(No Model.)

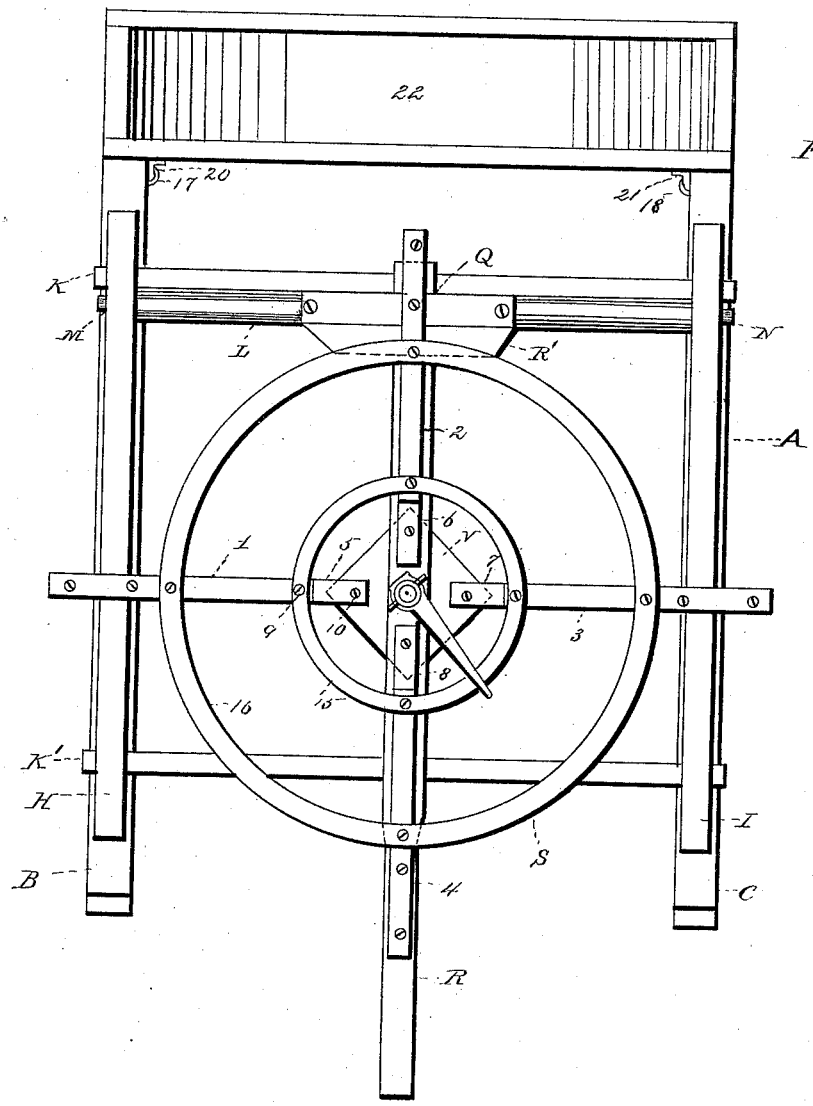
3 Sheets—Sheet 1.

J. H. WILLIAMS.

MACHINE FOR SETTING AND COOLING TIRES.

No. 385,538. Patented July 3, 1888.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 2

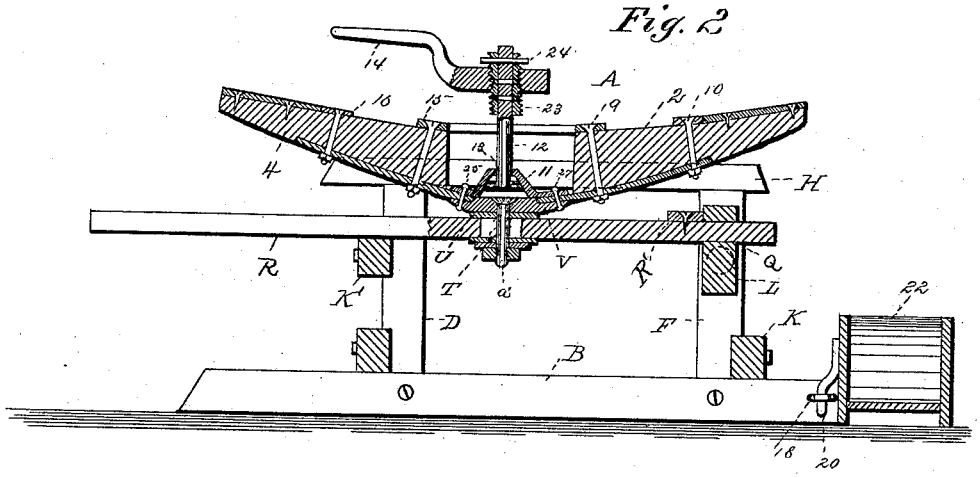

Fig. 3

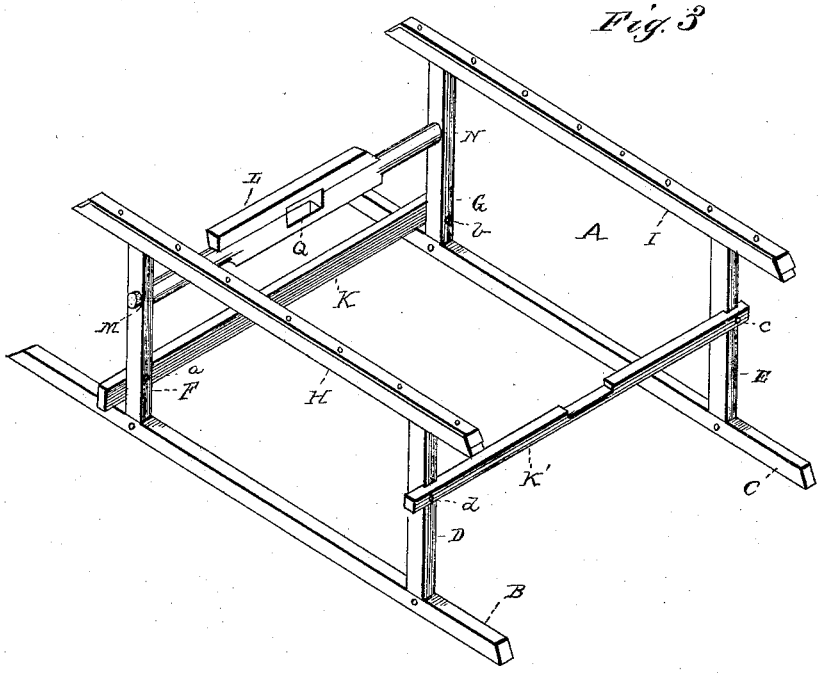

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Fig. 4.

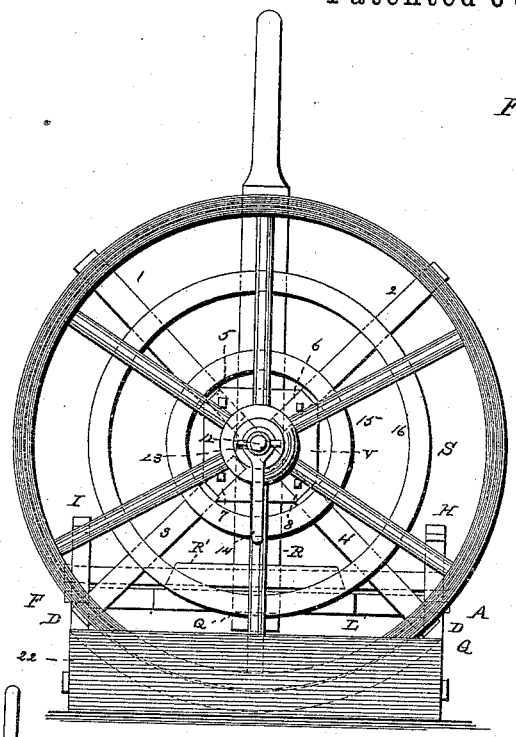
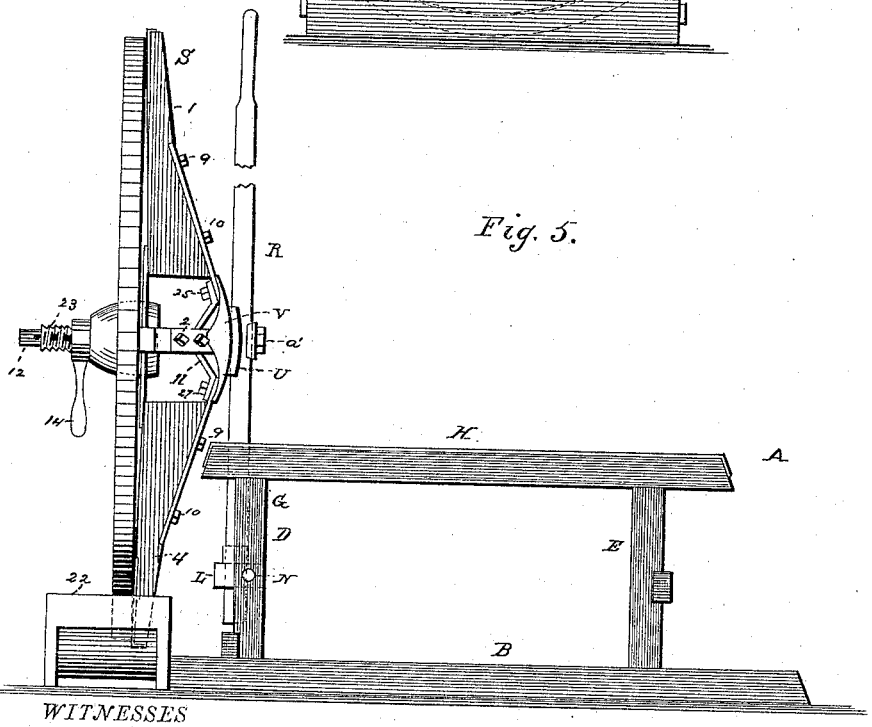


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN HILL WILLIAMS, OF PLEASANT HILL, OHIO.

MACHINE FOR SETTING AND COOLING TIRES.

SPECIFICATION forming part of Letters Patent No. 385,538, dated July 3, 1888.

Application filed September 17, 1887. Serial No. 249,942. (No model.)

To all whom it may concern:

Be it known that I, JOHN HILL WILLIAMS, a citizen of the United States, and a resident of Pleasant Hill, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Machines for Setting and Cooling Tires; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a plan view of my improved tire cooler and setter. Fig. 2 is a vertical longitudinal section through center of machine. Fig. 3 is a perspective view of trestle. Figs. 4 and 5 show the device with a vehicle-wheel in position.

My invention relates to machines for setting and cooling the tires of wagon and carriage wheels; and it consists in the construction and novel combination of parts, as hereinafter set forth.

Referring by letter to the accompanying drawings, A designates a smith's trestle, which consists of the rails B C, connected by vertical posts D E F G to the rails H I. The vertical posts are connected by horizontal bars K K', which are removably secured to the outer sides of said posts, as shown at *a b c d*. The rails H I are shorter than the rails B C and are provided with a metal facing on the upper edges to protect the said rails from wear.

L is a rock-shaft the ends of which are journaled at M N in the vertical posts F G. The rock-shaft is provided with a central opening, Q, to receive the projecting end of the lever R, to which the wheel S is journaled when properly secured in place. The lever R is provided with a cross-bar or stop-bar, R', which regulates the distance to which the lever R may project through the opening Q, and serves also to support the weight of the wheel S when the lever R is moved out of a horizontal position. The lever R is provided intermediately of its ends with a longitudinally-disposed slot, T. By means of the slot-opening in the lever R the wheel S is longitudinally adjustable to permit vehicle-wheels of different sizes to be turned in the water-box. Immediately over the slot T and on the lever R is placed a sliding plate, U, having flanged edges projecting over and engaging the upper edges of the lever R. The hub V of the wheel S is preferably of cast metal, concavo-convex in cross section and rectangular in outline, and is pivotally connected to the lever R by the bolt *a'*, passing downward through an opening in the sliding plate U and the slot T.

The spokes 1 2 3 4 are secured by bolts 9 10 to the metal arms 5 6 7 8. The said arms are secured to or integral with the hub V and extend radially therefrom. A curved bridge, 11, spans the hub V diagonally and is secured to the metal arms 5 and 7 by bolts 25 and 27. A rod, 12, having a T-head at its inner end, is passed outwardly through a central hole, 13, in the middle of the bridge 11, the outer end of which is provided with the adjustable sleeve 23, secured in the desired position on the rod by means of the pin 24, passing through openings in the sleeve and through a corresponding opening in the rod. The outer portion of the sleeve 23 is threaded to receive the wrench 14, by which the wagon or carriage wheel is tightened down in place. The upper edges of the spokes 1 2 3 4 incline inwardly from their outer ends to form the dish that corresponds to the dish of a vehicle-wheel. These spokes 1 2 3 4 are provided with two flat concentric metal rings, 15 16, on their plain edges, said rings being secured in place by the bolts and nuts that secure the metal arms to the spokes.

The longer end rails, B C, of the trestle are provided on their inner faces near the horizontal bar K with inwardly-projecting staples 17 18, which are designed to receive the stems of the arms 20 21, secured to the side of the cooling-trough 22.

In operation, the wheel S being placed on the trestle and the lever end inserted in the opening in the rock-shaft, the vehicle-wheel is placed upon the wheel S and the rod 12 is passed up through the bore of the wheel-hub. The sleeve 23 is then moved in a position on the rod to accommodate the length of the hub of the vehicle-wheel, and there secured by means of the pin 24. The wrench 14 is then turned on the threaded portion of the sleeve 23 to draw the vehicle-wheel into or out of dish, as may be necessary, to permit the pre-

pared tire to be placed. The operating-lever is then seized and the wheel lifted into a vertical position by turning the rock-shaft to permit the tire to be cooled in the water in the trough, at which time the fellies should be trued and straightened within the tire, and the operator should at the same time strike on the vehicle-wheel over the spokes to settle the spokes in the hub. The operator then removes the lever from the rock shaft and from its connection with the wheel S. He then turns the trestle over, so that the longer end rails are uppermost, and then places the vehicle-wheel, still connected to the wheel S, thereon and proceeds to rivet the tire in place, thus completing the setting of the tire. By removing the longitudinal bars that connect the end frames of the trestle and removing the wheel S and the lever R the parts of the machine may be conveniently packed for shipment.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the trestle-frame provided with the rock-shaft having the central opening, of the removable lever provided with the transverse stop-bar and seated in said central opening, and provided also with the longitudinally-disposed slot intermediate of its ends, the wheel S, the sliding plate, and the securing bolt and nut, the headed rod, the threaded sleeve thereon, and the adjusting-pin, the bridge connecting said rod to the hub of the wheel S, and the wrench on said threaded sleeve, substantially as specified.

2. The combination, with the trestle and the rock-shaft having the central opening, of the wheel S, pivoted to the lever R, the lever R, having the cross-bar near its end, the bridge spanning the hub B and having the opening for the rod 12, the rod 12, having the adjustable sleeve thereon, and the wrench, substantially as specified.

3. The combination, with the trestle provided with the rock-shaft having a central opening, of the removable slotted lever provided with a cross-bar, the dished wheel having the concentric rings, the bridge connecting the headed rod to the hub of the wheel, the headed rod, the sleeve on said rod, the wrench, and the trough provided with arms seated in staples of the trestle, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HILL WILLIAMS.

Witnesses:
GEO. W. WHITTNER,
CHAS. WHITTNER.