(No Model.)

A. R. ROBERTS & W. LEWIS.

Bearings for Turn Tables.

No. 235,297. Patented Dec. 7, 1880.

FIG. 1.

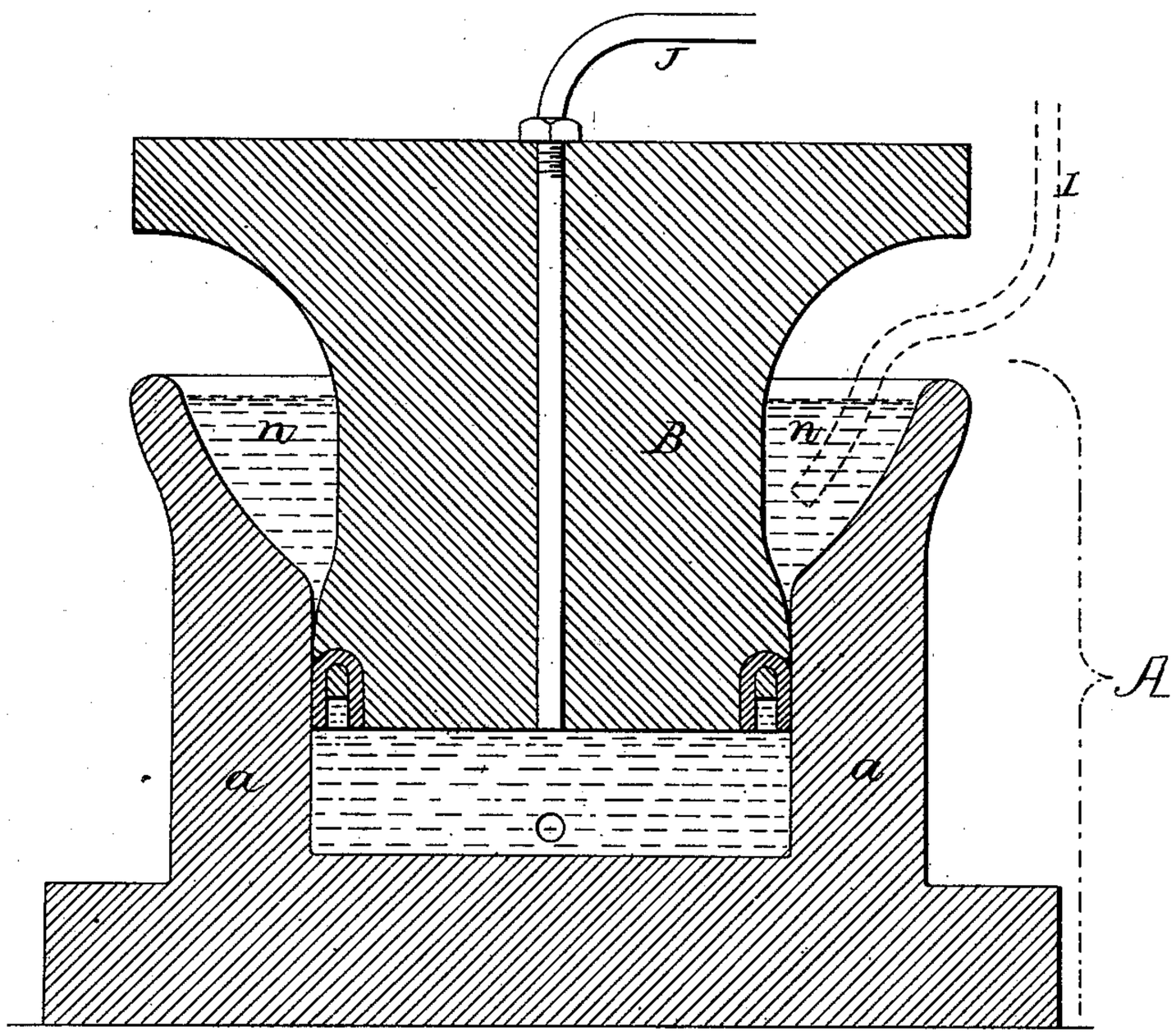
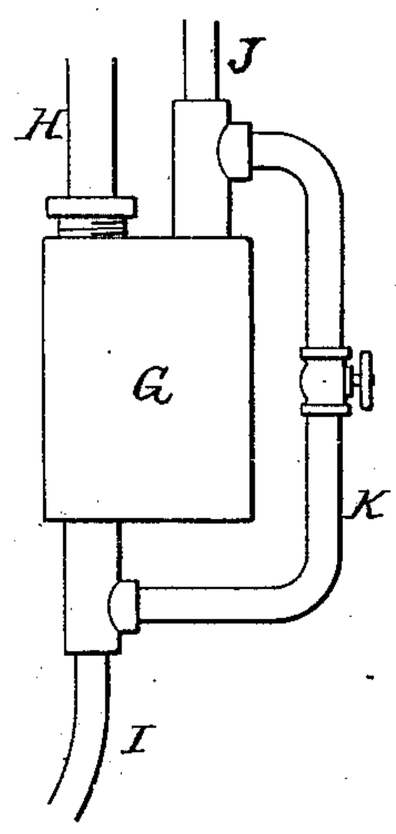


FIG. 2.



WITNESSES:

James F. Tobin.

Henry Howson Jr.

INVENTOR.

Alfred R. Roberts.

and

Wilfred Lewis

by their Attorneys

Howson and Howson

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALFRED R. ROBERTS AND WILFRED LEWIS, OF PHILADELPHIA, PA.

BEARING FOR TURN-TABLES.

SPECIFICATION forming part of Letters Patent No. 235,297, dated December 7, 1880.

Application filed September 29, 1880. (No model.)

To all whom it may concern:

Be it known that we, ALFRED R. ROBERTS and WILFRED LEWIS, citizens of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Center-Bearings for Turn-Tables and Pivot-Bridges, of which the following is a specification.

Our invention relates to the center or pivot bearings of turn-tables or swing-bridges; and our invention consists, mainly, of a base chambered to contain a liquid, and a packed pivot adapted to the chamber so as to turn as well as rock therein, all substantially as described hereinafter:

In the accompanying drawings, Figure 1 is a vertical section of our improved center-bearing for turn-tables and pivot-bridges, and Fig. 2 a view of a pump which may be used in connection with the said bearing.

In Fig. 1, A is the base of the bearing, and B the pivot to which the beams of a turn-table or the frames of a pivot-bridge are secured, the upper portion of this pivot varying in shape and construction as the character of the structure to which the invention is applied may suggest.

A portion of the base consists of a hollow cylinder, *a*, which is preferably lined with copper or brass, and the interior of the cylinder forms the recess containing the liquid—oil, for instance—on which the pivot bears and turns. The lower portion of this pivot is formed in the same manner as the base of the plunger of a hydraulic ram as regards the U-shaped leather packing fitted to and confined within an annular recess in the pivot, so that the latter will be self-packing to the interior of the cylinder; but there is this difference between the pivot and the plunger of a hydraulic ram, that while the latter can move in a vertical direction only, the pivot can rock to a certain extent; hence the portion of the pivot contained within the cylindrical portion of the base does not fit tightly in the same, but has so much play that it can rock to a limited extent, without, however, impairing the efficacy of the packing. This is an important feature of our invention, for it is essential that a turn-table should have freedom to rock to such limited extent. A locomotive or other load on the turn-table should be so nearly balanced that the entire weight shall be exerted on the pivot, in order that the easy turning of the table will be assured. Hence there must be more or less tilting of the table when a locomotive passes onto it from one track, and from it onto another track.

Means should be provided for replenishing the recess of the base with liquid as loss by leakage and otherwise may demand. For this purpose we combine with the center-bearing a pump, the location of which will depend upon the character of the turn-table or pivot-bridge to which our invention is applied.

In Fig. 2 we have shown pumping apparatus which may be adopted in connection with our invention, G being the pump-chest, and H the plunger, which may be operated by a suitable lever or other mechanism. In the interior of the chest are the usual suction and force valves, I being the suction and J the force pipe, which are connected together by a pipe, K, provided with a suitable cock.

In applying our invention to a turn-table, we propose to attach the above apparatus or equivalent pumping appliances directly to the said table in a suitable locality, the suction-pipe terminating in a reservoir, *n*, formed in the upper portion of the base in the present instance, and the force-pipe communicating with a hole bored through the pivot B. Any liquid leaking past the packing of the pivot will find its way into the reservoir *n*, where a supply may be maintained to be forced by the pump into the recess below the pivot, as circumstances may require. Another object of this pumping mechanism is the facility which it affords for elevating the pivot or the swing-bridge to which it is attached when the latter has to be raised above its end bearings prior to being swung round on its center-bearing, a few strokes of the pump serving to elevate the bridge to the limited height required, and when the bridge has to be lowered the extra supply of liquid demanded in elevating the pivot may, by turning the cock of the pipe K, be discharged into the reservoir *n*, the bridge being thereby lowered to its end bearings.

In the plan above described the pumping mechanism is connected to the turn-table, so that the end of the suction-pipe must traverse in an annular path in the liquid contained in

the reservoir *n;* but a turn-table or pivot-bridge may be of such construction as to permit the securing of the pumping appliances to the foundation of the pivot-base or to the latter, in which case the liquid will be forced directly through the base into the recess below the pivot and the suction-pipe will be fixed.

We do not desire to claim, broadly, the combination of the packed pivot of a turn-table with a fixed cylinder containing liquid, on which the pivot turns, and which is controlled by a pump, as this is shown in the English Patent of Brooman, No. 11,680 of 1847; but

We claim as our invention—

1. A pivot-bearing in which a base chambered to contain a liquid is combined with a packed pivot adapted to the chamber so as to turn as well as rock therein, substantially as set forth.

2. The combination of the base, pivot, and reservoir *n* with pumping appliances, by which the liquid which may be deposited or may leak into the said reservoir may be forced into the recess below the pivot, substantially as specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALFRED R. ROBERTS.
WILFRED LEWIS.

Witnesses:
JAMES F. TOBIN,
HARRY SMITH.