2 Sheets—Sheet 1.

S. P. HODGEN.

Barrel-Making Machines.

No. 211,330. **Patented Jan. 14, 1879.**

Fig. 1.

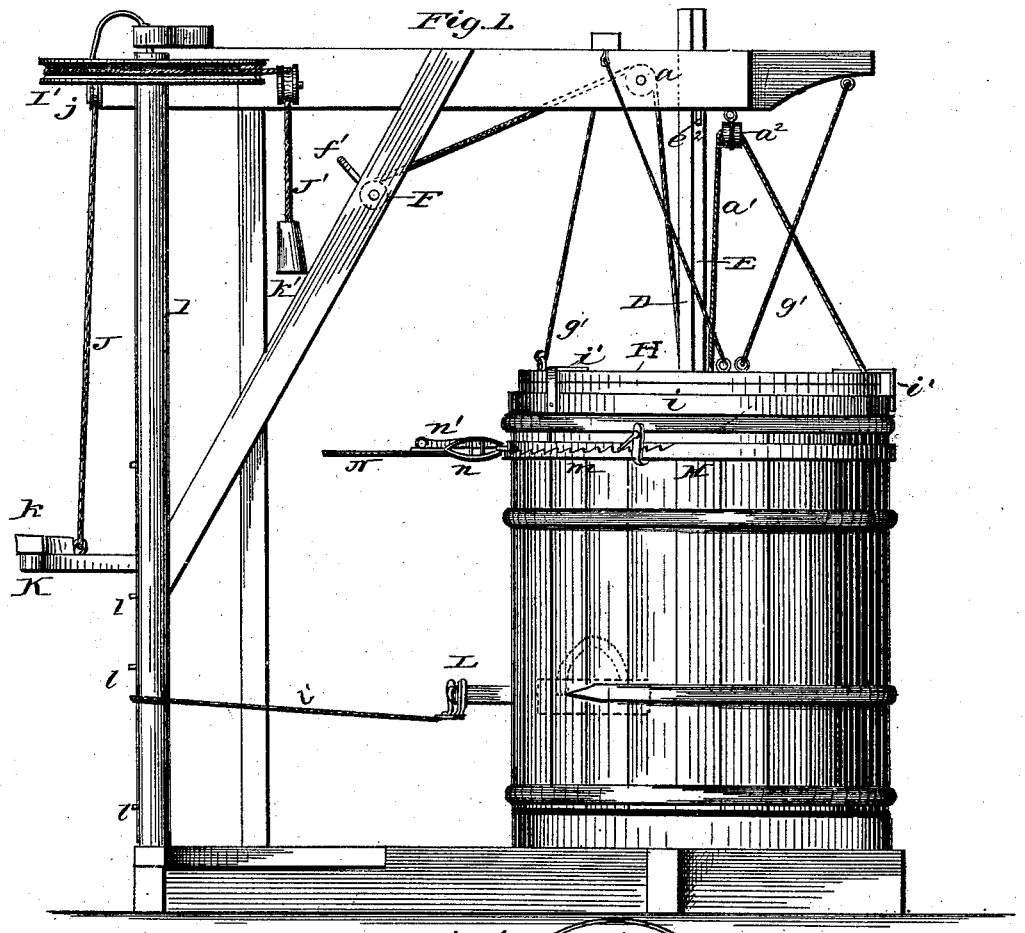


Fig. 4.

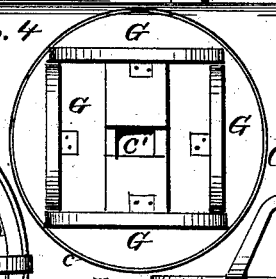


Fig. 3.

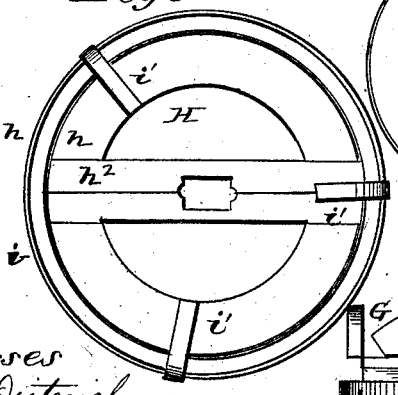


Fig. 5.

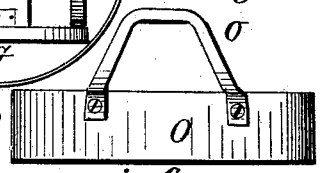
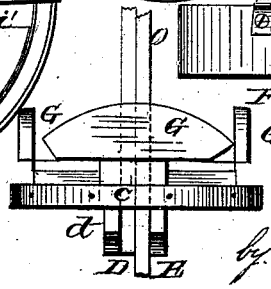


Fig. 6.



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2 Sheets—Sheet 2.

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Barrel-Making Machines.

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Fig. 2.

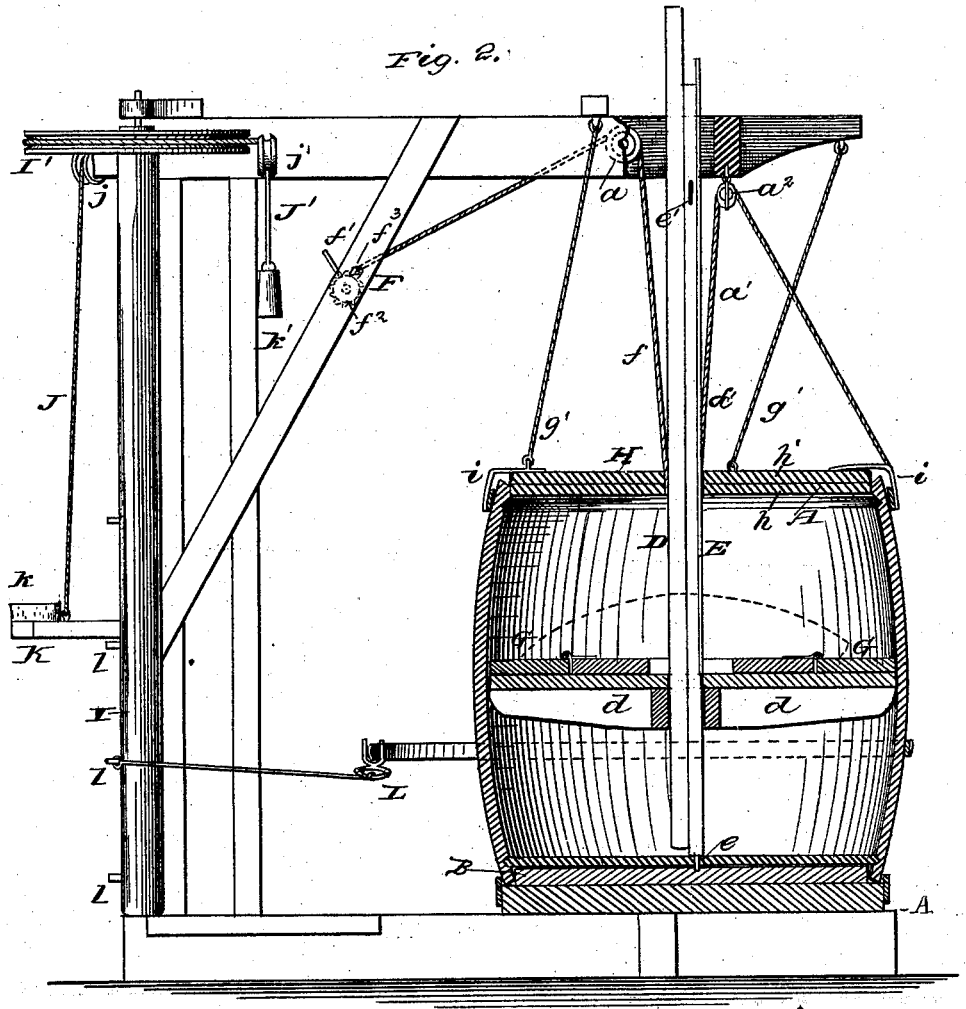


Fig. 7

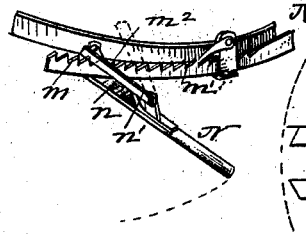


Fig. 9

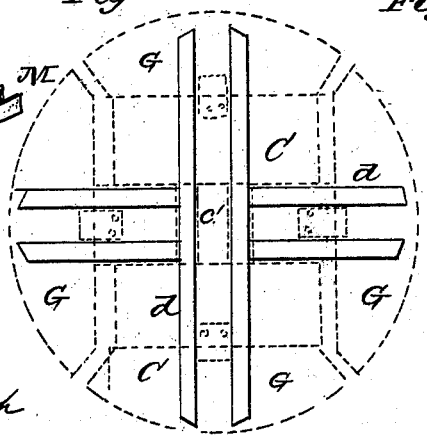
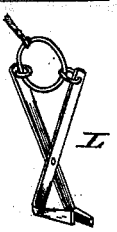


Fig. 8



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UNITED STATES PATENT OFFICE.

SAMUEL P. HODGEN, OF MARTLING, MISSOURI.

IMPROVEMENT IN BARREL-MAKING MACHINES.

Specification forming part of Letters Patent No. **211,330**, dated January 14, 1879; application filed December 4, 1878.

To all whom it may concern:

Be it known that I, SAMUEL PARK HODGEN, of Martling, in the county of Newton and State of Missouri, have invented certain new and useful Improvements in Machines for Making Hogsheads and Barrels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being made to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is a side elevation of my machine. Fig. 2 is a sectional elevation; and Figs. 3, 4, 5, 6, 7, 8, and 9 are detail views.

This invention relates to improvements in the class of machines for setting up and hooping bilge or straight hogsheads or barrels; and the invention consists in the combination, in a machine for setting up and hooping hogsheads or barrels, of an adjustable shaft or follower, and a series of pivoted or hinged segmental plates or flanges connected to said shaft or follower, whereby said plates or flanges can be turned or folded over outwardly or inwardly when connected to a follower for making either straight or bilge hogsheads or barrels, or connected to an adjustable shaft when it is desired to only make bilge hogsheads or barrels.

It further consists in an upper stave-holder loosely suspended by cords, and adapted to be raised when the follower is removed from a hogshead or barrel.

It further consists in a novel construction of holder for securing the upper end of the staves when setting up a hogshead or barrel.

It further consists in a novel arrangement of devices for drawing the permanent hoops around the staves.

It finally consists in a novel construction of clamping or truss band, for clasping around the upper portion of the staves for drawing and holding them securely together, all as will be hereinafter fully described.

To enable others skilled in the art to make and use my improved machine, I will now proceed to describe the exact manner in which it is carried out.

My improved machine is intended to be made stationary, and is made on a porch or put up in a building, as may be deemed expedient, the several movable or working parts being attached at suitable or different points of the porch or in a building.

In the drawing, A represents a circular or round platform, which is to be secured to the floor of a porch or building, and upon which a circular chine-board, B, (of less diameter than the platform A) is secured, and around said chine-board a band of hoop-iron, of suitable thickness, is shrunk, for the purpose of preventing the hogshead or barrel from being nailed fast thereto while being made, and forming a groove for the reception of the lower end of the staves in making bilge hogsheads or barrels. C represents the follower, it being of the same diameter as the chine-board, and around which an iron band, *c*, is also shrunk for clinching the nails used in securing the hoops to the staves. The follower in the present instance is composed of two wooden heads nailed firmly together, and provided with a square central hole, *c'*, through which the parallel shafts D and E pass. The shaft D is made fast to the follower at right angles by toe-nailing, and by firmly nailing a board or or boards, *d*, upon the side or sides of said shaft, and also to the under side of follower, said board or boards *d* extending across the under side of the follower, so that when said follower is raised from place to place through the medium of the rope *f* and windlass F it will rise square and level. The windlass F is made of iron, and journaled in a wooden frame, as shown in Fig. 2, one of the journals being provided with a crank, f^1, and a ratchet-wheel, f^2, into which a pawl, f^3, engages, for holding the windlass in any position desired.

The rope *f*, which is connected at one end to the windlass F, passes over a pulley, *a*, situated close to top of follower-shaft D, and thence down and through a hole in follower, close as possible to the shaft, and is fastened by tying a knot in the under side of the follower.

Shaft E, which also passes through a hole in the follower, and parallel with shaft D, but loose enough to allow follower C to work easily, is provided with an iron point, *e*, extending below its lower end, and let into the shaft on the side next to follower-shaft D, so as to strike in the center of the chine-board, or in the center of the lower head of the hogshead or barrel being made.

The shaft E is also provided with a mortise or slot, e^1, through it, near the top, so that a tapering wedge, e^2, can be inserted through it to hold the shaft and hogshead or barrel firmly down in position while being made.

A rope, a^1, secured to the lower end of shaft E, and passing up through the follower and over pulley a^2, is used for pulling or drawing up said shaft out of the way, when the wedge e^2 is removed, and the hogshead or barrel hooped and ready to be taken out or removed from the machine.

The shaft E should be provided with a mark, and a sufficient number of marks on shaft D, corresponding with the distance apart and number of hoops to be used on the hogshead or barrel being made, so that when two marks on the shafts are opposite they will indicate that the follower is in proper position for clinching the nails used in securing the hoops to the staves.

G represents a series of curved plates or flanges, hinged or pivoted in the present instance to the top of follower C, so that they can be turned or folded outwardly beyond the follower when it is desired to make bilge hogsheads or barrels, and turned or folded over on the follower in making straight hogsheads or barrels, or when it is desired to raise or remove the follower from the hogshead or barrel being made.

The follower, in making bilge hogsheads or barrels, might be dispensed with, and the flanges or plates hinged or pivoted to cross-pieces secured to lower end of follower-shaft D, so that the plates or flanges could be turned or folded over on the cross-pieces, as shown in Fig. 4, for allowing the shaft to be removed out of the top of the hogshead or barrel being made.

H represents a holder for securing the upper ends of staves when set up, and it is composed of two circles, h h^1, of wood, nailed together with cross-pieces h^2, to be kept in place by shafts working loose through the cross-pieces, and also a band, i, of iron or wood, of larger diameter than the circles h h^1, secured around said circle by the right-angled metallic straps i', so as to form a groove between the circles and band i, to hold the upper end of staves when set up.

The holder is loosely suspended by cords g' at the proper height, whereby the holder can be raised by the follower when it is removed at the top of hogshead or barrel being made.

I represents a vertical tightening-shaft, journaled as shown, and provided with a large grooved wheel, I', near the top thereof, and to which one end of each of the cords J J' is secured, the rope J passing over pulley j, and secured to the pivoted lever K, which is provided with a removable weight, k, and the rope J' passing over pulley j', and provided with a weight, k', all as clearly shown in Figs. 1 and 2. The tightening-shaft I is also provided with a series of pegs, l, to which the rope l', provided with pinchers L, is successively secured as the hoops are put on the hogshead or barrel.

The weight on rope J' is to turn or pull shaft I back in position for securing the pinchers L to the hoops as they are put on the hogshead or barrel, while the weight k is applied to lever K to tighten or draw the hoops around the hogshead or barrel, as will be hereinafter fully explained.

The adjustable clamping or truss band, for clasping around the upper portion of the staves composing the hogshead or barrel, for holding them securely together, is composed of a divided flexible metallic band, M, provided at one end with a series of notches, m, and at the other end with a loop, n', through which the notched end m passes, and a pivoted pawl, m^2, for engaging with said notched end. A lever, N, is also pivoted to said band M a short distance from its looped end; and said lever N is provided with a loop or staple, n, through which the notched end m of the band passes, and a pivoted pawl, n', for engaging with said notched end m and holding said lever in position, or securing the band thereto while the lever is drawn backward to tighten the band around the staves. The pawl m^2, engaging with the notched end m of the band, holds it in position as adjusted, so that the lever N can be released and turned forward to again engage farther up on the notched end of the band, and again turned backward to draw the band still tighter around the staves.

O represents a curved metallic plate, having a handle, o, said plate being for the purpose of clinching the nails used in securing the hoops at their splice, the plate being curved to conform to the shape of the exterior surface of the hogshead or barrel, and which is inserted between the hogshead or barrel and the ends of the hoop when it is desired to be spliced.

The mode of using my improved machine in setting up and hooping a bilge hogshead or barrel is as follows: The lower head is placed on the chine-board, in pieces as sawed. A piece of board is then laid across the head, and having a hole in center, through which the iron point on shaft E passes into the center of the head. The wedge e^2 is then inserted through the square hole or slot e^1 in the shaft E, pressing the board down on the head, and thereby holding the pieces forming the head firmly in position. The follower is then lowered to the center of the hogshead or barrel and the plates or flanges turned outwardly, when the staves are to be applied for setting up the hogshead or barrel, the upper ends of the staves being first inserted in the holder H, and their lower ends pressed in the groove below by the foot of the operator (the staves being bent to form the bilge as set up, one at a time) until all the staves are in position. One end of the first or lower hoop is then nailed through it and the stave into the lower head, and the other end passed around the staves and caught by the

pinchers L, which are secured by rope l' to the lower peg, l, on tightening-shaft. A weight is then applied on the lever K, which, through the medium of the cord and wheel, turns said tightening-shaft, and thereby draws the hoop tight around the staves. The hoop is then nailed around the staves by commencing at the point where the end of hoop was first nailed, and as the nailing progresses the weight presses the lever down, keeping the hoop always tight; and when the hoop is nailed around to splice, remove pinchers and nail end of hoop fast. The plates or flanges are then turned or folded inwardly upon the follower, (or upon the cross-pieces when the follower is not used,) which will allow the center or bilge of the hogshead or barrel to spring in, when it is ready to put on balance of hoops, which are successively tacked through into the staves a short distance from one end, and the other end passed around the staves and caught by the pinchers, which are connected to the next higher peg on tightening-shaft. The curved metallic plate for clinching the nails used in securing the hoops at the splice is then inserted between the hogshead or barrel and the ends of the hoop, and the weight applied to the lever, as before. Then hammer around on the hoop to make it fit close to the staves, and then nail hoop with small nails, and remove the pinchers and clinch the nails at the splice of the hoop. The clinching-plate is then removed, and the operation repeated until all the hoops are secured. The wedge in shaft E is then removed, and said shaft pulled up out of the way by the rope a^1. Then, with the windlass and rope, raise the shaft, follower, and flanges or plates clear of the hogshead or barrel, and remove the hogshead or barrel completed.

In making straight hogsheads or barrels, the head is placed on the chine-board and the staves set up around the chine-board on the circular platform, while the upper ends of the staves are secured in the holder H. The staves are nailed to the head when set up, the follower being in position for clinching the nails in the second hoop. The hoop is bent around the hogshead or barrel, one end being nailed and the other firmly held in the pinchers. The weight being now placed on lever K, the shaft I is pulled around, tightening the hoop, and as it is nailed on the lever gradually settles, making the hoop perfectly tight. The follower is now raised in position for next hoop by turning windlass, and it is then put on in the same way, the pinchers being raised to the next peg on shaft I to correspond, the same process being renewed until all the hoops are on. The shafts, follower, &c., are then removed in the manner before described, and the hogshead or barrel turned out in condition for packing.

I do not desire in this case to claim, broadly, the adjustable follower for clinching the nails adapted to be removed out of the top of a hogshead or barrel, as that is claimed in reissued patent granted to me November 19, 1878, of patent dated June 26, 1876.

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

1. In a machine for setting up and hooping hogsheads or barrels, the combination of an adjustable shaft or follower, and a series of hinged or pivoted curved plates or flanges connected with said shaft or follower, and adapted to be turned or folded over outwardly or inwardly, substantially as and for the purpose herein shown and described.

2. In a machine for setting up and hooping hogsheads or barrels, the grooved stave-holder H, loosely suspended by cords g', whereby it is adapted to be raised, substantially in the manner and for the purpose herein shown and described.

3. The herein-described stave-holder H, consisting of the circles and the right-angled metallic straps i', for securing said band to the circles, substantially as specified.

4. In a machine for setting up and hooping hogsheads or barrels, the combination, with a device for holding one end of a permanent hoop, of mechanism for automatically tightening said hoop around a hogshead or barrel as it is being nailed around thereon, substantially as herein shown and described.

5. The combination, with the pinchers and rope L l', of the shaft I, provided with wheel I′, cord J, and pivoted lever K, substantially as and for the purpose herein shown and described.

6. The combination, with the tightening-shaft, to which the pinchers are attached, of the wheel I′, cord J′, and weight j', substantially as and for the purpose herein shown and described.

7. The adjustable clamping or truss band, consisting of the divided and flexible metallic band M, having notched end m and looped end m^1, and pivoted pawl m^2, in combination with a lever, substantially as and for the purpose herein shown and described.

8. The combination, with the divided and flexible metallic band M, having notched end m and looped end m^1, and pivoted pawl m^2, of the lever N, pivoted to said band, and provided with the loop or staple n and pivoted pawl n', substantially as and for the purpose specified.

SAMUEL PARK HODGEN.

Witnesses:
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H. B. LOGAN.