(No Model.)

J. CARROLL.

FORM FOR SETTING UP BARRELS.

No. 553,301. Patented Jan. 21, 1896.

Fig. 1.

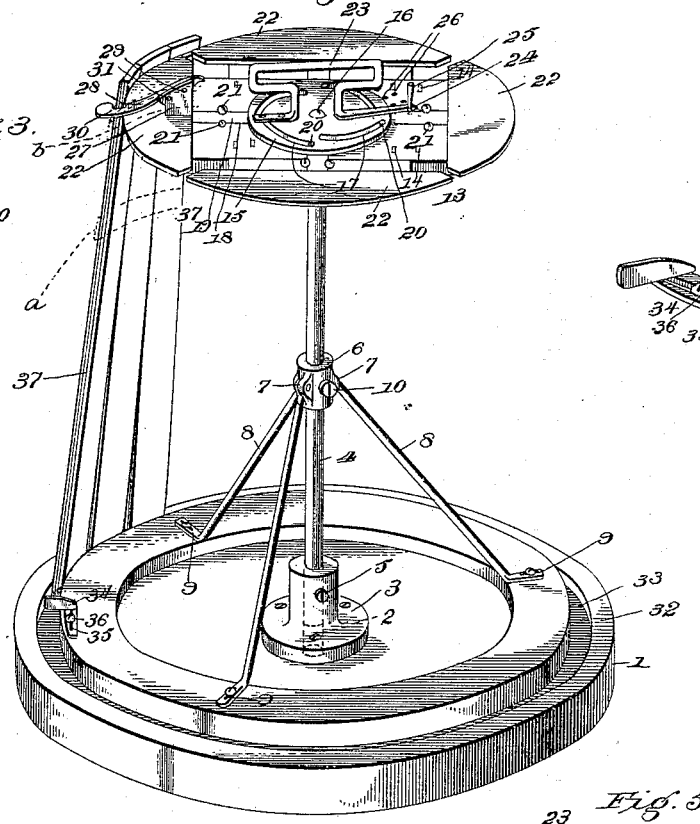


Fig. 3.

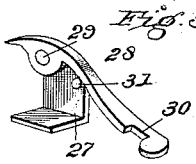


Fig. 4.

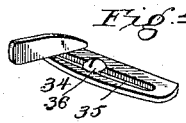


Fig. 5.

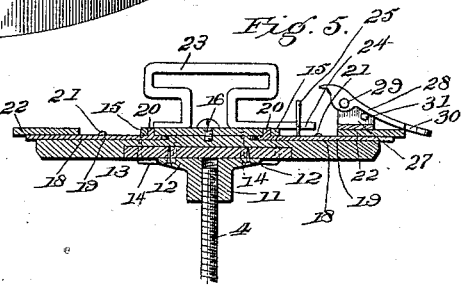


Fig. 2.

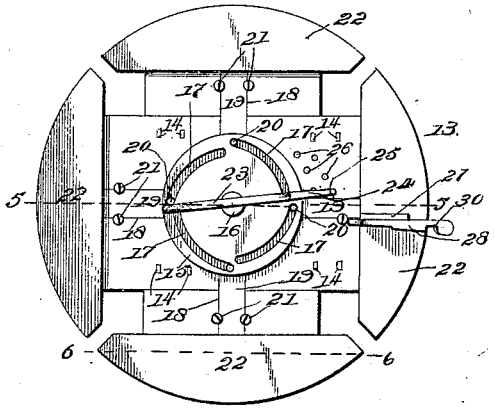
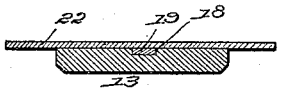


Fig. 6.



Witnesses
F. M. Johnson
F. P. Dewey

Inventor
John Carroll
By his Attorneys.
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN CARROLL, OF CANISTEO, NEW YORK.

FORM FOR SETTING UP BARRELS.

SPECIFICATION forming part of Letters Patent No. 553,301, dated January 21, 1896.

Application filed August 28, 1894. Serial No. 521,514. (No model.)

To all whom it may concern:

Be it known that I, JOHN CARROLL, a citizen of the United States, residing at Canisteo, in the county of Steuben and State of New York, have invented a new and useful Form for Setting Up Barrels, of which the following is a specification.

This invention relates to an apparatus for facilitating the setting up or assembling of barrel-staves, and it has for its object to provide an improved arrangement of parts by which one end of the barrel may be properly secured with hoops and the structure removed to facilitate securing the remaining end. This object is attained by certain peculiar features of construction and combination and arrangement of parts, as will be more fully described hereinafter, and finally embodied in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of an apparatus embodying the essential features of my invention and showing it practically employed; Fig. 2, a plan view of the head of my apparatus; Fig. 3, a detail perspective of the stave-retaining detent for said head; Fig. 4, a similar view of the stave-retaining detent for the base of my apparatus; Fig. 5, a sectional view taken vertically through the head on the line 5 5 of Fig. 2; Fig. 6, a detail section on the line 6 6 of Fig. 2.

The reference-numeral 1 indicates the base portion of my apparatus, which base may be constructed of wood or metal, preferably the former, and which is circular in shape. Formed centrally in the base portion 1 and extending vertically therethrough is the opening 2, which is surrounded by a flanged sleeve 3, rigidly secured to the base by means of screws passing through its flange, the passage of said sleeve being in vertical alignment with the opening 2. Fitting removably within the sleeve 3 and opening 2 is the standard 4, which extends vertically from the base, and which is adjustably secured in place by means of the set-screw 5 operating in the sleeve 3 and adapted to bind against the standard.

6 indicates a collar, which slidably embraces the standard 4 at about the middle thereof, and which is provided with perforated lugs 7, by which the brace-rods 8 may be secured thereto. The brace-rods 8 extend downwardly and outwardly from the collar 6, and have their lower ends formed with the feet 9, by which they are rigidly secured to the base 1. By these means the standard 4 is braced, and it is held adjustably within the collar 6 by an additional set-screw 10 operating within the collar. By means of the collar 6 and sleeve 3 the standard 4 is held so as to be capable of vertical adjustment, and so as to be rigid on the base 1 when so desired.

The upper end of the standard 4 is screw-threaded and provided with an internally-threaded sleeve 11 which screws thereon. The sleeve 11 is formed with a horizontal flange 12, which facilitates securing the head 13 in place, this securing being effected by screws passing through the flange and through the head. The head 13 consists of two stout boards dovetailed into each other and secured by fastenings 14. This construction gives the head 13 the general appearance of a Greek cross, though this is not essential to my invention.

15 indicates a metallic disk, which is revolubly and centrally mounted upon the pin 16, fixed to the center of the head 13. The disk 15 is formed with the eccentric slots 17 therein, which are preferably four in number and which terminate short of the outer periphery of the disk. Formed in the head 13 and one in the middle of each arm of the cross aforesaid are the grooves 18, in which the flat bars or strips of metal 19 are respectively arranged, so as to be capable of sliding in the grooves. The bars 19 are functionally arms, and have their inner ends provided with the studs 20, which are one for each bar and which project upwardly therefrom and into the respective slots 17 of the disk 15. By these means the bars are made to reciprocate in their grooves upon the revolution of the disk 15.

21 indicates a series of screws, which are two for each of the bars or arms 19 and which are so arranged in the head 13 that their heads will project over the arms or bars 19 and operate to retain them within their respective grooves 18. Rigidly secured by riveting or otherwise to the outer ends of the bars or arms 19 are the quadrant-shaped plates 22,

which are one for each bar and which have their ends beveled in a line radial from the center of the head, so that when such ends engage with the corresponding ends of adjacent plates an unbroken circle will be described. Thus it will be seen that by revolving the disk 15 the bars or arms 19 will, through the medium of their pins 16, move radially in their respective grooves 18. To effect the operation of the disk 15 the handle-bar 23 is provided, and this consists of a bar of metal bent to form a bail or hand-grasp and having one of its ends extended beyond the periphery of the disk 15 to form a stud 24. The purpose of the stud 24 is to co-operate with the pin 25 to the end that the throw of the disk 15 may be regulated. The pin 25 is removably seated in one of the several openings 26 of the head 13 and may be adjusted throughout the same, so as to regulate the distance which the disk may revolve and hence the radial extension or outward movement of the bars.

It will be understood that it is impossible for the disk to revolve more than one-quarter of a revolution, owing to the arrangement of the slots 17; but this revolution may be still further restricted by means of the pin 25, which may be placed in one of the openings 26 and will engage with the stud 24, so as to suppress further movement of the disk. The means thus constructed constitute a gage whereby the mechanism may be returned to a given position after each contraction to provide for constructing a plurality of barrels of the same size with accuracy and without loss of time in adjustment.

Rigidly secured by riveting to the upper side of one of the plates 22 is the stout metallic plate 27, which is bent at right angles so as to form a base or foot by which it may be secured in place, and a vertical portion to which the bar 28 is pivotally secured by means of the pin 29. The bar 28 is provided at one end with a notch 30, which is so arranged that it will be capable of projecting beyond the periphery or edge of the plate to which it is secured, while the remaining end of the bar is adapted to engage a stud 31, rigidly secured to the vertical portion of the plate 27, whereby excessive inward movement of the bar is prevented.

The base 1 is formed with a depressed portion 32 at its edge, and such portion is provided with an annular groove 33, the purpose of which will be hereinafter explained. Located just beneath the bar 28 and fixed to the base 1 is the stop-plate 34, which consists of a plate of metal having a portion bent radially and projecting over the groove 33, and a second portion slotted at 35 and provided with a screw 36, by which it may be adjustably secured in place. By reference to Fig. 1 the operation of my invention may be understood, and there it may be seen that the purpose of my invention is to provide a temporary support for the stays of the barrel in the operation of assembling them. To this end the staves 37 are arranged around the head 13, with the croze of their upper ends receiving the edges of the plates 22, and with their lower ends seated in the groove 33 of the base 1.

My invention is adapted for use with staves which have first been crozed and chamfered, and the first stave of the series is placed with its upper end received in the notch 30 of the bar 28, and with its lower end bearing against the radial portion of the stop 34. When all of the staves excepting the last one have been arranged around the form, the bar 28 should be swung back and the last stave inserted. It will be understood that it is not necessary to remove the stop-plate 34, since this is so thin that it may stay between the staves. When all of the staves have been arranged around the form and the bar 28 thrown back, the quarter truss-hoop should be put in place, as indicated by the dotted lines *a* in Fig. 1. After this has been accomplished the disk 15 should be revolved so as to contract or draw in the plates 22 of the head 13, after which the head truss-hoop should be put on, as indicated by the lines *b*. It will now be possible to lift this barrel completely off the form and put the remaining hoops on with great ease.

It will be understood that before the staves are arranged around the form the head should be expanded, and that it is contracted to permit closing together the staves and to permit their removal. The varying lengths of staves may be compensated for by adjusting the standard 4 in the sleeve 3 and collar 6. It will be understood that three or four workmen may operate on a machine at the same time, for while one is engaged in setting up the staves and in placing the quarter and head truss-hoops in place others may be engaged in heading and otherwise finishing the barrel. Thus they may operate, each alternately using the form and without the loss of much time.

Various changes in the size, proportion, and arrangement of the parts of my invention may be resorted to without departing from the substance thereof. Therefore I desire it understood that I am not restricted to the precise construction herein shown, but am entitled to all such variations as come within the above definition.

Having described the invention, I claim—

1. In a barrel form, the combination with a base and a central vertical standard, of a head having plates mounted to slide radially toward or from a common center, a pivotal disk operatively connected with said plates whereby the latter may be moved simultaneously toward or from the center, and a gage for regulating the expansion of the head, the same consisting of adjustable means for limiting the rotary movement of said disk to limit the extension or outward movement of said plates, substantially as specified.

2. In a barrel form, the combination with a base and a central vertical standard, of a head having plates mounted to slide upon lines radiating from a common center, said plates having arc-shaped outer edges, a disk pivotally mounted with its center co-incident with the point from which the paths of the plates radiate, connections between said disk and the plates whereby the rotary movement of the former will communicate motion simultaneously to the plates to move the latter toward or from the center, a stud carried by the disk, and a stop-pin adapted to be arranged in one of a series of sockets or openings in the head in the path of said stud, whereby the rotation of the disk is limited to determine the extension of the plates, substantially as specified.

3. In a barrel form, the combination with a base and a central vertical standard, of a head having a body portion constructed of boards arranged with their longitudinal centers at right angles to each other, said boards let into each other to lie in a common horizontal plane and being provided in their upper surfaces with guide grooves or channels which radiate from the center of the head, bars fitted to slide in said grooves or channels and provided at their inner ends with vertical studs, means for removably securing the bars in said grooves or channels, plates fixed to the outer extremities of the bars and having arc-shaped outer edges, a centrally pivoted disk arranged at the center of the head and provided with cam slots to receive the up-standing studs on the inner ends of the bars, a handle fixed to the disk and extended to form a radial stud 24, and a stop-pin arranged in the path of said stud to limit the rotary movement of the disk and hence the radial extension or outward movement of the plates, substantially as specified.

4. In a barrel form, the combination of a base provided with a circular groove adapted for the reception of the lower ends of the staves, a standard arising vertically from the center of the base, a head secured to the upper end of the standard, a notched bar pivoted to the head and having its notch arranged beyond the edge thereof, and a stop-plate secured to the base directly beneath the notched bar and projecting over the groove of the base, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN CARROLL.

Witnesses:
F. H. PECK,
WILLIAM G. PORTER.