

(No Model.)

2 Sheets—Sheet 1.

C. W. & L. T. GRESHAM.
WHEEL HANDLING DEVICE.

No. 545,490.

Patented Sept. 3, 1895.

Fig. 1.

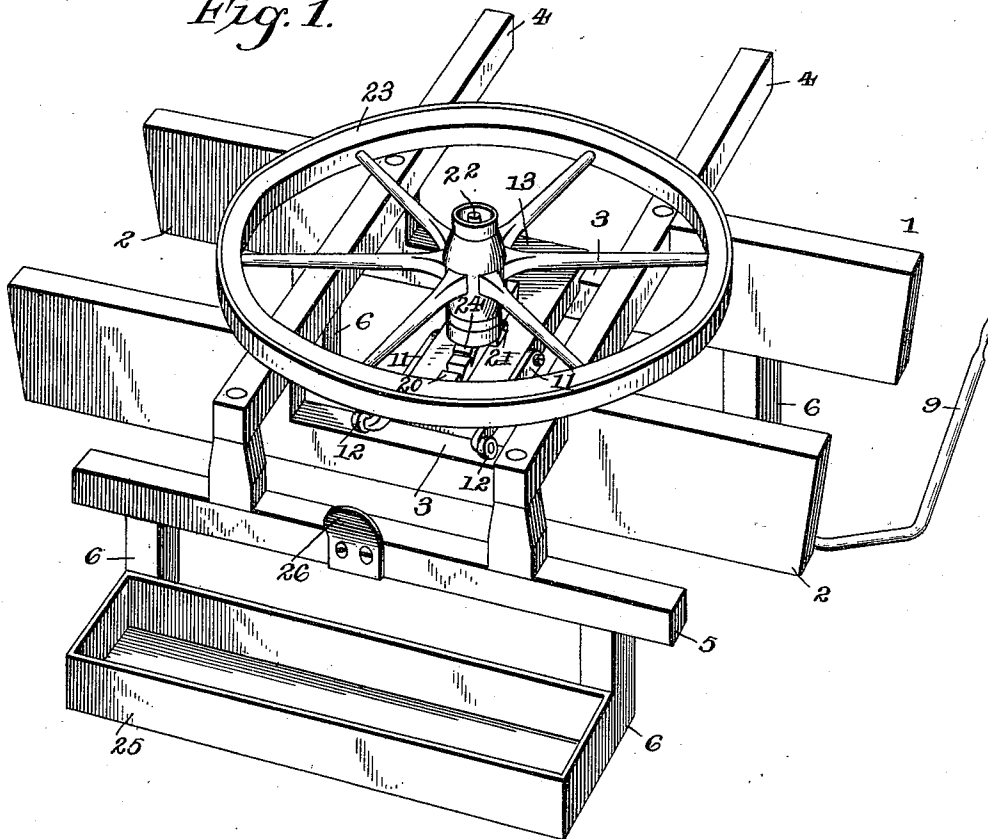
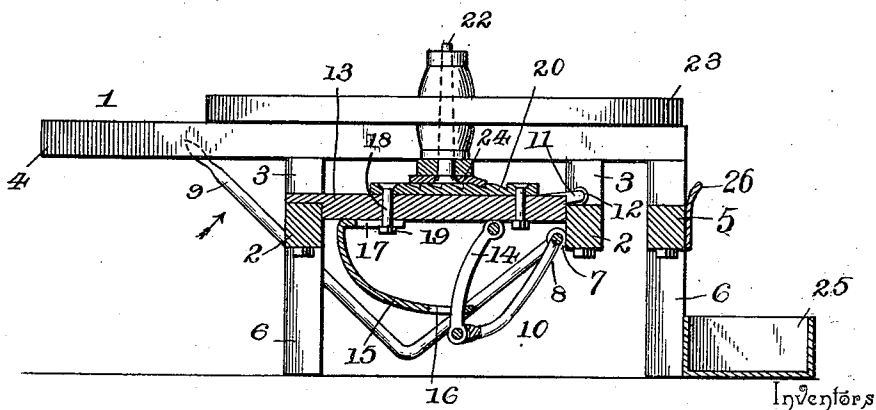


Fig. 3.



Inventors

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By their Attorneys.

Witnesses

Chas. A. Ford.

[Signature]

Chas. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

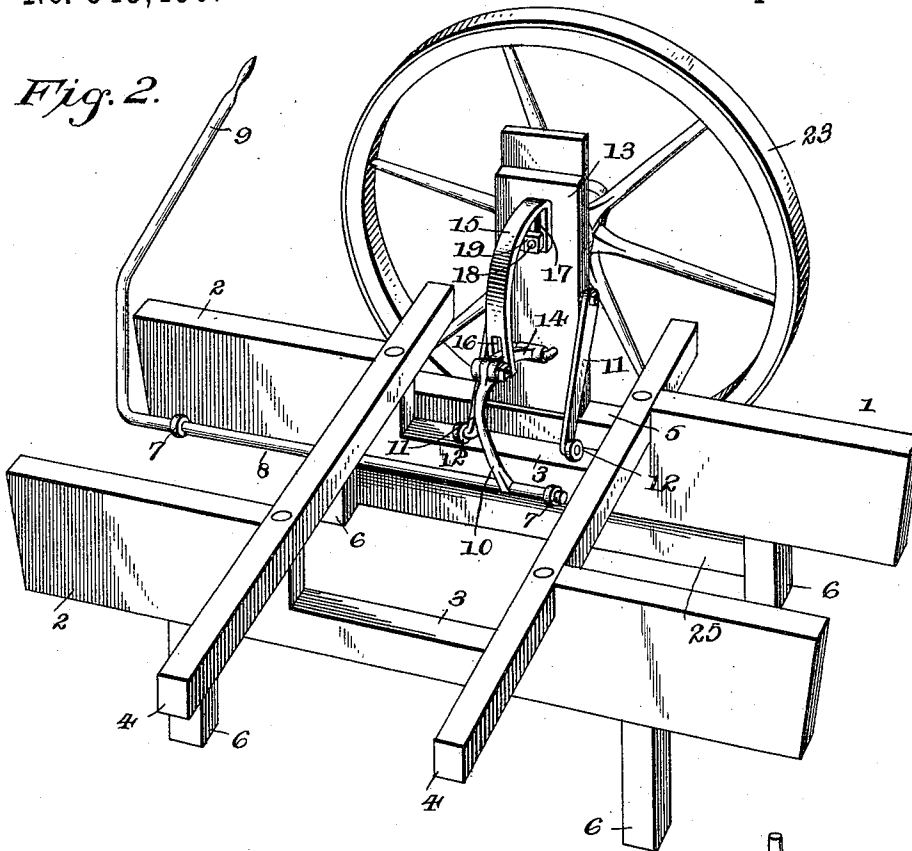


Fig. 4.

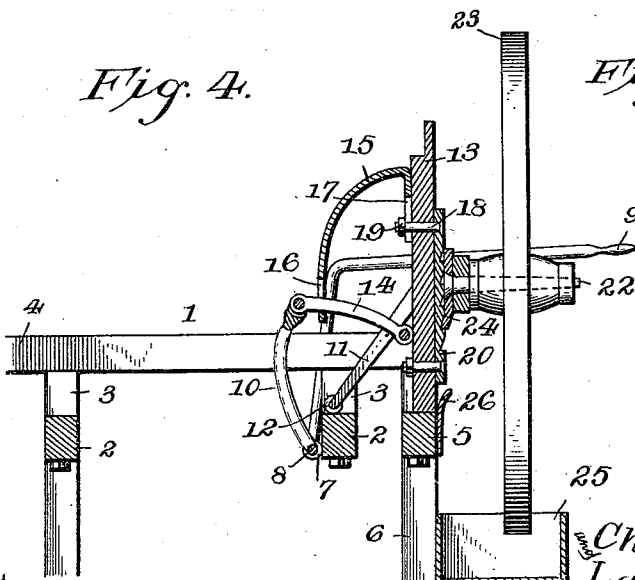
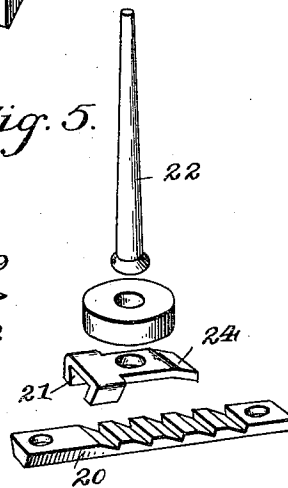


Fig. 5.



Witnesses

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By their Attorneys,

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UNITED STATES PATENT OFFICE.

CHARLES W. GRESHAM AND LAFAYETTE T. GRESHAM, OF FREDERICKSBURG, INDIANA.

WHEEL-HANDLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 545,490, dated September 3, 1895.

Application filed January 9, 1895. Serial No. 534,358. (No model.)

To all whom it may concern:

Be it known that we, CHARLES W. GRESHAM and LAFAYETTE T. GRESHAM, citizens of the United States, residing at Fredericksburg, in the county of Washington and State of Indiana, have invented a new and useful Wheel-Handling Device, of which the following is a specification.

Our invention relates to a machine for handling wheels during the process of setting tires, and the object in view is to provide a device for supporting a wheel in a horizontal position and for lifting and turning the same to a vertical position in order that the tire may be immersed in water for the purpose of cooling the same.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a machine embodying our invention, showing a wheel supported thereon in a horizontal position. Fig. 2 is a similar view showing the wheel arranged in a vertical position. Fig. 3 is a central vertical section taken transversely, showing the parts in the positions which they occupy in Fig. 1. Fig. 4 is a similar view, partly broken away, showing the parts in the positions which they occupy in Fig. 2. Fig. 5 is a detail view of the means for adjusting the spindle.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a frame or trestle comprising longitudinal beams 2, cut away at their centers to form openings 3, transverse bars 4, which are secured to the said beams and project at both ends beyond the outer surfaces thereof, a longitudinal bar 5, arranged parallel with the front beam and secured to the adjacent projecting ends of the transverse bars, and legs or standards 6, depending from the said longitudinal bar and the rear longitudinal beam.

Mounted in bearings 7, on the rear side of the front longitudinal beam, is a rock-shaft 8, provided with a terminal lever or handle 9 and having at the center of the frame, at a

point midway between the transverse bars 4, a crank-arm 10. Swinging arms 11 are fulcrumed upon the front longitudinal beam adjacent to the rock-shaft in eyes or bearings 12, and at their opposite ends said arms are pivotally connected to a supporting-plate 13, which is adapted, when in its horizontal position, to rest upon the longitudinal beam at the bottom of the opening formed at the center thereof. The front end of this plate is connected by a link 14 with the free end of the crank-arm carried by the rock-shaft, and adjustably secured to the plate near its rear end is a limiting guide or bracket 15, provided with a slot 16, in which said link operates, said guide or bracket being provided at the end which is secured to the plate with a slot 17, through which extends a bolt 18, provided with a nut 19, whereby the guide or bracket may be adjusted in a direction parallel with the length of the plate, for a purpose hereinafter explained. Secured to the upper surface of this plate, by means of a ratchet-bar 20 and a clutch 21, is a spindle 22, adapted to extend through the hub of a wheel 23, said ratchet-bar being cross-sectionally dovetailed for engagement by a similar opening in the clutch, and the latter being provided with a dog 24 to engage the teeth of the bar to hold the spindle at the desired adjustment.

When the parts are in the positions shown in Figs. 1 and 3, in which the wheel is horizontal and rests upon the flush upper edges of the longitudinal beams and transverse bars, the spindle-carrying plate 13 rests at its extremities upon the centers of the longitudinal beams. When it is desired to dip the tire of the wheel in the water-tank 25, the lever or handle is moved in the direction indicated by the arrow in Fig. 3, thereby communicating motion through the crank-arm and the intermediate link to the front end of the spindle-carrying plate. This lifts the front end of the plate and hence the front side of the wheel, and when said front side has been elevated sufficiently to clear the frame the link 14 comes in contact with the end of the slot in the free end of the guide or bracket, and thereby communicates motion to the rear end of the plate. Further movement of the lever

or handle thus lifts the wheel and swings it in the arc of a circle until it assumes a vertical position with its lower side in the water-tank. In order to prevent dipping more than the tire of the wheel in the water the above-described adjusting devices for the spindle are provided.

Any desired elevation for the front end of the spindle-carrying plate may be had before motion is communicated to the rear end of the plate by the adjustment of the slotted guide or bracket to vary the point at which the link strikes the inner end of the slot. When the wheel reaches its vertical position, the link bears against the outer end of the slot in the guide or bracket and the lower end of the plate bears upon the upper surface of the longitudinal bar, which is preferably provided at its front side with an upwardly-flared guard or ear 26 to prevent displacement of the end of the plate. From the above description it will be seen that the wheel is lifted from the frame or trestle first at its front side, in order that in its subsequent movement it may clear the front side of the frame, and by means of the connections provided for communicating motion from the lever or handle to the spindle-carrying plate a wheel of great weight may be reversed, or turned from a horizontal to a vertical position, by one operator without assistance.

It will be understood that in practice various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described our invention, we claim—

1. The combination with a frame, of a spindle-carrying plate connected by swinging arms to the frame, a rock-shaft having a crank-arm, a link connecting the extremity of the crank-arm with one end of said plate, and a

guide or bracket secured to the other end of said plate and slotted to receive said link, substantially as specified.

2. The combination with a frame, of a rock-shaft carrying a crank-arm, a spindle-carrying plate, swinging-arms connecting an intermediate point of said plate with the frame, a link connecting one end of the plate with the said crank-arm, a guide or bracket slotted to receive said link, and means for adjustably securing said guide or bracket to the other end of the plate, substantially as specified.

3. The combination with a frame, of a spindle-carrying plate, swinging arms connecting the plate to the frame and pivotally connected to the plate approximately at the center of its length, a crank arm carried by a rock-shaft mounted in rear of the pivotal points of connection of the swinging arms with the frame, a link connecting the free end of the crank arm with the plate upon one side of the pivotal point of connection of the swinging arms with the plate, and a guide or bracket secured to the plate upon the other side of the point of connection of the swinging arms thereto and loosely connected to the link, whereby when the plate is in a horizontal position the swinging movement of the crank arm causes a vertical movement of the plate and subsequently a swinging movement thereof to arrange the plate in a vertical position with its lower end supported upon the frame, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES W. GRESHAM,
LAFAYETTE T. GRESHAM.

Witnesses:

JONAH M. GREEN,
HENRY C. MITTON.