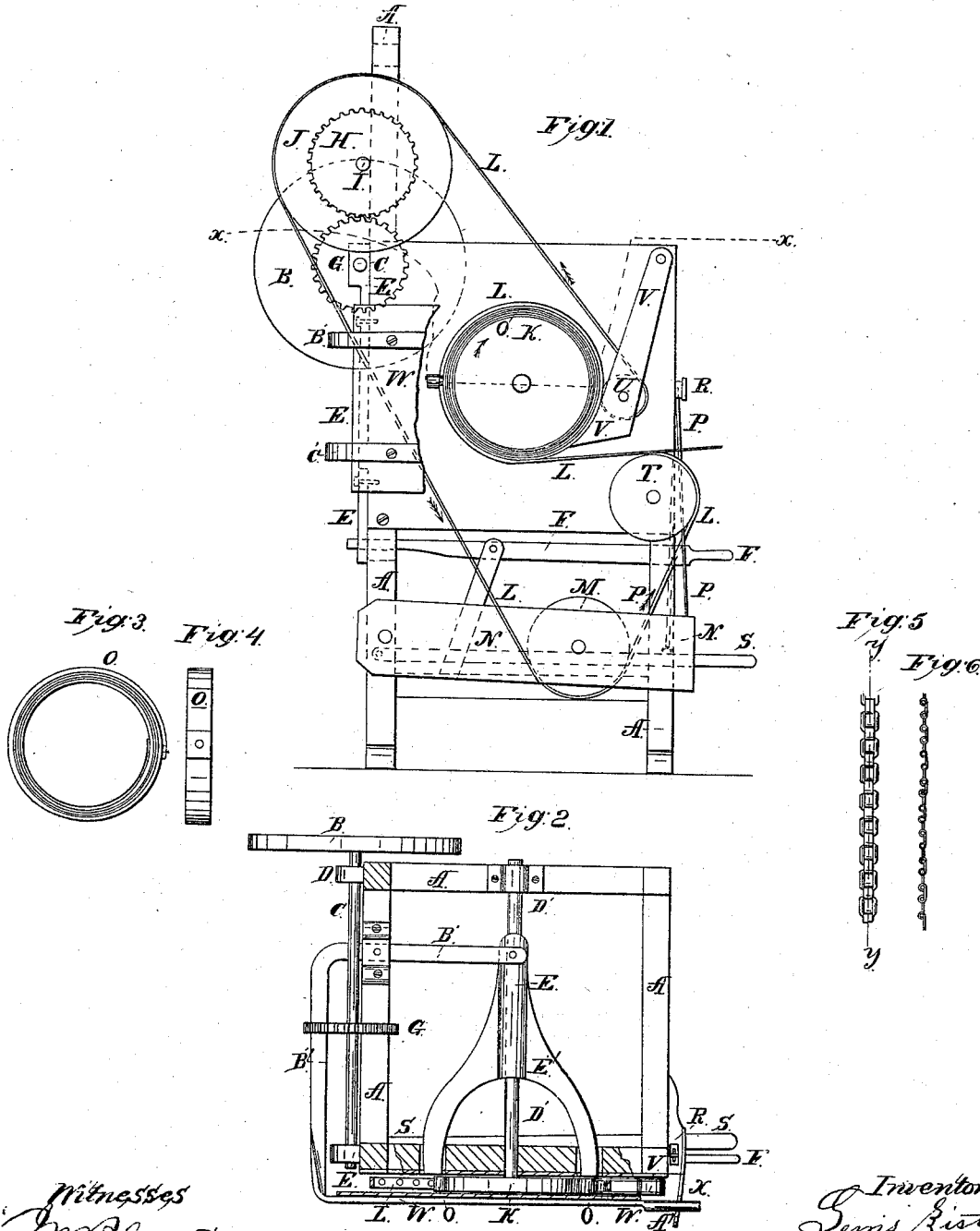


L. Zistel,

Making Hoops.

N^o 54,809.

Patented May 15, 1866.



Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS ZISTEL, OF SANDUSKY, OHIO.

IMPROVEMENT IN MACHINES FOR COILING HOOPS OF WOOD.

Specification forming part of Letters Patent No. 54,809, dated May 15, 1866.

To all whom it may concern:

Be it known that I, LOUIS ZISTEL, of Sandusky, in the county of Erie and State of Ohio, have invented a new and useful Improvement in Hoop-Coiling Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others 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 improved machine, the swing-cover being broken off to show the winding-drum. Fig. 2 is a sectional view taken through the line *xx*, Fig. 1. Fig. 3 is a side view of a coil of hoops made on my improved machine. Fig. 4 is an edge view of the same. Fig. 5 is a side view of a chain-belt used in winding up the coil of hoops. Fig. 6 is a section through the line *yy*, Fig. 5.

Similar letters of reference indicate like parts.

My invention has for its object the furnishing a machine for coiling hoops, grape and cheese-box sides, &c., for market; and it consists, first, of the combination of the winding-belt with the driving, carrying, and self-adjusting pulleys, and with the winding-drum; second, in the combination of a weighted lever with a pulley and with the belt to enable the pulley to adjust itself to the position required as more and more of the belt is taken up by the increasing size of the coil of hoops; third, in the combination of the finger-lever with the pulley, winding-drum, and belt, for the purpose of enabling the pulley to adjust itself to the increasing size of the coil and at the same time to keep the finger or guide in the right position to direct the end of the hoop, as it passes over the winding-drum, under the belt, so that it may be formed into a coil around said drum; fourth, in the combination of the swinging cover with the winding-drum, for the purpose of keeping the belt and coil in proper position upon said drum while the coil is being formed; fifth, in the combination of the pushing-fork with the winding-drum shaft and with the swinging cover, for the purpose of pushing the completed coil from the winding-drum, as hereinafter more fully described.

A is the frame of the machine. B is the driving-pulley, by which motion is communicated to the driving-shaft C. The shaft C re-

volves in bearings, one of which, D, is stationary and attached to the frame A. The other, E, is movable, and is attached to the frame A by screws passing through slots in the said bearing E.

The lower end of the bearing E is connected with a lever, F, by means of which the bearing E may be raised or lowered, as desired, to throw the pinion G on the said shaft C into or out of gear with the gear-wheel H upon the shaft I.

The pulley J is attached to the shaft I, and imparts motion to the winding-drum K by means of the endless belt or chain L.

The belt L may be made of links, as shown in Figs. 5 and 6; or it may be made of flexible metal having holes punched through it, as represented at L, Fig. 2; or it may be made of any other suitable material or form. The reason for requiring a belt made of links or with holes is that a nail may be driven through the belt into the coil to secure it, as shown in Figs. 3 and 4, before said coil is removed from the drum or the belt slackened.

The belt L passes from the pulley J to the self-adjusting pulley M. This pulley is rendered self-adjusting by being attached to a weighted lever, N, which is pivoted to the frame A, as shown in Fig. 1, and is weighted sufficiently to give the requisite pressure to the coil O while being formed upon the drum K.

To the forward end of the lever N is attached a rope, P, which passes over a pulley, R, and is attached to the lever S, by means of which the lever N may be raised to slacken the belt L upon the drum K when required. From the pulley M the belt L passes around the carrying-pulley T, attached to the frame A, as shown; thence the said belt L passes around the drum K, the adjustable pulley U, and thence back to the pulley J.

The pulley U is made adjustable by being attached to the finger-lever V, which is pivoted to the frame A, as shown in Fig. 1. This change of position or self-adjustment of the pulley U is necessary to enable the pulley U and belt L to adapt themselves to the increasing size of the coil O forming upon the drum K. The finger or point of the lever V is also designed to serve as a guide to the end of the hoop as it passes around the drum K, so that it may again pass between the belt and drum to form a coil, O.

The swinging cover W, when closed, shuts up so close to the end of the drum K as to keep the belt L and coil O, while being formed, from working off the said drum, and it is held closed by the catch X taking hold of a projection, A', of said cover W, as shown in Fig. 2.

The cover W is pivoted to the frame A, as shown in Fig. 2, by means of the bars or arms B' and C'. The arm B' is longer than the arm C', and extends into the interior of the machine, to the shaft D', which carries the drum K. Here it is pivoted to the pushing-fork E', which slides upon said shaft D', as shown in Fig. 2. The branches or prongs of the fork E' pass through openings in the frame A, and are at such a distance apart that when shoved forward by opening the swinging cover W the said branches may pass one on each side of the drum K and push the coil O off the said drum. To facilitate this operation

the belt L may be slackened by pressing upon the lever S, which raises the lever N and pulley M, as before described.

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

1. The combination of the belt L, pulley J, self-adjusting pulleys M and U, carrying-pulley T, drum K, weighted lever N, and finger-lever V, arranged relatively to each other and operating in the manner and for the purpose herein specified.

2. The combination of the swinging cover W, drum K, pushing-fork E', shaft D', arms B' C', arranged and operating in the manner and for the purpose herein specified.

LOUIS ZISTEL.

Witnesses:

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