(No Model.)

# W. R. JONES.

## HOUSING CAP FOR ROLLS.

No. 383,056. Patented May 15, 1888.

*Fig. 1.*

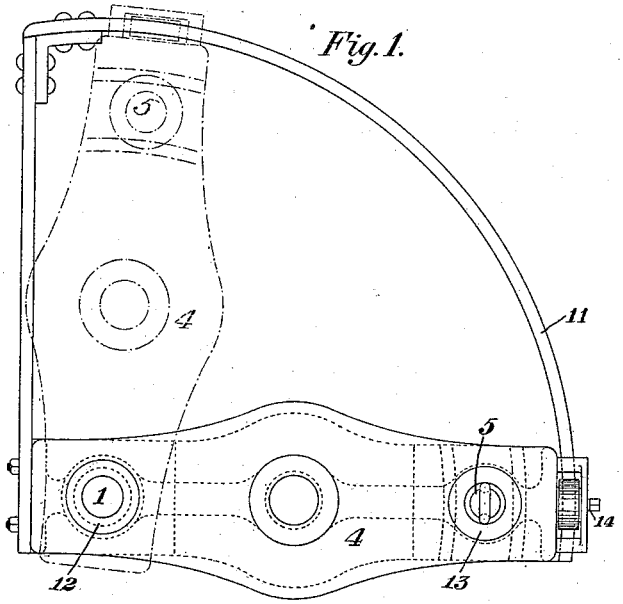



*Fig. 3.*

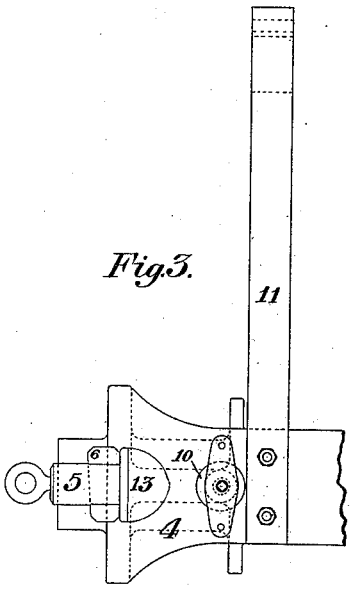



*Fig. 2.*

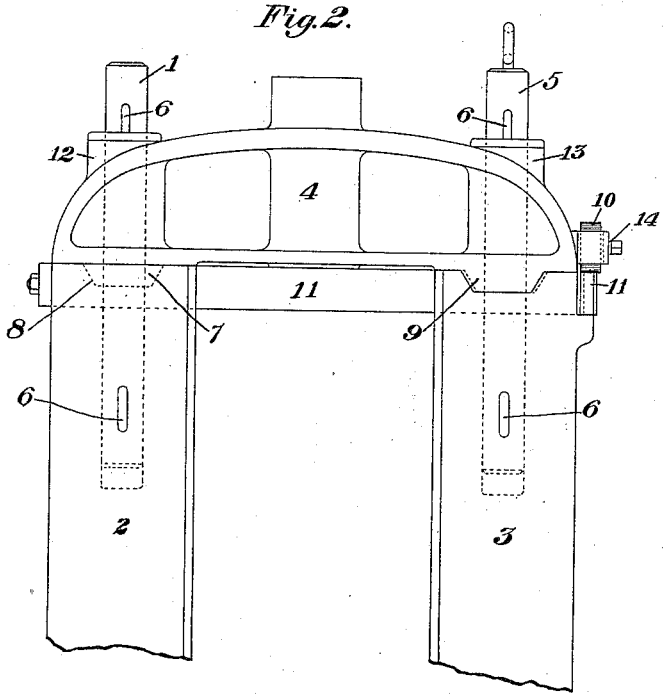



*Fig. 4.*

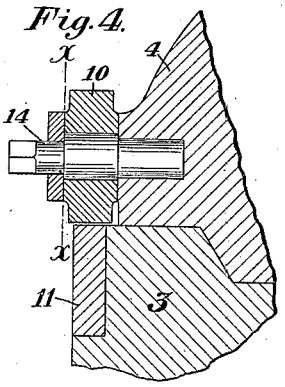
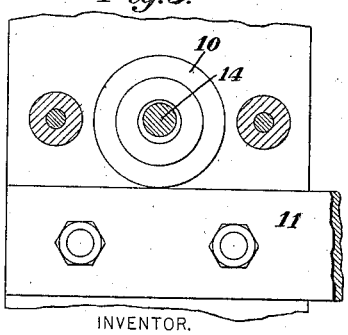



*Fig. 5.*




WITNESSES.

H. L. Gill.

T. W. Sawyer

INVENTOR.

William R. Jones.

by W. Baxendell & Sons.

his Attorneys.

# UNITED STATES PATENT OFFICE.

WILLIAM R. JONES, OF BRADDOCK, PENNSYLVANIA.

## HOUSING-CAP FOR ROLLS.

SPECIFICATION forming part of Letters Patent No. 383,056, dated May 15, 1888.

Application filed March 31, 1888. Serial No. 269,084. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. JONES, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Housing-Caps for Rolls; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of one of the housing-caps of a set of rolls, illustrating the mechanism which I employ for removing the cap to permit the rolls to be taken from the housings and to be replaced. Fig. 2 is an end view of the housings. Fig. 3 is a side view thereof. Fig. 4 is an enlarged vertical longitudinal section through the roller 10. Fig. 5 is a vertical cross-section on line *x x* of Fig. 4.

Like symbols of reference indicate like parts in each.

The object of my invention is to provide means for the easy removal and replacing of the rolls in the housings.

Referring now to the drawings, 2 and 3 represent the upright housings, between which the ends of the rolls have their bearings. I only show the housings at one end of the rolls, the construction of the housings at the other end being exactly the same. The housings 2 and 3 are connected at the top by the usual cap, 4, which bridges the space between the housings and is held in place by pins 1 and 5 and keys 6, which secure the pins to the housings and to the cap.

Heretofore it has been customary in removing the housing-caps from the rolls to lift them by means of a crane; but the great weight of the cap in many cases makes the operation of lifting it very difficult and tedious. By thus taking up the time of the workmen and necessitating the stopping of the mill during the time when the rolls are being changed the delay occasioned by the labor of removing and resetting the cap in the manner heretofore practiced is a serious disadvantage and loss. I propose to obviate this and to make the cap of the housings easily removable by pivotally connecting it at one end to one of the uprights of the housings and providing it with a circular track, so that the cap may be swung horizontally on its pivot to uncover the space between the housings. This is clearly shown in the drawings.

At one end the cap 4 has on its under side a boss or projection, 7, which fits in a corresponding seat, 8, on the top of the upright of the housing. The pin 1 passes through a socket, 12, on the housing-cap, through the boss 7, and into the upright 2, and forms the pivotal center on which the housing-cap is turned. If desired, these parts may be reversed, the concavity being put on the cap and the boss on the housing. The shape of these parts may also be varied. The other end of the cap is also provided with a projection, 9, which fits into a groove on top of housing, this groove extending the entire width of the housing and made on the arc of a circle, whose center is the pin 1, and shaped so as to permit the swinging motion of the cap around pin 1 as a pivot. The purpose of this projection is to cause the cap to act as a brace and to prevent the spreading of the housings, and to make them perfectly rigid. It acts in this regard in conjunction with the boss and the concavity at the pivoted end of the cap. The pin 5 passes through a socket, 13, on the cap, and through the projection 9 into the upright 3 of the housing. At the outer end of the cap is journaled a roller, 10, arranged to travel on a frame or track, 11, which is made on an arc of a circle whose center is the pin 1.

In the radial motion of the housing-cap the roller bears on the track 11, and thus makes the work of moving the cap very easy. It would not be practicable to set the roller so accurately on the housing-cap that when the cap is brought back into position over the housing its end would bear solidly on the housing without some special means therefor. I therefore have provided the roller with a vertically-movable axis, which can be raised so as to lift the roller off its bearing on the housing and to cause the weight of the cap to bear directly thereon. I have shown this in Figs. 4 and 5. The short shaft 14, on which the roller is journaled, is set in a socket in the housing-cap, wherein it fits so tightly that it cannot easily be turned. That part on which the roller is journaled is made eccentric to the part of the shaft which fits in the socket in

the housing-cap. The outer end of the shaft is squared, to afford means for grasping it with a wrench and applying sufficient force to turn it in its socket. If it be thus turned, it is obvious that the eccentricity of the shaft will cause the roller to be moved vertically to raise it from or to depress it against the track or the top of the housing. When the housing-cap is to be moved on its pivot 1, as before explained, the roller should be brought into contact with the track, so as to support the weight of the cap, as shown in Fig. 5; but when the cap is brought again into its position over the housings the roller should be raised so as to permit the cap to rest directly upon the housings, as shown in Fig. 4. In order now to move the cap, the pin 5 is removed, and the shaft 14 is turned so as to depress the roller against the surface of the track. The cap may then be swung on the pin 1 as a center away from the housings, so as to bring it into the position shown by dotted lines in Fig. 1. The caps of the housings at both ends of the rolls are arranged in the same way, and when they have been thus swung to one side the housings are left open for the removal or setting of the rolls. When the rolls are set and the cap is swung back into the position shown in Fig. 2, the eccentric-shaft 14 is turned by a wrench, so as to raise the roller 10 from the track, and to cause the cap to rest directly on the housing. It is then confined in place by the pin 5 and the keys 6. The motion of the housing-cap on its center is easy and can be effected with very little labor. This is the means of saving of considerable time and work in the operation of removing and resetting the rolls, and results directly in a saving of money to the owners of the mill. The value and utility of my invention in this regard will be appreciated by those skilled in the art.

I claim—

1. An improvement in housing-caps for rolls, which consists in a housing-cap pivoted at the end and adapted to swing thereon to uncover the housings and permit the removal of the rolls, substantially as and for the purposes described.

2. An improvement in housing-caps for rolls, which consists in a housing-cap pivoted at the end, in combination with a track whereby the other end of the housing-cap is supported in its swinging motion on said pivot, substantially as and for the purposes described.

3. An improvement in housing-caps for rolls, which consists in a housing-cap pivoted at the end, in combination with a track whereby the other end of the housing-cap is supported in its swinging motion on said pivot, and a roller on the housing-cap which bears on said track, substantially as and for the purposes described.

4. An improvement in housing-caps for rolls, which consists in a housing-cap pivoted at the end and adapted to swing thereon to uncover the housings and permit the removal of the rolls, and a roller on which the housing-cap travels in its swinging motion, the axis of said roller being movable vertically to remove the weight of the cap from the roller and cause it to bear on the housing, substantially as and for the purposes described.

5. An improvement in housing-caps for rolls, which consists in a housing-cap pivoted at the end and adapted to swing thereon to uncover the housings and permit the removal of the rolls, and a curved groove in the housing in which a projection on the free end of the cap fits and moves, substantially as and for the purposes described.

6. An improvement in housing-caps for rolls, which consists in a housing cap pivoted at the end and adapted to swing thereon to uncover the housing, said cap being connected with the housing at the pivoted end by a boss on one fitting in a concavity on the other, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand this 27th day of March, A. D. 1888.

WILLIAM R. JONES.

Witnesses:
THOMAS W. BAKEWELL,
W. B. CORWIN.