(No Model.)

J. MACY & C. M. GILBERT.

FENCE MACHINE.

No. 348,288. Patented Aug. 31, 1886.

Fig. 1.

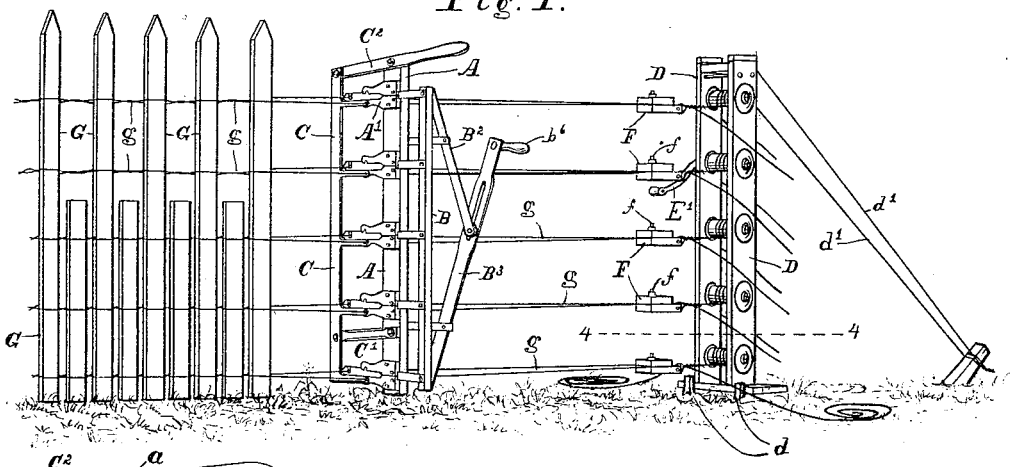


Fig. 2.

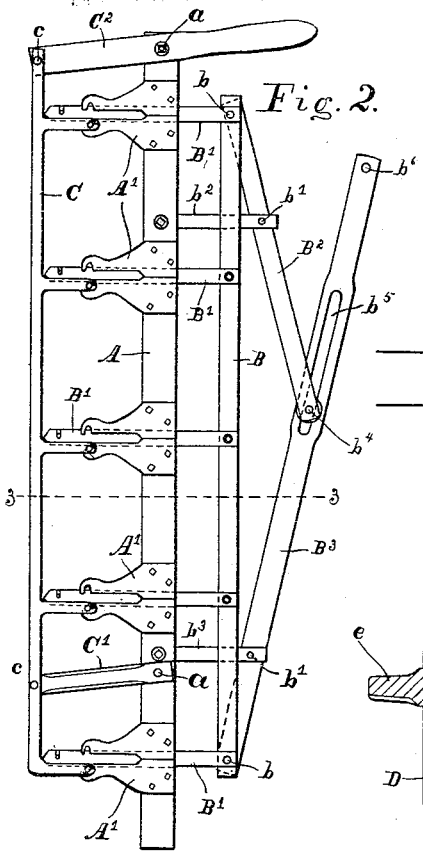


Fig. 3.

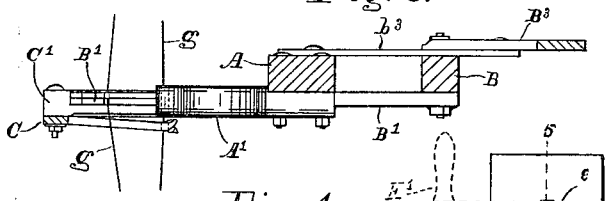


Fig. 4.

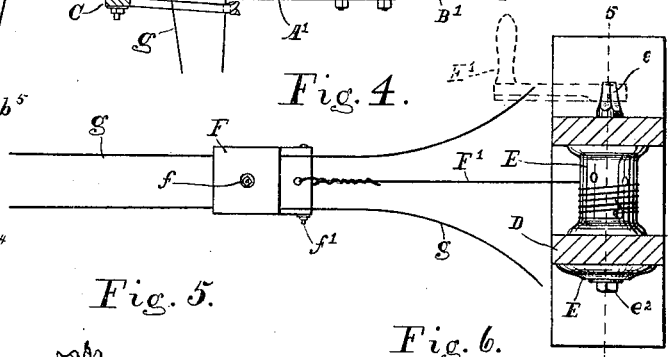


Fig. 5.

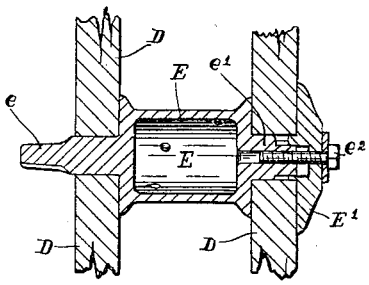
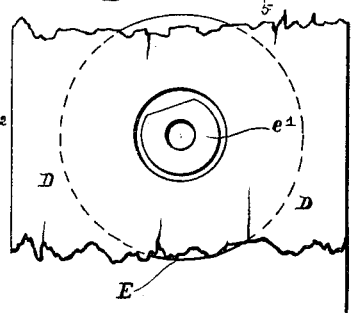


Fig. 6.



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JAMES MACY AND CHARLES M. GILBERT, OF STRAUGHNS, INDIANA.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,288, dated August 31, 1886.

Application filed June 5, 1886. Serial No. 204,200. (No model.)

To all whom it may concern:

Be it known that we, JAMES MACY and CHARLES M. GILBERT, of the town of Straughns, county of Henry, and State of Indiana, have invented certain new and useful Improvements in Fence-Machines, of which the following is a specification.

Our said invention consists in certain improvements upon that for which Letters Patent of the United States No. 342,524 were granted us under date of May 25, 1886.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view, showing the complete machine in connection with a portion of fence and in position for operation; Fig. 2, a side elevation of the weaving device separately; Fig. 3, a horizontal sectional view looking downwardly from the dotted line 3 3 in Fig. 2; Fig. 4, a horizontal sectional view looking downwardly from the dotted line 4 4 in Fig. 1; Fig. 5, a vertical sectional view on the dotted line 5 5 in Fig. 4, and Fig. 6 an elevation of one of the tension-spools, as seen from the outer end of its bearing in the frame, with the friction-plate removed.

In said drawings, the portions marked A represent the main bar of the weaving device; B, the needle-bar; C, the shifter; D, the frame in which the tension-spools are mounted; E, said spools; F, tension-clamps for the wires, and G *g* the fence.

As in our former patent, the main bar A of the weaving device carries several arms, A′, having notches in their ends to receive one of the two fence-wires, and longitudinal apertures to receive the needles which carry the other wires. They are shown of a different form from that shown in said former patent; but the difference is of form merely.

The needle-bar B, also, as in our former patent, carries needles or shuttles B′, (which enter and operate in the longitudinal apertures in the arms A′, formed to receive them,) which needles have eyes or notches in their ends to receive the other one of the two fence-wires. Said needle-bar, however, is operated in a different manner from that shown and described in our said former patent. In our present construction two bars, B^2 B^3, are pivoted to projecting arms b^2 b^3 on the post A by pivots b', and said bars are connected to the upper and lower ends, respectively, of the needle-bar B by pivots or pivot-bolts *b*, which may also be the bolts by which the needles B′ are secured to said needle-bar. These bars B^2 B^3 are connected together by a pin, b^4, projecting from one and passing through a slot, b^5, in the other, and are thus caused to operate simultaneously. One of these bars (preferably the slotted one) is extended somewhat, and carries a handle, b^6, by which said bars may be operated, as will be readily understood, and the needle-bar and needles thereon thus moved back and forth, shifting the wires carried by said needles from one side to the other of the wires carried by the arms A′.

The shifter C is also substantially like the shifting device shown in our former patent, but is constructed differently. It now consists of a single metallic bar having several arms, as shown, by which the wire passing through the needles in the arms A′ may be shifted to above or below the needles, and is secured to the post A by two links, C′ C^2, connected to said shifter and said bar by the pivots *c* *a*, said link C^2 being extended to also form an operating-handle, as shown.

The frame D is a plain rectangular frame, with holes formed in its sides to serve as bearings for the spools. In operation it is secured in position by stay-wires *b′* and stakes *d* or otherwise, as may be preferred.

The spools E are mounted in bearings in the frame D, and serve to secure the tension device and equalize the tension on the wires, which is necessary before commencing to operate the machine, as will be presently described. One end, *e*, of its shaft is fitted to receive a crank, E′, and the other, *e′*, has a longitudinal orifice, into which a bolt may be screwed, as shown most plainly in Figs. 5 and 6. The outer extremity of this end *e′* is also ensmalled somewhat and one side flattened, as also shown in Figs. 5 and 6. A cap, E′, having a flange formed to fit around the ensmalled portion of the end *e′*, is provided for each one of said spools, and secured thereto by a bolt, e^2, which enters the longitudinal orifice formed to receive it, as shown in Fig. 5 and before described. The opening in said cap inside its flange is formed deep enough, so that the extremity of the end *e′* will not come in contact

with its bottom, and thus said flange is permitted to be screwed up as tightly as may be desired against the side of the frame D, and any desired amount of friction thereby produced, said frame side being thus clamped between the end of the spool proper and said cap.

The tension-clamps or friction-blocks F each consist of two parts secured together by a bolt, *f*. One is preferably made longer than the other, and this one is secured from splitting by a bolt, *f'*. (See particularly Fig. 4.) This longer portion is secured to a spool, E, by a wire, F', passing through a hole therein and around said spool, and the two fence-wires are placed between the two blocks—one on each side of the bolt *f*. In operation these fence-wires are placed in this position, and said bolt *f* screwed down tightly enough to produce the desired tension, and the spool is turned by means of its crank until said tension is equalized, the one of said wires, which is tighter than the other, slipping between the blocks until both are of equal tension. If necessary, the bolt *f* is then tightened up somewhat more, and the spool is secured in the position to which it has been turned by tightening up the bolt e^2, which, as before explained, clamps the spool firmly in its position.

The fence made by the use of this machine consists, as usual, of pickets G and wires *g*. The portion of completed fence shown has alternately long and short pickets; but it may of course be constructed in any manner desired.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a fence-machine, with the mechanism for weaving the wires about the pickets, of a shifter, C, secured to the main bar of said mechanism by links C' and C^2, substantially as shown and described.

2. The combination, in a fence-machine, having a needle-bar and needle secured thereto, of mechanism for operating said needle-bar, consisting of two bars pivoted to arms on the frame-work and to said needle-bar, and connected by a pin and slot.

3. The combination of the main bar A, the arms thereon, needles connected to a needle-bar, mounted and operating in apertures in said arms, arms b^2 b^3, also secured to said bar A, and bars B^2 and B^3, mounted on pivots on said arms connected by other pivots to the needle-bar B, and to each other by a pin and slot, substantially as set forth.

4. The combination, in a fence-machine, of a frame, D, spools mounted therein, and caps secured to the ends of said spools by bolts, whereby said frame may be clamped between the ends of said spools and said caps, and the spools thus clamped in position, substantially as set forth.

5. The combination, in a fence-machine, of the frame D, spools E therein, one end of each spool-shaft terminating in a bearing for a crank, and the other being provided with a longitudinal aperture for the bolt, and ensmalled at its extremity, and a cap having a flange fitting over said ensmalled portion and secured to said end by a bolt entering said aperture.

6. The combination, in a fence-machine, of a spool-frame, spools therein, one bearing of each spool being ensmalled and flattened upon one side and provided with a longitudinal aperture, and a cap having a flange which fits over said ensmalled portion, having a correspondingly-flattened side, and a bolt for securing said cap and said end together, substantially as set forth.

7. The combination, in a fence-machine, with the winding and holding spools of tension-clamps F, connected thereto, and consisting of two blocks secured together by a bolt, substantially as described, and for the purposes specified.

8. As a tension-clamp for fence-machines, two blocks secured together by a bolt and connected to an adjusting device, whereby the pressure on the wires can be adjusted, and an equal pressure on both be maintained by operating said bolt, substantially as set forth.

In witness whereof we have hereunto set our hands and seals, at Indianapolis, Indiana, this 1st day of June, A. D. 1886.

JAMES MACY. [L. S.]
CHARLES M. GILBERT. [L. S.]

In presence of—
C. BRADFORD,
CHARLES L. THURBER.