(No Model.)

L. ELLERT.

RAILWAY AXLE BOX.

No. 447,148. Patented Feb. 24, 1891.

Fig 1

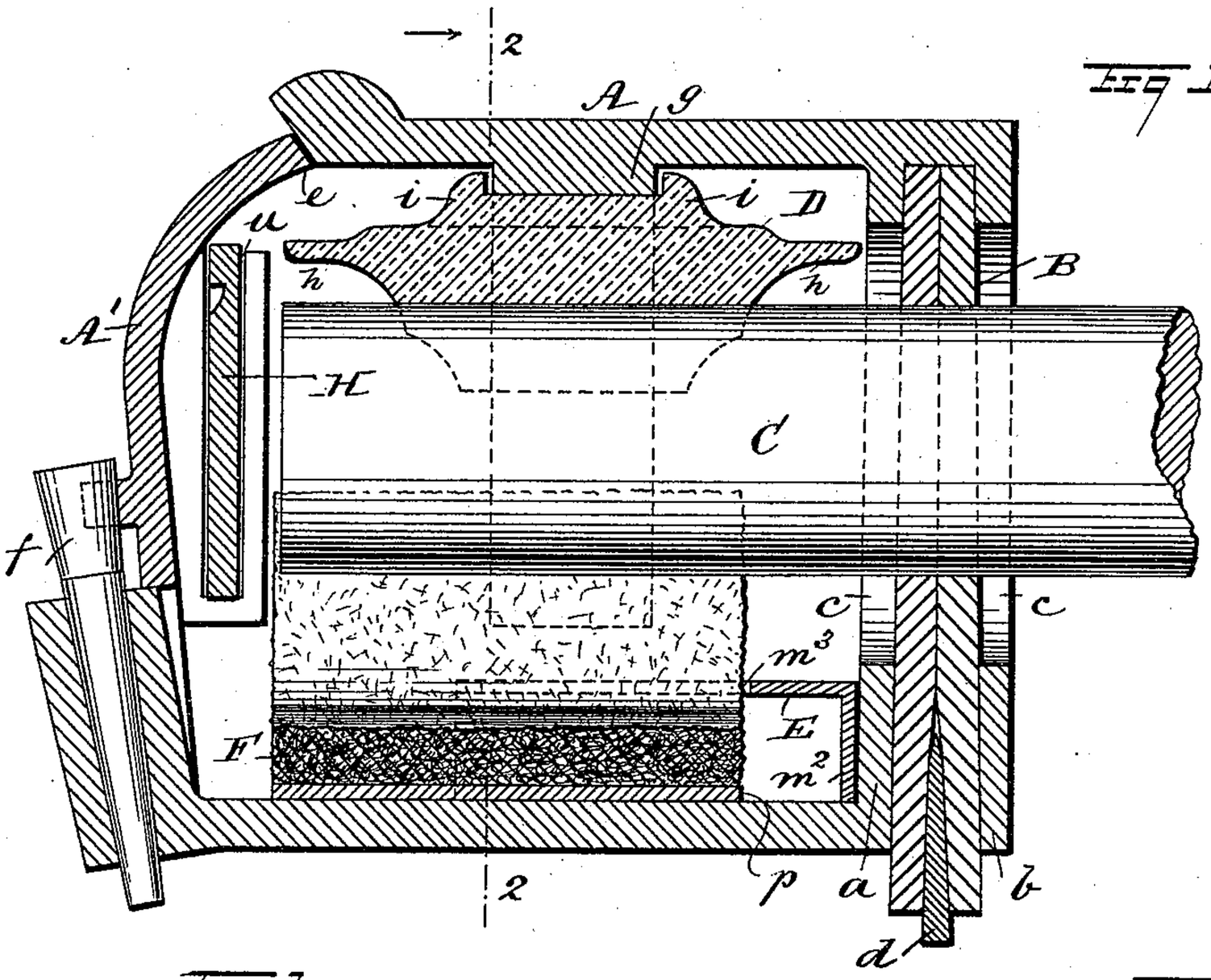


Fig 3

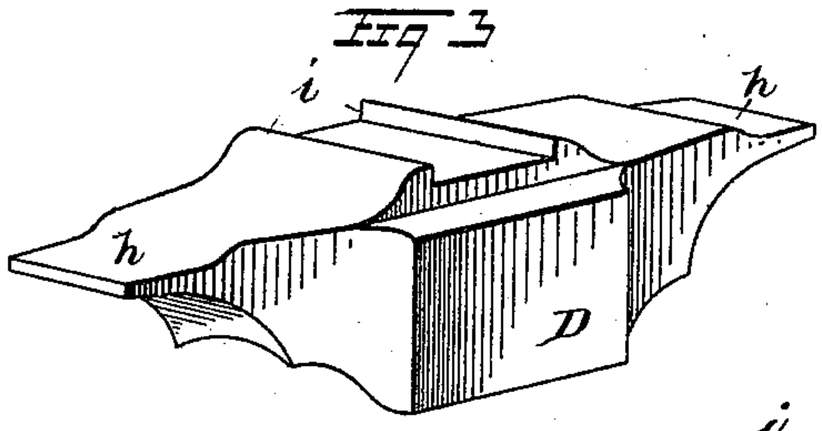


Fig 4

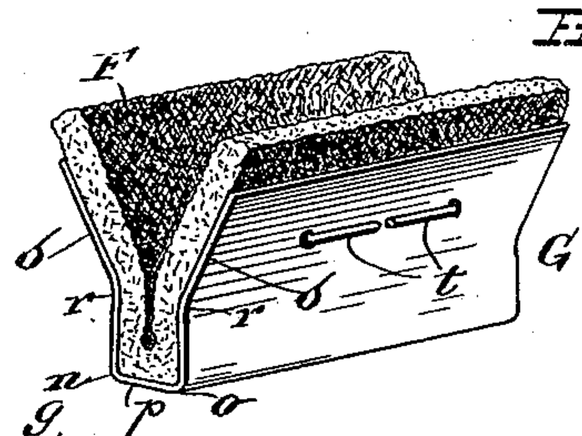


Fig 5

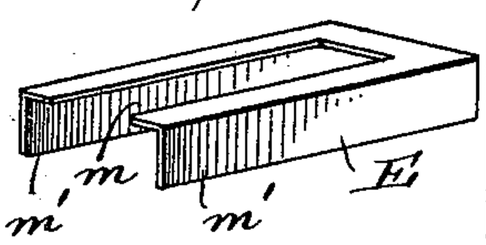
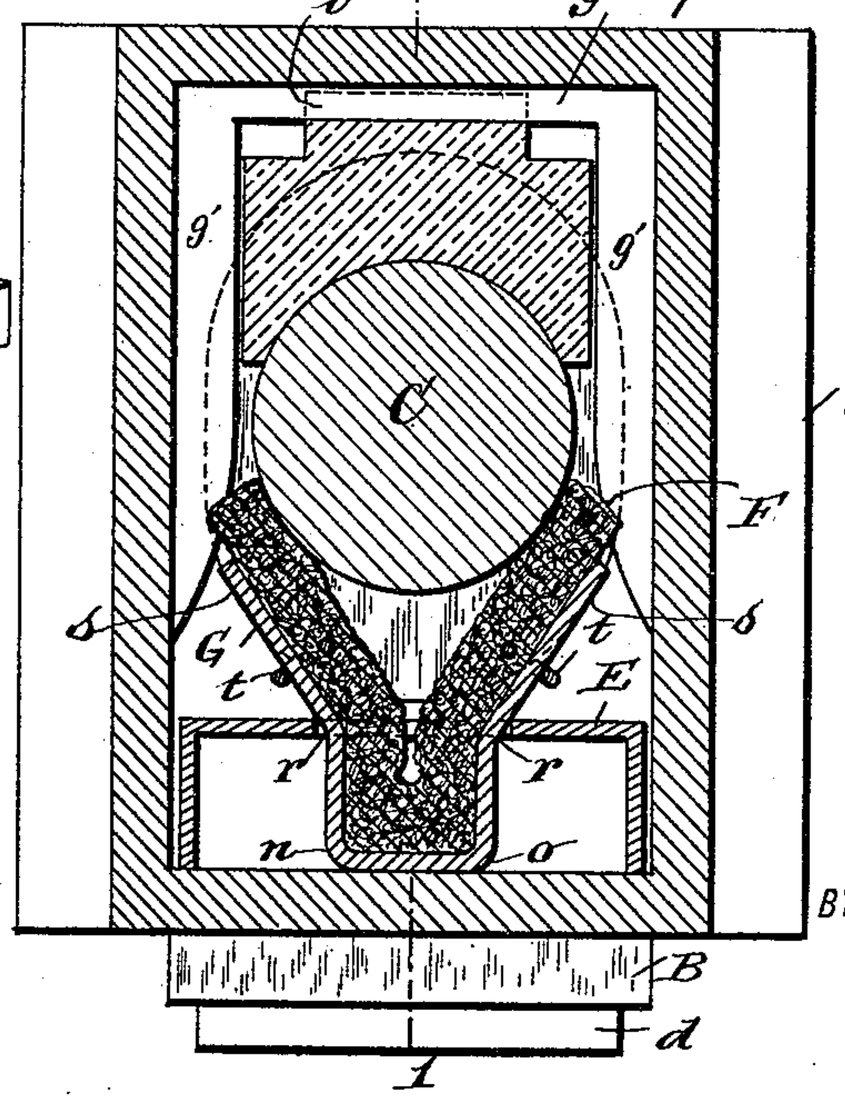


Fig 2



WITNESSES:

H. Walker

C. Sedgwick

INVENTOR:

L. Ellert

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS ELLERT, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND HENRY A. NEWELL, JR., OF SAME PLACE.

RAILWAY AXLE-BOX.

SPECIFICATION forming part of Letters Patent No. 447,148, dated February 24, 1891.

Application filed November 12, 1890. Serial No. 371,150. (No model.)

To all whom it may concern:

Be it known that I, LOUIS ELLERT, of New York, in the county and State of New York, have invented a new and useful Improvement in Railway Axle-Boxes, of which the following is a full, clear, and exact description.

The objects of this invention are to provide an improved removable metallic bearing or "brass," an improved lubricating device, and an improved method of sealing the aperture where the journal end of the axle penetrates the box.

To these ends my invention consists in certain features of construction and combinations of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a portion of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal section of the box, taken on the line 1 1 in Fig. 2. Fig. 2 is a transverse section taken on the line 2 2 in Fig. 1. Fig. 3 is a detached perspective view of the removable brass or metal bearing. Fig. 4 is a detached perspective view of the lubricating device; and Fig. 5 is a detached view of a reduced size, showing the supporting-holder for the lubricating device.

The box body or shell A is of the usual preferred style in ordinary use, with certain modifications of form made to adapt it to support parts wherein a portion of the invention lies. One feature of change consists in the formation of a recess suitable to receive a leather packing-joint B. Said joint, having a width and height nearly equal to those of the shell A at its inner end, is caused to fit tightly in the recess mentioned, which latter is produced at the point indicated and tapers gradually from below upwardly between the walls *a b*, which are apertured at *c* for the introduction of the axle-journal end C.

The leather packing B is made of two or more pieces, which are secured together near their upper edges flatwise and near their center are perforated, of a diameter and form to closely fit the axle-journal C when it is in place.

There is a wedge *d*, of the same material as the joint B, driven in between the pieces composing said joint, which when fully inserted spreads the joint-layers and causes them to bear tightly in the recess on the opposite walls *a b*, so that the opening *c* at the inner side of the box-shell A is thereby sealed and escape of the lubricant is prevented.

The usual lid-piece A′ is provided for the shell A, which is held in place by the interlocking contact of the upper end *e* with the undercut edge of said shell, the lower end of the lid being secured in place by a key *f*, as shown in Fig. 1.

Upon the top wall of the shell A a transverse ledge *g* is formed within near the longitudinal center of said shell, which ledge is provided to afford a seat for the bearing-piece or brass D, which is made concave on its lower face to rest upon the axle-journal C and is reduced at each end to lessen the thickness and afford grip-pieces *h* thereon, the brass being longitudinally reversible. On the top surface of the brass D two parallel transverse ribs *i* are formed on the flat part of the same, which ribs are properly spaced apart to loosely engage the parallel edges or shoulders of the ledge *g* when the brass is inserted in the shell A. The construction of parts just mentioned will prevent the brass D from rocking laterally or moving endwise when in service. Ribs *g′* extend down from the ends of the ledge *g* on the opposite sides of the box-shell, which ribs assist in retaining the brass D in position.

Upon the lower wall or base-plate of the shell A a preferably sheet-metal support or holder for the lubricating device is placed. Said holder E (shown most clearly in Fig. 5) consists of a rectangular plate having a slot *m* cut from one end edge toward the other parallel edge and provided with depending parallel flanges *m′*, which extend along each side of the top plate, a similar flange m^2 being turned down at the end toward which the slot *m* extends, thus producing a box-like structure of such dimensions as will permit it to fit loosely within the cavity of the shell A below the axle-journal C.

The sponge-piece F is preferably made of

felt material composed of coarse wool cut into a rectangular shape and doubled, so that it will conform to the inner surface of the spring-shoe G, which is constructed from a rectangular planchet of sheet metal having some elasticity, said piece being bent at *n o* to project two portions upwardly and nearly parallel, leaving a base-wall *p* to intervene, the upright walls having their upper portions made to diverge at opposite points *r* and thence project upwardly and outwardly to produce inclined walls *s* for the elastic support of the material F, which is secured in place by wire sewing *t* through perforations in each wall, as represented in Figs. 2 and 4.

The parts are assembled by first introducing the holder E and then sliding the shoe G within the slot *m* until it strikes the terminal of the same, as at m^3 in Fig. 1, forcing the sponge material to bear upon the axle-journal C, as represented in Fig. 2. Across the front of the shell A, within and near the end of the journal C, a guard-plate H is adapted to rest by its vertical sliding engagement within grooves formed in or on said wall, one of such retaining-grooves being represented at *u* in Fig. 1, it being understood that on the opposite removed side wall of the shell A a similar groove is produced.

When there has been a proper amount of lubricant of any suitable quality introduced within the shell A and the front sealed, as shown in Fig. 1, the device is in condition for service. The capillary action of the sponge material F, held in elastic contact with the journal C at two points nearly opposite each other, will remove the worn-out lubricant, cleanse the surface, and recoat it with fresh lubricant continuously as long as there is any available lubricating-oil or other liquid of like nature within the box or shell A.

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

1. The combination, with a box-shell which is vertically recessed across its inner end, said recess being slightly tapered from below upwardly by convergence of the walls which form it, of a leather packing-joint that is apertured to fit tightly on an axle-journal and is split to receive a wedge from below, substantially as set forth.

2. The combination, with a box-shell which has a transverse and vertical recess formed at its inner end by the upward convergence of the walls which produce it, of a leather packing-joint which is formed of two layers connected flatwise and adapted to receive a wedge between the layers, said packing being apertured to receive an axle-journal and a wedge upwardly inserted between the layers of the joint, substantially as set forth.

3. In a railway axle-box, a support for the lubricating device, consisting of a plate having depending flanges on three sides and longitudinally slotted from its unflanged side, substantially as set forth.

4. In a railway axle-box, the combination, with a slotted plate having depending flanges, of an elastic shoe having an essentially-rectangular base to engage the slotted plate and diverging walls to support the lubricant feeding material, as set forth.

5. The combination, with an axle-journal, an axle-box shell, a brass on the journal held in place by its contact with a ledge on the shell, and a leather joint which fits on the journal and in a recess at the inner end of the axle-box and is wedged fast therein, of a supporting-holder for a sponging device in the shell and a sponging device composed of an elastic sheet-metal shoe having divergent side walls and a layer of felt sponging secured on the inner face of the shoe, substantially as set forth.

LOUIS ELLERT.

Witnesses:
WM. P. PATTON,
E. M. CLARK.