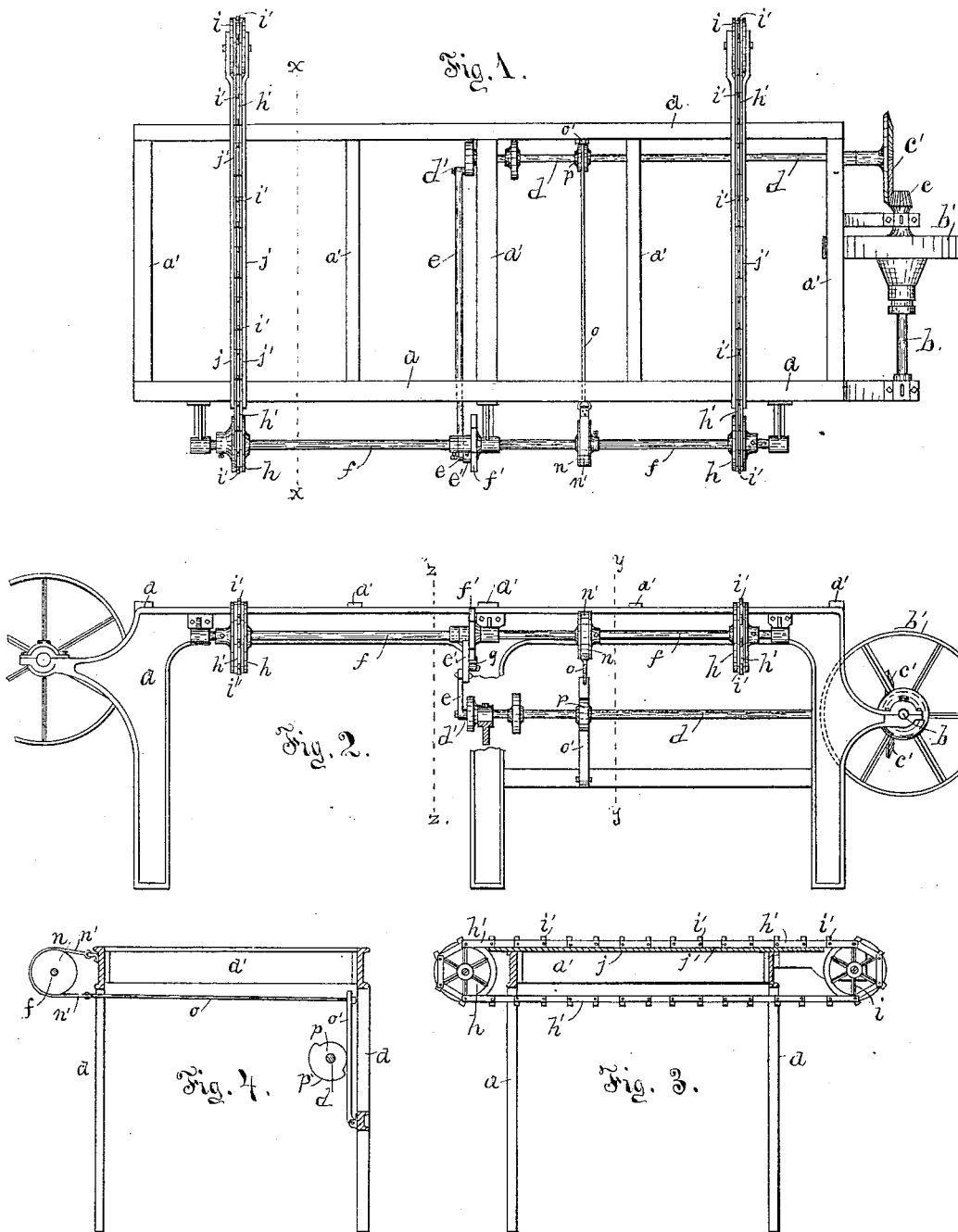


F. L. WILSON.

HOOP POINTING AND LAPPING MACHINE.

No. 348,307.

Patented Aug. 31, 1886.



Attest:
G. P. Thomas.
W. H. Power.

Inventor:
Fitzland L. Wilson
By James E. Thomas Atty.

(No Model.)

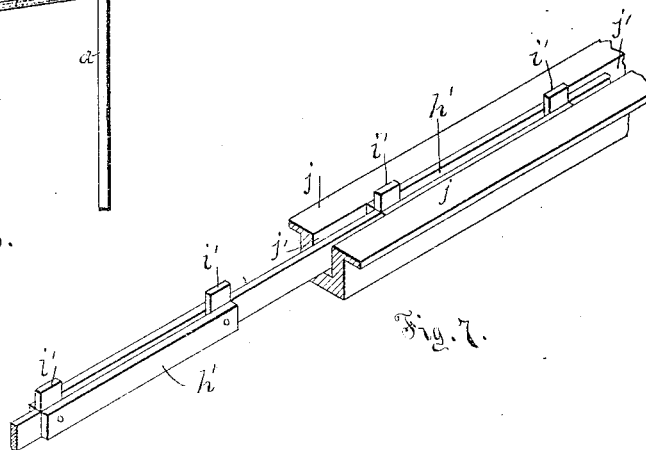
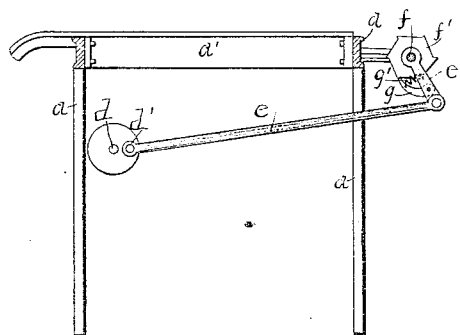
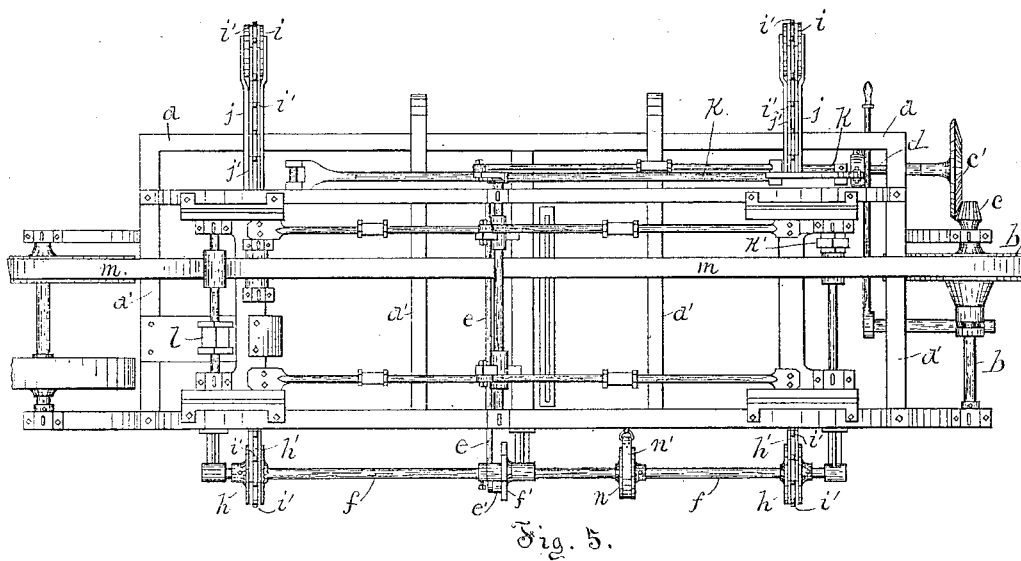
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UNITED STATES PATENT OFFICE.

FITZLAND L. WILSON, OF WEST BAY CITY, MICHIGAN.

HOOP POINTING AND LAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,307, dated August 31, 1886.

Application filed April 10, 1886. Serial No. 198,466. (No model.)

To all whom it may concern:

Be it known that I, FITZLAND L. WILSON, a citizen of the United States, residing at West Bay City, in the county of Bay, State of Michigan, have invented certain new and useful Improvements in Hoop Pointing and Lapping Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in machines for pointing and lapping the ends of blank hoops, and is especially designed as an improvement on Letters Patent granted to me April 8, 1884, No. 296,496; and it consists in the combination and arrangement of feeding devices which carry the blank hoops one by one to the different portions of the machine which perform the various operations necessary to finish the lapped and pointed ends, as I hereinafter fully describe and claim; and the object of this invention is to provide a more simple and easily-constructed device than those commonly used for that purpose, and also to reduce the cost of the manufacture as well. I attain these objects by means of the devices illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my improved feeding device with a portion of the machine to which it is applied. Fig. 2 is a view of the rear side of the portion of the machine containing my improvement. Fig. 3 is a sectional view through X X. Fig. 4 is a sectional view through Y Y. Fig. 5 is a plan view of the entire machine. Fig. 6 is a sectional view at Z Z. Fig. 7 is a detached portion of the chain.

My improvement is designed to be attached to a machine for pointing and lapping hoops, in which the different operations are performed successively as the blank hoops are passed from the front to the rear part of the machine, the feeding device carrying the hoops having a step-by-step movement, whereby the hoops remain stationary for a short time while some portion of the operation is performed, and are then moved along and again remain while another portion of the work is performed, and are again passed onward until all of the different operations are completed and the finished hoop falls from the rear side of the machine.

In the drawings, A represents the sides of the lower portion of the frame, and *a* are cross-girts which serve to hold the sides *a* in proper position, and also form a bed to support the hoop-blanks to be operated upon.

b is a counter-shaft placed across the end of the machine, and is properly journaled and supported, and carries a pulley, *b'*, which is operated by a belt, *m*, which drives also the different portions of the pointing and lapping machinery. Upon one end of this shaft *b* is secured a bevel-gear, *c*, which engages with the gear-wheel *c'*. This wheel *c'* is secured upon a shaft, *d*, which is journaled a short distance beneath the girts and in the front portion of the machine, the inner end of the shaft being about midway of the length of the machine, and is provided with a crank, *d'*, to which is connected one end of a pitman, *e*, the opposite end of the pitman being pivoted to a downward-extending arm, *e'*, which is loosely secured upon the shaft *f*. This shaft *f* is journaled upon the rear side of the frame, and carries a ratchet-wheel, *f'*, firmly secured to the shaft beside the arm *e'*, and pivoted to the arm *e'* is a pawl, *g*, which engages with the ratchet-wheel and is held in contact with the ratchet by the spring *g'*. Near the opposite ends of this shaft *f'* are secured the sprockets *h*, and over these sprockets are passed the endless chains *h'*, which also extend across the machine-bed, one portion above and one below, and around the sprockets *i*, which are properly secured to the front side of the frame. These chains are provided at proper distances with projecting lugs *i'*, and are supported upon the bed portion of the frame by the grooved pieces *j*, the links of the chain passing within the grooves *j*, while the lugs *i'* project above the grooved pieces. The operation of these chains is, that when the shaft *d* is revolved the crank *d'*, by means of the pitman *e*, arm *e'*, and pawl *g* and ratchet *f'*, imparts to the shaft *f* an intermittent rotary motion, which causes the chains *h'* to move over the machine-bed from front to rear with an intermittent or step-by-step movement, which, when the hoop-blank is being conveyed from the front to the rear side of the machine by the lugs *i'* of the chains, allows the hoop-

blank to remain stationary while some portion of the pointing and lapping operation is performed, and then carries them on for the next portion, and so on until finished.

5 In Fig. 7 is illustrated the plan of the entire machine, K representing a lever provided with a V-shaped knife, which, when the lever is given a vertical reciprocating motion, trims off the edges of the end of the hoop-blanks and
10 forms a point. K' is a rotary cutter, to which is imparted a diagonal reciprocating motion, which reduces the sides of the pointed end of the hoop. L is a similar device, which is placed farther in the rear and prepares the opposite
15 end of the hoop for lapping, each separate device being placed so that the chain will operate to carry the hoop from one device to the other, so that while one hoop is being acted upon by one portion of the mechanism, the
20 hoop coming after is operated upon by another portion.

In order to overcome the impact of the chain and stop its forward motion at the proper point at all times, a brake-wheel, *n*, is secured
25 to the shaft *f*, and a strap, *n'*, with one end secured to the machine-frame, is passed over the wheel *n* and beneath the frame, where the opposite end is secured to the rod *o*. The opposite end of this rod *o* is secured to the upper
30 end of the lever *o'* upon the front portion of the machine, the lower end of the lever being secured to the machine-frame, while its middle portion bears against the rim of the wheel *p*, which is secured to the shaft *d*. This
35 wheel *p* is formed with one portion of greater diameter than the other, so that when the projecting portion *p'* comes in contact with the lever *o'* it operates the lever to draw upon and tighten the strap *n'* upon the wheel *n*, which
40 operation takes place just as the pawl *g* is about to start upon its backward movement, and thereby the forward movement of the chains is at once stopped and they are held in that position until the pawl is again in position
45 to move the chains forward. The wheel has by this time revolved, so that the projecting portion *p'* has passed the lever and released the brake, leaving the chains again free to move forward.

50 I do not confine my invention to the precise form and location of the elements shown as operating the brake, or of the devices imparting

the step-by-step movement to the chains, as other well-known devices may be applied to operate in the same manner and produce a
55 like result.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a hoop pointing and lapping machine, with devices for pointing and
60 lapping the ends of blank hoops and with endless carrying-chains extending across the machine and devices for imparting an intermittent movement to the chains, whereby the blank hoops are carried from one operating
65 device to another, of devices for stopping and holding the chains while the hoop-blank is being operated upon, consisting, substantially, of a brake-wheel, *n*, secured to the chain-propelling shaft, a brake, *n'*, upon the wheel, a lever,
70 *o'*, connected with the brake, and a revolving cam, *P*, operating upon the lever to apply the brake, substantially as and for the purpose herein set forth.

2. In a hoop pointing and lapping machine,
75 the combination, with devices, substantially as described, for pointing and lapping the ends of blank hoops and endless chains extending across and supported on sprockets on opposite
80 sides of the machine, and provided with outwardly-projecting lugs, of a piece, *j*, having the groove *j'*, for supporting and guiding the chain between the sprockets, substantially as and for the purpose set forth.

3. In a hoop pointing and lapping machine,
85 the combination, with devices for pointing and lapping the ends of blank hoops, the endless chains extending across the bed and mounted upon sprockets on opposite sides of the machine, of devices for transmitting a step-by-
90 step movement to the chains, consisting, substantially, of the ratchet-wheel *f'*, mounted upon the shaft *f*, carrying one of the said sprockets, the arm *e'*, loosely secured to the shaft, the pawl *g*, pivoted to the arm and engaging with the ratchet, the crank *d'*, and the
95 pitman *e*, connecting the crank with the arm *e'*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FITZLAND L. WILSON.

Witnesses:

J. E. THOMAS,
W. H. POWER.