2 Sheets—Sheet 1.

S. P. M. TASKER.

Anti-Friction Journal-Box.

No. 217,248. Patented July 8, 1879.

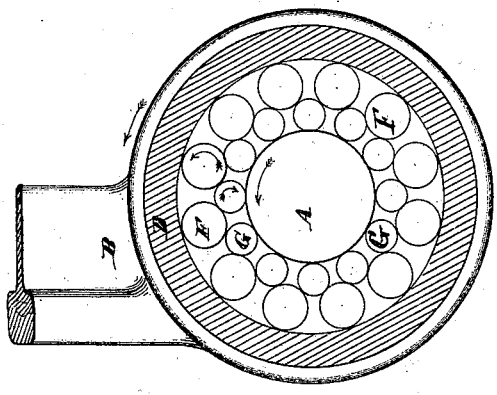

Fig. 1

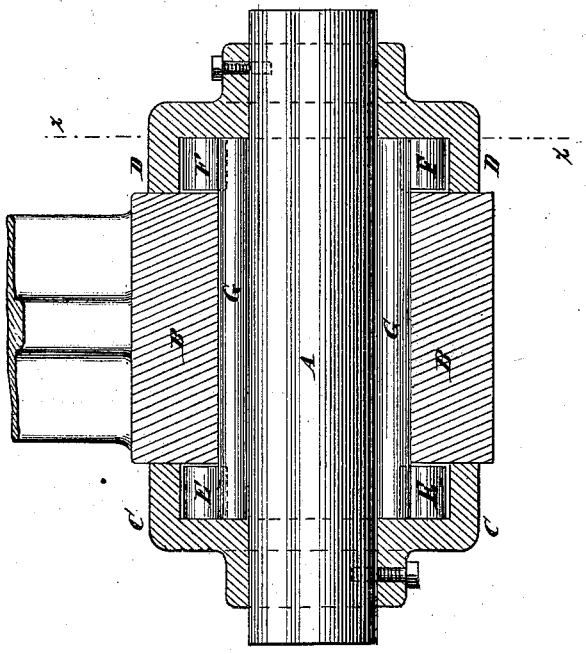

Fig. 2

Attests

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John Dolley Jr

Inventor

Stephen P. M. Tasker

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W. C. Strawbridge,

J. Borsall Taylor

2 Sheets—Sheet 2.

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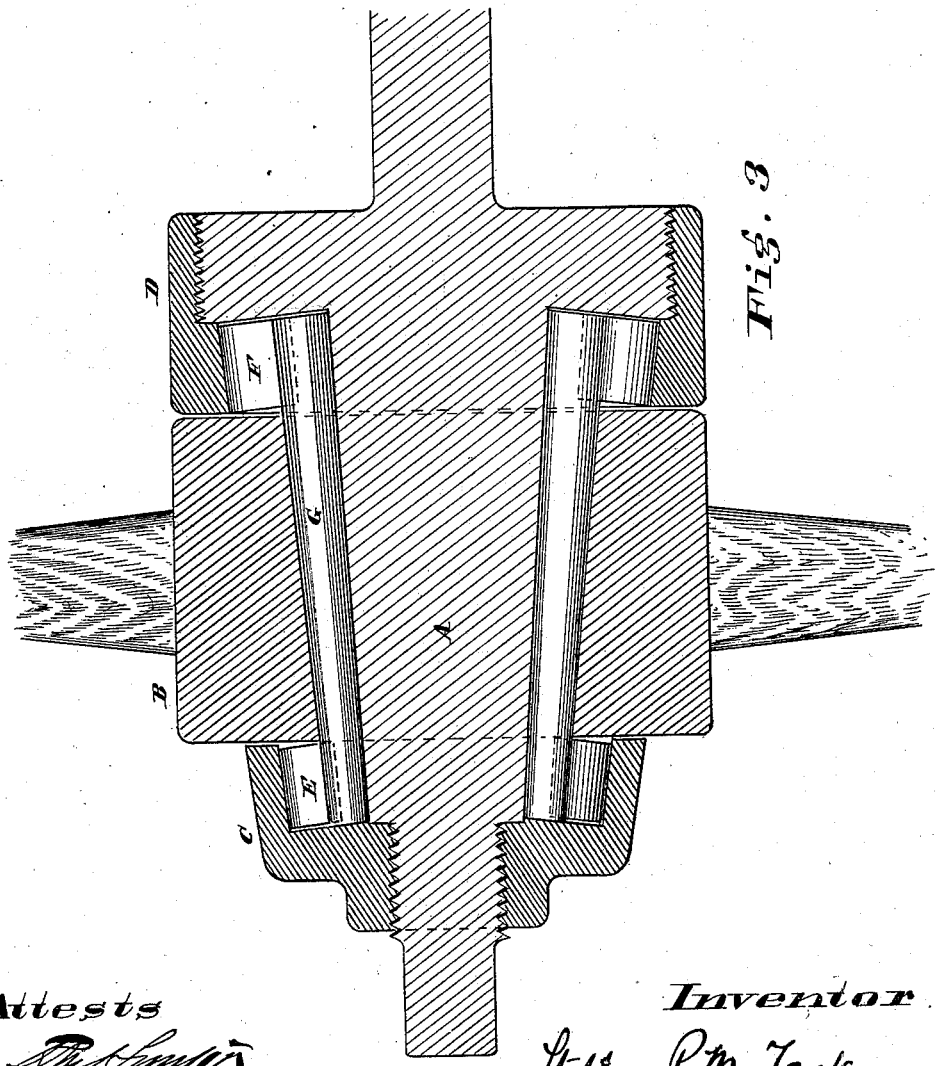

Fig. 3

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UNITED STATES PATENT OFFICE.

STEPHEN P. M. TASKER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ANTI-FRICTION JOURNAL-BOXES.

Specification forming part of Letters Patent No. **217,248**, dated July 8, 1879; application filed May 6, 1879.

To all whom it may concern:

Be it known that I, STEPHEN P. M. TASKER, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Anti-Friction Journal-Boxes, of which the following is a full, clear, and true description, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1 is a transverse section on the line *x x* of Fig. 2, and Fig. 2 a longitudinal section of my improvement embodied in a hanger for shafting; and Fig. 3, a similar view of my improvement applied to a carriage-axle.

Similar letters of reference indicate corresponding parts wherever used.

My invention relates to the class of journals, boxes, bearings, and the like, which embody anti-friction rolls, and which are exemplified in such well-known forms as grindstone-bearings; and consists in a novel combination and arrangement of series of anti-friction rolls, substantially in the manner hereinafter described and claimed.

Referring to Figs. 1 and 2 of the drawings, which represent a hanger for a pulley-shaft or the like, A represents the shaft, and B represents the hanger.

C D are inclosing-caps, secured to the shaft on either side of the hanger, the interior portions of which caps are excavated in such manner as to form the seat and inclosing-cases of the double series of small rolls E and F.

G are a series of long rolls surrounding the shaft within the hanger, and extending from cap to cap in the manner shown. The series is sufficient in number to embrace the shaft, the rolls bearing between the hanger and the shaft, and being kept apart by the small rolls, as shown in Fig. 1.

The inner opening of the hanger is circular, and of diameter sufficient to embrace both the shaft and the series of long rolls which surround said shaft.

The two series of small rolls E and F are each series of equal number with the number of the long rolls, and are placed intermediately between the long rolls, in such manner that there is no lost space between the shaft, the series of long rolls, the series of short rolls, and the caps which embrace the latter.

From the above construction it will be obvious that, the hanger being affixed to a rigid supporting object and the caps being affixed to the shaft and rotating with it, the shaft, in rotation, bears upon the series of long rolls which play within the hanger and between the hanger and the shaft, while the series of long rolls, in turn, find their bearing upon the series of short rolls, which, in turn, rest upon and play freely within the shaft-caps.

In the rotation of the shaft the journaling is effected by the combined action of all the rolls, respectively, bearing upon the parts described, it being borne in mind, as stated, that there is no lost space or loose play among the various rolls.

In Fig. 3, in which the invention is shown applied to an axle, A represents the axle; C D, the inner and outer caps affixed thereto; B, the hub; G, the series of long rolls; E and F, the two series of short rolls.

The inner portion of the caps are angled, as is also the inner face of the hub, the angling being simply for convenience and to adapt the invention to a conical form of shaft.

The outer cap screws upon the axle to permit the tightening of the bearing as the same wears loose.

In the form represented in Fig. 3 the axle is, of course, stationary, while the hub rotates, which is exactly the reverse action from that of the device of Figs. 1 and 2; but the action of the rolls in forming the journal-bearing is identical.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The anti-friction journal box or bearing hereinbefore described, which consists of the combination of a shaft, A, provided with caps C D, rotating with it, with a hanger, B, by means of a series of long rolls, G, extending from cap to cap, and lying between the hanger and the shaft, and by means of two equal series of small rolls, each series similar in number to the long rolls, and lying between the caps and the long rolls, all substantially in the manner shown and described.

2. The two equal series of small rolls E F, inclosed within the shaft-caps C D, in combination with the series of long rolls G, and serving to keep said long rolls apart each from the other, substantially as shown and described.

In testimony whereof I have hereunto signed my name this 25th day of April, A. D. 1879.

STEPHEN P. M. TASKER.

In presence of—
J. BONSALL TAYLOR,
JOHN JOLLEY, Jr.