO.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 330,822, dated November 17, 1885.

Application filed July 14, 1885. Serial No. 171,593. (No model.)

*To all whom it may concern:*

Be it known that I, NORMAN W. CUTTER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful  
5 Improvements in Railway-Car Axle-Boxes, of which I hereby declare the following to be a full and complete description.

That the above-said improvements may be fully understood, reference will be had to the  
10 accompanying drawings, making a part of this specification, in which—

Figure 1 represents an end view of a car-axle box with the end plate removed that the interior thereof may be seen. Fig. 2 is also  
15 a longitudinal section of the axle-box, having the end plate removed, also the rollers. Fig. 3 is a vertical section, and Fig. 4 is a horizontal section. Figs. 5, 6, and 7 are detached sections.

20 Like letters of reference denote like parts in the drawings.

Referring to the drawings, A represents the shell of the axle-box, one end of which is closed by the end plate, B, which may be an  
25 integral part of the shell or box. The opposite end of the box is closed by a detachable end plate, C.

In the end plate, B, of the box is an opening, D, through which the end of the axle is  
30 inserted in the box.

E is a metal lining covering the whole circumferential interior of the shell, thereby making a clean uniformly-smooth surface for the rollers F to revolve on. Said rollers are  
35 subject to more or less end-thrust during their revolution around the box, and in consequence become displaced from a central bearing on the journal.

In order to guide and readjust the rollers  
40 in their central position on the journal at each of their revolutions around the box, is the use of the ribs G and H, respectively, at the ends of the box. A detached view of one of the ribs is shown in Fig. 6, in which  
45 it will be noticed that the rib is not an entire circle or ring, there being a considerable space between the ends *a* and *b* sufficiently wide to permit the roller shown in Fig. 5 to pass endwise between them. It will also be  
50 noticed that the rib is differential in width, it being wider at the bottom than at the ends, but of a uniform thickness.

For the purpose of returning the displaced rollers to their central bearing on the journal,  
55 a single rib has been used heretofore and

placed centrally around in the box, and the rollers provided with a groove adapted to receive or span the rib. In such cases the central part of the rollers being grooved a portion only of their surface becomes a bearing  
60 for the journal.

That the entire length of the rollers may become a bearing-surface for the journal is the object of using the two ribs above mentioned, one at each end of the box. 65

The ribs may be individual parts, and placed within the lining and secured thereto with rivets *c*.

The ribs may be respectively integral parts of the end plates, in which case the ends of  
70 the lining are cut away to conform to the shape of the ribs. It is preferred, however, to have the ribs separate and secure them to the lining, as aforementioned. In the latter case the ribs are attached to the lining  
75 before it is inserted in the box, and that the rollers may be placed therein is the use of space *e* between the ends *a* and *b* of the rib, through which space the rollers can be passed into the interior of the lining. When the  
80 rollers are all in the box, said space *e* is closed up by a filling-piece, I, projecting from the end plates, which, when put in place on the box, the filling-piece enters the said space *e*, as shown in Fig. 2. In this form the  
85 filling-piece serves to prevent the lining from turning around in the box.

The action of the two ribs on the rollers is substantially the same as the one central rib—viz., to guide and keep the rollers in po-  
90 sition by returning them at each revolution around the box to a central bearing on the journal, as above remarked.

What I claim as my invention, and desire to secure by Letters Patent, is— 95

In an axle-box for railway-cars, the combination therewith of a circumferential continuous lining, having at each end thereof interiorly a rib of differential width, arranged and adapted, as described, to allow rollers to  
100 be inserted within the lining, and to prevent the said lining from turning around in the box, in the manner substantially as herein set forth, and for the purposes specified.

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

NORMAN W. CUTTER.

Witnesses:

J. H. BURRIDGE,  
H. W. MATHER.