W. AIKEN.

Yarn-Guide and Needle-Barb Presser for Knitting Machines.

No. 197,237. **Patented Nov. 20, 1877**

Fig. 1.

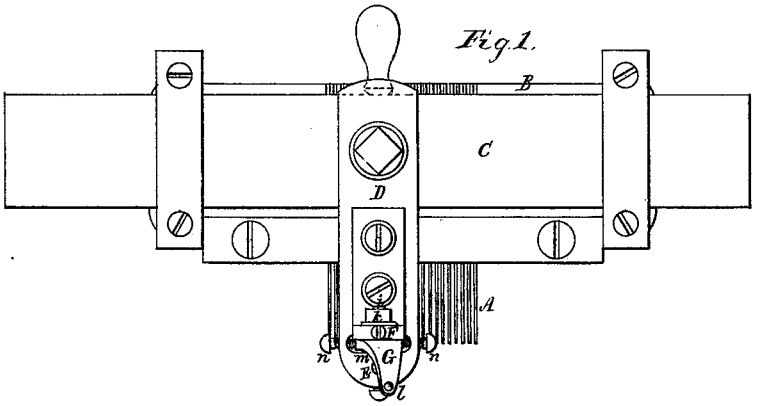


Fig. 2.

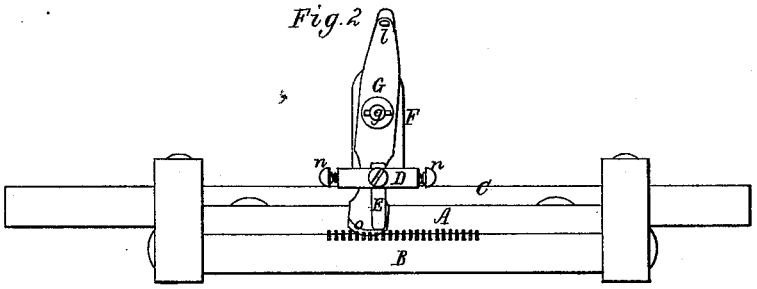


Fig. 5. Fig. 6.

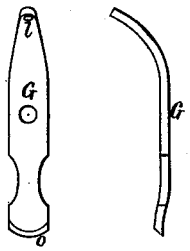


Fig. 3.

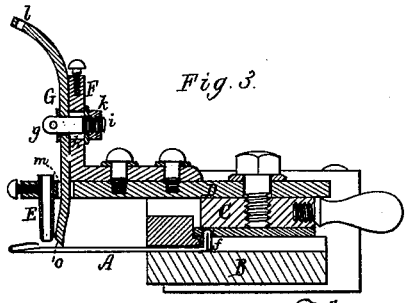
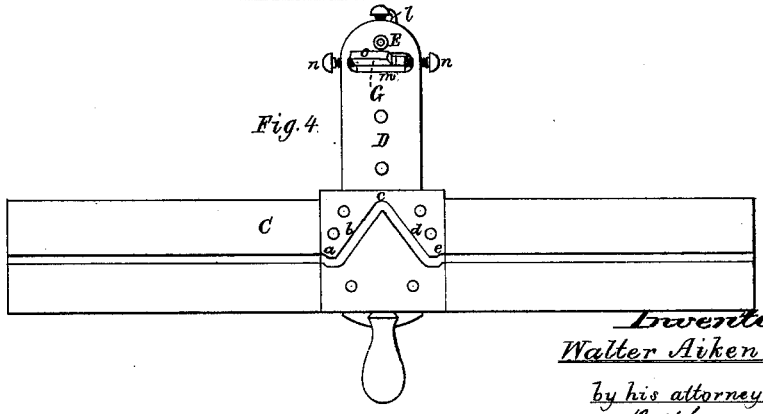


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

WALTER AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

IMPROVEMENT IN YARN-GUIDES AND NEEDLE-BARB PRESSERS FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. **197,237**, dated November 20, 1877; application filed August 21, 1877.

To all whom it may concern:

Be it known that I, WALTER AIKEN, of Franklin, of the county of Merrimack and State of New Hampshire, have invented a new and useful Improvement in Yarn-Guides and Needle-Barb Pressers for Knitting-Machines; and do hereby declare the same to be described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, and Fig. 3 a longitudinal section, of knitting mechanism embodying my invention. Fig. 4 is an under-side view of the cam-bar and the parts for supporting the yarn-guide and the vibratory presser. Fig. 5 is a front view, and Fig. 6 an edge view, of the said presser.

In this machine barbed or hooked needles without latches are employed, and with such needles and their operative mechanism and the yarn-guide I employ a vibratory presser and certain abutments or stops therefor; and such presser I also construct with a hole or auxiliary yarn-guide in or to its upper part, all being as hereinafter explained.

The series of needles A, arranged in grooves in a bed-plate, B, and parallel to each other, are provided with a cam-bar, C, which, for the purpose of operating the needles, or moving them out and in, is to have what is termed a "V" or cam groove, *a b c d e*, essentially as represented in Fig. 4. The projections *f* of the needles enter this groove. This cam-bar, when the machine is in operation, is to have a reciprocating rectilinear movement imparted to it.

Projecting from such cam-bar is a flat arm, D, which supports a tubular yarn-guide, E, that extends through and downward from the arm, in manner as represented.

To a standard, F, erected on the arm D, the vibratory presser G is pivoted. The pivot *g* of this presser is movable vertically in a slot, *h*, made in the standard, such pivot being furnished with a clamp-screw, *i*, and nut *k*, or means of fixing it in position in the slot, the object thereof being to properly adjust the presser vertically with reference to the needles.

The said presser, bent at top and there having an auxiliary guide or hole, *l*, for the passage of the yarn through it to the main yarn-guide E, extends down through a slot, *m*, made laterally in and through the arm D, there being at each end of the slot a screw, *n*, which is screwed into the arm and extended into the slot. These screws are stops to limit the extent of vibratory movement of the presser on its fulcrum or pivot. Instead of adjustable stops, unadjustable ones may be employed, or the ends of the slot may be used for the purpose. It is better to have the stops adjustable. The presser, at its lower end, is curved or convex, and is beveled, as shown at *o*.

On being moved across each needle, while it is being retracted, and after it may have received the yarn from the yarn-guide, the presser will sink the needle-barb so as to admit of the stitch previously made, and on the needle, being cast off, so as to cause a new stitch to be produced. On the cam-bar being moved in either direction, it will carry the presser against the next adjacent needle, or first needle of the set, whereby the presser will be tipped or turned back on its pivot, and will bring up against one of the stops *n n*, whereby the presser will be brought into its proper position relatively to the yarn-guide for action on the needle-barb after the needle may have been charged with the yarn.

By having the yarn led through the upper arm of the presser, and thence into and through the main yarn-guide, such yarn, by its strain on the presser, will assist in tripping it.

As the stitches are to be formed during each movement of the cam-bar, it becomes necessary to have the presser vibratory, as described, in order for it to be set at a proper distance in rear of the guide for the latter to lay the yarn on each needle before it may be retracted and the presser be made to act on its barb.

I have not shown or described means for supporting the work while the needles are being retracted in order to effect the "casting off" of the stitches, such being what is commonly used for such purpose.

I claim—

1. The presser G, pivoted or supported so as to be capable of being vibrated, essentially as

desribed,in combination with the arm D, having stops for limiting the vibration of such presser, and with the tubular yarn-guide and the series of hooked needles, and mechanism for operating them, substantially as set forth.

2. The pivoted presser, and its stops and means of vertically adjusting the pivot, in combination with the tubular yarn-guide and the series of needles, and with mechanism for operating them, essentially as specified.

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Witnesses:

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