

No. 690,723.

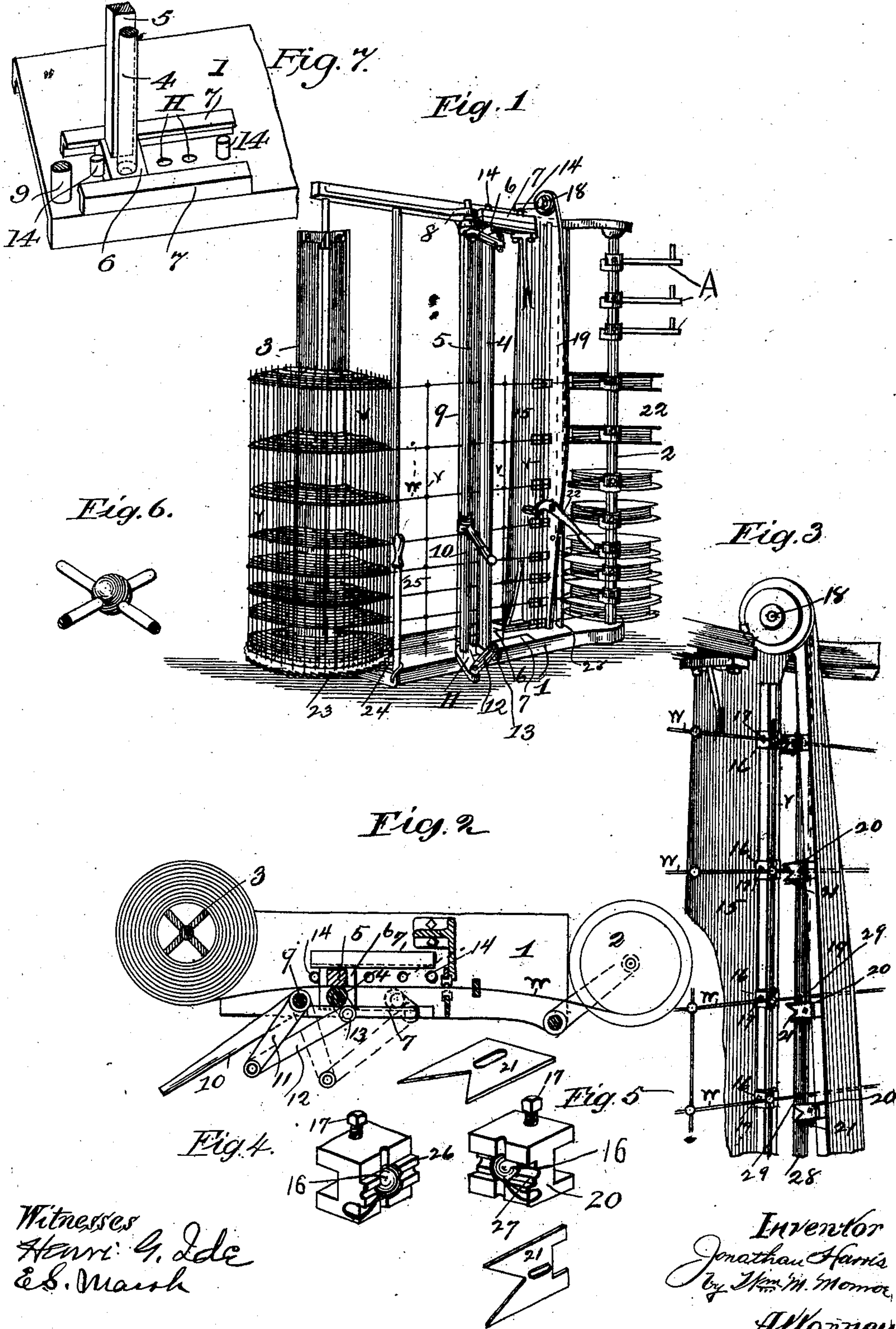
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J. HARRIS.

HAND MACHINE FOR CASTING BALLS UPON WIRE CROSSINGS.

(Application filed Aug. 24, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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HAND-MACHINE FOR CASTING BALLS UPON WIRE CROSSINGS.

SPECIFICATION forming part of Letters Patent No. 690,723, dated January 7, 1902.

Application filed August 24, 1900. Serial No. 27,907. (No model.)

To all-whom it may concern:

Be it known that I, JONATHAN HARRIS, a citizen of the United States, and a resident of Oxford, county of Oakland, State of Michigan, have invented certain new and useful Improvements in Hand-Machines for Casting Balls upon Wire Crossings, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in hand machinery for manufacturing wire fence; and the object of the machine is to secure the upright or picket wires to the horizontal or running wires at their joints of crossing by means of metal balls cast thereon in such a manner as to envelop both wires.

My invention consists in the combination and arrangement of the various parts and construction of details, as hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a front perspective view of the machine. Fig. 2 is a horizontal section of the machine, taken above the molds. Fig. 3 is a view in perspective of the mold-halves and swinging and stationary holders for the mold-sections. Figs. 4 and 5 are views of the respective halves of a mold. Fig. 6 is a view of the completed joint for the wire crossings. Fig. 7 shows a perspective view of sliding block and stop-pins therefor.

In the views, 1 is a bed-plate upon which is mounted the spool-holder 2 for wire and reel 3 for the completed fence. These spools are supported upon arms A, mounted upon the standard 2. The horizontal wires *w* are fed from the spools 2 to the reel 3 by means of the cam-rod 4, which grips the wires by compression against the post 5. Both the cam-rod and post 5 are mounted in plates 6, which move in guides 7 at the top and bottom of the frame, the lower one moving in the bed-plate 1 and the upper one moving in the upper bar 8 of the machine. A rod 9, pivoted at top and bottom in the frame, is provided with a hand-lever 10, by means of which it is turned, and the rock-arm 11, secured thereto, is connected

with the cam-rod 4 by means of the link 12 and rock-arm 13 upon the cam-rod. It will be seen that as soon as the cam-rod rotates it compresses the horizontal wires against the clamping-post 5. The movement of the lever being then continued, the action of the link upon the cam-rod will be to pull both cam-rod and post along with their supporting-blocks, and thus pull the wires together toward the reel, the amount of movement being limited by pins 14, set in the upper bar and bed-plate. The pins 14 are inserted wherever desired in the upper bar and bed-plate in holes H, provided for the purpose. In this manner the vertical wires *v* are spaced, the metal balls being previously cast upon the crossings of the wires as each vertical wire is placed in position.

The manner of casting the balls is seen by reference to the drawings to be as follows: 15 is a vertical plate secured to the bed-plate 1 and to the top bar and presenting upon its outer edge the half-molds 16, spaced adjustably by means of set-screws 17 at the distances apart required for the horizontal wires. Pivoted at 18 to the top of the bar 15 or to the upper bar is seen the bar 19, to which are adjustably secured the corresponding half-molds 20, one set being male and the other female, as described in my previous patent, No. 526,311. To these molds are adjustably secured V-shaped guides 21 to lead the wires directly to the molds. These molds are more perfectly described in my Patent No. 672,764, of April 23, 1901, and hence need no further description here. It is sufficient to say that one mold interlocks with the other. These guides are shown in the small views above and below Fig. 5 as detached from the half-mold shown in that figure, one being secured on the side and one on the bottom thereof. As soon as the vertical wires are placed in position the swinging bar 19 is lowered to bring the mold-faces into intimate contact, and they are locked together by means of the lever 22. The metal is then poured into the molds, and as soon as the joints are formed the completed fence is pulled forward and another vertical wire placed in position and secured to the horizontal wires. This procedure is continued until a roll of

fencing is completed and wound upon the reel. Ratchet-teeth 23 and dog 24 prevent the reel from unwinding. The ratchet can be released by means of the lever 25.

5 The molds are shown distinctly in Figs. 4 and 5, where a portion of one-half of one mold is seen projecting at 26 for insertion in the other half portion in a recess 27. This is essential, since the wires cross on different
10 planes, and the openings must be securely covered.

A guide 28 near the molds and pierced with openings 29 insures the correct position of the wires when entering them.

15 I do not claim the exact shape or construction of the various parts nor confine the use of the machine to the construction of wire fences.

What I claim as new, and desire to secure
20 by Letters Patent, is—

1. A hand-machine for the purpose described comprising in combination, spools for horizontal wires, a reel for the completed product, means for feeding the longitudinal wires
25 consisting of an elongated cam and a compression-post mounted upon sliding plates and adapted to grip securely each wire, a hand-lever and links connected with said cam whereby the cam and post can be moved and fixed
30 molds and movable molds, arranged to engage said longitudinal wires and each vertical wire in turn, the said fixed molds being

mounted upon a vertical support adjacent to said horizontal wires, and said movable molds being mounted upon a pivoted bar, a locking- 35 lever for the pivoted bar, and a perforated guide-bar for the horizontal wires, substantially as described.

2. In a machine for casting balls upon wire crossings, the combination with spools adjust- 40 ably placed to receive the longitudinal wires and a reel for the final product, a cam and post adapted to grip the longitudinal wires, sliding plates supporting said cam and post, 45 lever mechanism for rotating said cam and for moving said cam, post and sliding plates, stops arranged to limit the movements of said plates, and stationary and movable molds arranged to engage said longitudinal wires on either side respectively, the said movable 50 molds being provided with V-shaped guides constructed and arranged to guide the horizontal and vertical wires to the molds, substantially as described.

In testimony whereof I have signed my 55 name to this specification in the presence of two subscribing witnesses.

JONATHAN ^{his} × HARRIS.
mark

Witnesses:

HENRI G. IDE,
E. S. MARSH.