

No. 107,230.

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Gilbert P. Fowler
Henry M. Glade

Inventor.

Owen Davis
by his atty
J. J. Burris

UNITED STATES PATENT OFFICE.

OWEN DAVIS, OF NEW LEBANON, INDIANA.

IMPROVEMENT IN KNITTING-MACHINE.

Specification forming part of Letters Patent No. 107,230, dated September 13, 1870.

To all whom it may concern:

Be it known that I, OWEN DAVIS, of New Lebanon, in the county of Sullivan and State of Indiana, have invented new and useful Improvements in Knitting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a top view of lever, frame, and connecting-rod as attached to the machine. Fig. 2 is a front elevation of fender. Fig. 3 is a section of the fender, taken in the direction of the line *x x* of Fig. 2. Fig. 4 is a side view of threader-hook. Fig. 5 is a side view of the lever, frame, and clamp.

Like letters in the different figures of the drawing indicate like parts of the invention.

Nature.

My invention relates to improvements in the Lamb knitting-machine; and consists, first, in operating the machine by a lever instead of a crank, the lever being provided with a separate clamp, by means of which it is attached to the table at the right end of the machine, and having a connecting-rod which is attached to the sliding carriage by the same pivot-bolt that holds the crank-connecting rod of the machine, thus rendering the operation of the machine easier, more rapid, and more convenient; second, of a fender extending the entire length of the needle-plates, the upper part of the fender being made with a cape or flange to lap over the front row of jack-wires, and provided with slots to slip over the wires, and with projecting handles for conveniently handling it, and the lower part being made sufficiently large to extend down between the inclined jaws or plates, so as to protect the fabric from the heel-comb during the process of knitting the heel.

A is a lever, having a handle, *b*, and B is a frame, to which the lever is attached by the pivot-bolt *c*. The frame B is made in the shape of a segment of a circle, and is provided with stops *d d*, against which the back end of the lever A strikes as soon as the carriage-cams are shifted, to prevent the concussion and jamming of the machine. C is a stay-strap, secured at the front end by the pivot-

bolt *c*, (which passes through a hole therein,) and extends over the top and down the back of the frame, forming the stirrup *e*, which is fastened by a screw to the top of the table, as shown in Figs. 1 and 5. D is the clamp, provided with set-screw *f*, by means of which the frame B is fastened to the table or shelf. E is a connecting-rod, attached to the lever A at or near the middle thereof, and to the carriage C, by the same pivot-bolt which connects and holds the connecting-rod of the Lamb machine. F is a fender, made with a cape or flange, *G'*, which is provided with slots *s*, sufficiently large and the proper distance apart to readily admit the jack-wires G to pass through them, as seen in Figs. 1 and 2.

The two projecting handles *h h* on the top are for the convenience of the operator in handling the fender. This fender is made of sufficient length to extend the entire length of the needle-plates, and of sufficient depth to extend down between the plates, so as to protect the fabric from the heel-comb during the process of knitting the heel.

T is a threader, provided with two crooks, *c'* and *c''*, instead of only one crook, like the present machine-hook. The extra crook enables it to be used with greater facility, requiring only four motions of the hands, while the Lamb-machine hook requires from six to twelve motions of the hand.

Operation.

The lever-clamp should be attached to the same table or shelf to which the machine is attached, at the right-hand end of the machine, and the movement of the lever A to the right and left operates the sliding carriage C, the back end of the lever striking against the stops *d d* as soon as the carriage-cams are shifted, thus preventing the jamming of the machine. The lower end of the fender is placed between the needle-plates, with the cape *G'* to the front, which is pressed down over the front row of jack-wires, G, which project through the slots *s*, as seen in Figs. 1 and 2, and is kept in that position during the process of knitting the heel, thus effectually protecting the fabric from the heel-comb. When the heel is completed the fender is lifted up and removed by the handles *h h*.

In using the threader, the short hook *c'*

is passed up through the eye of the yarn-carrier, and catches the yarn and draws it down through the eye.

What I claim is—

1. The combination of the lever A, connecting-rod E, frame B, stops *d d*, and clamp D *f*, all constructed and arranged substantially as described, and adapted to operate the sliding frame of a knitting-machine, in the manner set forth.

2. The fender F, provided with the cape or flange G' and slots *s*, and adapted to be ap-

plied to the machine in the manner and for the purpose described.

In attestation of the foregoing specification of my improvements in knitting-machines I hereunto subscribe my name, in the presence of two subscribing witnesses, this 23d day of June, A. D. 1870.

OWEN DAVIS.

Witnesses:

N. D. MILES,

W. H. SALLÉE.