No. 860,973. PATENTED JULY 23, 1907.

J. GILMOUR.

MACHINE FOR MAKING CASKS.

APPLICATION FILED AUG. 21, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

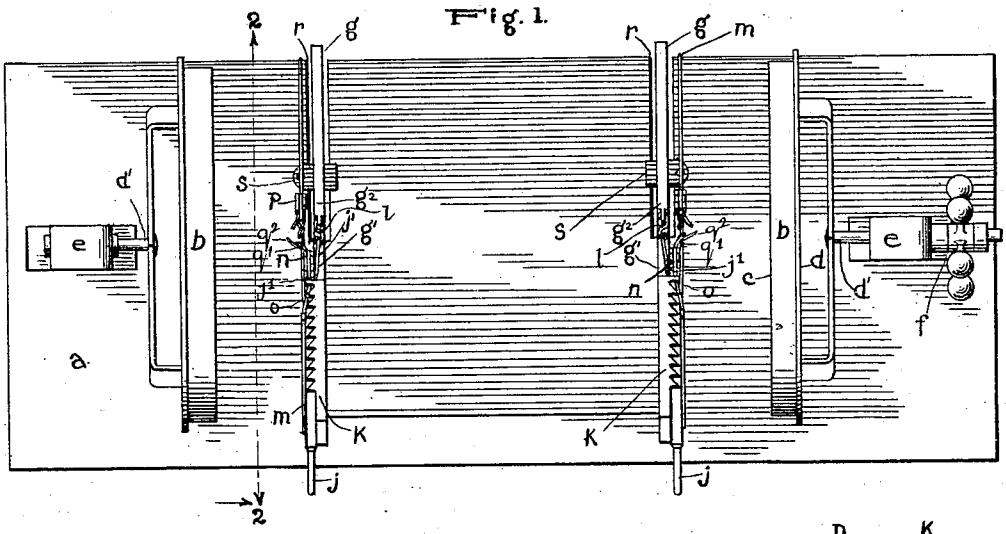


Fig. 6.

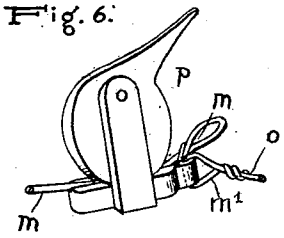


Fig. 4.

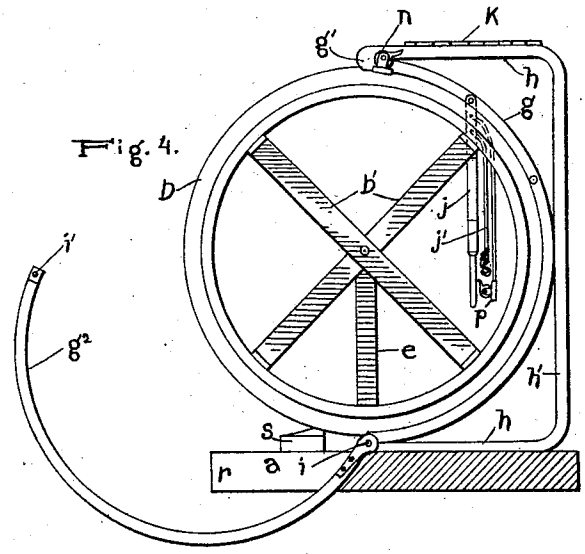
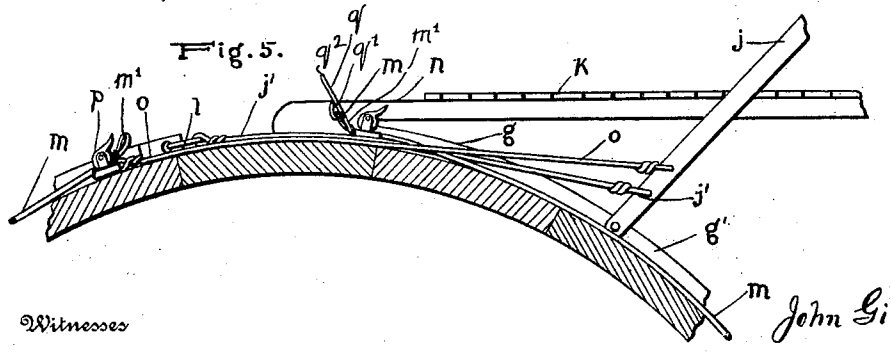


Fig. 5.



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3 SHEETS—SHEET 2.

Fig. 2.

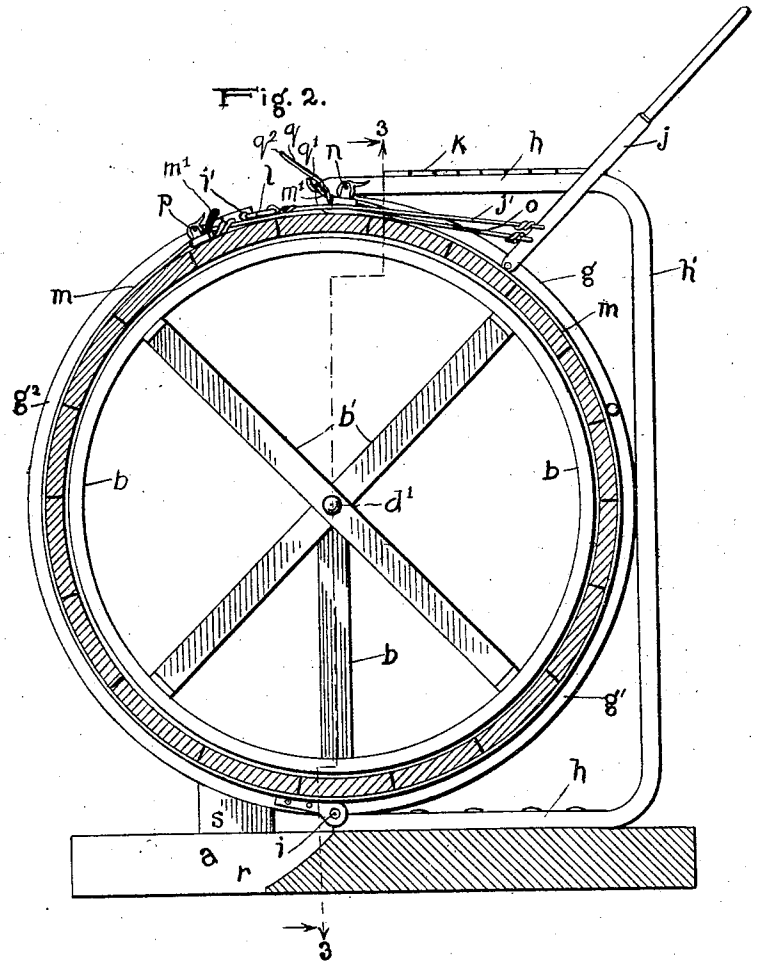
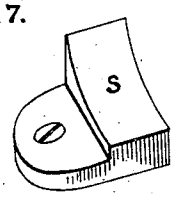


Fig. 7.



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3 SHEETS—SHEET 3.

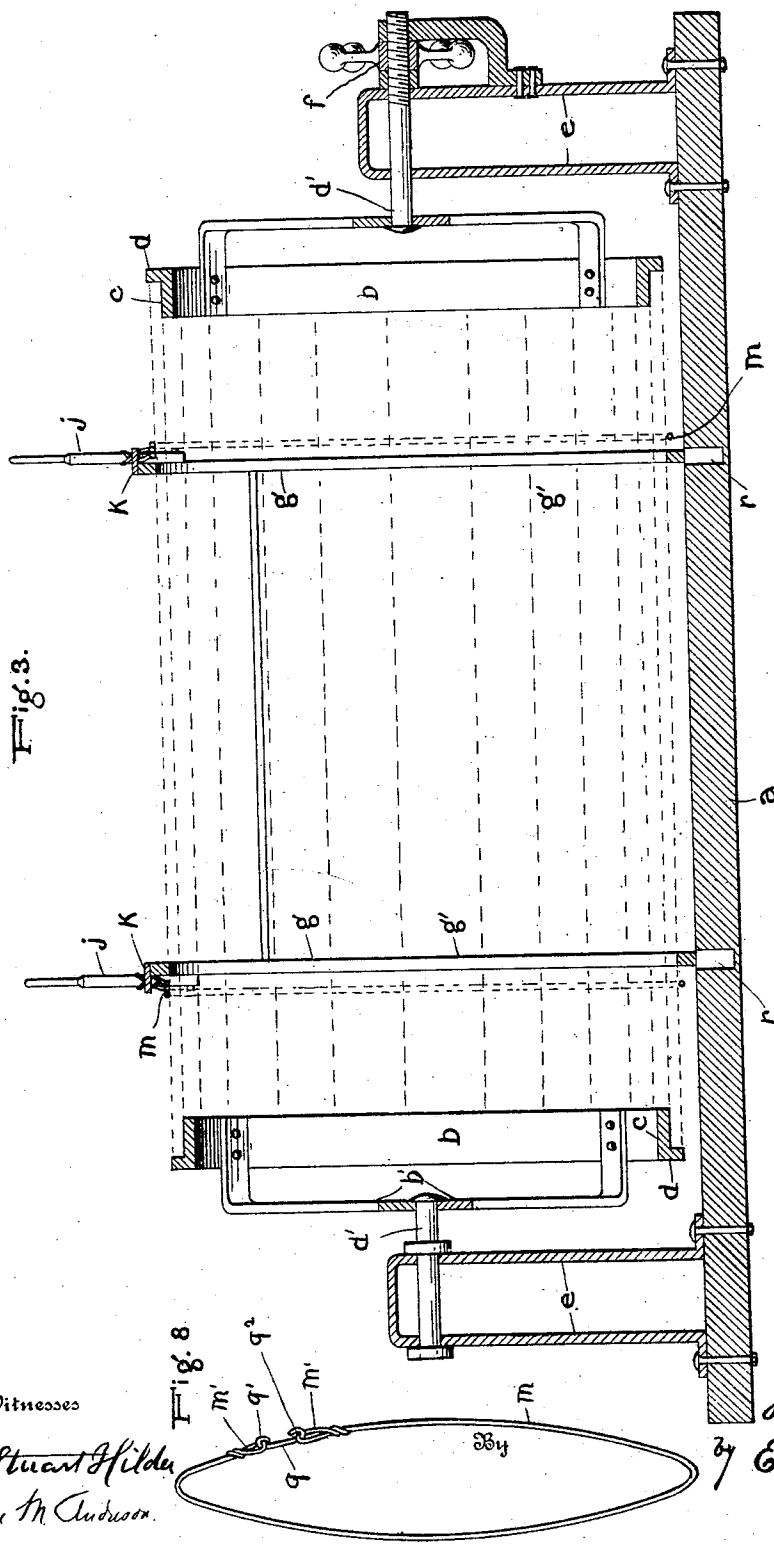


Fig. 8

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UNITED STATES PATENT OFFICE.

JOHN GILMOUR, OF OWENSBORO, KENTUCKY.

MACHINE FOR MAKING CASKS.

No. 860,973. Specification of Letters Patent. Patented July 23, 1907.

Application filed August 21, 1906. Serial No. 331,516.

To all whom it may concern:

Be it known that I, JOHN GILMOUR, a citizen of the United States, and a resident of Owensboro, in the county of Daviess and State of Kentucky, have made a certain new and useful Invention in Machines for Making Casks; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, 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 is a plan view of my machine. Fig. 2 is a section on the line 2—2, Fig. 1, with cask in place. Fig. 3 is a section on the line 3—3, Fig. 2, with cask in dotted lines. Fig. 4 is a sectional view similar to Fig. 2 on a smaller scale, showing the movable section of one of the annular holders and tighteners released and fallen. Fig. 5 is a detail sectional view of a tightening lever and its connections. Fig. 6 is a detail view of one of the wire clamps. Fig. 7 is a detail view of one of the cam supports. Fig. 8 is a detail view of one of the bulge hoops.

The invention relates to hogshead or barrel making machines, having for its object the provision of simple means whereby an unskilled person can readily put a hogshead or barrel together in a short time.

Other objects and advantages will hereinafter appear.

With this object in view, the invention consists in the novel construction and combinations of parts, as hereinafter set forth.

In the accompanying drawings illustrating the invention, the letter *a*, designates a platform or base, upon which the machine is mounted. At each end of the base is provided an end holder *b*, for the staves, of annular form, having an inner annular flange *c*, and a vertical annular outer flange *d* at right angles thereto. The stave end holders *b*, have radial cross braces *b'*, and are mounted upon horizontal shafts *d'*, having rotary bearings or journaled in standards *e*. A suitable screw device *f* is provided for one or both of the stave end holders *b*, whereby they may be longitudinally adjusted for hogsheads of different length.

Intermediate of the stave end holders *b*, are stave and bulge hoop holding and tightening devices *g*, also of annular form. Each device *g* is formed in two sections *g'*, g^2, hinged together, and of substantially semi-circular character, one section *g'* being rigidly supported from the base by horizontal top and bottom tangential arms *h*, and vertical arms or standards *h'* connecting the arms *h*. The other section g^2 is hinged at the bottom end to the section *g'* at *i*, and at its upper end is provided with a perforation *i'*.

A tightening lever *j* is fulcrumed at its lower end to the section *g'* of each stave and binding hoop holding and tightening device *g*, near the upper end thereof, and extends upward into engagement with a rack bar *k*, carried by the top horizontal supporting bar *h*. Each lever *j* has a flexible connection *j'*, connecting the same with the upper end of the hinged section *g'*, by means of a hook end *l*, engaging the perforation *i'*, of the section g^2. Each lever *j*, is also provided with means for tightening a binding hoop *m*, of the hogshead, as follows—Each binding hoop is formed of a length of wire having a small loop *m'*, twisted therein at each end. At the upper extremity of the section *g'*, of each stave end holder is carried a cam device *n*, which is adapted to grip one end of the wire hoop *m*, just inside of its end loop. A flexible connection *o*, having connection with the lever *j* near its connection with the part *j'*, is provided at its free end with a cam device *p*, which is adapted to grip the other end of the binding hoop just inside of its end loop. Thus upon operation of the levers *j*, the hinged sections g^2, will be brought toward the fixed sections *g'*, and the two ends of the binding hoops will be brought towards each other.

In use, the levers *j*, are loosened or moved to separate the sections *g'*, and g^2, to the required degree, when a stave is inserted and slid around upon the outer surface of the horizontal flanges *c* of the stave end holders, until it arrives at the bottom thereof, where it rests and is supported by the annular holding and tightening devices *g*, the diameter at the outside of a flange *c*, and the inside diameter of the annular holders and tighteners *g*, differing from each other by double the thickness of a stave. Other staves are now inserted one by one and slid around upon the horizontal flanges *c*, being supported at the outside by the annular holders and tighteners *g*, until the complete cylinder is formed of the staves, which are held in position by the annular tighteners and holders *g*, on the outside and by the flanges *c* on the inside, and abutting at their ends against the vertical flanges *d* of the stave end holders. The complete cylinder being formed, the tightening levers *j* are operated to draw the staves at each end portion of the hogshead together to the required degree, at the same time drawing the ends of the binding hoops together to the same degree, when the loop ends of the binding hoops are connected and the formation is complete. These loop ends are connected as follows—A wire loop connection *q* is normally connected at one end by a loop bend *q'*, to one end loop *m*, of each bulge hoop, and when the two loop ends *m* of the hoop are brought towards each other the other pliable end q^2 of the wire loop connection *q*, is bent into engagement with the other loop end *m* of the hoop, thus binding the tightened staves together in a permanent manner. The hogshead being now in form, the connections *j'*, and *o*, are disconnected from the hinged sections g^2, of the annular holders and tighteners, and from the binding hoops, when the hinged sections g^2, will fall through gravity below the level of the top of

the base (being received in slots r thereof) leaving a sufficient interval between the ends of the sections g', and g^2, for the removal of the hogshead from the machine, when it may have its head hoops and heads applied thereto.

For the purpose of setting the staves of hogsheads varying somewhat in size into form, a hinged cam support s is provided for each hinged section g^2, of the annular holding and tightening devices, said supports being adjusted underneath said hinged sections to vary the circumferential relation.

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

1. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards, having end abutments for the staves and lateral abutments for the stave ends, means for holding the outside of the staves and for tightening the staves consisting of an upright semi-circular rigid member, an upright semi-circular hinged member, and a lever mounted upon the rigid member and having a flexible connection with the hinged member, and means for retaining said lever in position as adjusted.

2. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards, having end abutments for the staves and lateral abutments for the stave ends, means for supporting the staves on the outside and for tightening the staves consisting of a rigid member, a hinged member, and a lever mounted upon said rigid member and having a flexible detachable connection with the hinged member, means for limiting the fall of said hinged member, means for retaining the hinged member in normal raised position, and means for maintaining the lever in position as adjusted.

3. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards having end abutments for the staves and lateral abutments for the stave ends, means for supporting the outside of the staves and for tightening the staves consisting of a rigid member, a hinged member, and a lever mounted upon said rigid member having a detachable flexible connection with the hinged member, said lever having means in connection therewith for tightening the binding hoop at the same time that it adjusts the hinged member with relation to the rigid member, in coöperation with a clamp for the fixed end of the binding hoop carried by the rigid member.

4. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards having end abutments for the staves and lateral abutments for the stave ends, means for supporting the outside of the staves and for tightening the staves consisting of a rigid member, a hinged member, and a lever mounted upon said rigid member and having a flexible connection with the hinged member, a clamp device for one end of the binding hoop having a flexible connection with said lever, a clamp device for the other end of the binding hoop carried by said rigid member, and means for retaining the lever in position as adjusted.

5. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards having end abutments for the staves and lateral abutments for the stave ends, means for supporting the outside of the staves and for tightening the staves consisting of a rigid member, a hinged member, and a lever mounted upon said rigid member and having a flexible connection with the hinged member, means acting in coöperation with said lever to adjust the binding hoop at the same time that the hinged member is adjusted with relation to the fixed member, and means for retaining said lever in position as adjusted.

6. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards having end abutments for the staves and lateral abutments for the stave ends, means for supporting the outside of the staves and for tightening the same consisting of a rigid semi-circular member, a hinged semi-circular member and a lever mounted upon the rigid member and having a flexible detachable connection with the hinged member, a clamp device for one end of the binding hoop carried by the rigid member, a clamp device for the other end of the binding hoop having a flexible connection with said lever, means for stopping the fall of the hinged member, means for retaining the hinged member in normal raised position, and means for retaining said lever in position as adjusted.

7. In a machine of the class described, a base, standards at each end thereof, heads carried by said standards having end abutments for staves and lateral abutments for the stave ends, one of said heads having a longitudinal adjustment, means for supporting the outside of the assembled staves and for tightening the same consisting of a rigid semi-circular member, a semi-circular member having a hinged connection with said rigid member, and a lever mounted upon the rigid member and having a flexible detachable connection with the hinged member, means for limiting the fall of the hinged member, means for retaining the hinged member in normal raised position, a clamp device for one end of the binding hoop carried by said rigid member, a clamp device for the other end of the binding hoop having a flexible connection with said lever, and means for retaining said lever in position as adjusted.

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

JOHN GILMOUR.

Witnesses:
ROBERT A. BOSWELL,
GEORGE M. ANDERSON.