J. A. Loomis,

Making Barrels.

No. 49,425. Patented Aug. 15, 1865.

Fig. 1.

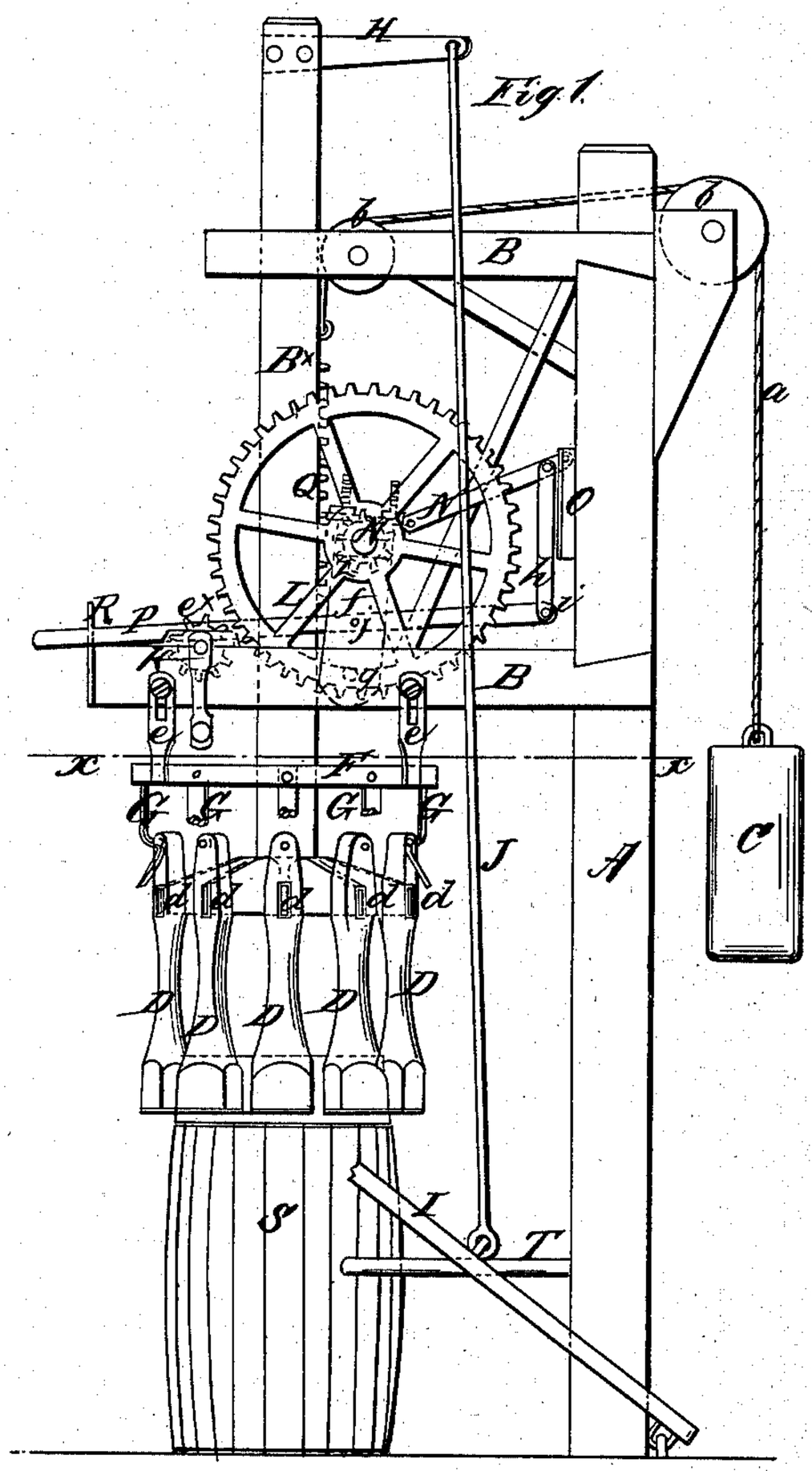


Fig. 3

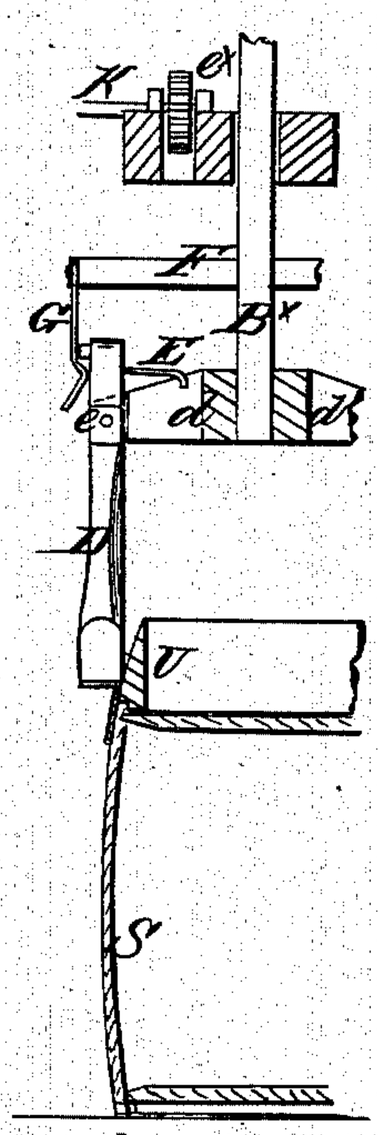
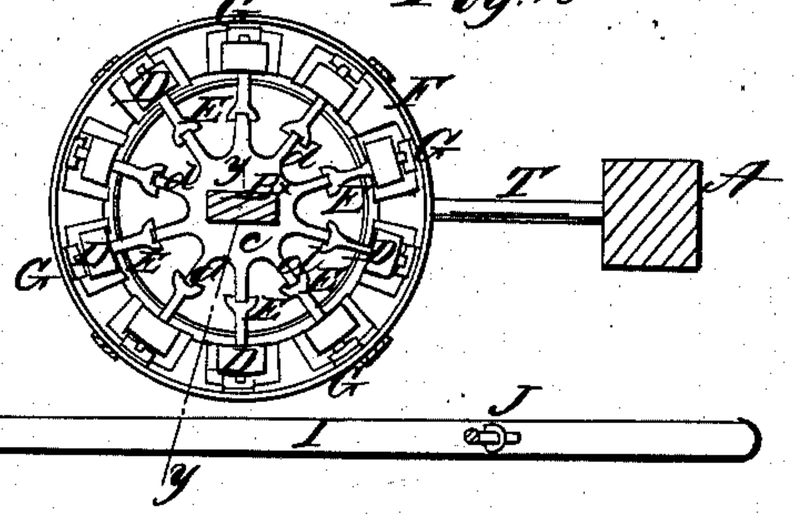


Fig. 2



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J. A. LOOMIS, OF FOND DU LAC, WISCONSIN.

IMPROVEMENT IN MACHINES FOR DRIVING HOOPS ONTO CASKS OR BARRELS.

Specification forming part of Letters Patent No. **49,425**, dated August 15, 1865; antedated February 15, 1865.

To all whom it may concern:

Be it known that I, J. A. LOOMIS, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Hoop-Driving Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a horizontal section of the same, taken in the line *x x*, Fig. 1; Fig. 3, a vertical section of a portion of the same, taken in the line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved device for driving hoops on casks, whereby the work may be done in a very rapid and perfect manner.

The invention consists in the employment or use of a series of drivers arranged in such a manner as to encompass the cask on which the hoops are to be driven, and to be capable of being raised and lowered with the greatest facility, and also of being forced down upon the hoops in order that the same may be snugly adjusted upon the cask. With these drivers there is also employed a ring or band to aid in adjusting the chine-hoops on the cask.

A represents an upright or standard, which is secured to a proper base and has two pairs of horizontal arms, B, permanently attached to it, one pair being above the other, as shown in Fig. 1.

$B^{\times}$ represents a vertical sliding bar, which is fitted in the arms B B and allowed to slide freely up and down. This bar has a weight, C, attached to it by a cord, *a*, the latter passing over pulleys *b b*, the weight having a tendency to keep the bar $B^{\times}$ elevated.

To the lower end of the bar $B^{\times}$ there is permanently keyed a head, *c*, provided with a series of radial arms, *d*, on each of which there is secured, by a pin or pivot, *e*, a driver, D. These drivers may be of wood, their lower ends being shod with metal, and the ends of the arms *d* are fitted in mortises made in the drivers a short distance below their upper ends, as shown clearly in Figs. 1 and 3.

To the upper end of each driver D there is attached a spring, E. These springs bear upon the arms *d* and serve to counteract or resist the moving outward of the lower ends of the drivers, which are in the form of a circle, so that they may encompass the cask on which the hoops are to be driven.

F represents a metal band, which is attached to the lower ends of pendants *e*, secured to the lower pair of arms, B, and to this band F there are attached a series of pendent bars, G, which are opposite to or in line with the drivers D, one with each driver.

The upper end of the bar $B^{\times}$ is provided with a horizontal arm, H, to which a treadle, I, on the base of the machine, is connected by a rod, J, as shown in Fig. 1.

On one of the lower pair of arms, B, there is placed a shaft, K, on which a pinion, $e^{\times}$, is keyed, said pinion gearing into a toothed wheel, L, the shaft M of which is fitted in uprights *f*, the lower ends of the latter working on a shaft, *g*, in the lower arms, B B. The upper ends of the uprights *f* are connected by pivots to one end of a rod, N, the opposite end of which is fitted in a guide, O, attached to the upright A, and has a pendant, *h*, pivoted to it, the lower end of the latter being secured by a pivot, *i*, to a lever, P, which has its fulcrum-pin *j* in one of the uprights *f*.

The shaft M has a pinion, *k*, upon it, which, when the device is at work, gears into a rack, Q, attached to the upright bar $B^{\times}$. This pinion *k* may be thrown in and out of gear with the rack Q by moving the lever P, the latter, when its outer end is down and fitted under a catch, R, holding *k* out from Q. (See Fig. 1.)

The cask S, on which the hoops are to be driven, is placed in an upright position on the base of the machine, with its center in line with the center of the circle in which the drivers D are placed, the latter being kept in an elevated state above the cask by the weight C.

The upright A has a horizontal bar, T, attached to it, the outer end of which is forked and bent or curved to serve as a guide for plac-

ing the cask in proper position relatively with the drivers D. A hoop is placed on the cask and the treadle I depressed, which brings down the drivers D on the hoop, and the pinion $e^{\times}$ is thrown in gear with the rack Q, the shaft K being then turned, which forces the drivers down upon the hoop, driving the same snugly upon the cask. The lower ends of the drivers are made to conform or fit snugly to the cask by means of the springs E, the latter yielding or giving as the drivers are forced down. After the hoop is properly driven on the cask the lever P is actuated, so as to throw the pinion $e^{\times}$ out of gear with the rack Q, and the weight C instantly raises the drivers D out of the way above the cask and a second hoop is placed on the cask and driven upon it, as before.

In driving the chine-hoops I employ a metal ring, U, which is fitted on the end of the cask, as shown clearly in Fig. 3, and serves as a guide for the drivers. This ring is essential, especially for the extreme end hoops, as will be seen by referring to Fig. 3. When the drivers D are elevated the pendants G cause them to expand, so that they will be free or out from the cask and allowed, in descending, to adjust themselves to the cask without coming in contact with its end.

I claim as new and desire to secure by Letters Patent—

1. The combination of the drivers D, springs E, and toothed bar $B^{\times}$ Q, when constructed as and for the purposes herein described.

2. The rack Q on the bar $B^{\times}$, the gearing $e^{\times}$ L K, treadle I, and weight C, all arranged to operate as described.

3. The band F, with the pendants G attached, acting on the projecting upper ends of the pivoted drivers D when elevated, as herein described.

4. The ring U, in combination with the drivers D, substantially as and for the purpose set forth.

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Witnesses:
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