

(No Model.)

A. W. ROBINSON.

JOURNAL BOX FOR DREDGING OR LIKE MACHINERY.

No. 523,407.

Patented July 24, 1894.

Fig. 1.

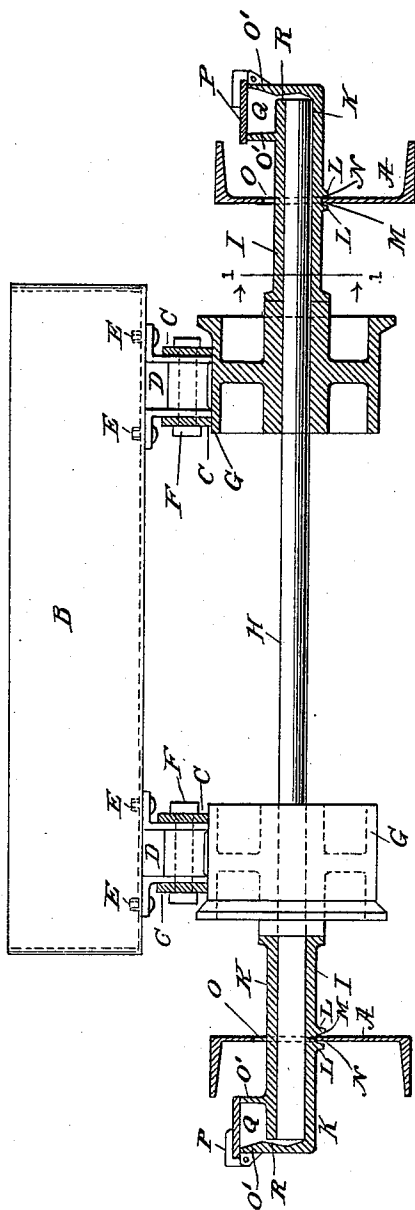
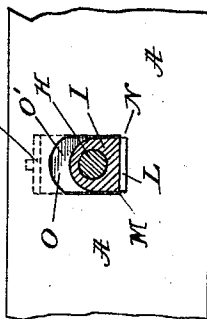


Fig. 2.



WITNESSES:

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ARTHUR W. ROBINSON, OF MILWAUKEE, WISCONSIN.

JOURNAL-BOX FOR DREDGING OR LIKE MACHINERY.

SPECIFICATION forming part of Letters Patent No. 523,407, dated July 24, 1894.

Application filed November 23, 1893. Serial No. 491,750. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR W. ROBINSON, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Journal-Boxes for Dredging or Like Machinery, of which the following is a specification.

My invention relates to improvements in journal boxes for dredging and like machinery, in which strains are liable to occur which somewhat distort the apparatus, and in which also it is desirable to reduce as much as possible the size and weight of all of the parts.

In the drawings hereof, I illustrate the invention as employed in the construction of a bucket carrier on an excavator or like machine.

In the drawings: Figure 1, illustrates an elevation—parts being in section—of the mechanism. Fig. 2, illustrates an endwise elevation of the journal box, shown as in place in one of the beams of the carrier.

A, A are the side beams of the boom, which supports the chain of buckets.

B is one of the buckets.

C, C, C, C are the links connecting the buckets together.

D, D are castings attached to the underside of the buckets by bolts E, E, &c., to which the links are pivoted by cross bolts F, F. The links during their movement are supported on wheels or rollers G, G, each pair of which are fastened to a cross shaft H. These shafts are supported upon the side beams A, A and are journaled in journal boxes I, I, which latter are the subject of this invention. These boxes consist of a casting made all in one piece and which is bored out longitudinally, as at K, to fit the journal of the shaft. The boxes are closed at one end to exclude dirt and they are squared on their under side and are preferably provided with transverse ribs, L, L, between which is a groove M, in which the edge of the beams A, A, enter, as at N, there being holes O made in the web of these beams, through which the journal boxes are inserted, when erecting the machine. At one end or the other of the journal boxes the sides are carried up, as at O', and a lid P is hinged thereto at the top, to keep out dust and dirt.

The chamber Q, beneath the lid is a receptacle for lubricating material and a hole or passageway R connects it with the interior of the bearing surface of the box.

It will be particularly noted that not only are my boxes made in a single casting, but also that about one half of it and preferably more than one half of it longitudinally is free from projecting surfaces, the sides being substantially parallel and of as small total diameter as may be. This is so that the hole through the webs of the beams in which they are very largely located may be as small as possible, so as to retain as much of the strength of the webs as may be; consequently reducing the size and weight of the beams.

The operation is obvious. The side beams A, A of such mechanism are exceedingly apt to be twisted or otherwise somewhat distorted from their normal position by reason of the severity and constant strain to which they are subjected; consequently, if the journal boxes are rigidly attached to them, they would inevitably be thrown out of alignment with the shaft which turns in them, but in my construction, each box being supported upon the beams A at one place only and adapted to rock in either direction on that point, no such difficulty can arise, because the boxes will automatically adjust themselves to any deviations from the normal relations of the beams, by rocking on the edges thereof, on which they are supported. I prefer that the grooves which receive the edge of the beam or equivalent support should be somewhat wider than the edge, so that a rocking motion in a horizontal plane, as well as in a vertical plane may be permitted without jamming.

Among the advantages, which I secure are: exceedingly low cost; durability, because frictional wear on the parts is largely reduced, and because there are no moving parts to the boxes; easy replacement when a box is worn out or broken; reduced power required to drive the machine; great reduction in the amount of breakage; freedom from loss of parts; adaptability to practically all positions in which gravity will tend to the support of the bearing, and finally, no special provision on the beams which support the bearings are

necessary, excepting the small hole made through their web.

I claim—

5 A journal box made of a single tubular casting and provided with a flattened surface on its under side running transversely thereof, ribs to maintain the journal box in position upon its support, the sides of the box from one end back to said ribs being substantially
10 parallel and free from lateral projections, and a lubricating chamber integral with the box,

in combination with a beam for supporting the box, the edge of which enters between said ribs, substantially as set forth.

Signed at Milwaukee, in the county of Milwaukee and State of Wisconsin, this 8th day of November, A. D. 1893. 15

ARTHUR W. ROBINSON.

Witnesses:

JOHN C. WILLIAMS,
J. G. DAVIES.