D. H. Dotterer,

Anti-Friction Roller.

No. 66,474 Patented July 9, 1867.

Fig. 1.

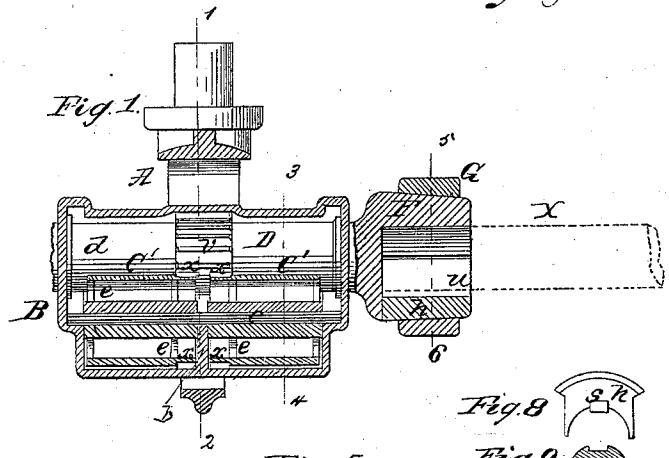


Fig. 8

Fig. 9.

Fig. 5.

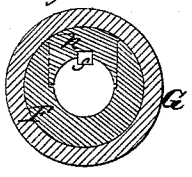


Fig. 10.

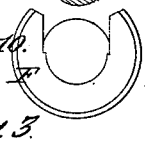


Fig. 2.

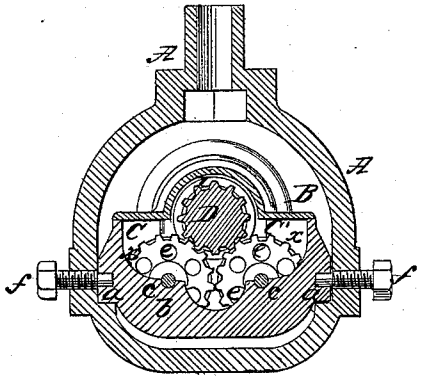


Fig. 3.

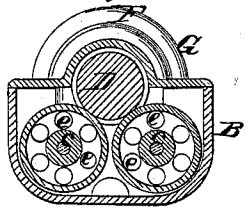


Fig. 6.

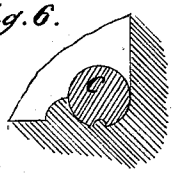


Fig. 7.

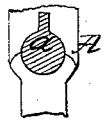
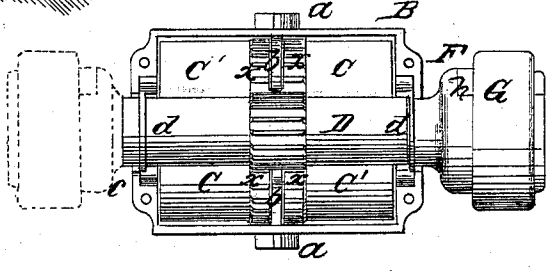


Fig. 4.



Witnesses

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Wm. Albert Lear

Inventor

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D. H. DOTTERER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 66,474, *dated July* 9, 1867.

IMPROVEMENT IN COUPLING-JOURNAL AND BOX.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, D. H. DOTTERER, of Philadelphia, Pennsylvania, have invanted a Coupling-Journal and Box; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists in the peculiar construction, fully described hereafter, of a journal-coupling and box for the same, whereby a diminution of friction, through lubrication of the wearing parts, and facilities for adjusting, removing, and replacing shafting are obtained.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my improved coupling-journal and journal-box.

Figure 2, a section on the line 1–2, fig. 1.

Figure 3, a section on the line 3–4, fig. 1.

Figure 4, a plan view of the box with the cap removed.

Figure 5, a section on the line 5–6, fig. 1.

Figures 6 and 7, detached views of parts of the box, and

Figures 8, 9, and 10 views of the coupling.

A is the lower portion of a swivel-hanger, at the opposite sides of which are bearings for the reception of trunnions *a a* at the opposite sides of an oblong box or case, B, the plain ends of set-screws *f* preventing the latter from being elevated, but these ends fitting so loosely in the case that the latter depends for its support not on the screws, but on the bearings for the trunnions. The box or case A is furnished with a light cover, of the form illustrated in figs. 1 and 2. Across the case B extend two parallel stationary pins *e e*, each of which rests on ledges at the ends of the box, and on a central rib, *b*, (see figs. 1 and 6,) and on each rod turn two hollow rollers C C′, in the opposite ends of which are openings *e e*. At the inner end of each roller is formed a cog-wheel, *x*, and on the rollers rests the coupling-journal D, at the centre of which are teeth *y* adapted to those of the cog-wheel *x*. Collars *d d* on the journal bear against the ends of the case and maintain the journal in its proper longitudinal position thereon. At each end of the journal D is an enlargement, F, which is made tapering on the outside, and is recessed at the end for the reception of one end of a shaft, X, and to the enlargement is fitted a band, G, which retains in its place a follower, *h*, the latter fitting into a recess in the side of the enlargement and against the side of the shaft X, and having a projection or feather, S, adapted to a groove in the shaft. When the shaft X is to be coupled to the journal the ring G is withdrawn from the enlargement and pushed along the shaft X, the follower *h* is removed, and the end of the shaft X is then passed laterally into the opening in the side of the enlargement, the follower is then inserted in its place and is there secured by drawing the ring G onto the enlargement. A coupling-journal, D, accompanies each box and hanger, and may be considered an essential part of the same, so that in arranging a line of shafting the different sections of the same will extend from the journal D of one hanger to that of another, the shafts being connected to the journals by lateral adjustment, as described above. As the longitudinal adjustment of shafting demanded by couplings of the ordinary construction is avoided, it will be evident that the shafting can be erected with ease and rapidity, and that the removal and re-adjustment of different sections is accomplished without delay and without interfering with other sections. Owing to the arrangement of the cog-wheels *x* and *y* the simultaneous and uniform movement of the rollers and journal is insured, and friction of the latter against the former rendered impossible. At the same time the stationary pins *e* are always maintained in a properly lubricated condition by the oil carried up by the rollers and flowing through the same to the pins. In small boxes but two rollers may be used instead of four, the cog-wheels *x* being situated either at one end or in the middle of the rollers. Devices other than that described may be employed for securing the follower *h* in its place.

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

1. A journal, D, in combination with the anti-friction rollers C and C′, turning on stationary axes when geared together, substantially as and for the purpose herein set forth.

2. The hollow anti-friction rollers C and C′, arranged to turn on stationary spindles fitted to the case B as described.

3. The trunnions *a a* on the box adapted to and arranged to vibrate in the portion A of the hanger, and confined vertically thereto by set-screws *f f*, all substantially as set forth.

4. The coupling-journal D provided at one or both ends with the tubular enlargement F, constructed for the reception of a shaft, substantially as set forth.

5. The hollow enlargement F, its lateral opening for the introduction of the shaft and the follower *h* adapted to the said opening, and confined therein by the ring G or its equivalent.

6. The tapering exterior of the enlargement F, and the detachable follower *h*, forming a continuation of the said tapering enlargement in combination with the tapering ring G.

7. The combination of the follower *h* and its feather or projection *i* with the grooved end of the shaft.

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

D. H. DOTTERER.

Witnesses:

CHARLES E. FOSTER,

W. J. R. DELANY.