(No Model.) 2 Sheets—Sheet 1.

S. L. KLINE.

FENCE MAKING MACHINE.

No. 379,791. Patented Mar. 20, 1888.

Fig. 1.

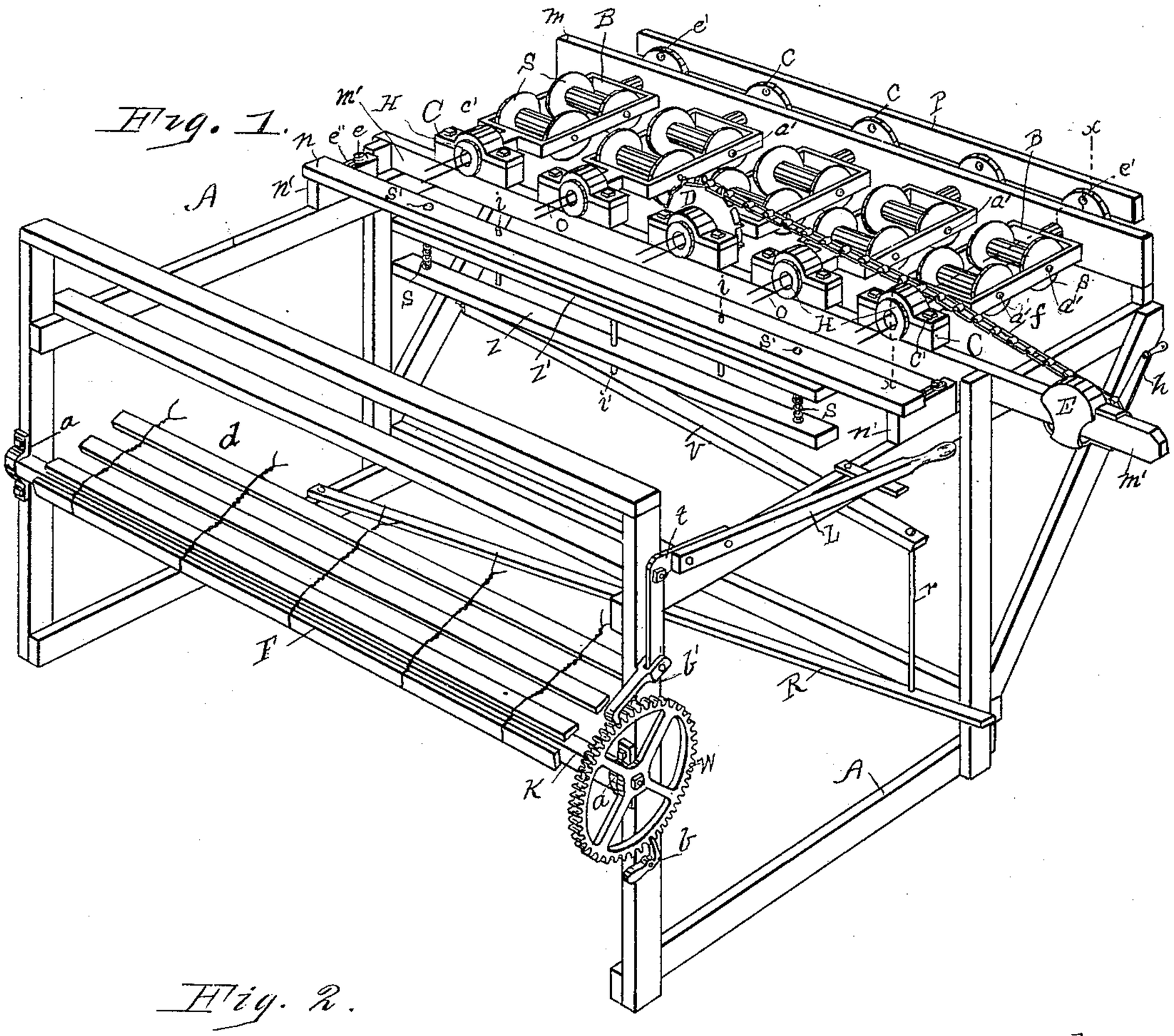
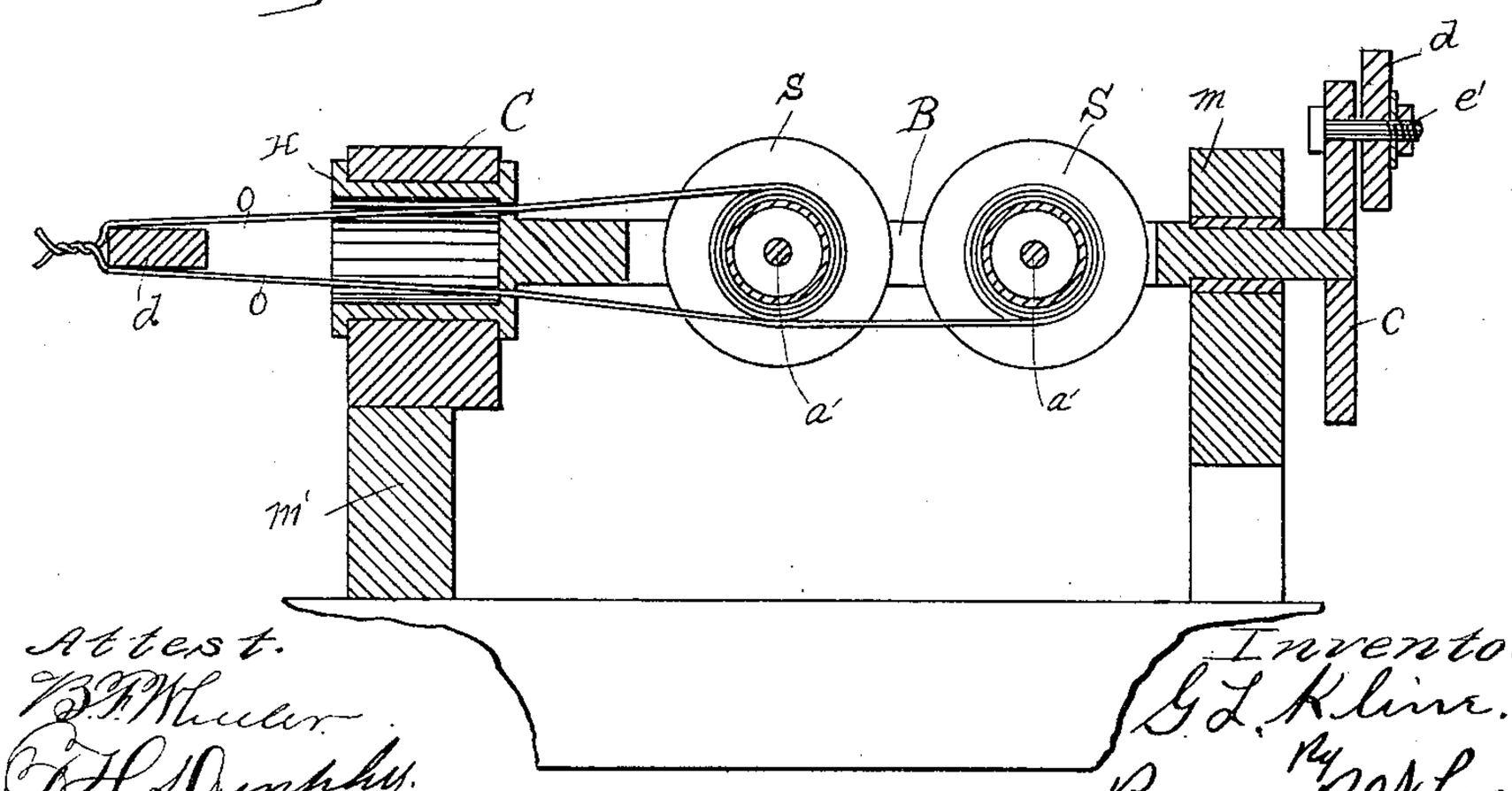


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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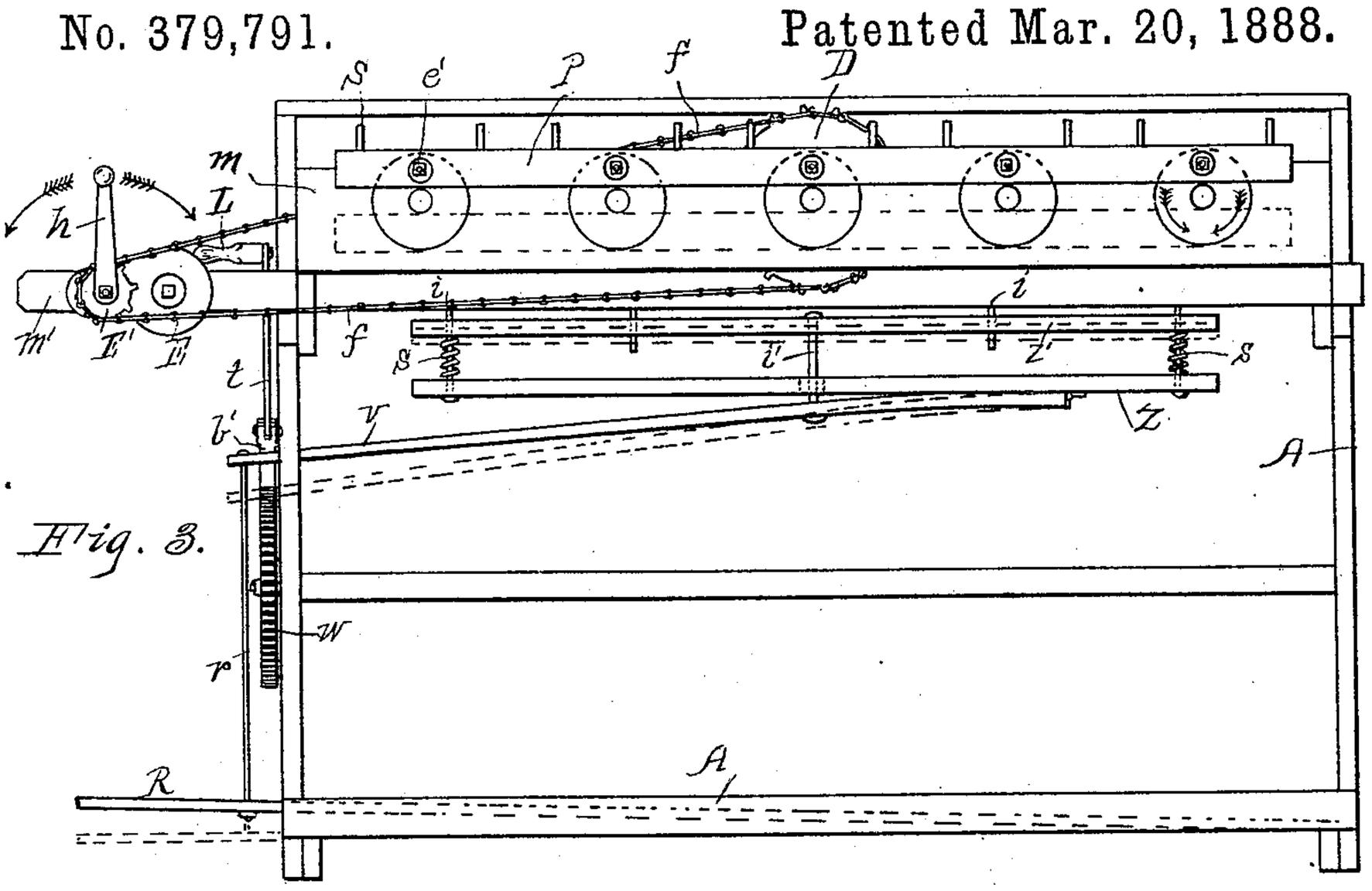

Fig. 3.

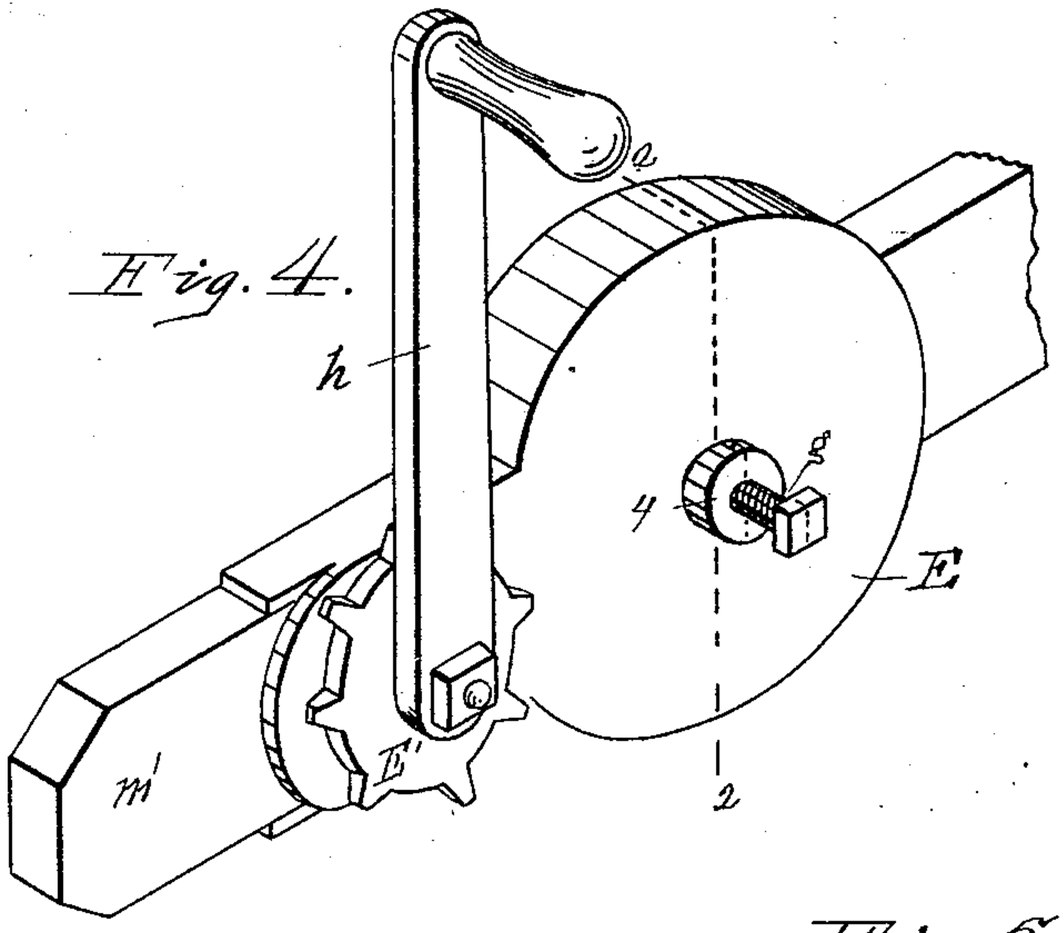

Fig. 4.

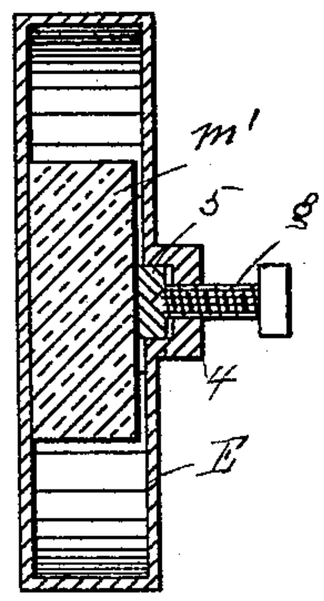

Fig. 5.

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UNITED STATES PATENT OFFICE.

SAMUEL L. KLINE, OF CASSOPOLIS, MICHIGAN, ASSIGNOR OF ONE-HALF TO ELMER E. STAMP, OF SAME PLACE.

FENCE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,791, dated March 20, 1888.

Application filed December 5, 1887. Serial No. 257,733. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL L. KLINE, a citizen of the United States, residing at Cassopolis, in the county of Cass and State of Michigan, have invented certain new and useful Improvements in Fence-Making Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to a machine for the manufacture of wire-bound picket fences.

The object of this invention is to provide a machine for such purpose that will be simple, durable, portable, and one that may be readily operated by hand; and said invention consists in the construction and combination of parts, as will be hereinafter fully set forth, and the essential features pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a perspective of the complete device. Fig. 2 is a vertical cross-section of the twisting-head and spools, taken on dotted line *x x* of Fig. 1. Fig. 3 is a rear elevation. Fig. 4 is an enlarged detail of the adjustable metal head carrying the crank and sprocket drive-wheel. Fig. 5 is a vertical cross-section of Fig. 4, taken on dotted line 2 2.

With reference to the drawings, A represents the bed or frame of the machine.

B shows a series of metal frames, having on one end twisting-heads H, which are journaled in the metal boxes C, mounted by means of bolts *c'* on the rail *m'* of the supporting-frame. The other ends of said metal frames B have journal-bearings in the rail *m* of the frame, and carry on their free ends the pitman-wheels *c*, which are connected to the pitman P by means of the pins *e'*. Said metal frames carry also, pivotally supported with slight tension through the sides thereof, the spools S S, from which the wires *o o* are unwound, passing through the openings in the heads H of said metal frames, as clearly shown in Fig. 2. The desired tension of the spools S is obtained by tightening the bolts *a'*, which pass through the side rails of the frames B and said spools S, thereby drawing the side rails of the frame B against the ends of the spools. One end of each rod *a'* is provided with a nut. (Not shown in the drawings, as such will be understood.)

E shows a metal head, which passes over the projecting arm of the rail *m'* and is adjustably secured thereto by means of the screw-threaded bolt *g*, passing through the hub 4 of said metal head E, and engages with a washer, 5, which is forced against the side of said rail *m'*, (see Fig. 5,) thus securing said head thereto. Said head also carries a sprocket-wheel, E', having the crank *h* attached thereto, by which it is driven; and extending from said sprocket-wheel E' to the sprocket-wheel D, mounted on the axle of the central metal frame, B, of the series, is a chain belt, *f*, for driving said wheel and frames, which, by means of the pitman P, causes the series of frames attached thereto to revolve or rotate therewith.

n shows a rail mounted on sliding blocks *n'*, having the holes *e''*, with bolts *e* passing through into the frame of the machine, by which said rail is adjusted and secured in position. (See Fig. 1.)

Suspended by means of bolts *s' s'* to the under face of said rail *n* is a bar, Z, on which is supported by the springs *s*, encircling said bolts *s'*, the interposed movable bar Z', carrying the pins or dogs *i i*, the upper ends of which project slightly through the rail, for the purpose hereinafter set forth.

To the rear under face of the bar Z the rear end of the arm *v* is attached by means of a hinge, 3, and passing centrally through said bar is a rod or bolt, *i'*, having connection with the interposed bar Z' and the arm or lever *v*, whereby when said arm is forced down by means of the treadle connected thereto by the rod *r* the interposed bar Z' will be drawn down against the springs *s s*, drawing also down the pins *i i*, as shown by dotted lines in Fig. 3.

K shows a shaft journaled in boxes *a a* on the upright posts of the frame, and carries on one end a ratchet-wheel, W, which is revolved by means of the elbow-arm *t*, carrying on its

lower end the dog *b'*, which engages with the cogs of said wheel, and on the other end of said arm *t* is a lever, L, by which said arm and dog are operated in revolving said wheel to reel or wind upon the shaft K the fencing F, as shown in Fig. 1.

The operations of the machine are as follows: The slats or pickets *d* are inserted, one at a time, between the wires *o o*, passing from the spools S through the revolving heads H, the rear edge of said picket resting against the pins or dogs *i i* when the crank *h* is to be turned, revolving the heads until the wires have become sufficiently twisted to firmly bind and secure said picket in position between the same. The operator then presses with his foot on the treadle R, drawing the pins *i i* down to allow the attached picket to pass by, when by raising the lever L the dog *b'* will be drawn back over the cogs of the ratchet-wheel W, while the dog *b* will engage by gravitation with said cogs to hold the wheel from turning back until the lever L is thrown down, which would cause the dog *d'* to engage with the cogs and revolve said wheel and shaft, thus winding the fencing upon said shaft or reel and drawing said pickets from the pins *i i* sufficiently to allow space for the insertion of another picket, when the foregoing operation of parts is repeated until a sufficient amount of fencing has been made, when it may be removed from the machine.

The object of coupling the drive-chain to the sprocket-wheel D of the central frame, B, is to prevent twisting or too great a strain upon any one of the frames in operating the machine.

It will be observed that the spools S, in paying out the wire, revolve within the frames B, and with said frames in twisting the wire strands.

The twisting-heads may be revolved in one direction; or by turning the crank-handle *h* in the direction of the arrows of Fig. 3 the twisting-heads will be caused to revolve first in one direction, then in an opposite direction, whereby the wires between the alternate pickets will be twisted in a reverse direction.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an organized fence machine, the combination of the main frame, the series of frames B, each carrying twisting-heads at one end and a crank-wheel at the opposite end, the twisting-heads journaled in boxes *c'*, mounted on the rail *m'*, the outer ends of the frames B journaled in the rail *m*, the spools, the pitman P, the sprocket-wheel D, made fast to the central twisting-head, the head E, adjustably attached to the arm *m'*, the sprocket-wheel E', attached to said head, the crank-handle *h*, and chain *f*, as and for the purposes specified.

2. In a fence-making machine, the combination of the main frame, the series of twisting-heads journaled in the boxes *c'* of said frame, the frames B, having the twisting-heads on one end and crank-wheels on their opposite ends, the pitman coupled to said crank-wheels, the spools pivotally supported within the frames B, the rods and nuts for tightening said spools, the metal head E, mounted on the rail *m'* and having the sprocket-wheel and crank attached thereto, the sprocket-wheel D, and the chain belt coupling said sprocket-wheels, as and for the purposes specified.

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

SAMUEL L. KLINE.

Witnesses:

J. R. CARR,

FRANK BRONNER.