(No Model.)

G. W. PACKER.

HOOP DRIVER.

No. 347,369. Patented Aug. 17, 1886.

Fig. 1.

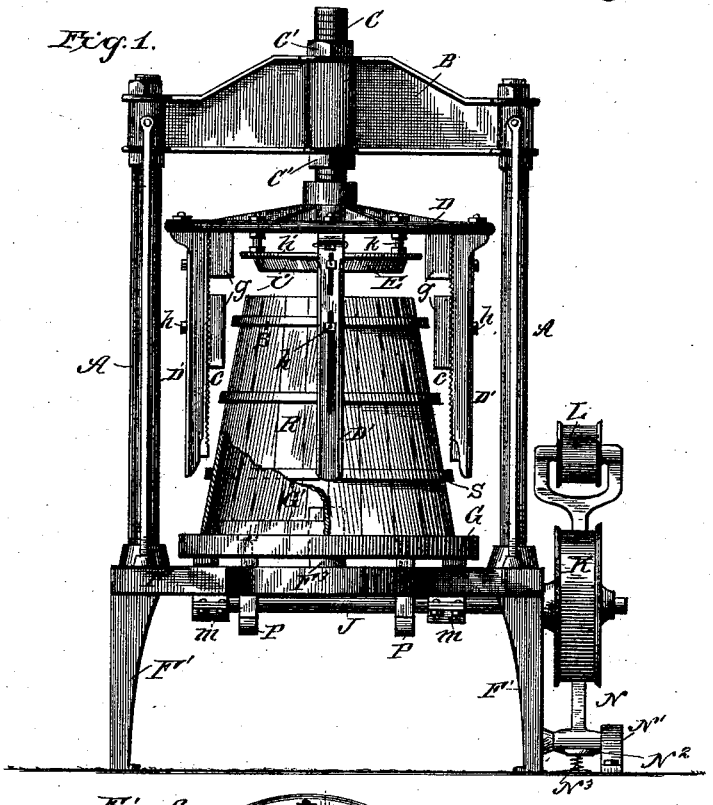


Fig. 2.

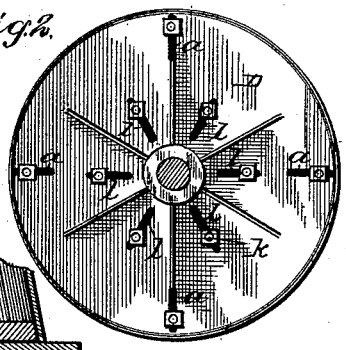


Fig. 4.

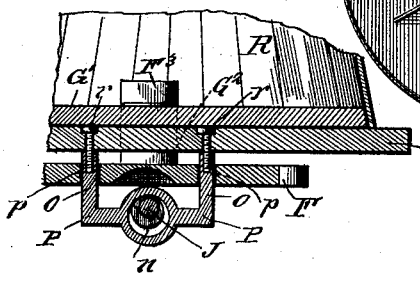


Fig. 5.

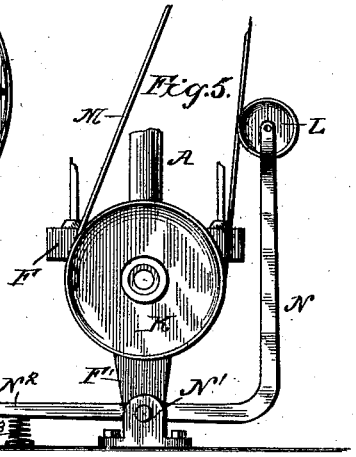
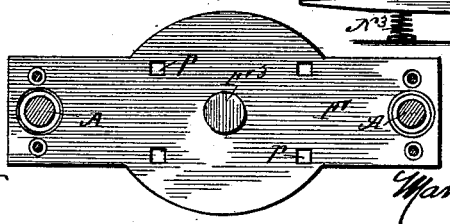


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. PACKER, OF ROCK FALLS, ILLINOIS.

HOOP-DRIVER.

SPECIFICATION forming part of Letters Patent No. 347,369, dated August 17, 1886.

Application filed November 14, 1885. Serial No. 182,828. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PACKER, a citizen of the United States, residing at Rock Falls, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Trussing-Machines; and I do hereby 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.

My invention has reference to trussing-machines, and pertains more especially to the provision of an ascending base to force the cask into the truss-hoops, and a forming center or head at each end of the cask.

In the drawings, Figure 1 is a front elevation of a machine embodying my invention. Fig. 2 is a plan of the stationary head D, to which are hinged the drivers D′ and adjustably attached the forming-center E. Fig. 3 is a plan of the base-plate F. Fig. 4 is a vertical cross-section of the lower mechanism, consisting of one of the lifting-brackets P, driving-shaft J, base-plate F, and movable bottom G, in the line of the outer of such brackets. Fig. 5 is a side elevation of the mechanism for giving intermittent motion to the machine.

A A are posts suitably seated and braced on the base-plate F.

B is a cross-beam, through the ends of which are vertically passed, respectively, the upper ends of the posts A. The upper ends of such posts are threaded and provided each with two nuts—one above and one below the beam B—by means of which the altitude of the beam B can be adjusted as desired.

C is a shaft sleeved vertically in the beam B, and adjustable vertically in such beam by being threaded and provided with nuts C′, screwed, respectively, against the upper and lower sides of the beam B.

D is a circular head affixed to the lower end of the shaft C, and provided with radial slots *a* near its periphery, through which are attached the suspended drivers D′ by having their upper ends formed into a bolt and projected upward through the slot *a*, and fastened with a nut on the upper side of the head D, and thus rendered radially adjustable, to be adapted to casks of variant diameter. The recesses *c* on the inner faces of the drivers D′, which engage the truss-hoops S, are vertically adjustable on such drivers, and thus adapted to casks of different lengths, by being constituted of movable blocks *g*, having external horizontally-corrugated faces, fitted to conform to like cross-corrugations on the inner face of such drivers, and fastened by a removable bolt, *h*.

E is a forming-center consisting of a circular plate, *h′*, within the circumference of which is formed the downwardly-projecting annular flange *i*. When the cask R is raised, as hereinafter described, for the purpose of driving the truss-hoops, the flange *i* enters the adjacent open end of the cask R, and holds that end of the staves out in a true circle, while that portion of the plate *h′* which projects beyond the flange *i* receives and evens the ends of such staves. The center E is removably attached to the under side of the head D by means of vertical bolts *k*, passed through radial slots *l* in such head, and thus such center E is rendered removable, and such bolts *k* adjustable radially to suit centers E of different diameters.

J is an intermittingly-rotating shaft journaled at *m* to the under side of the base-plate F, which latter is suitably supported on legs F′.

P P are brackets placed transversely of the shaft J, and having in their horizontal portion the rounded holes *n*, through which the shaft J passes. The brackets P are provided at their ends with vertical arms *o*, which pass loosely upward through corresponding holes, *p*, in the plate F, and are attached to the under surface of the annular plate G by means of bolts *r*, screwed downward through the plate G into the upper ends of such arms and countersunk in the upper surface of the plate G. That portion of the shaft J which rotates in the hole *n* of the brackets P is formed eccentrically, so that the shaft J in each full rotation has the effect of forcing the brackets P and plate G upward and drawing such parts down again.

The plate G has a hole, G^2, in its center, through which, from below, projects a central post, F^3, formed on the center of the upper face of the plate F. A loose plate, G′, having also a central hole to receive the post F^3, and

having a diameter equal to that of the large or adjacent end of the cask, is laid on the plate G, and serves to keep that end of the staves in a true circle, while the plate G, outside of plate G′, evens the ends of the staves. The plate G′ is held alone by the post F³, and is thus easily removable for the substitution of other plates G′, to suit casks of different diameters, respectively.

The shaft J is rotated from a belted pulley, K, keyed thereto, or in any other suitable manner. As at present constructed, I arrange for the requisite cessation of motion in order to remove and substitute casks, as follows: A belt, M, driven from the line-shaft or motive power, passes loosely around the pulley K, being held from slipping therefrom by flanges on the edges of the periphery of the latter. A bell-crank lever, N, is fulcrumed under and in line with the pulley K in the outside of the leg F′ and a corresponding box, N′. The lever N passes under the pulley K, and is provided at the upper end with the idle-pulley L. The lever N, at its lower front end, is formed into a pedal, N², and a spring, N³, placed thereunder. When the foot of the operator is placed on the pedal N², the pulley L tightens the belt M on the pulley K, and rotates the shaft J until the withdrawal of the operator's foot, when the spring N³ throws the pulley N clear of the belt M and slacks the latter, so that it does not rotate the pulley K.

The operation of my invention is obvious. The cask R is placed on the plate G, mouth downward, the truss-hoops S in position. The operator then places his foot on the pedal N² and causes the shaft J to make one revolution, which forces the cask upward, and the drivers B′ engaging such truss-hoops, the cask is forced through until it strikes the center E, when the latter half of the revolution of the shaft J withdraws the cask. One or more of the drivers D′ are hinged at their upper ends, for convenience in placing and removing the cask. The plates G and G′ and the center E keep the cask in shape.

It is plain that my invention can be readily arranged to work when inverted, so I do not limit myself to an ascending base. If the machine were inverted, and the cask seated in the drivers, the plate G could be forced downward by the mechanism shown with equal facility that it is now forced upward, though I think the position shown is preferable.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the head D, provided with drivers D′, adapted to engage the truss-hoops S of cask R, the plate G, adapted to support said cask in line with said drivers, brackets P, adapted to carry the plate G, the shaft J, eccentrically journaled in said brackets, and suitable means for imparting rotation to said shaft, substantially as shown, and for the purpose described.

2. The combination of the fixed or stationary head D, the drivers D′, attached to the lower face of such head and adapted to engage the truss-hoops S, the plate G, adapted to support the cask R, means for raising and lowering the plate G, and the center E, seated centrally on the under surface of the head D, and adapted to enter and also abut against the adjacent end of the cask R, whereby said cask is forced upward within said drivers, and the latter caused to engage the hoops S and force the latter into position, and the upper end of such cask straightened, substantially as shown, and for the purpose specified.

3. The combination of the stationary head D, provided with downwardly-extending drivers D′, adapted to engage the hoops S, the plate G, provided with the removable plate G′, adapted to fill the mouth of the cask R while supported on the plate G, and means for elevating and depressing the plate G, whereby the lower end of such cask is shaped and the drivers D′ caused to engage and drive into position the hoops S, substantially as shown, and for the purpose mentioned.

4. The combination of an adjustably-fixed head, D, drivers D′, having recesses *c*, center E, having flange *i*, the plate G, placed beneath such head and adapted to support the cask, plate G′, centrally located in the plate G, and means for reciprocating such plates, substantially as shown, and for the purpose described.

5. The combination of the shaft J, base F, brackets P, plate G, and means for rotating the shaft J, the latter being journaled eccentrically within said brackets, and thus adapted in its rotation to elevate and depress said brackets, and the plate G carried thereon, substantially as shown, and for the purpose described.

6. The combination of the fixed head D, the drivers D′, attached thereto, the plate G, the base F, the brackets P, the shaft J, and suitable mechanism for rotating said shaft, the latter being eccentrically journaled in said brackets, whereby the rotation of said shaft causes said plate G to approach toward and recede from said head D, substantially as shown, and for the purpose named.

7. The combination of the spring N³, the lever N, provided with the pulley L and pedal N², and fulcrumed in the leg F′ and box N′, the belt M, pulley K, shaft J, brackets P, base F, and plate G, the said shaft J being eccentrically journaled within said brackets P, whereby said plate G can be elevated and depressed intermittingly at the will of the operator, substantially as shown, and for the purpose specified.

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

GEORGE W. PACKER.

Witnesses:
JOHN G. MANAHAN,
H. C. WARD.