E. D. MURFEY. BEARING for AXLES etc.

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PATENTED JUN 27 1871

Fig. 1.

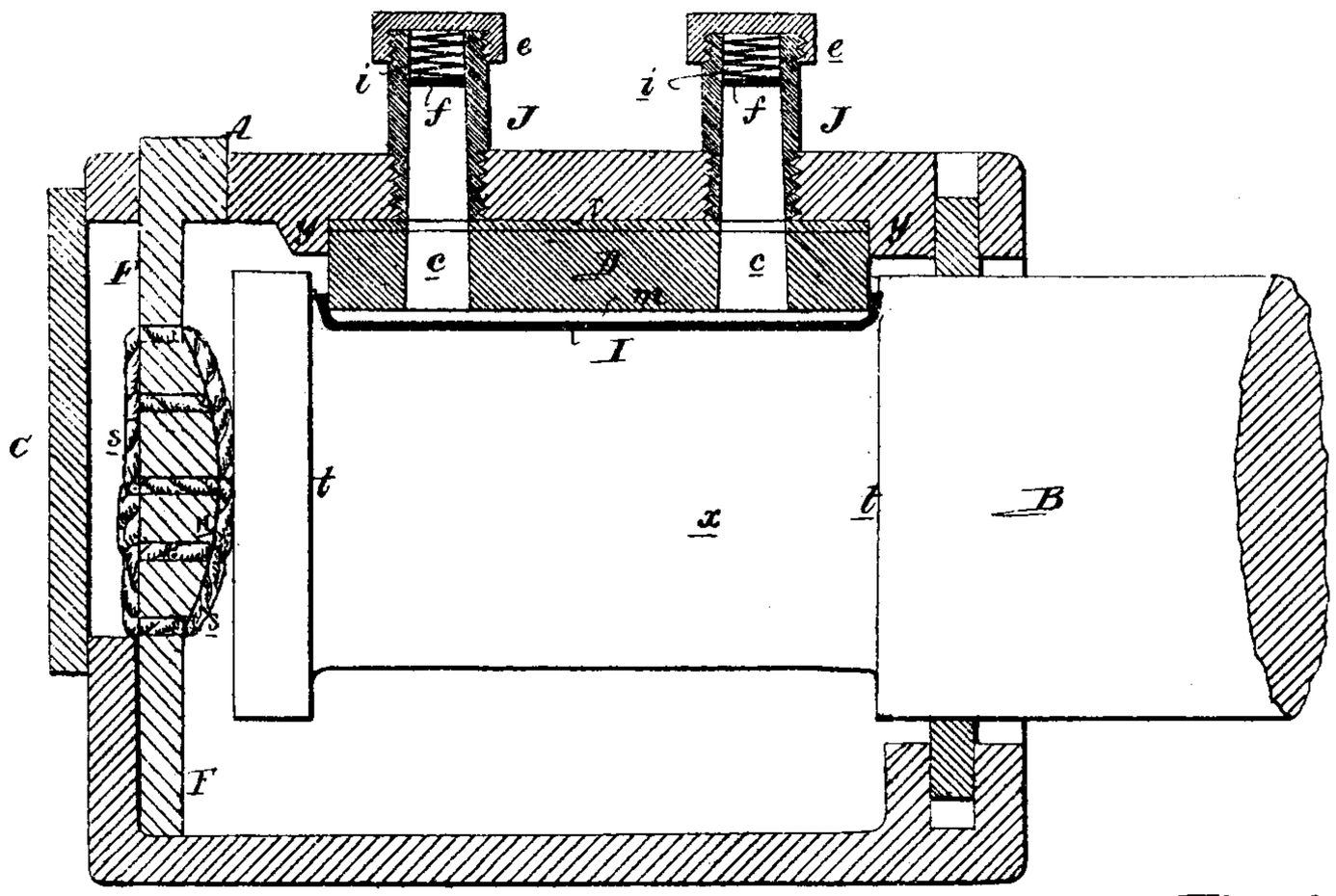


Fig. 2.

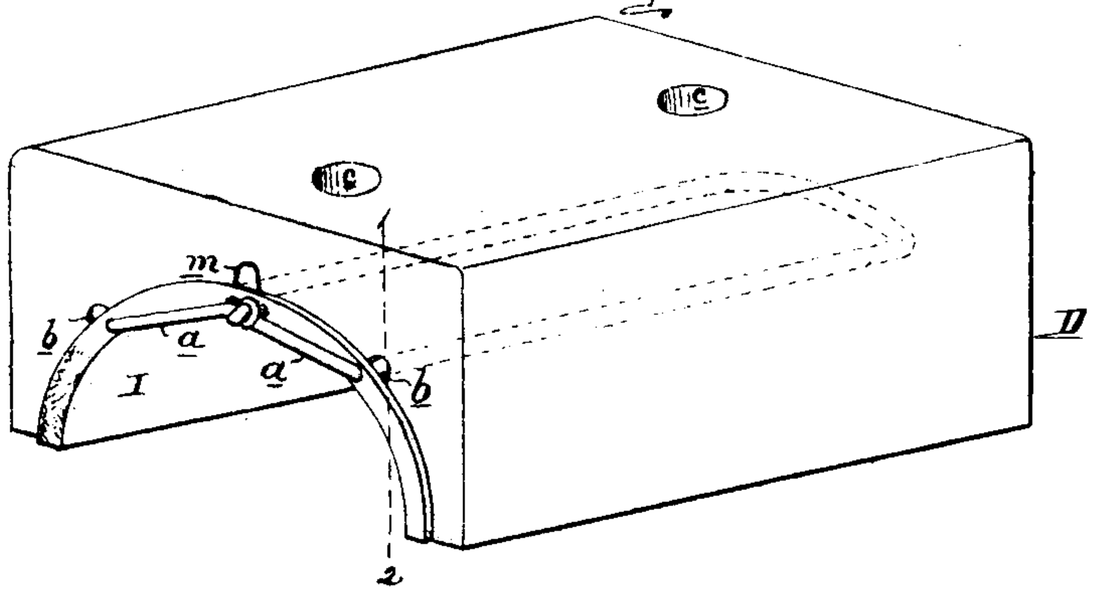


Fig. 4.

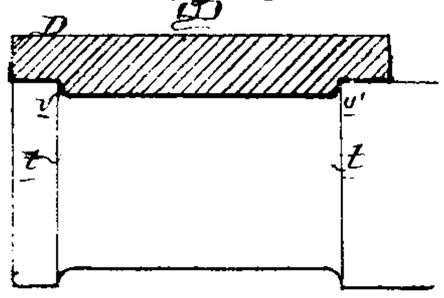
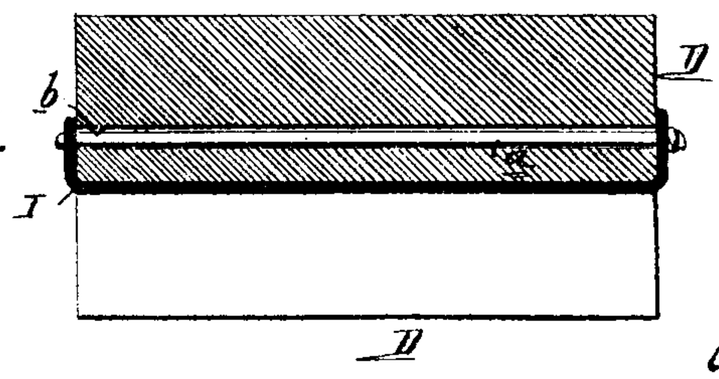


Fig. 3.



WITNESSES.
Jefferson Clark
Albert H. Norris.

E. D. Murfey
By his attys
Howson & Sons

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

ELIZA DEXTER MURFEY, OF NEW YORK, N. Y., ASSIGNOR TO THE MANHATTAN PACKING MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN BEARINGS FOR RAILWAY-CAR AXLES.

Specification forming part of Letters Patent No. 116,475, dated June 27, 1871.

To all whom it may concern:

Be it known that I, ELIZA DEXTER MURFEY, of New York, county of New York, State of New York, have invented an Improved Bearing for Axles, &c., of which the following is a specification:

My invention consists of an improvement in bearings for axles, shafts, &c., the character of which is too fully described hereafter to need preliminary explanation.

Figure 1 is a sectional view of an axle-box with my improvement, showing part of a car-axle. Fig. 2 is a perspective view of part of the box; Fig. 3, a longitudinal section on the line 1 2, Fig. 2; and Fig. 4, a modification.

A is the casing of the box, which is recessed at the rear to admit the journal *x* of an axle, B, the front end of the casing being provided with the usual cap C. Between the shoulders *y y*, at the top of the box, fits a detachable block, D, which may be of vulcanized rubber or other material, and the form of which is similar to that of the ordinary brass bearings; and between the curved lower side of this block and the journal *x* is interposed a sheet or lining of non-metallic absorbent material, I, which is impregnated with plumbago, ivory-dust, or equivalent substance or substances, and forms the bearing of the journal. The said bearing may consist of the impregnated felt described in my application allowed the 30th day of September, 1870; or it may be of cloth, leather, paper, &c., coated with a suitable composition; or it may be of any similar material. I prefer, however, to use impregnated strands, connected to form a sheet or mat, as described in my patent for bearing material, dated November 15, 1870. The bearing is folded over one or both ends of the block D so as to form bearings for the shoulders *t t* of the journal; and cords *a a* are passed through longitudinal recesses *b* in the block, and are connected to the bearings so as to secure the latter to the block, as shown in Figs. 2 and 3. Through the top of the box extend tubes J J, tapered internally, and corresponding with openings in the block D, forming tapering chambers *c c;* and on the end of each tube screws a cap, *e*, between which and a loose disk, *f*, in the tube is interposed a spring, *i*. The mat beneath the chambers *c* is more open than at other points, this being effected by perforating the mat at the said parts or in any other suitable manner. A longitudinal recess or slot, *m*, in the lower face of the box, communicates with each opening *c*. A detachable thrust-plate, F, near the front end of the box, has on its inner side a rounded projection, *n*, and through openings *w* in the said plate are passed impregnated strands or cords *s*, which, covering the face of the rounded projection, form a bearing for the end of the axle. The chambers *c* are filled with a suitable lubricant in a powdered or semi-fluid or pasty condition, and the disks *f*, springs *i*, and caps *e* are secured in their places, as shown in Fig. 1, so that a continual pressure will be exerted to force the lubricant out of the chamber *c* and through the recess *m* onto the bearing I, which absorbs the said lubricant in proportion as the material with which it is impregnated is dissipated. When the bearing becomes worn the block D, which forms a holder for the bearing, may be removed in the same manner as the usual bearing, and the lining may be detached from the block after severing the cords *a*, a new lining being substituted for that removed. The strands *s* are effectually secured to the thrust-plate F by passing them through the openings *w*, but may be readily removed and replaced, the plate being withdrawn for this purpose through the top of the box. A sheet, *r*, of rubber or other elastic material, is placed at the back of the holder D to deaden the shocks imparted by the movements of the axle. A holder, D, overlapping the enlargements *v v'* of the axle near the shoulders *t t*, as shown in Fig. 4, may be employed, the bearing being continued over the entire lower surface of the holder. Where the bearing is employed in loose pulleys it may be secured to blocks D fitting in and detachable from the hub, or may be fitted directly to the opening of the latter.

I claim—

1. The combination of a case or hub, A, the

holder D fitting in the case and adapted to the journal *x*, and a lining, I, of the material described, carried by the holder, as set forth.

2. The said lining I secured to a holder, D, by cords *a*, so as to be detachable from the holder, as described.

3. The combination of the lining and chambers *c*, as specified.

4. The springs *i* and disks *f*, in combination with the chambers *c*, for the purpose specified.

5. The detachable thrust-plate F carrying impregnated bearing material *s*, as specified.

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

ELIZA D. MURFEY.

Witnesses:
THOMAS PRUDEN,
HENRY MCMANUS.