(No Model.)

W. A. INGALLS.

STOP MOTION FOR KNITTING MACHINES.

No. 571,479. Patented Nov. 17, 1896.

Fig. 1.

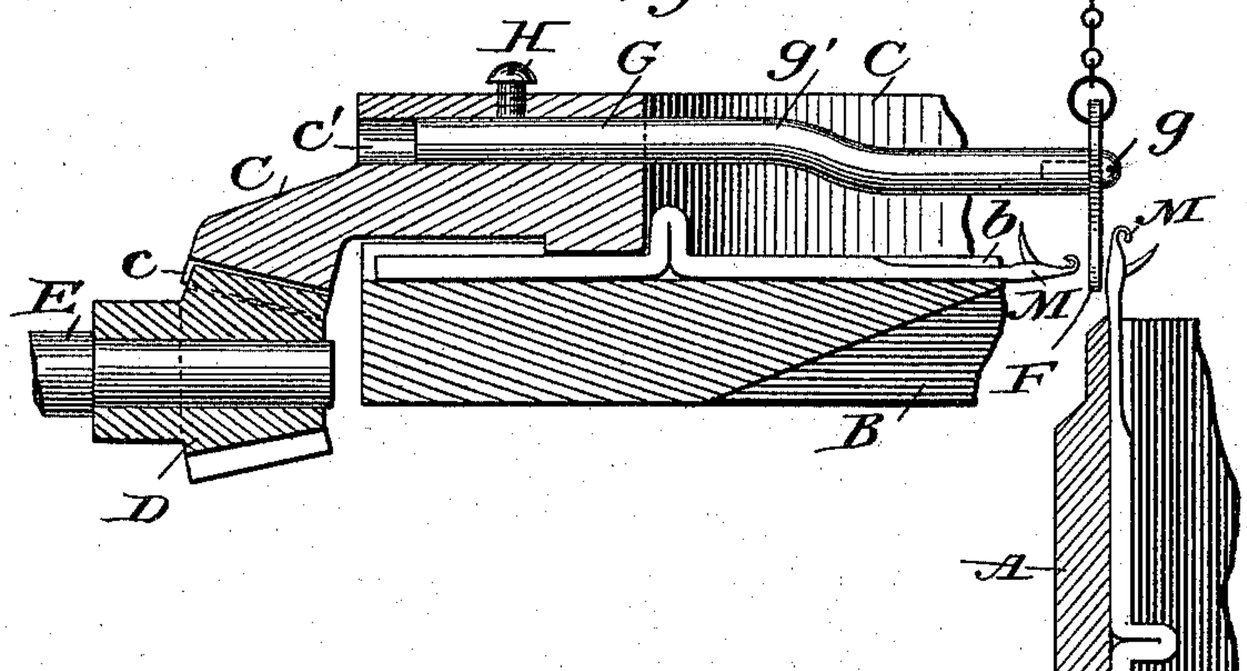


Fig. 2.

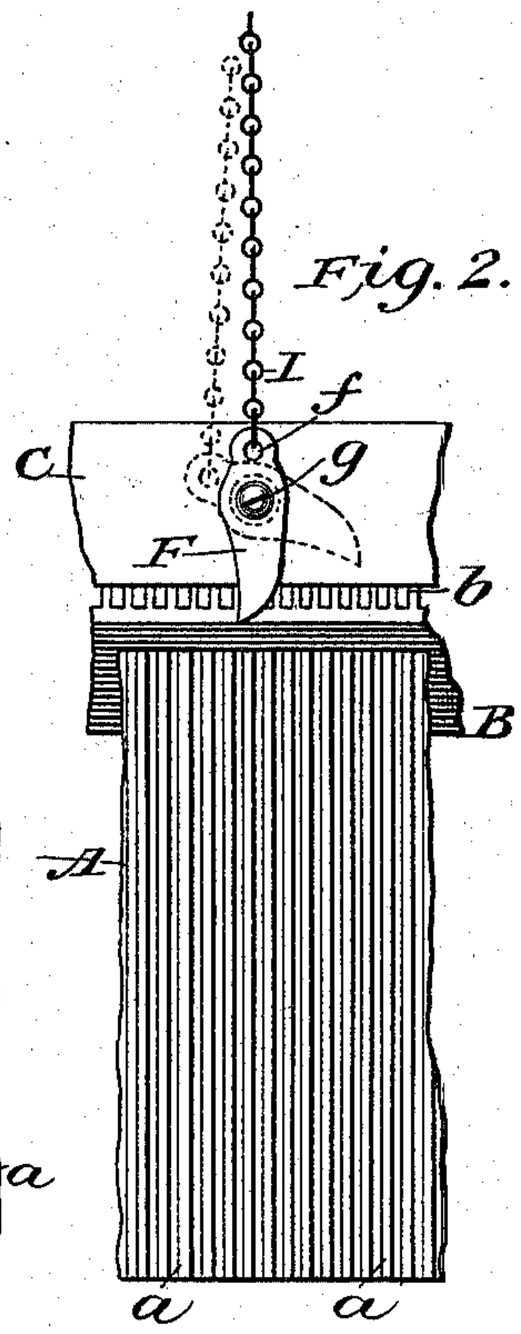
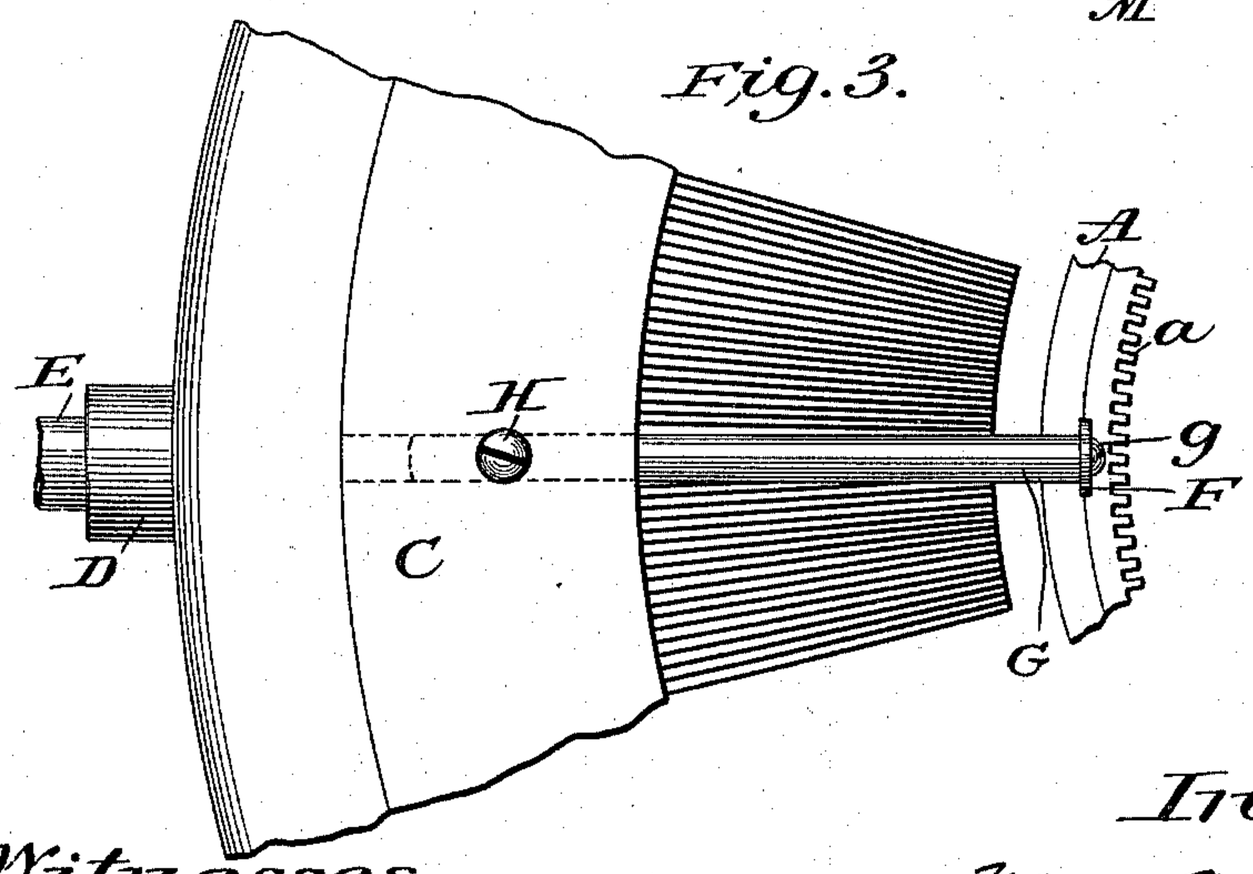


Fig. 3.



Witnesses.
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STOP-MOTION FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 571,479, dated November 17, 1896.

Application filed January 9, 1896. Serial No. 574,862. (No model.)

To all whom it may concern:

Be it known that I, WILLIS A. INGALLS, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Stop-Motions for Knitting-Machines; and I do hereby 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.

This invention relates to devices designed to stop a knitting-machine when anything occurs which would make a defect in the finished work.

The stop mechanisms in present use will stop a machine somewhere during the knitting of the course of the work in which the defect occurs, but not at the moment it occurs—*i. e.*, the ordinary stop motions or mechanisms operate only at a given point in each rotation of the cylinder of a machine, and thus if a defect in the work occurs in the first stitch taken after the cylinder shall have passed the point at which the stop-motion may operate the machine will continue to knit the remainder of that course before the stop mechanism will perform its function.

The object of the present invention is to provide a device which will automatically stop a knitting-machine at the moment a defect in the work occurs, such, for instance, as knots or bunches in the yarn or defective or broken needles, thus avoiding the unnecessary waste of time required to unravel the work back to the point at which the defect occurred.

The invention will be fully set forth in the following specification and claim and clearly illustrated in the drawings accompanying and forming a part of the same, of which—

Figure 1 is a sectional view showing a portion of a cylinder, needle-plate, cam-plate to which my improvement is attached, and the beveled pinion for driving the cam-plate. Fig. 2 is a broken elevation showing the same parts with my improvements in end elevation, Fig. 3 being a broken plan view of the same parts shown in Fig. 1.

Similar reference-letters denote corresponding parts.

A represents the cylinder; B, the needle-plate; C, the cam-plate, and D a beveled pinion which meshes with the beveled teeth *c* of said cam-plate, said pinion being mounted upon a shaft E.

The cylinder A is grooved, as shown at *a*, for the reception of the needles M, and the needle-plate is grooved upon its upper surface, as at *b*, to accommodate the needles, and between these two sets of needles I provide a rocker F, which is pivotally attached, as at *g*, to a shaft G, fitting a horizontal perforation *c'*, formed for this purpose in the cam-plate C, and adapted for suitable adjustment therein by means of the set-screw H.

The rocker F is somewhat pointed at one end, and in the opposite end is formed an eye *f*, to which one end of a cord or chain I is attached, the other end of said cord or chain being connected to any ordinary stop mechanism or to any electric stop mechanism of a knitting-machine, said rocker resting normally in a vertical position and so near the needles and yarn that the slightest defect in either will cause the piece F to rock, pulling down the cord or chain I sufficiently to operate the stop mechanism of the machine at the instant the rocker detects the defect.

My improved device is readily adjustable vertically by means of the offset *g'* in the shaft G, and by moving said shaft horizontally in its bearing in the cam-plate C the rocker F may be run as near the needles as required, and it must be raised or lowered in accordance with the particular grade of work, either coarse or fine, which may be in the machine.

In Fig. 2 the rocker F is shown by dotted lines in a position to draw down the chain I, designed for connection with any mechanism for stopping a machine.

Having described my improvements, what I claim is—

In a knitting-machine, a rod or shaft provided with an offset and adjustably connected to the cam-plate, and a suitable rocker pivotally attached to the free end of said rod or shaft, one end of said rocker being adapted to run in close proximity to the work and the other end being attached to a chain adapted to operate the stop mechanism, substantially for the purpose set forth.

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

WILLIS A. INGALLS.

Witnesses:

J. B. THURSTON,

H. E. ANDREWS.