

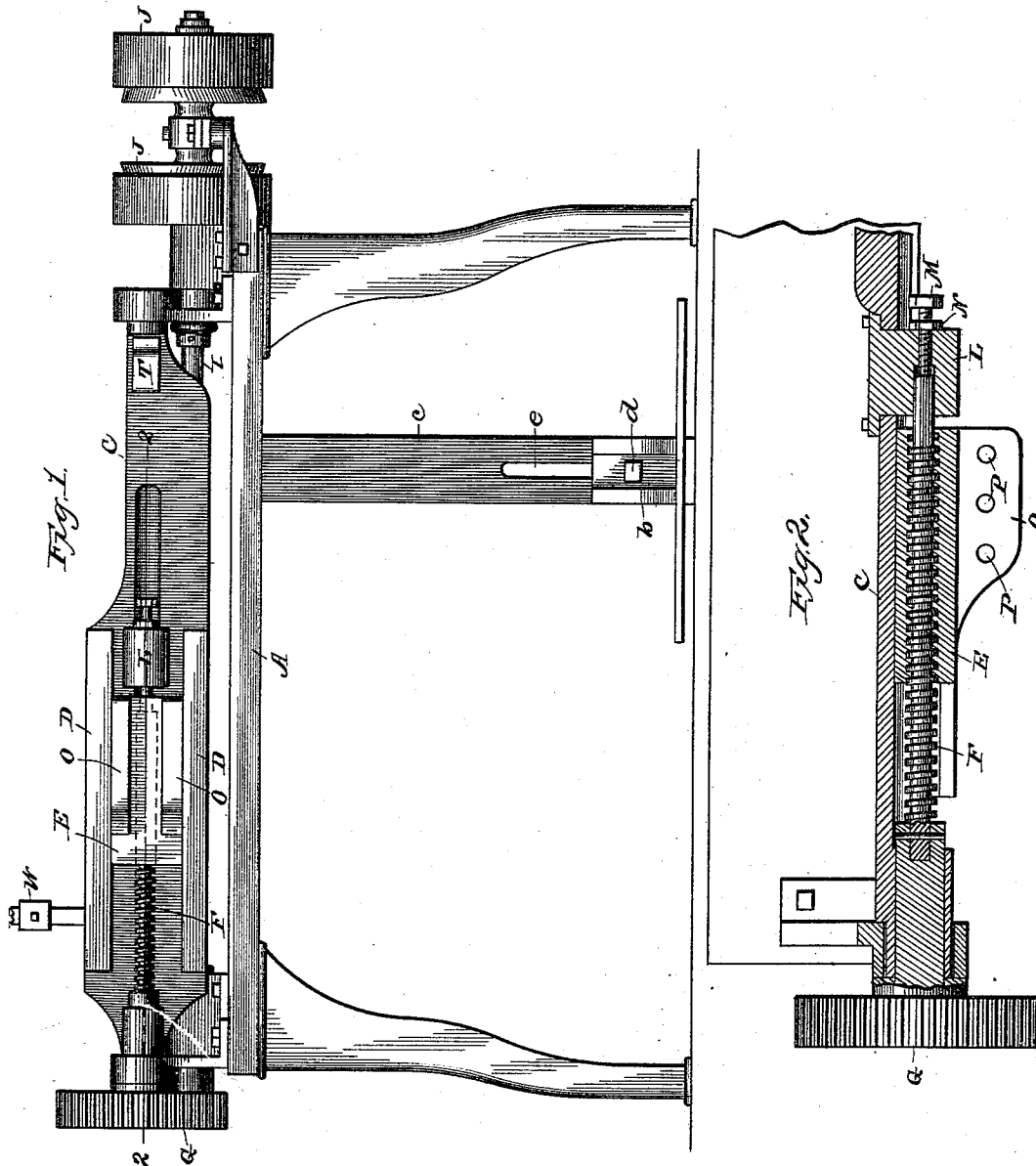
(No Model.)

2 Sheets—Sheet 1.

W. GLADER.
BARREL HEADING MACHINE.

No. 439,241.

Patented Oct. 28, 1890.



Witnesses.
Wm. M. Rheem.
J. Ludeman

Inventor.
Wm. Glader
By Elliott & Quinlan
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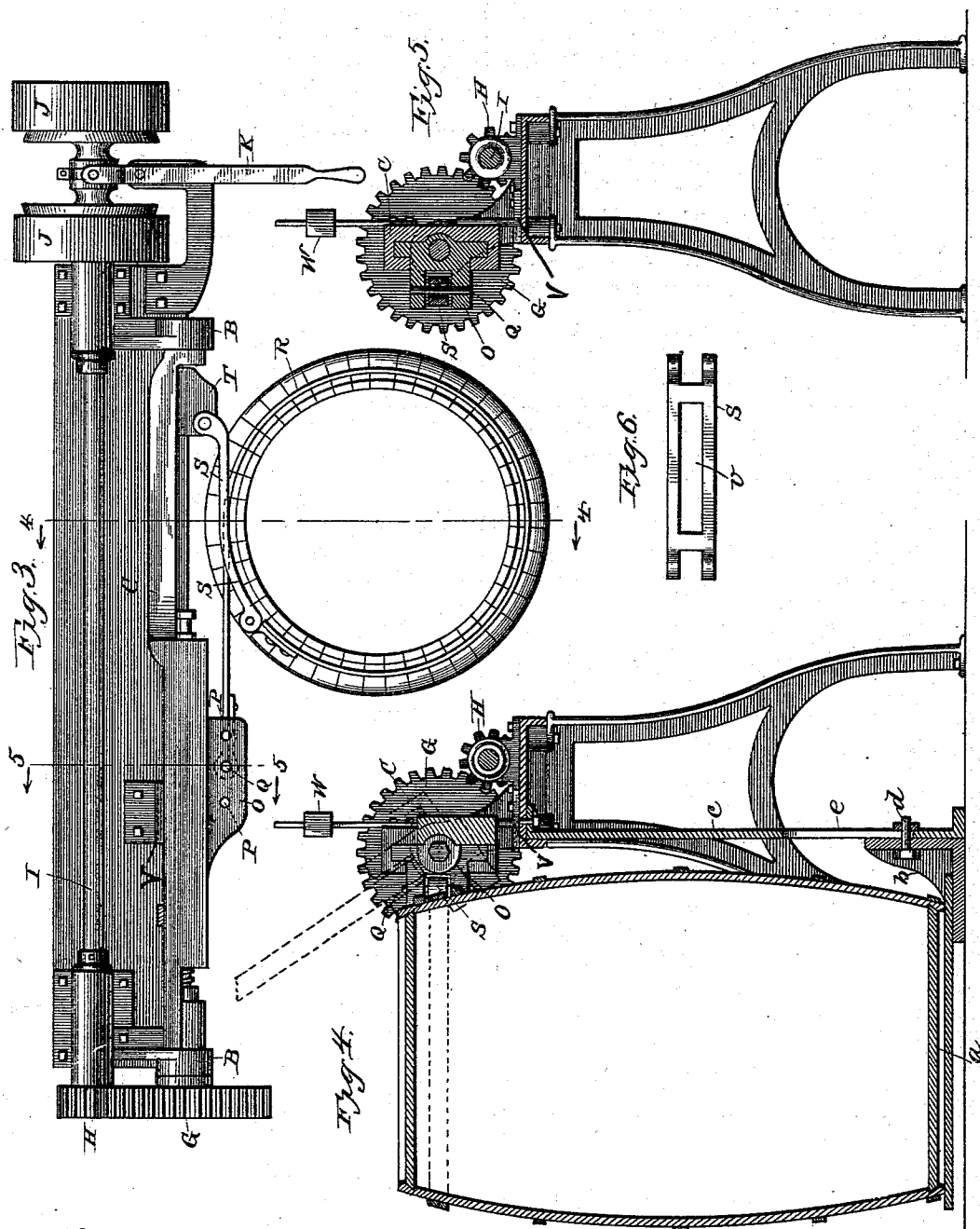
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W. GLADER.
BARREL HEADING MACHINE.

No. 439,241.

Patented Oct. 28, 1890.



Witnesses:
J. M. Pheasant
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM GLADER, OF CHICAGO, ILLINOIS.

BARREL-HEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 439,241, dated October 28, 1890.

Application filed March 6, 1890. Serial No. 342,876. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GLADER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Barrel-Heading Machine, of which the following is a specification.

This invention relates to improvements in barrel-heading machines for drawing together the spread ends of the barrel-staves, so as to confine the head of the barrel in the croze preparatory to driving on the permanent barrel-hoops. In these machines as heretofore constructed it has been the common practice to make one or more turns of a rope or cable about the ends of the staves and to tighten the rope, so as to draw the ends of the staves together, by means of a windlass or similar apparatus. This method of heading barrels has been in use a great many years, being now the one almost universally employed in coo-
pering, but has proven objectionable, not only because of its slowness and the loss of time necessary in properly adjusting the rope or cable upon and removing the same from the staves, but also because of the tendency to twist the barrel out of shape by reason of the different planes in which the ends of the rope or cable must necessarily pass each other.

The prime object of this invention is to dispense with the employment of a rope or cable and to tighten the staves by means of a band engaging all of the staves in the same plane, whereby the twisting of the barrel in the tightening operation is avoided.

Another object is to dispense with the necessity for adjusting the tightening-band in position upon the barrel and to have the same of such character that it may be readily and quickly adjusted upon and disengaged from the barrel without direct manual manipulation thereof or disconnection from the operating devices thereof, and when disengaged from the barrel will be held in convenient position for instant and ready engagement with another barrel. These objects are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a barrel-heading machine embodying my invention; Fig. 2, an enlarged detail horizontal sec-

tion on the line 2 2 of Fig. 1; Fig. 3, a top plan view of the machine, showing a barrel in position; Fig. 4, a transverse vertical section thereof on the line 4 4 of Fig. 3, looking in the direction indicated by the arrows; Fig. 5, a similar view on the line 5 5 of Fig. 3, and Fig. 6 a detail side elevation of the coupling-link for the tightening-band.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the supporting-frame of my machine, of any suitable character, upon which is mounted and suitably journaled in brackets B a rocking frame C, upon which is formed a pair of guides D for reception of a cross-head E, through which works a screw-threaded shaft F, having a common axis with the rocking frame. Power may be applied to this shaft in any suitable manner, but preferably by means of a cog-wheel G, mounted upon the outer end thereof, which meshes a pinion H upon the end of a power-shaft I, journaled in suitable brackets or bearings upon the frame A of the machine and carrying at its opposite end a pair of loose friction-clutches J, driven by belts in opposite directions and operated by a lever K in convenient position for manipulation, by which the operator can readily control the direction of rotation of the screw-threaded shaft or permit the same to remain idle, as will be readily understood without detailed description, as the construction and operation of the clutches, and in fact the entire manner of securing power for the screw-threaded shaft, is immaterial and forms no part of this invention.

For the purpose of preventing endwise movement of, or rather to take up the strain upon the screw-threaded shaft, and at the same time reduce friction, I prefer that the end of the shaft should be socketed in a suitable bearing L, secured to the rocking frame, through which works a set-screw M, bearing against the end of the shaft, which is capable of all desirable adjustment and may be locked in any position by a lock-nut N or in any other suitable manner.

From the cross-head projects a pair of horizontal lugs O, provided with a series of per-

forations P for reception of a bolt Q, to which is secured one end of an elastic steel band R, the opposite end of which is secured by a like pivoting-pin to a link S, in turn pivotally secured to a stationary lug T upon the rocking frame, and is provided with a central longitudinal slot U, (see Fig. 6,) through which works and passes the opposite end of the band—that is to say, the end secured to the pin Q of the cross-head—so that all parts of the band lie in exactly the same horizontal plane without the ends having to pass by each other in different planes, as has heretofore been necessary. With the rocking frame pivoted in its bearing and a slight preponderance of weight forward of the center thereof—that is, on the side to which the tightening-band is secured—it normally tends to rotate in the direction of this preponderance of weight, but is held against such rotation in such position that the band will lie in a horizontal plane by a stop V or equivalent device, but may be readily rotated in the opposite direction, carrying with it the tightening-band and elevating the latter to the inclined position shown by dotted lines in Fig. 4, and, if desired, a counterbalance-weight W may be adjustably secured to the rocking frame for the purpose of adjusting or reducing the preponderance of weight at the side of the frame, which, besides rendering the frame easier of manipulation, may also serve to assist in temporarily retaining the frame in its tilted position.

It will of course be understood that the elastic tightening-band remains distended or approximately circular in form at all times, and that the rocking of the frame to which it is attached will cause a bodily movement of the band with the frame, between which there is maintained a fixed relation at all times, except of course as to the movements of the band in the tightening operation under the influence of the movable cross-head in contracting and expanding the band. The barrel of which the upper ends of the staves are to be drawn together by the tightening-band, so as to confine the head within the croze of the staves preparatory to putting on the permanent hoop, is placed upon a platform *a*, located immediately beneath the tightening-band and secured to a bracket *b*, adjustable upon a depending leg *c* from the frame of the machine by means of a bolt *d*, passing through the bracket and working loosely through a longitudinal slot *e* in said leg, whereby the platform may be vertically adjusted, according to the size of the barrel to be headed.

In the practical use of this machine the barrel is first trussed in any suitable manner and then placed in position upon the platform, the rocking frame having been previously operated so as to swing the tightening-band up out of the way, after which the

end-trussed ring is removed and the tightening-band swung down over the ends of the staves. The lower trussed rings are then loosened up, so as to permit the spreading of the ends of the staves sufficiently to receive the head in the croze therein, after which the operator, by manipulating the lever K or similar power-controlling device, causes the operation of the tightening-band until the ends of all the staves are again drawn together in their original position with the head firmly seated, when the permanent hoop may be partially or wholly driven onto the ends of the staves and the barrel thus completed. When the operation is completed, the operator reverses the lever K, so as to cause the tightening-band to slacken, when by manipulating the rocking frame the band may be disengaged from the ends of the barrel and held in an elevated position ready for operation upon the next barrel.

This machine combines in the maximum degree simplicity, durability, and economy of construction, while it possesses a capacity far greater than any of the prior machines for this purpose, so far as I am aware.

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

1. In a barrel-heading machine, the combination, with a flat metallic tightening-band and a pivoted link to which one end of said band is secured, said link being curved longitudinally to conform to the surface of the barrel and provided with a slot through which the other end of the band works, of a pivotal support for said band and link and means for operating said band, substantially as described.

2. In a barrel-heading machine, the combination, with a rocking frame, of a tightening-band carried by said frame, a link pivoted at one end to said frame and at its opposite end to one end of said band, said link being provided with a slot through which the other end of the band works, and means for operating said band, substantially as described.

3. In a barrel-heading machine, the combination, with a rocking frame, a cross-head working and guided therein, a screw-threaded shaft working through and actuating said head, and means for operating said shaft, of a link pivotally secured to said frame and a tightening-band secured at its ends, respectively, to said link and cross-head, said link being provided with a slot through which works the band attached to the cross-head, substantially as described.

WILLIAM GLADER.

Witnesses:

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J. R. ANDREWS.