(No Model.)

# P. H. GRIMM.

## JOURNAL BOX.

No. 418,123. Patented Dec. 24, 1889.

Fig 1.

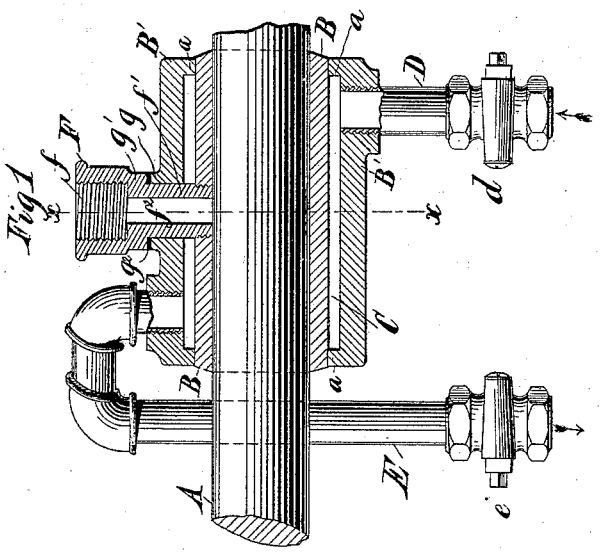
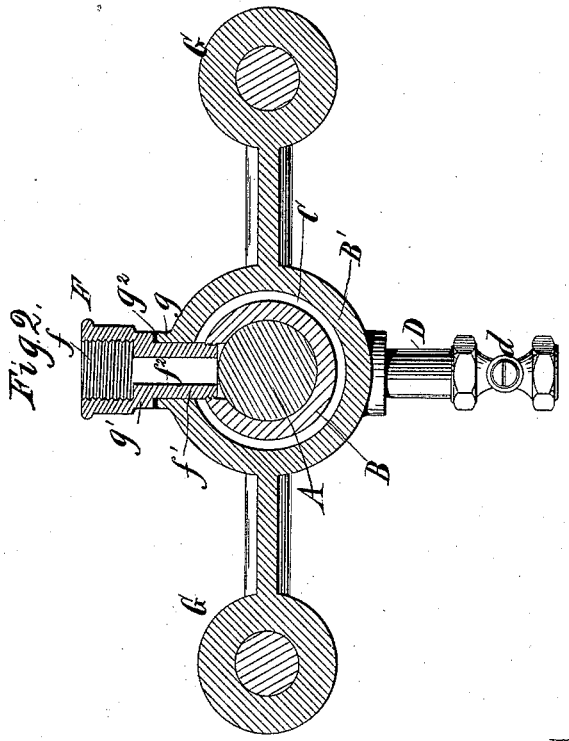



Fig 2.




Witnesses;
Geo. Barry,

Inventor;
Paul H. Grimm
by his Attorneys
Brown Grinwold &

# UNITED STATES PATENT OFFICE.

PAUL H. GRIMM, OF GLEN COVE, NEW YORK, ASSIGNOR OF ONE-HALF TO WRIGHT DURYEA, OF SAME PLACE; WILLIAM DURYEA, OLIVER N. PAYNE, AND LOUIS T. DURYEA EXECUTORS OF SAID WRIGHT DURYEA, DECEASED.

## JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 418,123, dated December 24, 1889.

Application filed April 25, 1889. Serial No. 308,594. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL H. GRIMM, of Glen Cove, in the county of Queens and State of New York, have invented a certain new and useful Improvement in Journal-Boxes, of which the following is a specification.

My improvement relates to journal-boxes which are kept cool by a current of water.

I will describe in detail a journal-box embodying my improvement, and then point out its novel features in a claim.

In the accompanying drawings, Figure 1 is an elevation, partly in longitudinal section, of a journal-box embodying my improvement. Fig. 2 is a vertical transverse section taken on the line *x x*, Fig. 1, and showing portions of certain supports for the journal-boxes.

Similar letters of reference designate corresponding parts in both the figures.

A designates a portion of a shaft.

B B′ designate a journal-box. The portion B of the journal-box is cylindrical, and constitutes, in effect, a bushing, in which the shaft A may rotate. The portion B′ entirely surrounds the portion B, and its ends are provided with inwardly-extending flanges *a*. When the parts B B′ are together, there will be an annular space C between the portion B′ and the portion B and entirely surrounding the latter. In assembling the parts the portion B is preferably driven in friction-tight into the portion B′, the diameter of the spaces between the flanges *a* of the portion B′ being just sufficient to admit of this. By this means a water-tight joint is formed between the flanges *a* and the portion B. The portion B′ constitutes, in effect, a casing for the portion B. Water for cooling the journal-box circulates entirely around the portion B through the annular space C, so that the shaft A will be entirely surrounded by cooling-water. Water is introduced into the space C through a pipe D, provided with a stop-cock *d*. The pipe D has a screw-threaded connection, as shown, with the portion B′ of the box. The water, after having circulated through the annular space C, is discharged through a pipe E, provided with a stop-cock *e*. The pipe E also has a screw-threaded connection with the portion B′ of the journal-box.

F designates a nozzle having a screw-threaded aperture *f* near its upper end adapted to receive a grease-cup. The nozzle F is provided with a shank *f′*, which shank, as here shown, extends loosely through a suitably-formed aperture in the portion B′ of the journal-box. The shank passes wholly through the annular space C, and has a screw-threaded engagement with the portion B of the journal-box. It is provided centrally with a passage $f^2$, the open end of which is adjacent to the shaft A. Through this passage grease to lubricate the shaft will pass. I have shown the portion B′ as provided with an annular neck *g*, extending about the opening therein, through which the shank *f′* passes, and I have shown the nozzle F as provided with a shoulder *g′*. Between the shoulder *g′* and the neck *g* is a washer $g^2$, whereby when the nozzle F is secured in position a water-tight joint will be formed between it and the portion B′. Water from the annular space C cannot therefore escape around the nozzle.

G designates brackets whereby the journal-box is supported.

It will be seen that by my improvement not only do I cause water to circulate entirely around the shaft, but also that the nozzle F is wholly closed to the admission of water, so that there can be no admixture of water with the grease being supplied to the shaft. The construction, furthermore, is simple, few parts being employed, and there is little liability of the journal-box getting out of order.

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

The combination, with a shaft A, of a journal-box comprising a cylindrical bushing B, and an external cylindrical casing B′, made independent of the bushing B, between which and the bushing B is an annular space C, an inlet-pipe D for water communicating with said

annular space, an outlet-pipe E for water also communicating with said annular space, and a nozzle F, extending through the portions B B′ and the annular space C and engaging the bushing B, said nozzle being provided with a passage for grease to be supplied to the shaft, which passage is wholly closed to the admission of water from the annular space C, substantially as specified.

PAUL H. GRIMM.

Witnesses:
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