

(No Model.)

W. P. TRACY.
BARREL MAKING MACHINE.

No. 348,481.

Patented Aug. 31, 1886.

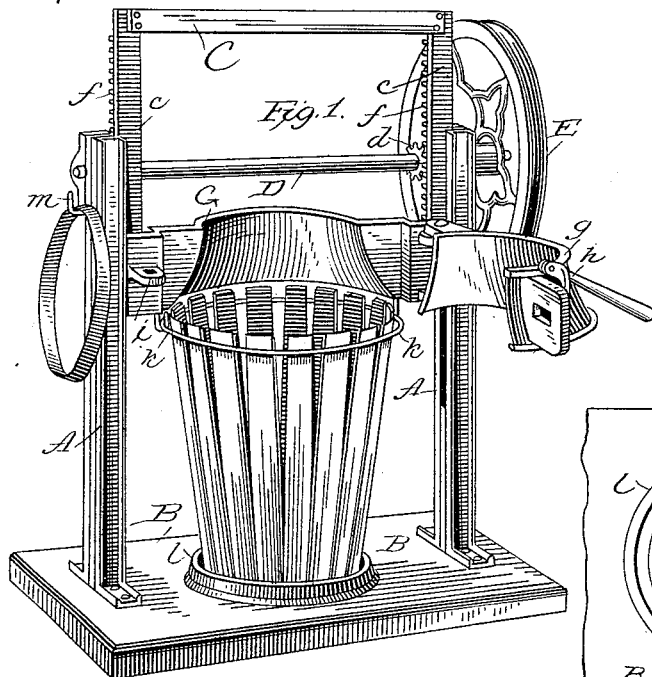


Fig. 4.

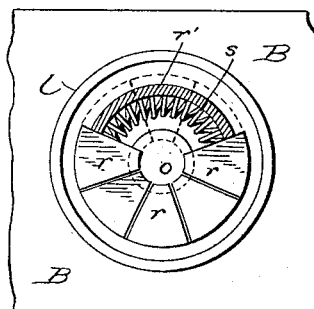
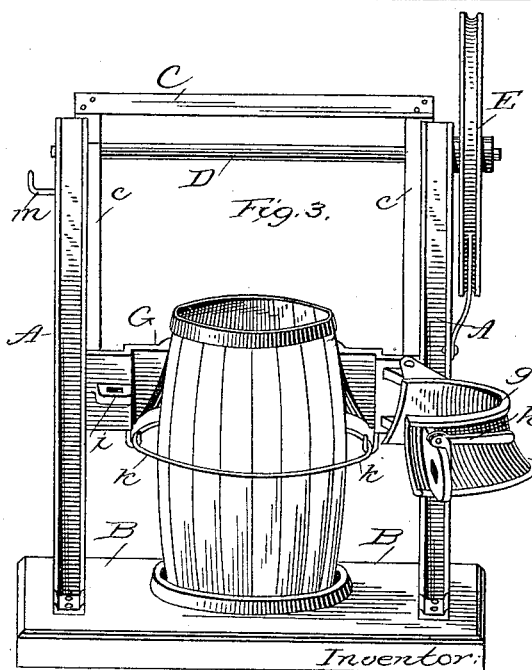
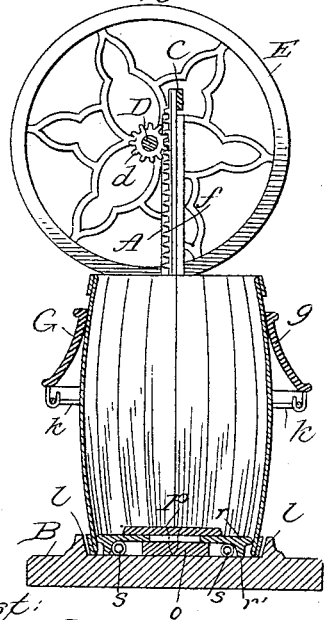


Fig. 2.



Attest:
Walter M. Alderson
J. L. Middleton

Inventor:
Wm P. Tracy
by Joyce & Spear
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM P. TRACY, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF
TO ROBERT M. LUTON, OF SAME PLACE.

BARREL-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,481, dated August 31, 1886.

Application filed March 31, 1886. Serial No. 197,321. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. TRACY, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful
5 Improvement in Barrel-Making Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to the manufacture of barrels out of staves, more particularly to the
10 assembling of the staves, and their formation into a barrel ready to receive the hoop.

My object is to provide a simple and inexpensive apparatus by which the setting of the staves and shaping of the barrel may be
15 quickly, effectively, and easily performed.

In the accompanying drawings, Figure 1 represents the machine in front elevation with the staves assembled and the clamp open, but ready to be closed for work. Fig. 2 shows a
20 sectional elevation with the clamp closed and down. Fig. 3 shows a front elevation with the barrel in place as formed.

As represented in the drawings, the standards A A are set upon a base, B, and are fixed
25 firmly in place. They are grooved to receive the sides *c* of the frame C by means of pinions *d* on the shaft D, mounted in bearings in the standard A, and turned by means of a wheel, E, which may be revolved either by hand or
30 by power. The pinions *d* gear into rack-bars *f*, fixed to the sides *c* of the moving frame.

To the lower end of the frame C is attached a compressor. This, as shown, consists of the fixed part G of a clamping-compressor. The
35 movable part *g* of the compressor is hinged to the fixed part on one side, as shown clearly in Fig. 1. It may be swung open, as shown in that figure, or closed to encompass the assembled staves. It is provided at its free end
40 with a hasp, *h*, which locks to a stud, *i*, on the end of the fixed part of the clamp. When closed, the clamp forms a tapering opening, enlarged from the top downward, concentric with the circle of the staves when properly
45 set up. The lower part of the opening is large enough to go over the assembled staves. The upper part is of a diameter sufficient to compress the staves, and to close them by being pressed down to a position shown in Fig. 2.
50 From the lower part of the clamp is suspended

in loops a ring of stout wire or rod, (marked *k*.) It hangs concentric with the cavity of the clamp, and serves to hold the staves as they are assembled with their upper ends within it while the clamp is open, as shown in Fig. 1. 55
On the base B is fixed a rim, *l*, concentric with the cavity of the clamp, and adapted to receive the chine-hoop of the barrel. The hoop is put within this rim before the staves are set up, and sustains the outer face thereof in the
60 manner shown in Fig. 2.

Within the annular rim *l* is a mechanism for bearing against the inner faces of the staves to press them against the chine-hoop, thus holding them in proper position under a certain
65 tension during the forming of the upper part. This mechanism is clearly shown in Figs. 2 and 4. A central boss, *o*, sustains a plate, *t*, a little larger in diameter, above it, with a space between the plate and boss sufficient to receive the ends of segments *r*, the segments
70 having a projection, *r'*, extending at right angles to their main part and bearing on the base. These segments are practically wedge-shaped, their outer faces being made to conform with the chine-hoop. A coiled spring, *s*, is
75 inserted between the projection *r'* of the segments and the boss *o*, and tends constantly to press the segments outward toward the rim *l*. It will thus be seen that after the chine-hoop
80 has been inserted the staves are put in position by forcing the lower ends between the hoop and the movable segments, which thus constantly exert a pressure upon the ends of the staves and hold them in the proper position. 85
When the staves are thus assembled in place, the wheel is turned to force down the frame C, and the tapering clamp, forced over the upper ends of the staves, compresses them away from the ring *k*, and forces them together, giving the barrel the proper bilge. The clamp is
90 adapted to be forced down far enough below the chine to leave room for the chine-hoop, as shown in Fig. 2. When this is applied, the clamp may be opened, and the barrel taken
95 out, ready for hooping. The clamp is then raised for repeating the operation.

I provide a hook, *m*, on one side of the frame to support the chine-hoop convenient to the hand of the workman.

Instead of the rim on the face, a groove or cavity might be used to hold the hoop and the lower ends of the staves in place.

I do not confine myself to the pinions and rack-bars for raising and lowering the frame, as mechanical equivalents for these may be employed.

The means for holding the staves before the compression is applied may also be differently arranged. The precise arrangement shown is convenient, but is obviously not the only one possible.

I am aware that prior to my invention barrel-making machines have been provided with compressing devices at each end adapted to act simultaneously to compress the staves at both ends of the barrel, this compressing device being so constructed as to operate to hold the staves in proper position to be compressed before the compressing action takes place, and I do not desire to be understood as claiming this as my invention.

I claim as my invention—

1. The combination, in a barrel-making machine, of clamping devices for holding the lower ends of the staves in proper position within the lower hoop, a ring at the upper end to support the upper ends of the staves without compression, and a vertically-movable compressor having a tapering cavity to compress the staves at the upper end into proper form, with means for forcing down the compressor, substantially as described.

2. The combination, in a barrel-making machine, of stationary clamping devices for

receiving and holding the lower ends of the staves in proper position within the lower hoop, a vertically-movable compressor for the upper end, consisting of a fixed and movable part, a frame for supporting said compressor, and means for operating the frame vertically, substantially as described.

3. In a barrel-making machine, the combination of clamping devices for receiving and holding the lower ends of the staves in proper position within the lower hoop, a compressor for the upper ends, consisting of a fixed and movable part, a ring suspended from the lower part of said compressor for holding the upper ends of the staves without compression, a frame supporting said compressor, and means, substantially as described, for moving the frame vertically, substantially as set forth.

4. In a barrel-making machine, a rim on the base for receiving and holding the lower ends of the staves within the lower hoop, a frame vertically movable in standards set in the base, a compressor carried upon the frame having a ring suspended therefrom to support the upper ends of the assembled staves without compression, and mechanism for forcing down the compressor, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM P. TRACY.

Witnesses:

GEORGE G. WITMAN,
L. D. STEWARD.