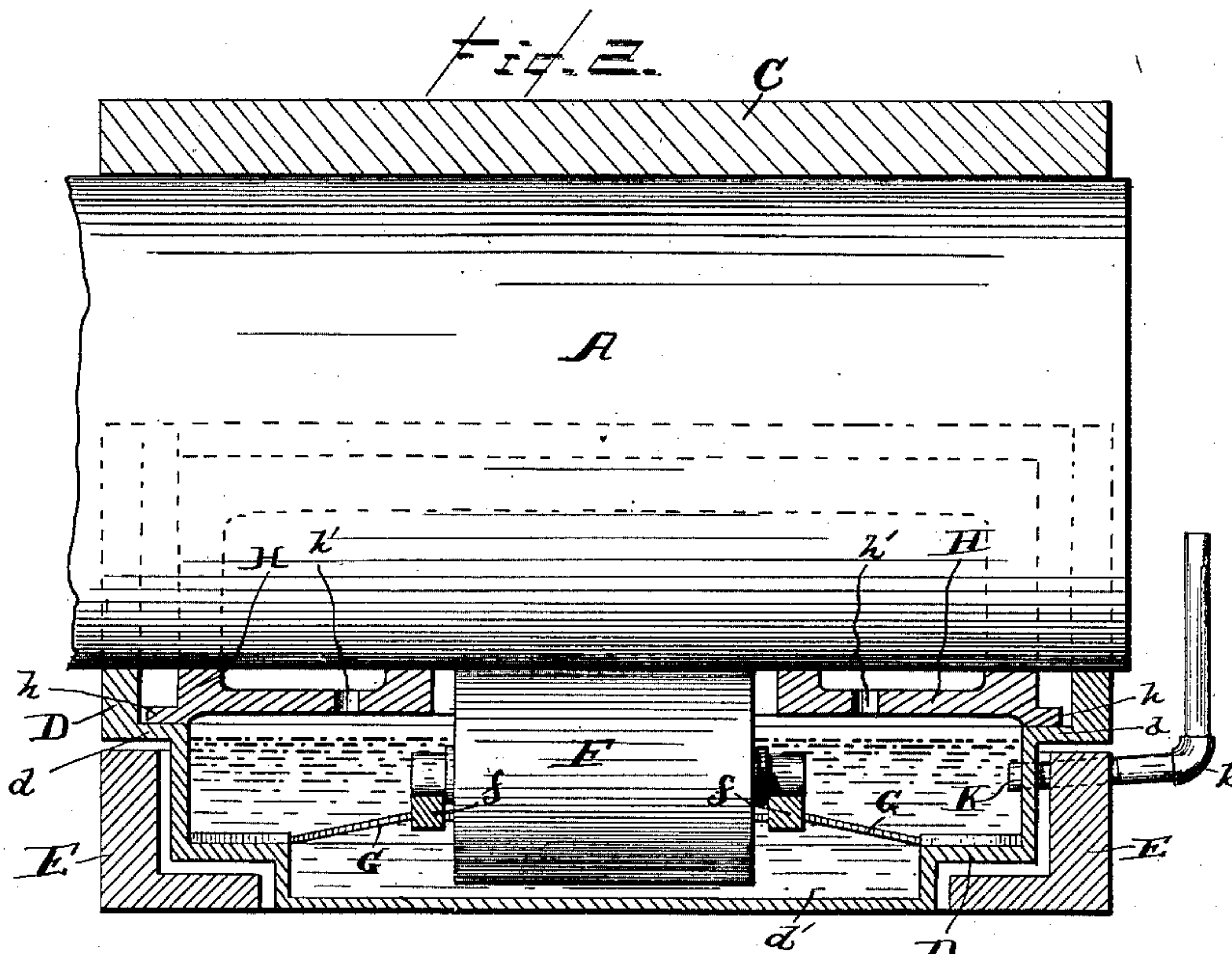
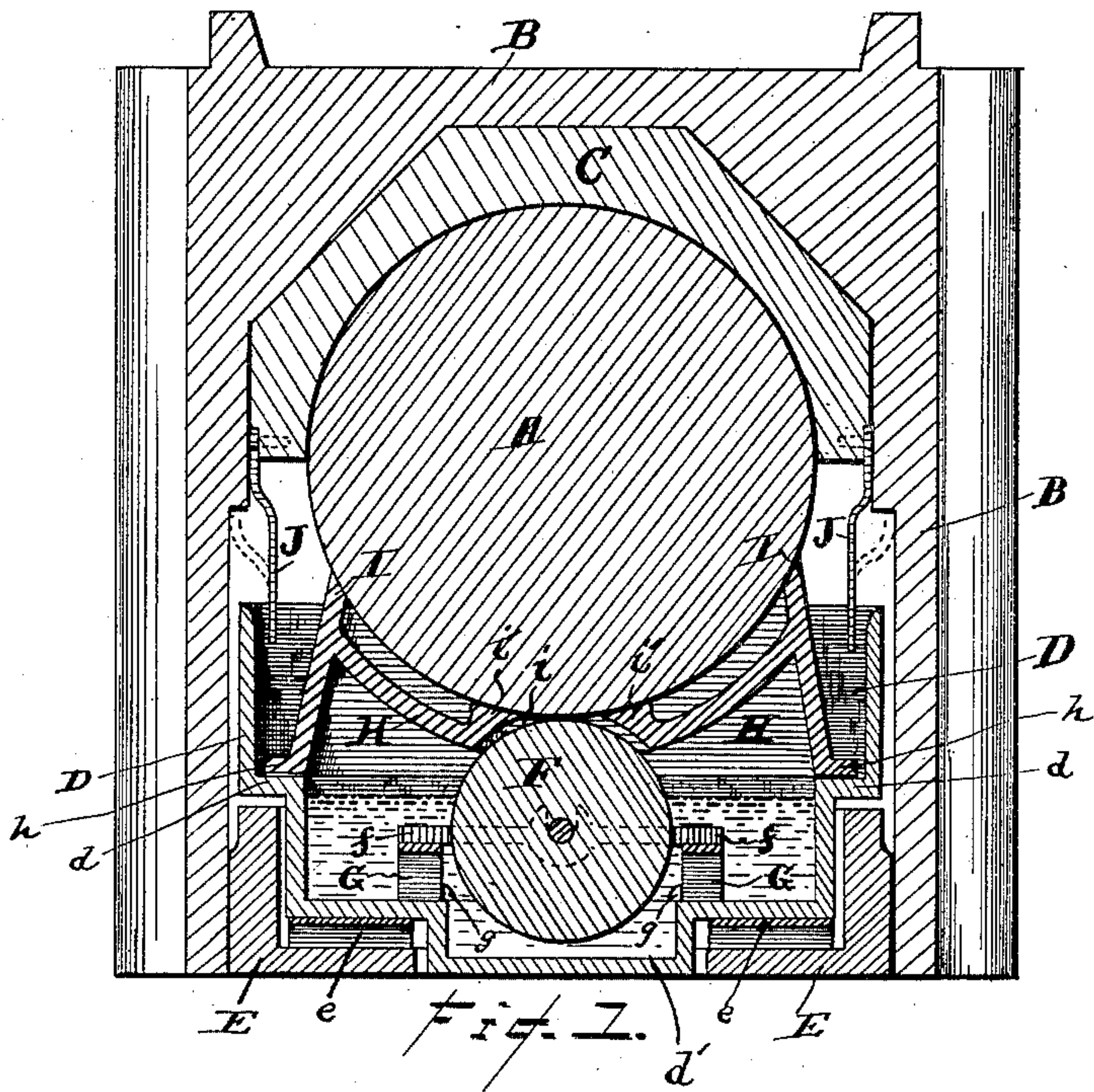


(No Model.)

J. B. GLOVER, Jr.  
JOURNAL LUBRICATING DEVICE.

No. 434,983.

Patented Aug. 26, 1890.



WITNESSES.

Percy L. Brooks.  
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# UNITED STATES PATENT OFFICE.

JAMES BOLAN GLOVER, JR., OF MARIETTA, GEORGIA.

## JOURNAL-LUBRICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 434,983, dated August 26, 1890.

Application filed June 7, 1890. Serial No. 354,597. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES BOLAN GLOVER, Jr., of Marietta, in the county of Cobb and State of Georgia, have invented certain new and useful Improvements in Car-Axle-Journal-Lubricating Devices; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a transverse vertical sectional view through a journal-box of a railway-car truck, showing my improved lubricating devices. Fig. 2 is a longitudinal sectional view through the same.

This invention is an improvement in lubricating devices for the journals of car-axles, &c., and comprises an improved oil-cup and a supplying-roller; and the invention consists in the novel construction and combination of parts hereinafter clearly described, and concisely stated in the claims.

Referring to the drawings by letter, A designates the car-axle journal, B the ordinary journal-box, and C the journal-brass interposed between the journal and top of box.

D designates the oil-cup, which is placed within the journal-box below the journal, its sides rising above the lower periphery of the journal, and its end walls are recessed to permit the journal to lie partly in said cup. The lower portion of the cup is reduced in size to form a shoulder *d*, extending horizontally around it. E designates a holding-frame for said cup, adapted to be slipped in the bottom of the journal-box and fastened therein, and in this frame the cup is placed, its contracted lower portion fitting easily within the frame, and a pair of flat semi-elliptic springs *e e* are arranged horizontally in the frame and uphold the cup, as indicated. The cup D has a central sink or depression *d'* in the bottom to accommodate a lubricating-roller F, which is placed in the cup, and is mounted in journals formed on cross-pieces *f f*, fixed to semi-elliptic springs G G, that lie longitudinally of the cup and form, with the pieces *f f*, a rectangular spring-supporting frame for the roller. The springs G G are kept in position within the cup by means of lugs *g g*, formed

on the bottom of the cup, as indicated. The springs *e e* uphold the cup and hold its end walls in easy contact with the lower portion of the journal to prevent escape of oil, while springs G G uphold roller F and cause it to bear against the lower face of the journal yieldingly.

H designates a cover for the cup, having bottom flanges *h*, which rest upon shoulder *d* and sustain the cover within the cup and below the side walls thereof and below the journal. The top of the cover is concaved to correspond with the convexity of the journal, and it also has a central opening *i*, through which or in which the upper portion of roller F contacts with the lower portion of the journal, and this portion is surrounded by low upstanding flanges *i'*, which are also dressed to fit neatly against the lower face of the journal. The cover may also be perforated, as at *h'*, to permit oil collecting in the space between flanges *i i'* to escape back into the cup. A space is left between the sides of the cover and the side walls of the cup above shoulder *d*, and any oil collecting in such space can drain back into the cup through the loose joint between the flanges *h* and shoulder *d*, and the flange might have transverse shallow channels or grooves formed in them to facilitate the backflow of oil.

J J designate wings or flanges, which may be secured to the inner side of the journal-box or to the side edges of the brass C, and may be formed of metal strips fastened to the sides of the box or edges of the brass and depending therefrom, their lower edges entering the space between the journal and the side walls of the cup. It will be observed that the roller is scarcely more than one-third the length of the journal; but I have found in practical use that the best results are attained by short rollers, as they supply enough oil to properly lubricate the journal and a long roller supplies overmuch oil and creates waste. The oil carried up by the roller is supplied to the journal, and any grit or thick portions of the oil are wiped off by either of the flanges *i'* and thrown back into the cup. Then flange I wipes or distributes the lubricant yet more, and any oversupply wiped off by this flange collects on top of the cover and



escapes back into the cup through openings  $h'$ . The oil wiped off by the journal-brass or thrown off by centrifugal force between the flanges I and the edges of the brass is caught by wings J J and directed back into the space between the cover and side walls of the cup, and thence drains back into the oil-space below the cover. By thus constructing and arranging the parts it will be obvious that while oil is supplied direct to the journal yet there is no waste, and that the journal is wiped continually by the flanges, so that no grit is carried up between the journal and brass, and that all oil wiped off or thrown off the journal by centrifugal force is returned to the cup to be utilized; also, that the contacts between the cup and cover are maintained by spring-supports and the roller is held in yielding contact therewith by springs. By dressing down the edges of flanges  $i'$  the amount of oil or thickness of the oil-film supplied to the journal can be regulated. Again, it will be noticed that each portion of the lubricating device is readily accessible and detachable from the others, and the cup proper and its cover are so formed or shaped that they can be made by "free casting" or without cores, thus greatly reducing the cost of the device. In order to readily supply lubricant to the cup, I propose to connect a pipe-bend K to an opening in the outer end wall of the cup and connect a straight upstanding pipe-joint  $k$  to this bend. This will allow an attendant to readily supply oil to the box without waste. The joints between the cover and cup are such that they effectually prevent waste of oil by splashing.

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

1. In a lubricating device for journals, the combination of a cup having side walls extending above the bottom of the journal and a spring-supported roller in said cup impinging against the journal, with a cover fitted between and below the side walls of the cup and beneath the journal and having wiping-flanges and an opening over the roller, substantially as described.

2. In a lubricating device for car-axle jour-

nals, the combination of an oil-cup fitting below the journal and having side walls extending above the lower portion of the journal, with the depending wings or flanges adapted to catch the oil thrown off the journal by centrifugal force or wiped off the same by the brass and conduct such oil back into the box, substantially as specified.

3. The combination of the cup having recessed walls, a horizontal shoulder and side walls that rise above the lower portion of the journal, and a lubricating-roller therein, with a cover supported on said shoulder below and within the side of the cup and convexed to fit beneath the journal, and having an opening above the roller and flanges around said opening and at the top edges of the cover adapted to wipe oil from the journal, substantially as and for the purpose described.

4. The combination of the cup having recessed end walls and upstanding side walls, substantially as described, and the oil-supplying pipe connected thereto and the lubricating devices therein, with the cover fitted between the walls of said cup and having upstanding flanges adapted to wipe oil off the journal, all constructed and arranged to operate substantially as described.

5. The herein-described lubricating device for car-axle journals, comprising a base-frame, a cup fitting on said frame and supported by springs therein and having a horizontal shoulder, recessed end walls and side walls that rise beside the journal, with a spring-supported roller in said cup contacting with the journal, and a cover resting on the shoulder of the cup between its side walls and below the journal and having wiping-flanges on its upper surface, and the wings attached to the side edges of the journal-brass or to the inner faces of the journal-box for directing oil back into the cup, all substantially as specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES BOLAN GLOVER, JR.

Witnesses:

S. I. BRADLEY,  
W. W. AYCOCK.