No. 855,903. PATENTED JUNE 4, 1907.

J. W. PACKER.

JOURNAL BEARING.

APPLICATION FILED AUG. 22, 1906.

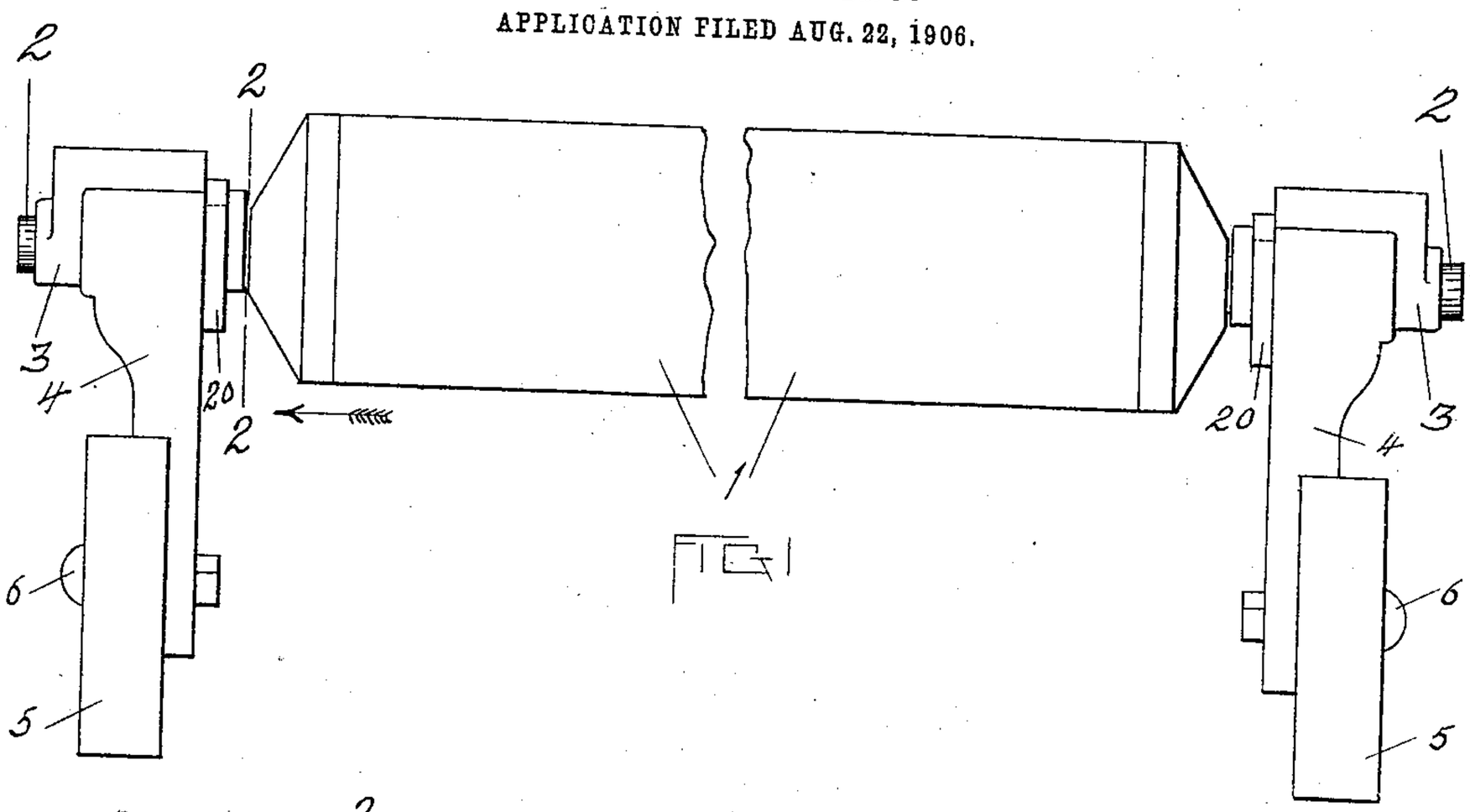

FIG 1

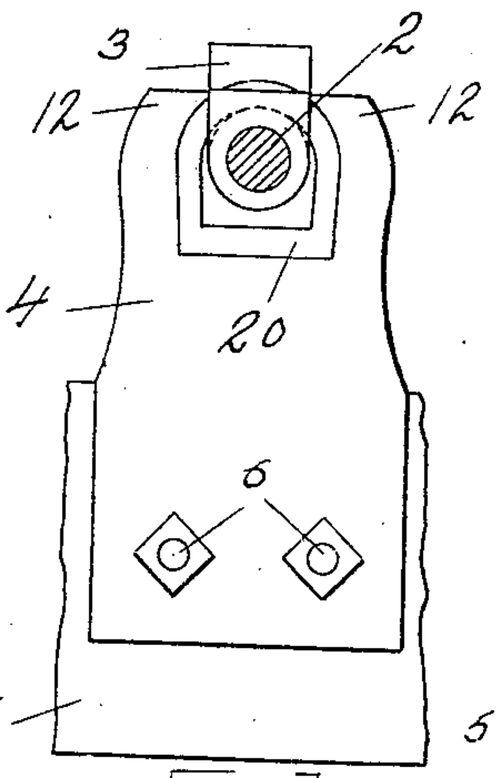

FIG 2

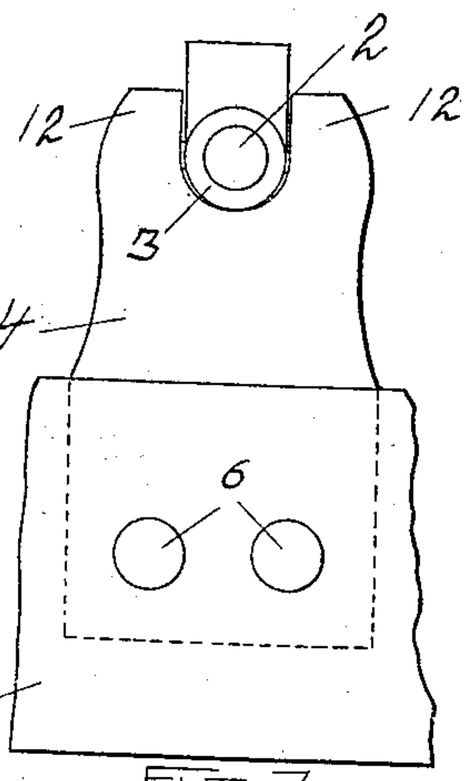

FIG 3

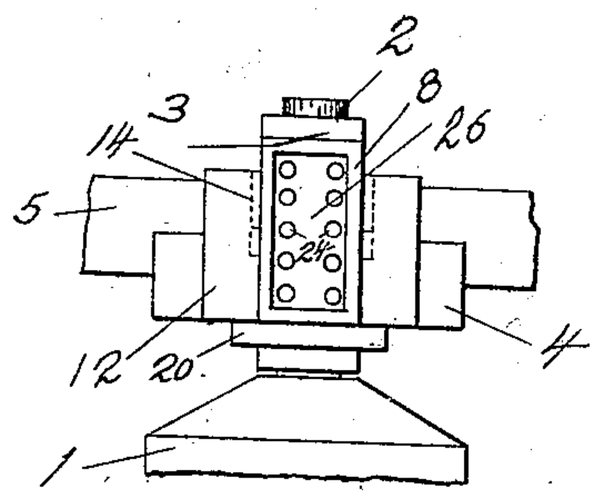

FIG 4

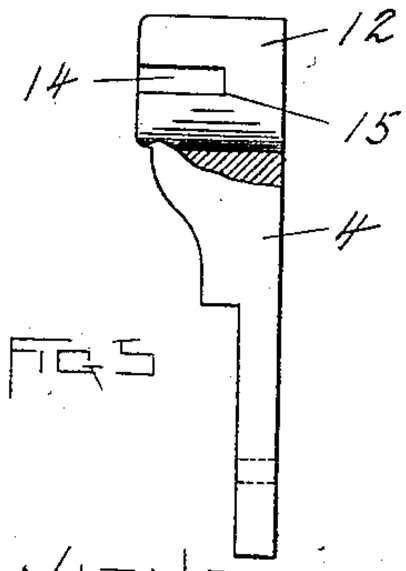

FIG 5

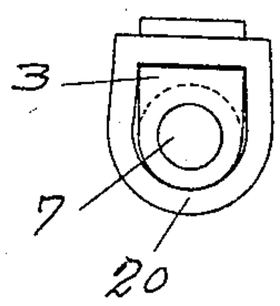

FIG 6

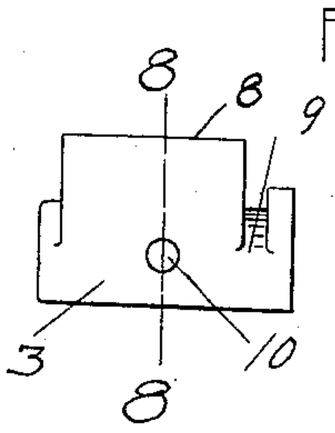

FIG 7

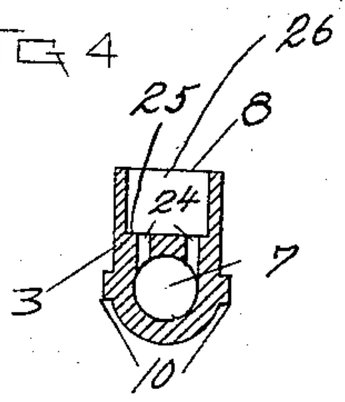

FIG 8

WITNESSES

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UNITED STATES PATENT OFFICE.

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JOURNAL-BEARING.

No. 855,903. Specification of Letters Patent. Patented June 4, 1907.

Application filed August 22, 1906. Serial No. 331,616.

To all whom it may concern:

Be it known that I, JAMES WILLIAM PACKER, a citizen of the United States, residing at Glens Falls, county of Warren, and State of New York, have invented certain new and useful Improvements in Journal-Bearings, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a side elevation of a paper-roll partly broken away, in the middle, having its journals supported by the improved journal-bearing. Fig. 2 is a section taken on the broken line 2—2 in Fig. 1, viewed in the direction of the arrow. Fig. 3 is an end elevation of the part shown in Fig. 1. Fig. 4 is a top plan view of one end of the part shown in Fig. 1. Fig. 5 is an edge view in elevation of one of the bearing supporting brackets with one of its uprights broken away. Fig. 6 is an end view of the journal-bearing block with its locking ring in position for removal. Fig. 7 is a side elevation of the bearing-box detached. Fig. 8 is a vertical cross-section taken on the broken line 8—8 in Fig. 7.

The improved journal-bearing is especially adapted for use in paper-making machines, or other machines where heavy rolls are supported in journal bearings which are either fixed or, if removable, can only be removed and replaced at the expenditure of much time and labor when exact position is required, as in the case of paper-making rolls.

The object of the invention is to permit of the removal of the rolls, or one end of the rolls, from the journal-bearing, or journal-bearing support, without disturbing the position of the support; also to insure the engagement of the journals with the entire bearing surfaces of their bearings, with uniform pressure throughout the entire surface; and to provide a cheap and convenient grease cup for lubricating the whole of such bearing surfaces.

The invention consists in providing a detachable journal bearing box which can be easily slid into and out of a support, and means for locking the box in position for use; also in providing the journal-bearing box with trunnions located oppositely of the journal-aperture and about midway of the ends of the box adapted to enter respectively slideway grooves formed on the inner side of supporting uprights parallel with the axial line of the journal-bearing box whereby the box will oscillate upon its journals to accommodate its position to that of the journal, the journal-box being provided with a transverse groove near one end within which a ring can be inserted to bear against the supporting uprights and lock the box within the uprights as hereinafter more fully described and subsequently pointed out in the claims.

1, represents a paper-making roll provided with end journals, 2, which are rotary in the journal-bearings, 3, secured to the supporting brackets, 4, which are bolted to the machine frame, 5, as by bolts 6.

The journal-bearing box shown detached in Fig. 7 is provided with journal-aperture, 7, (Fig. 6) grease-cup, 8, locking groove, 9, and the trunnions 10.

The supporting brackets, 4, are provided at their upper ends with uprights, 12, each containing a groove, 14, closed at the end, 15, and adapted to receive at the open end the trunnions, 10, one trunnion in each upright of the bracket, as seen in Fig. 3.

The box being supported wholly by the trunnions will turn to the required position to accommodate itself to the journal inserted in the box-aperture, so that the bearing pressure will be uniform throughout the entire bearing surfaces of the journal in the box.

As a means for locking the box to the supporting uprights the horseshoe-ring, 20, is provided which is adapted to slide onto the grooved end of the bearing-box, when placed in the inverted position shown in Fig. 6, until it falls into the groove, 9, when the ring can be given a semi-rotation, or inverted to the position shown in Fig. 2, thereby locking the journal-box in the supporting-uprights, the trunnions being held against the end walls of the grooves, 15, and the journal-box cannot be removed without first inverting the locking ring from the position shown in Fig. 2 to that shown in Fig. 6, and then

lifting the ring from the groove, 9, to the position shown in Fig. 6 in which position it can be slid from the box.

When in the position shown in Fig. 2, the ring cannot be slid from the box, even after being lifted to the limit of its upward movement, because the rounded upper portion will be caught by the corners of the box adjacent to the groove.

The grease cup, 8, is provided with small apertures, 24, in its bottom, 25, leading from the grease chamber, 26, to the journal-aperture.

When it is desired to lift the paper-making roll, or one end of it, from its support, for any reason, it is only necessary to invert the locking-ring, 20, permitting the same to be removed from the journal-box whereupon the box can be withdrawn from the supporting uprights, 12, and from the journals of the roll, or so far from the journal that the trunnions, 10, are withdrawn from the grooves, 14, in the supporting-uprights. The journal can then be lifted from the supporting-uprights without changing the position of the brackets 4. If the brackets, 4, had to be loosened and detached from the frame, 5, to lift the roll, it would be a difficult matter to secure their proper readjustment, it being essential that the roll should be perfectly true. This is especially the case where there are a plurality of rolls which must be perfectly adjusted relatively to one another when a sheet of paper is passed from one to another in paper making.

What I claim as new and desire to secure by Letters Patent is

1. The combination with a detachable bearing box having oppositely disposed trunnions: of a journal-bearing support having oppositely disposed uprights, each provided with a trunnion-groove, closed at one end and parallel with the axial line of the journal-bearing box: and means for locking the box upon its support.

2. The combination with a journal-bearing support; of a journal-bearing box insertible therein provided with a transverse external groove near its inner end; and a locking ring adapted to hang in the box-groove and bear against the box-support thereby locking the box within the support.

3. As an improved article of manufacture, a journal-bearing box having a pair of supporting trunnions located respectively on opposite sides of the journal-aperture and adapted to be inserted in supporting grooves; and a transverse locking groove.

In testimony whereof, I have hereunto set my hand this 9th day of August, 1906.

JAMES WILLIAM PACKER.

Witnesses:

RICHARD C. TEFFT,

OSCAR K. CROSS.