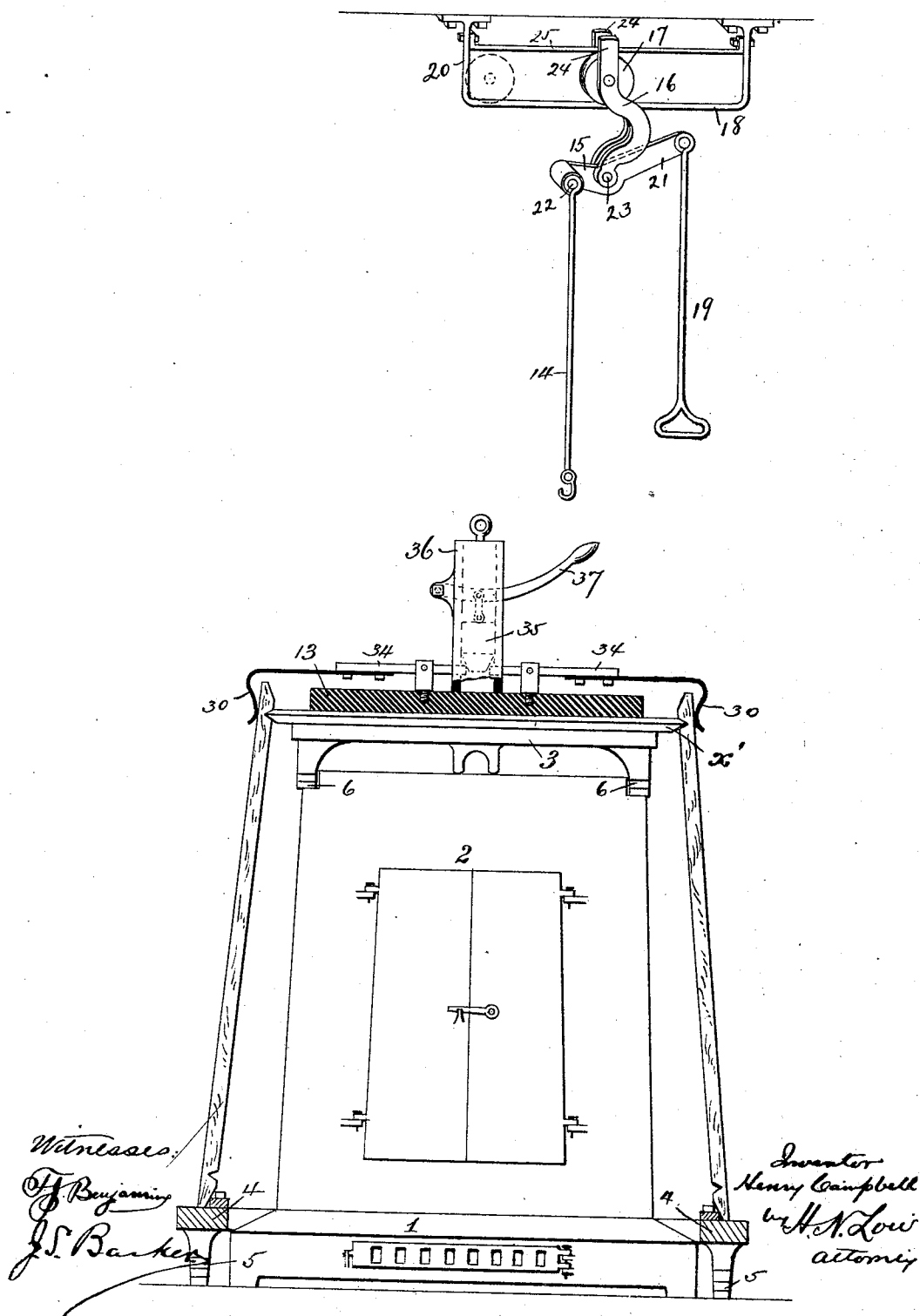


(No Model.)

H. CAMPBELL.
BARREL SETTING UP AND FIRING MACHINE.
No. 479,735. Patented July 26, 1892.



UNITED STATES PATENT OFFICE.

HENRY CAMPBELL, OF BALTIMORE, MARYLAND.

BARREL SETTING-UP AND FIRING MACHINE.

SPECIFICATION forming part of Letters Patent No. 479,735, dated July 26, 1892.

Application filed February 8, 1892. Serial No. 420,773. (No model.)

To all whom it may concern:

Be it known that I, HENRY CAMPBELL, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Barrel Setting-Up and Firing Machines; 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 drawing, and to the figures of reference marked thereon, which form a part of this specification.

My present invention relates to an improved means for simultaneously setting up and heating a barrel, cask, or similar vessel formed of staves.

It is the object of the improvement to so combine the setting-up and heating devices that the heat shall be retained and imparted to the staves to the greatest possible extent instead of being permitted to escape without effecting the desired object of properly firing the barrel.

To this end my improvement consists in a firing-stove or other heater having above it a setting-up plate or former adapted to receive the staves individually as they are put in place and give shape to the barrel, cask, or other vessel. By preference this former will be the head of the barrel itself, which will be retained in place within the staves by the permanent hoops without the use of truss-hoops.

My invention further consists in the parts and combinations thereof hereinafter more particularly set forth and claimed.

In order to make my improvement more clearly understood, I have shown in the accompanying drawing means for carrying the same into practical effect, without, however, intending to limit the application of the invention to the particular construction, which, for the sake of illustration, I have delineated.

In the drawing, the figure is a vertical sectional view of a setting-up and firing machine embodying my invention, the firing device or heater proper being shown in elevation and the suspending devices for the barrel-head clamp or holder being shown in perspective for the sake of clearness.

Referring to the drawing, 1 indicates a suitable base or main support, upon which is carried a firing-stove or other heater 2 of any usual or preferred construction which is adapted for the purpose. The products of combustion from this stove pass by a flue down and out under the lower edge of the machine in a well-known manner. Above said heater, and preferably resting thereon, is a supporting table or plate 3, adapted to carry a barrel-head x' or other former adapted to give shape to the upper end of the barrel, cask, or tub. With this table I combine a suitable means for holding the former, when the same consists of a barrel-head, in place during the setting-up operation. Said holding means preferably consists of that shown in my application, Serial No. 410,206, filed October 29, 1891, which comprises a holding-plate 13, of sufficient weight to keep the barrel-head in place upon its table, and hinged arms 34, carrying spring-fingers 30, which are adapted to be turned down to engage the outer side of the upper end of the stave and press the same firmly inward toward the edge of the head or other former x' . A cone or slide 35, working in a bearing 36 on the plate 13 and operated by a lever 37, serves to depress the inner ends of the hinged arms and lift their outer ends simultaneously when desired. The holding-plate 13 is suspended by a chain, rope, or rod 14, attached to a lever 15 on a traveling carriage 16, the roller or rollers 17 of which is or are adapted to run upon an overhead track 18. By manipulating the depending rod 19, which is attached to the other arm of the lever 15, the operator can cause the carriage to travel to a point over the table 3, at which point it will be arrested by the stop 20, and can then lower the holding-plate into place, or he can elevate said plate and cause the carriage to move from over the table in order to permit the set-up and fired barrel to be removed. When the arm 21 of the lever 15 is fully depressed, the point of suspension 22 of the plate 13 will have passed beyond (to the right in the drawing) the fulcrum 23 of the lever and the weight of the plate will lock the lever in such a position with the plate elevated. By pushing slightly upward on the rod 19 the point 22 will be slightly raised and caused to pass over and to the left of the ful-

crum, whereupon the plate 13 will be free to descend. The upper end of the carriage 16 is bifurcated or made in two parts 24, as shown, which parts engage a guide-bar 25, attached to a fixed support, so as to aid in maintaining the proper position of the carriage on its track.

4 indicates a base or supporting-plate for the lower edges of the staves, and in order to provide for different lengths of staves and different sizes of barrels, said plate is made vertically adjustable, as by means of a series of blocks 5. The table 3 is also vertically adjustable upon the heater, if desired, by means of blocks 6 or other suitable devices.

In using my invention I prefer to have two or three sets of the same.

The operator first begins by setting up a barrel upon the first device, within the heater of which a suitable fire has been kindled. When the first barrel is formed, the operator passes to the second set of devices or machine and sets up a second barrel thereon. If three machines are employed, he then passes to the third machine and sets up a third barrel. By this time the first barrel is sufficiently heated and fired and may be removed and immediately windlassed in the usual or any preferred manner. By "windlassing" I intend any operation, by whatever character of machine, involving the drawing or forcing in of the staves at the open end of the barrel to enable the hoops to be applied. As soon as the first barrel has been thus removed by an assistant the operator immediately begins the setting up of a

fourth barrel. By the time that the latter is completed the second machine will be vacant and ready for use as before.

I have thus attained a very material economy in the manufacture of barrels or similar articles, both in the time required and in the handling which is necessary.

Having thus described my invention, what I claim is—

1. In a setting-up and firing machine for the manufacture of barrels and similar articles, the combination, with a heater, of a plate or former supported above said heater and within the space included by the upper ends of the staves and adapted to receive the inner sides of the upper ends of the staves, substantially as set forth.

2. The combination, with a heater or firing device, of a table or support above the same and adapted to receive a barrel-head and means for temporarily holding said head in place, substantially as set forth.

3. The combination, with a heater or firing device, of a table situated above the same, a support for the lower ends of the staves, and a means for adjusting the distance apart of said support and table, substantially as set forth.

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

HENRY CAMPBELL.

Witnesses:

H. N. Low,
J. S. BARKER.