

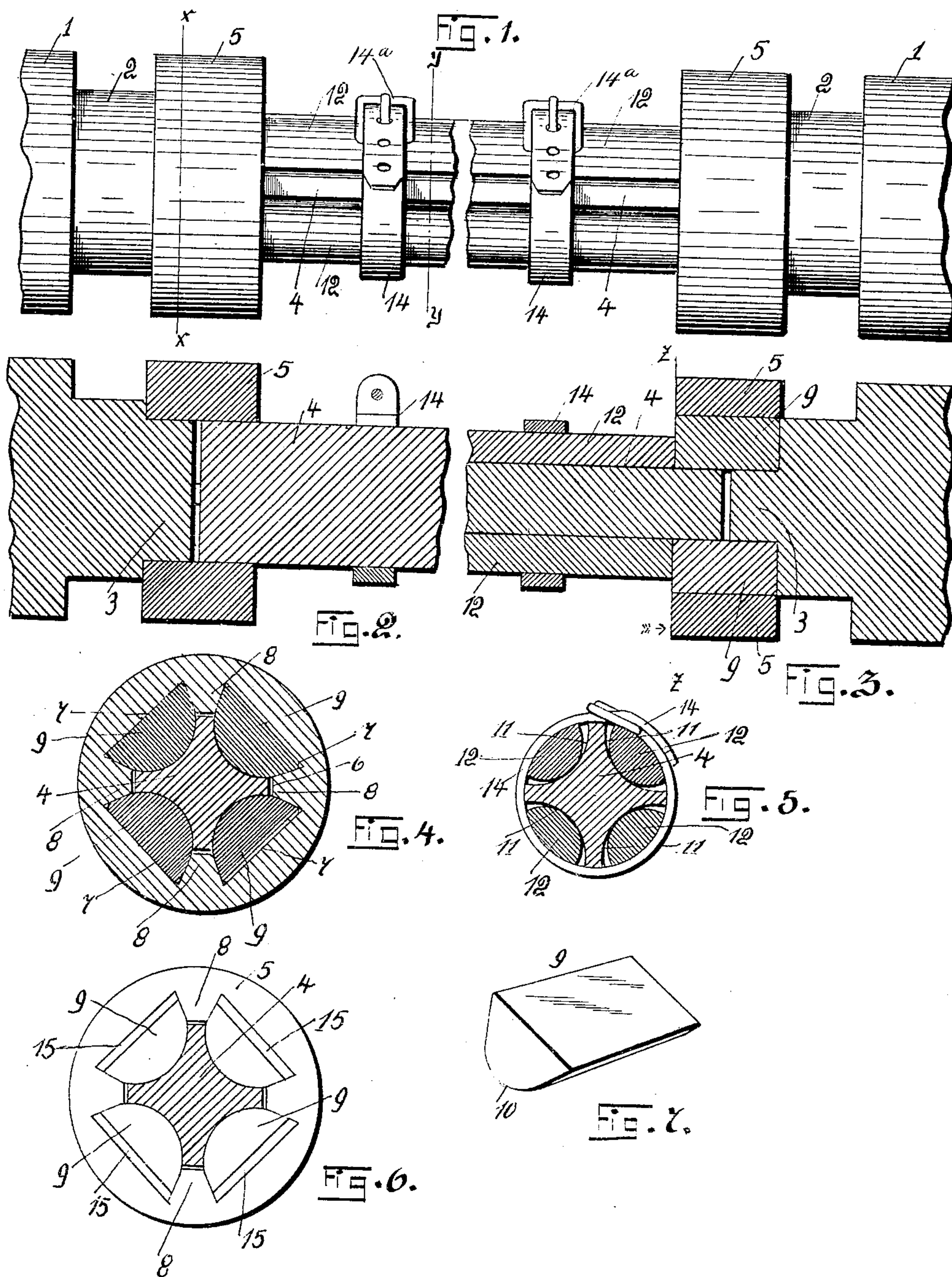
No. 804,023.

PATENTED NOV. 7, 1905.

W. C. MILLHIZER & F. McQUISTON.

COUPLING BOX FOR ROLLS.

APPLICATION FILED FEB. 9, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

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COUPLING-BOX FOR ROLLS.

No. 804,023.

Specification of Letters Patent.

Patented Nov. 7, 1905.

Application filed February 9, 1905. Serial No. 244,987.

To all whom it may concern:

Be it known that we, WILLIAM C. MILLHIZER and FREDERICK McQUISTON, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Coupling-Boxes for Rolls, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in coupling-boxes for rolls, and more particularly to that type of box which is employed for connecting the wabblers of rolls and spindles together.

The object of our invention is to provide a box having a plurality of detachable bearing-blocks, which are adapted to engage a spindle and serve functionally the same as if the box itself engaged the spindle.

Heretofore the boxes that have been employed for connecting the wabblers of rolls and spindles together have been provided with integral bearing-blocks—that is, the box being formed with inwardly-protruding lugs that are adapted to engage in the concave faces of a spindle. These lugs become worn, rendering the entire box useless; and the primary object of our invention is to provide removable bearing-blocks for a box of this type, the blocks of which can be removed when they have become worn and new ones inserted therein, maintaining the original box, which serves until the same has become cracked or broken.

The above construction will be more fully described in detail, and reference will now be had to the drawings accompanying this application, wherein like numerals of referenced designate corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of the ends of two rolls connected together by a spindle, illustrating our improved boxes in position thereon. Figs. 2 and 3 are longitudinal sectional views of our improved boxes as applied to the connected ends of two rolls. Fig. 4 is a transverse sectional view taken on the line *x x* of Fig. 1. Fig. 5 is a similar view taken on the line *y y* of Fig. 1. Fig. 6 is a transverse sectional view taken on the line *z z* of Fig. 3 looking in the direction of the arrow indicated in said figure, and Fig. 7 is a detail perspec-

tive view of one of the bearing-blocks removed.

To clearly illustrate the application of our improved boxes and the use of the same in connection with rolls, we have illustrated in Fig. 1 of the drawings two rolls 1 1, having neck portions 2 2 and wabblers 3 3. The wabblers 3 3 are rotatably connected together by a spindle 4, and the confronting ends of the spindle and the wabblers 3 3 are adapted to be connected together by our improved boxes 5 5. As these boxes are identical in construction we deem it only necessary to describe the construction of one of said boxes.

Reference will be had to Fig. 4 of the drawings, which is a transverse sectional view of one of the boxes and which clearly illustrates the contour of the cut-away portions of our improved box. The box is preferably formed of a durable material forming a body portion which is annular in cross-section. In forming the body portion of the box we provide the same with a central opening 6, the sides of which opening are provided with a plurality of substantially wedge-shaped grooves 7, which extend from one face of the box to the opposite face. In the present construction these grooves are four in number and are disposed at substantially right angles to one another, whereby two of said grooves will be diametrically opposite one another. The formation of these grooves provides radial ribs 8 8 between the slots, and in said grooves are adapted to be mounted bearings-blocks 9. The back portion of said bearing-blocks are substantially the same shape in cross-section as the grooves 7, and the forward portion of said blocks are provided with curved faces 10. The bearing-blocks 9 are adapted to engage in the concave faces 11 of the spindle 4, and as the ordinary type of spindle is generally provided with four concave faces disposed at right angles to one another we have employed four bearing-blocks, as previously described. After the spindle has been placed within the boxes 5 5 the bearing-blocks 9 are placed in position and said blocks will firmly engage the spindle 4. When the rolls are rotated, the bearing-blocks engaging the spindle will cause the same to rotate, and the wear and tear upon the bearing-blocks will be equally divided among said blocks on account of the contour of the spindle 4.

In connecting two rolls together it has been the practice, as illustrated in Fig. 3 of the drawings, to form the wabblers of said rolls whereby they will extend half-way within the boxes 5 5, the necks of said rolls abutting against the boxes. The ends of the spindle are also adapted to extend half-way within the boxes, and to retain the boxes in their proper position in relation to the rolls stretcher-blocks or spindle-rods 12 are employed, which are placed within the concave faces 11 of the spindle between the boxes, and leather straps 14 14, having buckles 14^a, are employed for holding these stretcher-blocks or spindle-rods upon the spindle. The spacers and the straps are of an ordinary and well-known type commonly used at the present time, and therefore need not be further described.

As previously stated, boxes have heretofore been formed with inwardly-extending lugs, which are adapted to engage the ends of the spindle and the wabblers of the rolls, and the wear and tear upon the boxes has been such as to cause a great many boxes to be sent to the scrap-pile as useless for connecting spindles and rolls together. By employing our improved boxes it is only necessary to remove the bearing-blocks 9 when they have become worn and place new ones therein, retaining the original box-body, which can serve for a considerable length of time.

In Fig. 6 of the drawings we have illustrated a modified form or a slight variation of construction from the form of bearing-blocks 9, heretofore described, and this modification consists in forming the bearing-blocks slightly smaller than the grooves in which they are adapted to be mounted and, by employing liners 15, to firmly secure the bearing-blocks

within the boxes and in engagement with a spindle.

While we have herein illustrated the preferred manner of constructing our improved boxes, it is obvious that any number of grooves and bearing-blocks may be employed to correspond to the construction of spindle to be connected to the wabblers of rolls, and various other changes may be made in the details of construction without departing from the general spirit and scope of the invention.

What we claim, and desire to secure by Letters Patent, is—

1. The combination with a spindle, of a box, said box consisting of a body portion having an opening formed therein adapted to receive the wabblers of a roll and the end of said spindle, the sides of said opening having grooves formed therein, said grooves extending from end to end of the box, and bearing-blocks mounted in said grooves and adapted to overlap the adjacent ends of and engage the wabblers and the end of said spindle.

2. The combination with a spindle of a box, said box consisting of a body portion having an opening formed therein adapted to receive the wabblers of a roll and the end of said spindle, the sides of said opening having grooves widest at the outer side formed therein, bearing-blocks fitting in said grooves and adapted to engage said wabblers and spindle and means to secure said blocks within said box.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM C. MILLHIZER.
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Witnesses:

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