No. 689,608. Patented Dec. 24, 1901.

E. EINFELDT.

MACHINE FOR TRUING WHEEL RIMS.

(Application filed Aug. 15, 1901.)

(No Model.)

Fig. 1.

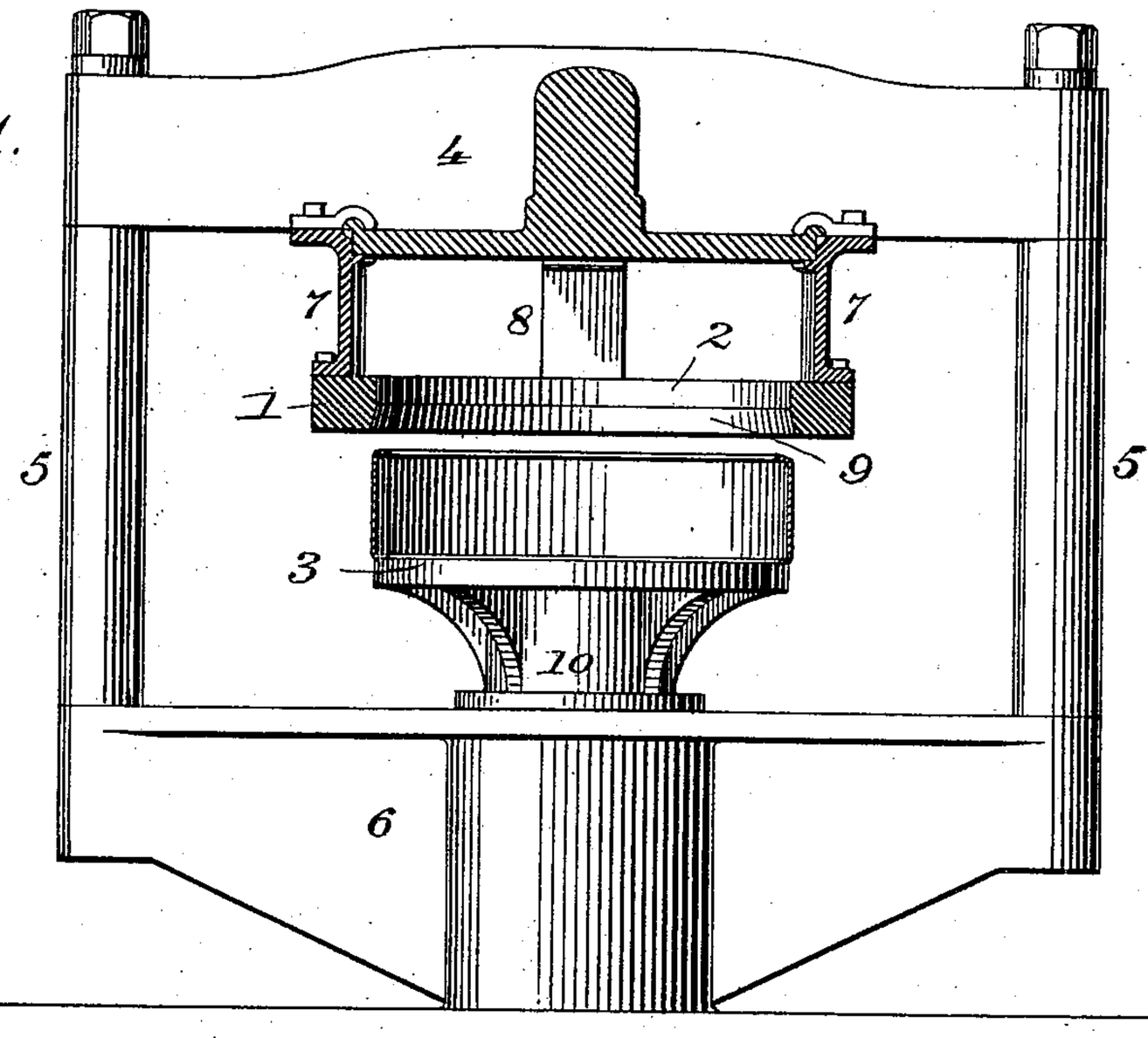

Fig. 2.

Witnesses
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EMIL EINFELDT, OF DAVENPORT, IOWA, ASSIGNOR TO BETTENDORF METAL WHEEL COMPANY, A CORPORATION OF ILLINOIS.

MACHINE FOR TRUING WHEEL-RIMS.

SPECIFICATION forming part of Letters Patent No. 689,608, dated December 24, 1901.

Application filed August 15, 1901. Serial No. 72,118. (No model.)

To all whom it may concern:

Be it known that I, EMIL EINFELDT, of Davenport, county of Scott, and State of Iowa, have invented a new and useful Improvement in Machines for Truing Wheel-Rims, of which the following is a specification.

In the formation of metal wheels it is now the practice under certain modes of manufacture to form the rim complete with its ends connected and to subsequently secure the spokes thereto. The rim is formed from a plate or strip of metal which is bent into approximately circular form, and for certain classes of wheels it is provided with inwardly-turned flanges on its edges. After its ends are connected it frequently happens that the rim is not truly circular or as nearly circular as is demanded in practice.

It is the aim of this invention to overcome these objections; and the invention consists in combining with a suitable support an open-ended die sustained by the support, so as to leave a free open space above the die for the removal of the finished rim and a pressure-head on the opposite side of the die adapted to advance the rim upward wholly through the same.

The invention consists also in the details of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through my improved machine, showing the rim in position ready to be advanced through the die. Fig. 2 is a similar view showing the rim after its passage through the die ready to be removed from the machine.

Referring to the drawings, the form of the mechanism may be varied considerably within the limits of my invention, the essential characteristics being a die 1, having an internal active surface 2, of circular form, and a coöperating surface 3, adapted to support the rim in its passage through the die. The die may be either fixed or movable; but I prefer the construction shown, wherein it is fixed and wherein the supporting-surface 3 is movable in the form of a pressure-head. The die is in the form of a ring firmly fixed beneath a cross-beam 4, mounted on the upper end of standards 5, rising from a fixed base 6. The ring is connected firmly with the overhead beam by posts 7, spaced apart about one-third the distance around the ring, and it is given further support by means of a third post 8 while the rim is being forced therethrough, which post is removable in order to permit of the rim being removed after it has passed through the die. The lower portion of the internal surface of the die is inclined or flaring, as at 9, to facilitate the entrance of the rim to the active surface 2, which is truly cylindrical, with parallel sides and of a diameter slightly smaller than that of the rim. The space between the upper edge of the ring and the supporting-beam is slightly greater than the width of the rim in order that the latter may pass entirely through the die.

The pressure-head 3 is of circular cylindrical form and of a size adapted to fit snugly within the die, and it may be operated in any suitable manner, preferably by hydraulic means. It is fixed on the upper end of a plunger 10, guided in the base-frame, so that as it rises under the influence of its operating means it will carry the pressure-head upward through the die, as illustrated in Fig. 2.

In the operation of the mechanism the rim is set in place on the pressure-head with its upper edge in position to enter truly the flaring mouth of the die. On the rise of the pressure-head the rim will enter the die and be subjected to end pressure, and as it is gradually advanced it will receive a uniform squeezing action throughout its entire circumference, being contracted slightly as it passes through the active surface 2 of the die and receiving a permanent set of true circular form. Its advance is continued until it passes entirely through the die, when it will rest on the upper edge of the same, as indicated in Fig. 2. During this operation the removable post 8 is in place, and after the passage of the rim this post is removed, so that the rim may be withdrawn horizontally from the machine. It has been found that this action is of unusual effectiveness, particularly in connection with wide-flanged rims, which are used for binder and harvester wheels and others of a similar character, in that it trues them and gives them a circular form without injury in any manner either by

buckling or bending, the action of the die being gradual and the pressure exerted uniformly at every point in the circumference of the rim in a lateral direction and on its lower edge in a horizontal direction, an upsetting action taking place, due to the endwise pressure being resisted by the lateral pressure and resulting in the rim being given a permanent set.

Having thus described my invention, what I claim is—

1. In an apparatus for truing wheel-rims, the combination with a horizontal open-ended die of a diameter slightly less than the rim to be trued, of a support for the same arranged to leave a space above the die wider than the width of the rim, and means for forcing the rim upward wholly through the die and into said space; whereby the rim after its passage through the die will rest on the upper edge of the same whence it may readily be removed.

2. In combination with an overhead support, a die sustained thereunder with a space between its upper edge and the lower surface of the support wider than the rim to be acted on, said die being of a diameter slightly less than that of the rim, and means for advancing the rim upward entirely through said die; whereby the rim after its passage through the die will rest on the upper edge of the same whence it may be removed.

3. In combination with a cross-beam, a die sustained thereunder at a distance greater than the width of the rim to be acted on, a detachable support adapted to be inserted between the rim and die to firmly sustain the latter while the rim is being advanced through the die, said support adapted to be detached to permit the removal of the rim after its passage through the die, and means for advancing the rim entirely through the die.

In testimony whereof I hereunto set my hand, this 17th day of June, 1901, in the presence of two attesting witnesses.

EMIL EINFELDT.

Witnesses:
NATH FRENCH,
MAY L. DODGE.