(No Model.)

E. & B. HOLMES.

DEVICE FOR DIRECTING HOOPS ON BARRELS.

No. 512,704. Patented Jan. 16, 1894.

Fig.1

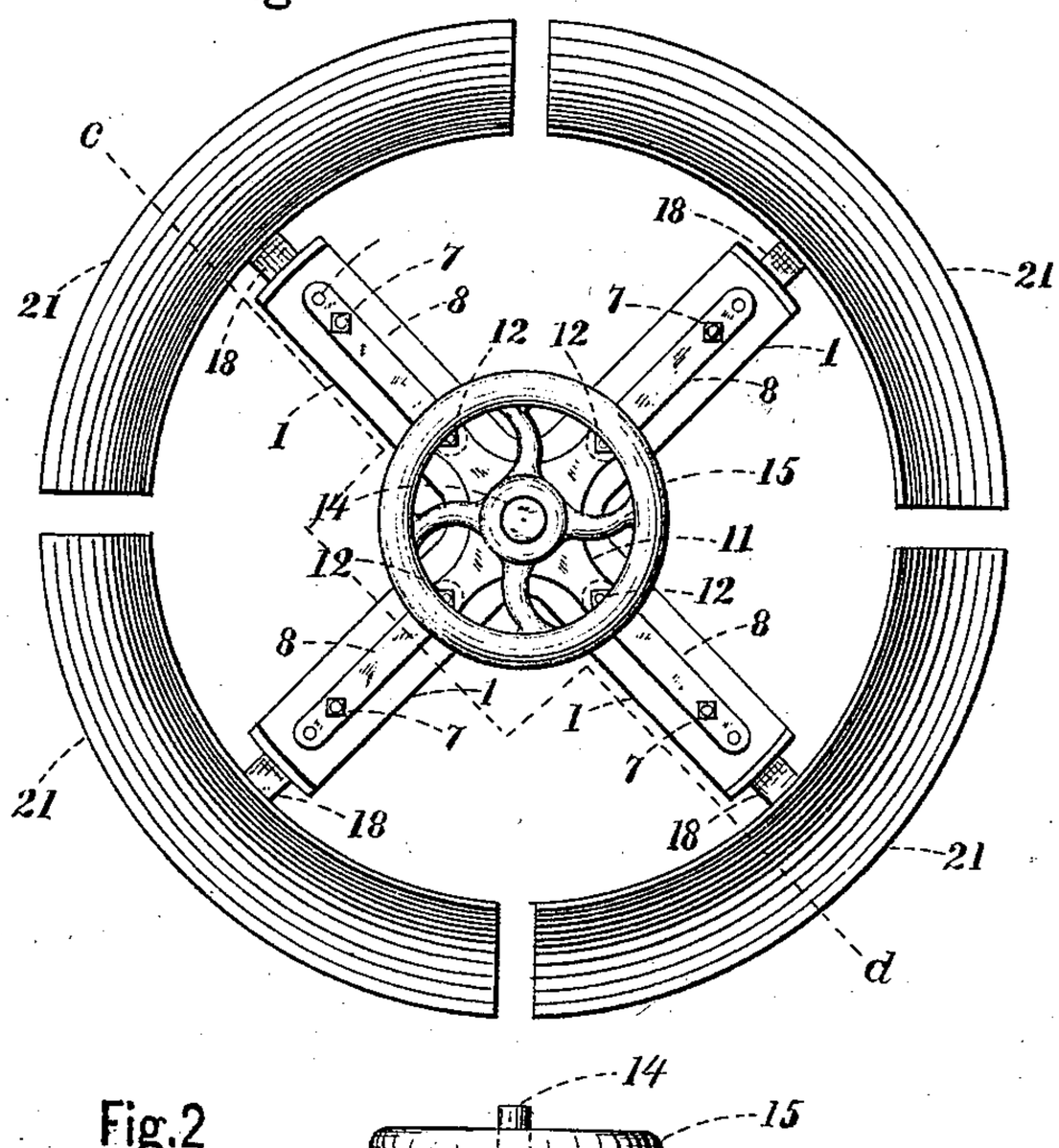


Fig.2

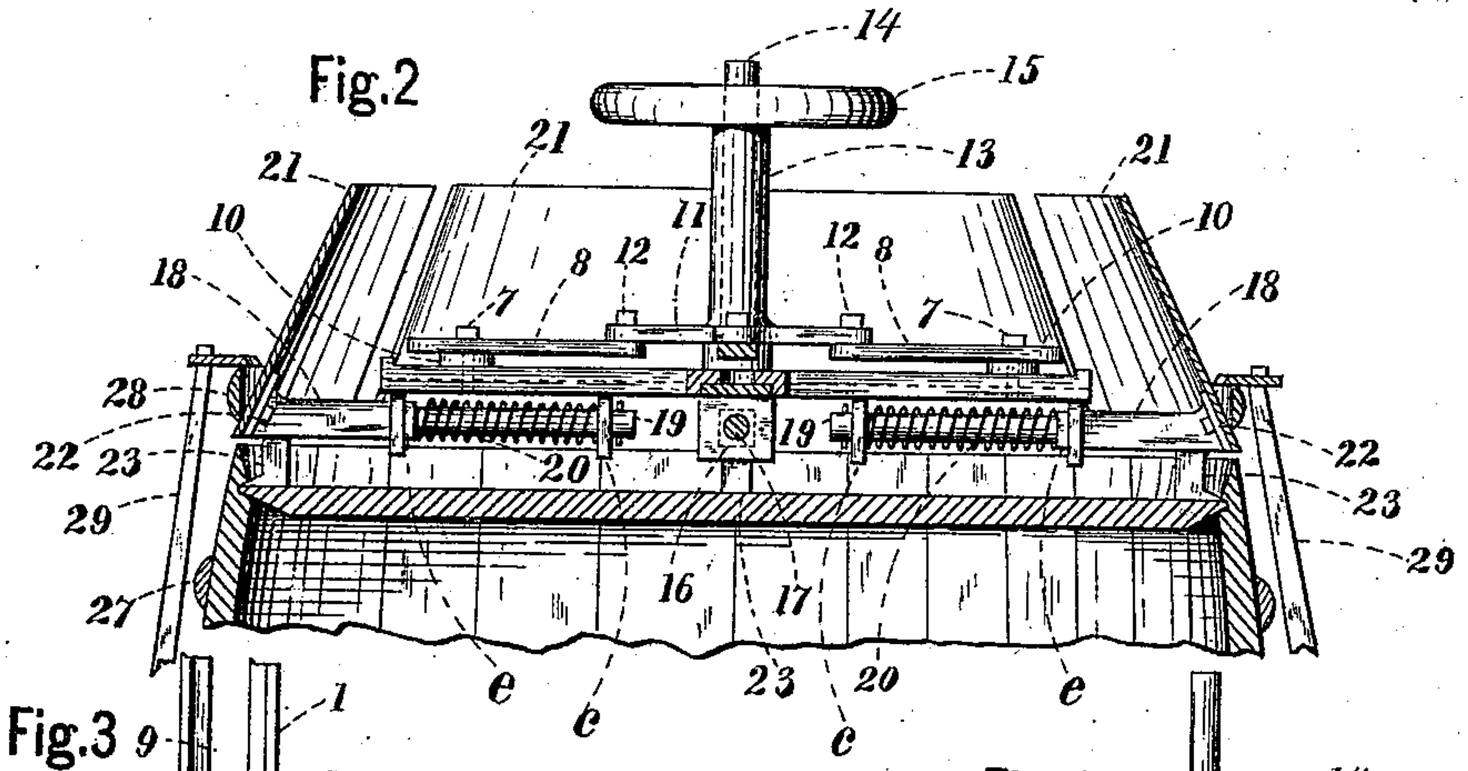


Fig.3

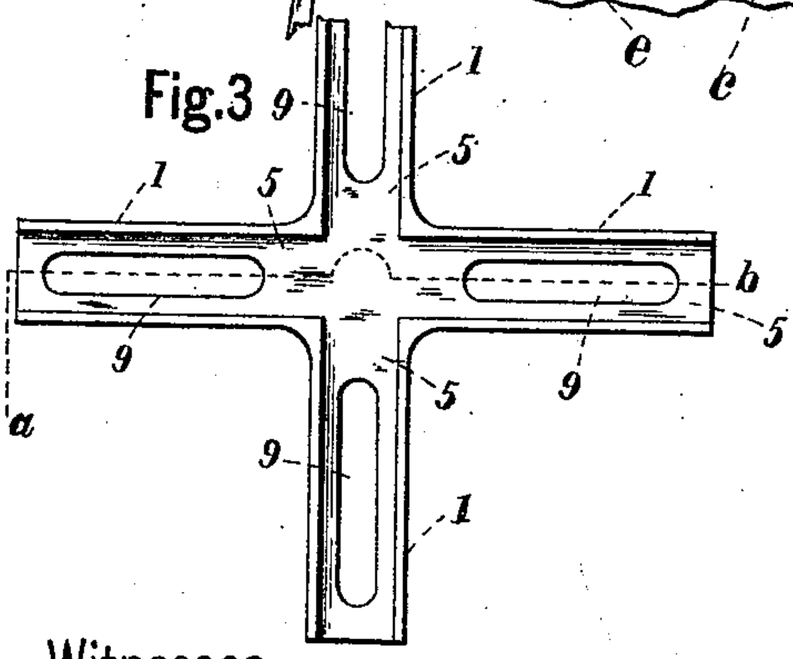
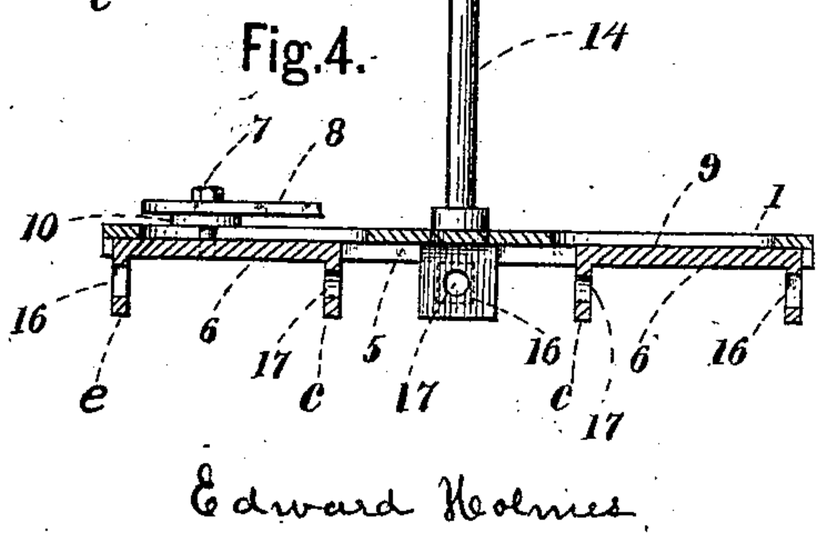


Fig.4.



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EDWARD HOLMES AND BRITAIN HOLMES, OF BUFFALO, NEW YORK.

DEVICE FOR DIRECTING HOOPS ON BARRELS.

SPECIFICATION forming part of Letters Patent No. 512,704, dated January 16, 1894.

Application filed March 23, 1891. Serial No. 386,049. (No model.)

To all whom it may concern:

Be it known that we, EDWARD HOLMES and BRITAIN HOLMES, citizens of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Devices for Directing Hoops on Barrels, of which the following is a specification.

Our invention consists in certain improvements in machines for directing hoops on barrels and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the device complete. Fig. 2 is a sectional elevation on line *c d*, Fig. 1, showing the device attached to a barrel in position for operation, showing also a sectional view of a hoop in position to be guided and drawn on to a barrel. Fig. 3 is an under side view of the slideway frame. Fig. 4 is a sectional elevation through the slideway frame, and sliding holding frames, on line *a b*, Fig. 3.

The object of our invention is to provide a convenient and rapid means for guiding hoops on barrels, or whereby they may be quickly put in position so that they may be drawn in place on a barrel by any well known hoop driving machine.

In the manufacture of barrels, especially of barrels where wooden hoops are used, a large number of hoops are required on each barrel and it is necessary that they may be quickly and properly guided and driven on to the barrel; the object of our invention is to do this.

In said drawings, the numeral, 1, represents the slideway frame. It is provided with four slideways, 5, on its under side. Shown in Fig. 3. In these slideways, 5, are four sliding frames, 6, see Figs. 2 and 4, adapted to slide in said ways, 5, and are each kept up in place by a bolt, 7, pivoted to the arms, 8. The bolts, 7, pass through the slots 9, see Figs. 3 and 4, a washer, 10, being interposed between the head of the bolt, 7, and the top of the slideway frame. These parts are pivoted so as to allow the sliding frames to slide back and forth on said frame. The opposite ends of the arms, 8, are pivoted to a plate, 11, (shown in Figs. 1 and 2,) by the bolts, 12, and the plate, 11, is either attached to or forms a piece of the sleeve, 13. This sleeve, 13, fits over a vertical shaft, 14, rigidly secured to the top of the slideway frame (see Figs. 2 and 4), and at the top of the sleeve is a hand wheel, 15. See Figs. 1 and 2. It will now be seen that by turning the hand wheel, 15, the sliding frames, 6, may be made to move either to or from the center of the machine. In each sliding frame, 6, is a square hole, 16, at its outer end and a round hole, 17, at its inner end, in which are mounted the inclined plate holding bars having a square portion, 18, adapted to fit the square holes, 16, and a round portion, 19, adapted to fit the round holes, 17. On each of the round portions of the inclined plate holding bars is a spiral spring, 20, which bears against the portion, *c*, of the sliding frames, 6, at the inner end of the spring and against the shoulder, *e*, on the square portion, 18. On each bar, 18—19, is rigidly secured a curved inclined tapering guide plate, 21, by means of the bolts, 22. See Fig. 2. On each forward under side of the square portion, 18, is rigidly secured in any well known way, a pointed or other foot and stop piece, 23. From this construction it will be seen that by moving the hand wheel, 15, the circle occupied by the tapering inclined guide plates, 21, may be easily enlarged or decreased so that the feet may be extended outward to fit the inner side of the top of the barrel and the device is thus quickly secured in place on the top of a barrel to be hooped, substantially as shown in Fig. 2. It thus accommodates and adjusts itself to the form of the top of the barrel, even if it is a little out of round. It will be also further seen that the inclined tapering guide plates present a yielding face to the hoops, that is, they can be forced back against the force of the springs, 20, so that if any of the hoops are too small to pass over the plates the latter will yield and allow the hoops to pass over on to the barrel. There may be more or less than the number shown of these tapering inclined guide plates, without changing the nature of this invention, in which case the number of other operating parts should be made to correspond.

The feet, or equivalent supporting and stop attachments, 23, not only secure the machine and support it on the top of the barrel, but they also gage the distance that the inclined guide, 21, shall project beyond the peripheral

edge of the barrel. This construction is an important feature and thus forms a sure and safe guide to the hoops as they are put on to the barrel.

In operating with this device, it is placed on the head of the barrel while the guide plates and other parts are contracted. The hand wheel is then turned to expand it and in doing so the supporting feet and stops, 23, are forced against the inside of the staves of the barrel and as the hand wheel, 15, is further turned it compresses the spring 20, with such force or power as to hold the guide plates sufficiently firm to cause the hoop to assume a round shape so that it can pass over said guide plates and on to the barrel, but the guide plates are not so firmly held as to prevent the hoops from contracting or depressing them in case they (the guide plates,) should project too far over the periphery of the barrel. Consequently the hoops are allowed to pass over on to the barrel without being overstrained. After all the hoops are driven on one end of a barrel, the device is contracted and removed. The barrel is now reversed and the machine put on to the other end and the process repeated.

The hoops when placed over the device are caught by the gripping devices on the arms of any suitable hoop driving machine, substantially as shown in Fig. 2 where a hoop, 27, is shown on a portion of a barrel and a hoop, 28, on the inclined plates is in a position to be drawn on to the barrel by the driving arms, 29, of any machine adapted for that purpose.

We claim as our invention—

1. In a machine for guiding hoops on barrels, the combination with the hoop guiding mechanism consisting of a series of inwardly inclined curved tapering guide plates arranged in a circle so as to form a portion of a cone and secured to bars located in slideways radiating from the center, and a series of supporting feet and stops operating on the inside of the staves of a barrel, for gaging the distance the guide plates shall project over the outer edge of the barrel, substantially as described.

2. The combination with a series of tapering inclined guide plates mounted on an expanding and contracting frame and arranged substantially in a circle thereon, a hand wheel and its connecting mechanism for contracting and expanding the same, and a spring yielding mechanism substantially as above described whereby the guide plates are capable of being expanded and contracted and at the same time are capable of yielding against the force of the spring mechanism substantially as described.

3. In a device for guiding hoops on barrels, the combination of a series of inwardly inclined curved tapering guide plates arranged in a circle so as to form a portion of a cone and secured to sliding bars located in slideways radiating from the center, a series of pointed feet for supporting the device on the top of the barrel and holding it securely in place thereto, a corresponding series of arms pivoted to the sliding bars at their outer ends, and to a plate adapted to be turned on a central shaft by a hand wheel for expanding or contracting the circle of the series of curved tapering guide plates, and springs for keeping them outward, substantially as described.

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