Jan. 23, 1934. C. V. KOONS 1,944,713

HOIST

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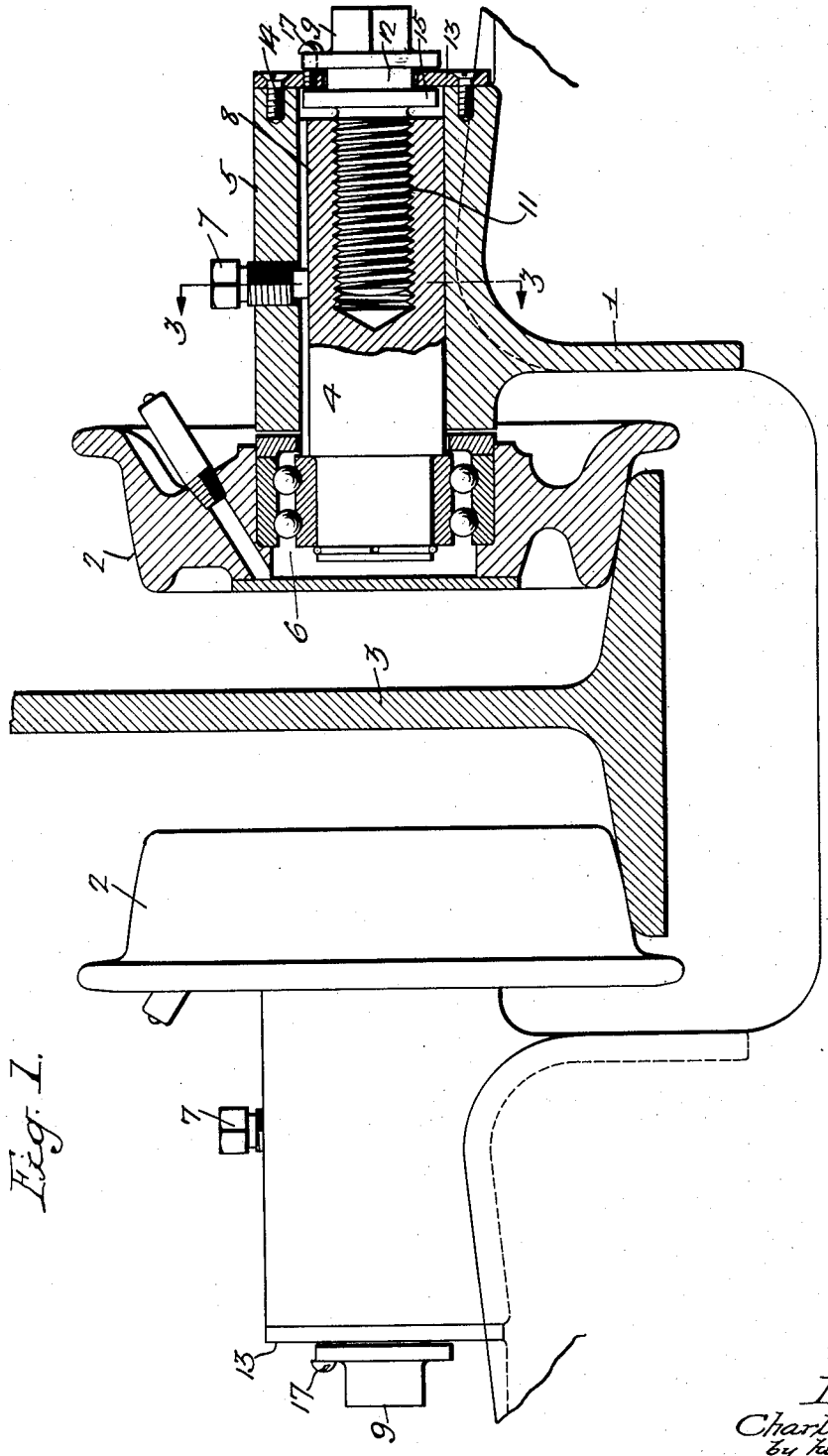


Fig. 1.

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Fig. 2.

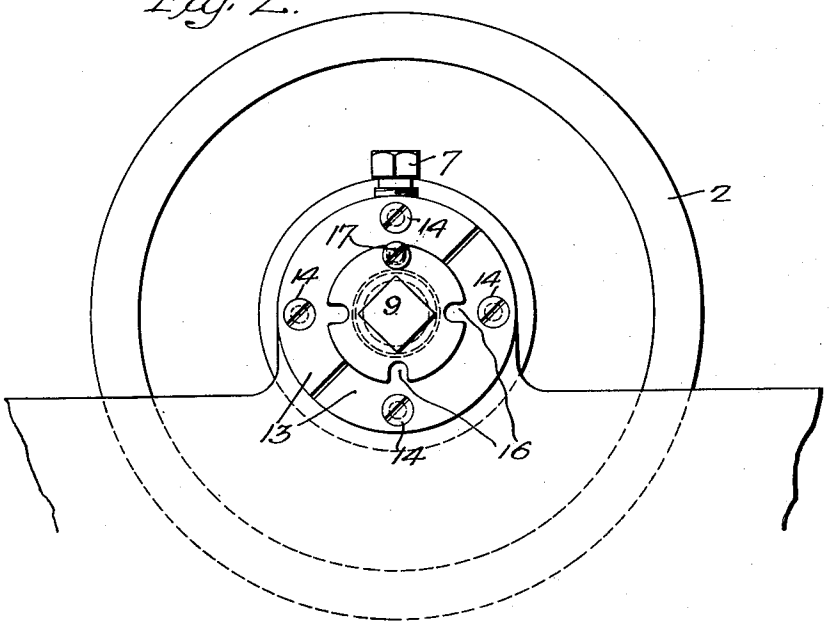
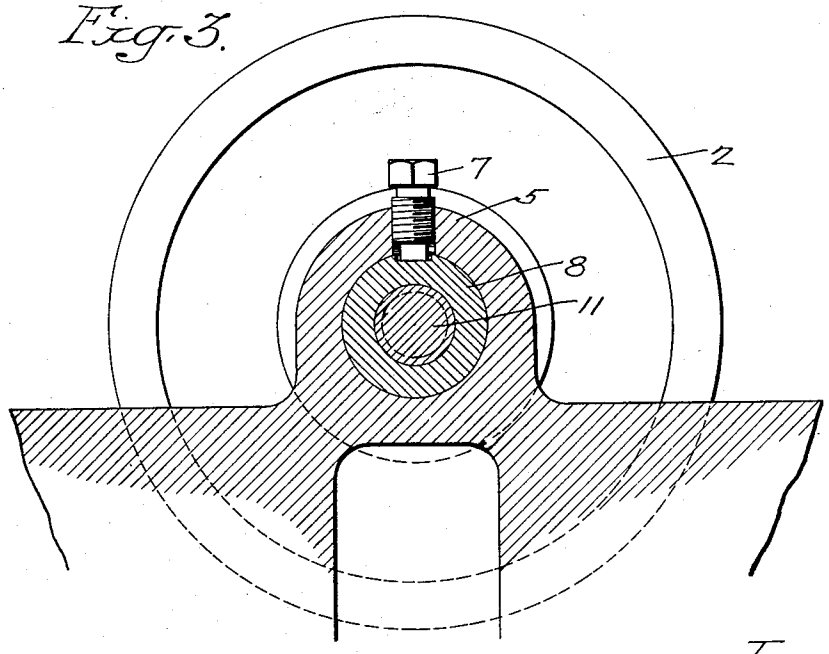


Fig. 3.



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UNITED STATES PATENT OFFICE

1,944,713

HOIST

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Application April 29, 1931. Serial No. 533,810

5 Claims. (Cl. 105—154)

This invention relates to improvements in adjustable journals for wheels or other rotary elements, and a principal object of the invention is to provide a journal having novel, readily accessible and accurate means for axial adjustment of the rotary element.

The invention has an important application to hoists and the like mechanisms where axial adjustment of the trolley wheels is sometimes required, and a further object of the invention, therefore, is to provide a hoist construction having novel and improved means for axially adjusting one or more of the trolley wheels.

A further object of the invention is to provide a journal in which the aforedescribed adjustment may be effected without dismounting or disassembling any of the parts of the journal or of the associated mechanism.

In the attached drawings, in which I have illustrated my invention as applied to hoists of a well known type:

Figure 1 is an elevational and partial sectional view showing the hoist wheels journaled in accordance with my invention;

Fig. 2 is an end elevational view of one of the journals, and

Fig. 3 is a section on the line 3—3, Fig. 1.

With reference to the drawings, 1 constitutes a portion of a hoist housing in which are journaled a pair of traction wheels 2, 2. As illustrated, these wheels are adapted to travel upon an elevated rail 3 in the form in the present instance of a standard I-beam, the lower flanges of the beam constituting the tracks on which the wheels operate.

As illustrated in Fig. 1, each of the wheels is journaled upon an element 4 supported and longitudinally adjustable in a suitable guide 5 forming a part of the housing 1. The inner projecting end of the element 4 is shaped to receive an antifriction bearing 6 upon which the wheel operates. The element 4 is prevented from rotating in the guide 5 and is locked in any adjusted position by means of a set screw 7, the inner end of which projects into a longitudinal groove 8 in the journal element. Accurate longitudinal adjustment of the journal element is afforded through the medium of an adjusting screw 9, the inner threaded portion 11 of which is engaged in a threaded recess in the outer end of the said element. The adjusting screw 9 is provided adjacent its outer end with a circumferential recess 12, into which projects the two halves of a locking ring 13, the ring sections being secured to the housing by screws 14 and functioning to secure the adjusting screw rotatably in the housing. The outer of the two flanges 15 which define the circumferential recess 12 is provided in the present instance with a plurality of notches 16, see Fig. 2, which in different adjusted positions of the screw are adapted to register individually with a tapped hole in one of the sections of the ring 13, into which may be threaded a screw 17 which thereby functions to lock the adjusting screw against rotation.

In operation, if axial adjustment of either of the wheels 2 is required, the associated set screw 7 is loosened, the locking screw 17 removed, and the adjusting screw 9 turned by a suitable wrench applied to the outer end thereof, with the result that the element 4 is moved in the axial direction to the extent required. Thereafter, the locking screw 17 is replaced and the set screw 7 tightened to securely lock the parts in the adjusted position. It will be noted that this adjustment involves no removal of the wheel or its journal and affords an accurate axial adjustment of the wheel by means that are readily accessible and easily manipulated.

There may be minor modifications in the construction defined without departure from the invention.

I claim:

1. The combination with a housing having a guide passage therein, of a journal member longitudinally adjustable in said guide, said journal member having a threaded opening in one end, an adjusting screw threaded into said opening, said screw having a circumferential groove, elements secured to said housing and extending into said groove to prevent axial movement of the adjusting screw while permitting rotation thereof to adjust the journal member in the guide, means for releasably locking the adjusting screw against rotation, and releasable means for immobilizing the journal member with respect to the housing.

2. An adjustable journal comprising a relatively fixed guide, a journal member longitudinally slidable in said guide, means for preventing rotation of the journal member in the guide, means associated with said guide for axially adjusting the journal member in the latter, and means for releasably immobilizing said adjusting means with respect to the guide, said adjusting means being interlocked with said journal member whereby immobilization of the adjusting means maintains the journal member against longitudinal movement.

3. An adjustable journal comprising a relatively fixed guide, a journal member adjustably

mounted in said guide, said member having a longitudinal slot, a set screw threaded into said guide and adapted to enter the said slot to thereby prevent rotation of the journal member in the guide while permitting longitudinal movement, means associated with said guide for axially adjusting the journal member in the latter, and means for releasably immobilizing said adjusting means with respect to the guide, said adjusting means being interlocked with said journal member whereby immobilization of the adjusting means maintains the journal member against longitudinal movement.

4. An adjustable journal comprising a relatively fixed guide, a journal member adjustably mounted in said guide, means for preventing rotation of the journal member while permitting longitudinal movement thereof in the guide, rotary means for axially adjusting the journal member in the guide, said means having axially spaced flanges defining a circumferential recess, an element secured to the guide and projecting into said recess to maintain said adjusting means against axial movement in the guide, and means carried by one of said flanges and adapted to releasably interlock with said element to thereby prevent rotation of said adjusting means with respect to the guide, said adjusting means being interlocked with said journal member whereby immobilization of the adjusting means maintains the journal member against longitudinal movement.

5. In a hoist, the combination with a trolley having axially spaced wheels adapted to operatively engage opposite sides of a rail, journals for said wheels, at least one of said journals being longitudinally adjustable in the trolley structure, means on said structure for preventing rotation of said journal while permitting longitudinal adjustments thereof, means associated with said structure for axially adjusting said journal, and means for immobilizing said adjusting means with respect to said structure, said adjusting means being interlocked with said journal whereby immobilization of the adjusting means maintains the journal against longitudinal movement in said structure.

CHARLES V. KOONS.