(No Model.)

C. HANIKA.

SWAGING BENCH FOR IRON FENCES.

No. 414,770. Patented Nov. 12, 1889.

Fig. 1

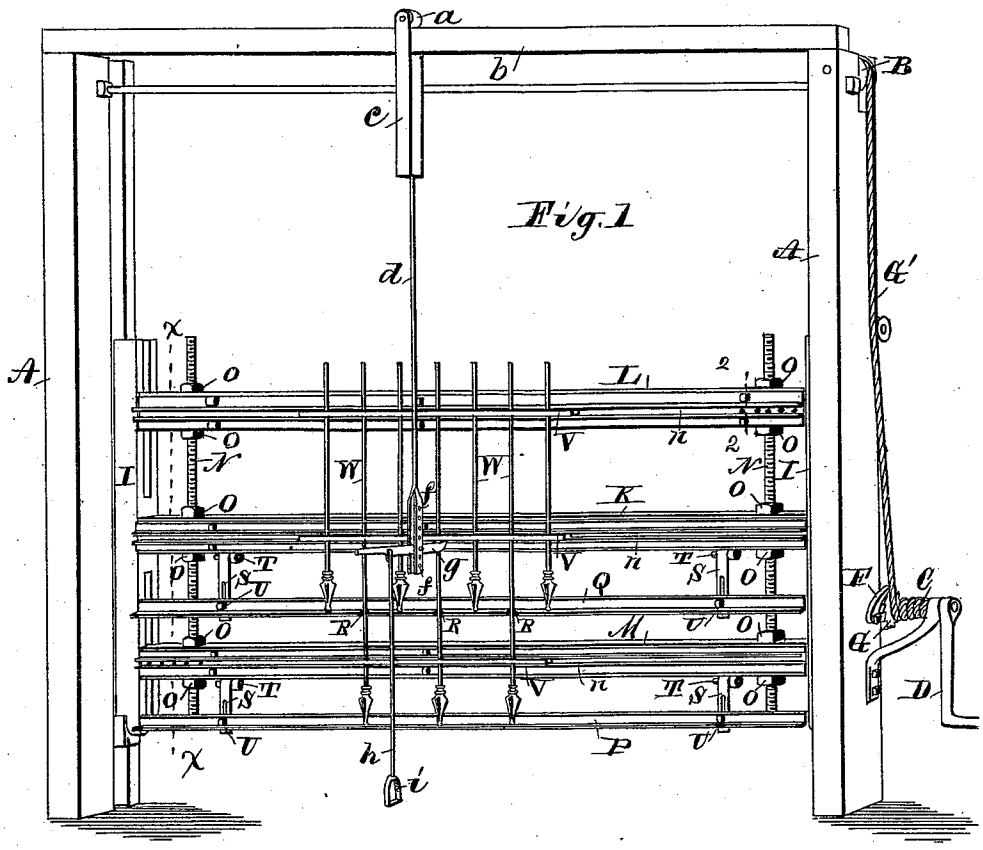


Fig. 2

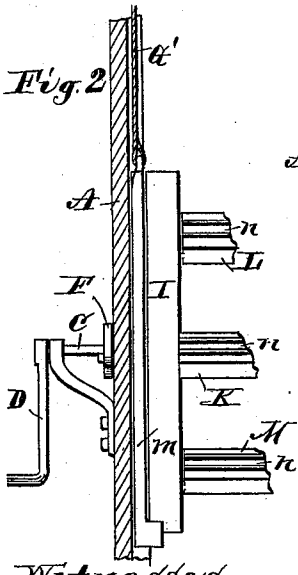


Fig. 3

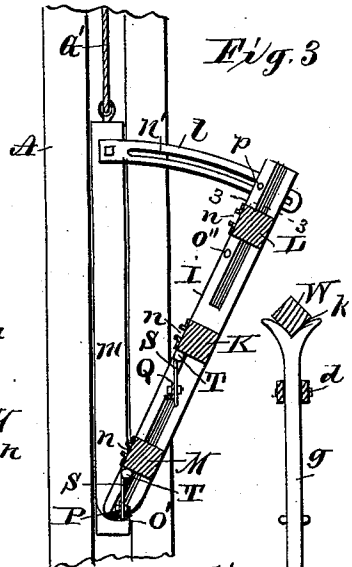


Fig. 4

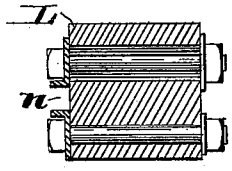


Fig. 5

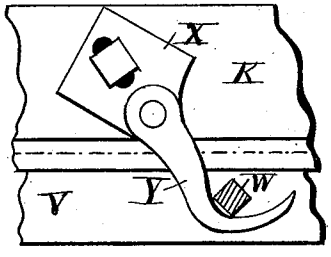


Fig. 7

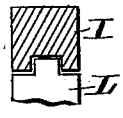


Fig. 6

Witnesses

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UNITED STATES PATENT OFFICE.

CHRISTIAN HANIKA, OF SPRINGFIELD, OHIO.

SWAGING-BENCH FOR IRON FENCES.

SPECIFICATION forming part of Letters Patent No. 414,770, dated November 12, 1889.

Application filed August 15, 1887. Renewed September 9, 1889. Serial No. 323,342. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN HANIKA, a citizen of the United States, and a resident of Springfield, in the county of Clark and State of Ohio, have invented a new and useful Improvement in Swaging-Benches, of which the following is a specification.

My invention relates to improvements in swaging-benches for swaging in the pickets of an iron fence.

Figure 1 is a front perspective with my form in a vertical position. Fig. 2 is a vertical section through the post. Fig. 3 is a section on line *x x*, Fig. 1, showing the bench inclined backward; Fig. 4, a sectional view on line 2 2, Fig. 1; Fig. 5, a top view of hook for holding the fence on the bench; Fig. 6, a top view of anvil-lever; Fig. 7, a section on line 3 3, Fig. 3.

A represents my frame; B B, pulleys thereon; C, windlass; D, crank; F, pawl; G, ratchet; G′, rope; I I, end pieces of the form or bench; K, stationary cross-piece connecting the pieces I; L M, adjustable cross-pieces; N N, screws connecting pieces K L M, and on which the two latter slide; O, nuts on the screws N N, by means of which the pieces L M are held in position; P, gage against which the top of the fence-pickets rest; Q, supplemental gage to be used when pickets of different lengths are used; R, notches in the supplemental gage to allow the long pickets to rest in; S S S S, hinged slotted straps hung on the staples T, to which the gages are attached by bolts U; V V, the fence-rails; W W, the pickets; X, slotted block on rail-holder; Y, clasp pivoted thereon; *a*, roller running on the cross-beam *b*; *c*, the bracket in which the roller is journaled; *d*, swiveled rod or strap, bifurcated at the lower end and having perforations *f* therein; *g*, an anvil pivoted on a pin passing through one of these perforations *f*; *h*, rod or strap hooked into the outer end of anvil *g* and supporting stirrup *i*; *k*, notch in end of anvil to fit the shape of the picket; *l*, brackets or supporting-pieces extending out from the rear of the frame.

n represents troughs in which the rails of the fence are placed while swaging the pickets. The sides of these troughs are made of angle-irons, the bases having slots in them through which the fastening-screws pass, so that the sides of the troughs may be advanced toward each other or receded to widen or narrow the trough to fit different thicknesses of rails.

o′ is a pocket or valley on end of piece *m*, in which the lower ends of the bench rest when inclined; *p*, pin sliding in the curved arms *l*.

The construction and operation of my device are as follows:

A rectangular vertical frame A is mounted on the floor or on any proper base, and a form or swaging-bench composed of the end pieces I and cross-pieces K L and M is mounted therein. The form is attached to the pieces *m*, that slide in grooves in the standards of the frame, and these sliding pieces are attached to the ropes that pass over pulleys B to windlass C. The two end pieces I I of the swaging-bench or form are connected by the cross-piece K, which has passing through it parallel with the pieces I the rods or screws N N, and on these screws are located the cross-pieces L M, which are free to slide on the screws N, but are held to the position desired by the nuts O. Each one of the cross-pieces carries a trough, in which the rails of the fence are fitted when the panel is laid on the form for swaging. To the middle and lower cross-pieces are attached two adjustable gages by means of the slotted straps S, hung on staples T. The lower one is to gage the top of the fence and the middle one for use when the fence is made of two lengths of pickets, as in the drawings. The middle gage has notches in it to allow the long pickets to lie flat where they pass over it. The form is attached to the frame by pins *o″*, (in the pieces I,) that fit in the sliding pieces *m*, playing in the vertical grooves in the standards, and is kept thereby in a vertical position. The pins *p* fit into a slotted arm (preferably in the arc of a circle) extending out from piece *m* back of the swaging-bench.

In putting a panel of fence onto the form or bench it is preferred to lean the top of the bench back to an angle of, say, forty-five degrees. To do this the form is lowered until its lower end rests upon the floor or in a pocket *o′* on the end of the sliding piece. The pin *o″* is then withdrawn and the top of the bench pushed backward, the pin *p* sliding in the

slots n'. When the fence has been placed in position on the bench, the clasps Y are put around the pickets, slid back into position, and screwed fast. The form is then pulled back to a vertical position, the windlass turned, and the form drawn up until the bottom rail rests upon the anvil g. This anvil g is pivoted on a strap depending from the roller playing on the top cross-piece of the frame. To the rear of the pivoted point a stirrup is swung to the handle of the anvil. When the rail is raised to the proper height, the anvil is placed underneath it, the picket resting in the notch in the end of the anvil. The operator places one foot in the stirrup and throws as much of his weight thereon as desired. With a hammer and cold-chisel he then swages the metal of the rail up against the sides of the picket. The anvil is then slid along to the next picket and the operation repeated. After all the pickets have been swaged in this rail the form is elevated until the next rail comes to the desired height, the anvil placed as before, and the operation repeated until all the pickets have been swaged in. In the ends of the parallel pieces K L M, (on top,) carrying the valleys or troughs, are a series of holes. When a fence for level ground is being built, a pin will be inserted, say, in the inside hole of each series, against which the opposite end of the upper and lower rails abut. When it is desired to build a fence with a grade to it, the bottom pin is removed and put in a hole farther to the left, while the pin against which the top rail abuts is moved a corresponding distance to the right. By varying the position of the pins different grades are established.

What I claim as new is—

1. A swaging-bench for finishing iron fences, composed of the cross-pieces K L M, carrying the troughs n, and the screws N and nuts O, as and for the purpose set forth.

2. The combination, with frame A and pulleys B, of the sliding pieces m, carrying the swaging-bench, as and for the purpose set forth.

3. The combination, with the swaging-bench, of the anvil g, suspended from the roller a, as and for the purpose set forth.

4. The combination, with the anvil g, swung from the roller a, of the stirrup i, as and for the purpose set forth.

5. The combination, in a swaging-bench, with the troughs n, of the adjustable clamps Y, as and for the purpose set forth.

6. The combination, with the troughs n and gages P, of the slotted straps S, swung from the staples T, as and for the purpose set forth.

7. The combination, with the sliding piece m, having slotted arms l and pockets o', of the swaging-bench and pin p, as and for the purpose set forth.

CHRISTIAN HANIKA.

Witnesses:
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