

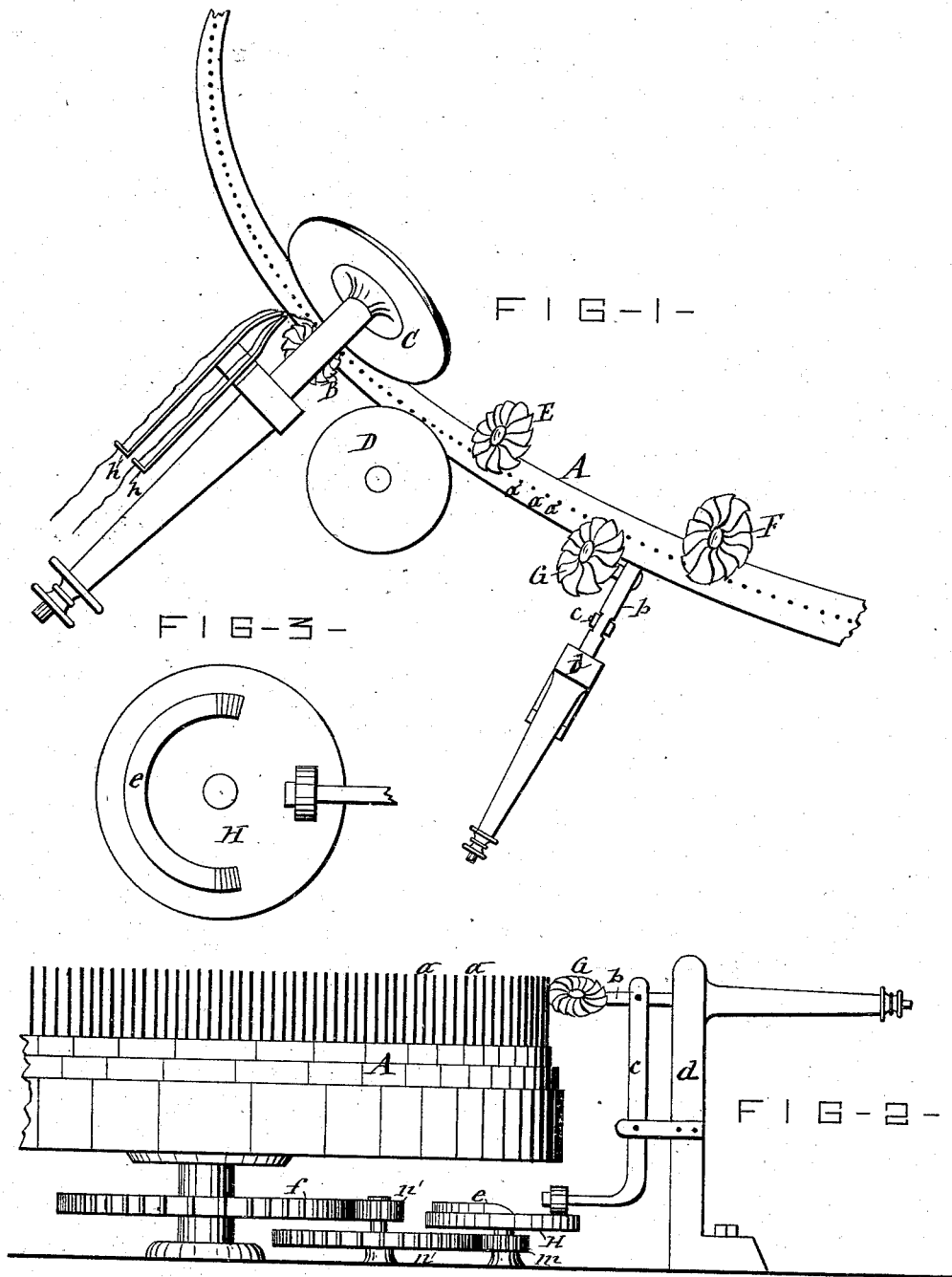
(No Model.)

J. DENTON.

KNITTING MACHINE FOR KNITTING DOUBLE THREADED STRIPED FABRICS

No. 263,125.

Patented Aug. 22, 1882.



WITNESSES=
Wm. L. Raymond.
R. Griffin.

INVENTOR=
James Denton
per D. B. Laasattky
-his Atty.

UNITED STATES PATENT OFFICE.

JAMES DENTON, OF AMSTERDAM, NEW YORK, ASSIGNOR OF ONE-FOURTH
TO JOHN K. WARNICK, OF SAME PLACE.

KNITTING-MACHINE FOR KNITTING DOUBLE-THREADED STRIPED FABRICS.

SPECIFICATION forming part of Letters Patent No. 263,125, dated August 22, 1882.

Application filed January 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES DENTON, of Amsterdam, in the county of Montgomery, in the State of New York, have invented new and useful Improvements in Knitting-Machines for Knitting Double-Threaded Striped Fabrics, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a novel, simple, and effective device for producing striped knitted fabrics, as hereinafter fully explained.

Referring to the annexed drawings, Figure 1 is a plan view of that portion of a knitting-machine to which my invention is applied. Fig. 2 is an elevation illustrating the mechanism employed for throwing the striping-wheel in and out of connection with the needle-cylinder, and Fig. 3 is a plan view of the pattern-disk.

Similar letters of reference indicate corresponding parts.

A represents the needle-cylinder of a circular-knitting machine, and *a a* the bearded needles, carried vertically on the periphery of the cylinder A.

B is the so-called "burr" or "loop-wheel," which applies the knitting yarn or thread to the needles, and *h h* are two fixed or stationary threaded guides of the ordinary form, arranged with their forward ends in proximity to the loop-wheel, so as to conduct thereto the threads to be knitted. These two thread-guides are each provided with a different-colored thread, and are arranged to deliver uniformly one thread above the other to the loop-wheel, which passes said threads in their said relation into the beard of the needles.

C denotes the cloth-presser, which presses the last loops of the fabric down below the beard of the needles to allow the burr or loop-wheel B to carry the knitting yarns or threads into the beards of the needles.

D is the needle-presser, in the form of a horizontal pivoted disk, arranged at the outside of the needle-cylinder, and pressing against the beards of the needles, so as to close them and allow the previously-depressed loops to slip up over the beards of the needles.

E is the landing-wheel, arranged on the inside of the needle-cylinder, and operating to

push the aforesaid loops upward, and thereby land in the upper end of the needles the threads contained therein.

F is the knocking-over wheel, which throws the last loops of the fabric off the ends of the needles, and thus forms a new loop of the threads inside of the beards of the needles.

The ordinary operation of the aforesaid mechanisms on the two threads lying one above the other in the beards of the needles crowds the lower of said threads more or less back of the upper thread, and thereby produces a mottled or variegated fabric. This I convert into a stripped configuration by means of a small wheel, which I will term the "striping-wheel," designated by the letter G in the drawings. Said wheel I place between the landing-wheel E and knocking-over wheel F and on the outside of the needle-cylinder A, as illustrated in Fig. 1 of the drawings, said striping-wheel being provided on its periphery with oblique wings or thin plates, similar to those of the loop-wheel, but preferably with shorter nibs or hooks on the ends of said wings, or entirely without such nibs. It is pivoted on a suitable support in proximity to the needle-cylinder, and has its wings playing in the interstices between the needles. During the rotation of the needle-cylinder the needles press successively against the wings of the striping-wheel, and thereby impart a rotary motion to said wheel, the axis of which is in such position in relation to the periphery of the needle-cylinder as to cause the striping-wheel to rotate in a direction which draws its wings from the base of the needles upward and outward from the needle-cylinder similar to the movement of the wings of the well-known loop-wheel. In thus playing between the needles the wings of the striping-wheel engage the lower and rearwardly-disposed thread and draw the same outward or toward the front or face of the fabric, and thereby produce nearly plain colors at opposite sides of the fabric. Hence by throwing the striping-wheel G alternately and at regular intervals in and out of engagement with the needles alternate mottled and plain stripes are produced in the fabric. To accomplish this automatically with the operation of the machine, I mount the striping-wheel G on the arbor *b*, arranged movably toward and

from the needle-cylinder, and connect to said arbor an elbow-lever, *c*, pivoted on a fixed standard, *d*, and having its free end riding on a horizontal rotary cam-disk or pattern-disk, *H*, which has on its upper surface an elevated segmental track, *e*, arranged in such relative position as to move under the free end of the lever *c* during the rotation of said disk *H*. This movement raises the free end of the lever *c*, and thereby swings the opposite end thereof away from the needle-cylinder and carries with it the striping-wheel *G* into a dormant position. So soon as the free end of the lever *c* leaves the track *e* the striping-wheel falls back toward the needle-cylinder and resumes its operation on the threads in process of being knitted, as before described.

The period of intermission between the dormant and operative positions of the striping-wheel are regulated by the length of the raised track or cam *e*.

The pattern-disk or cam-disk *H* can be operated automatically with the movement of the needle-cylinder by any suitable known mechanism capable of transmitting the requisite motion. For a mere exemplification of the transmitting medium I have shown in the annexed drawings a pinion, *m*, on the shaft of the cam-disk *e*, which pinion, by means of intermediate gears, *n n'*, receives motion from a

gear fixed to the spindle of the needle-cylinder.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the needle-cylinder *A*, needles *a*, loop-wheel *B*, landing-wheel *E*, and knocking-over wheel *F*, of two fixed or stationary thread-guides, *h h*, arranged at different heights, and the striping-wheel *G*, arranged between the landing-wheel and knocking-over wheel, and having wings playing between the needles, substantially as described and shown, for the purpose set forth.

2. In combination with the needle-cylinder *A* and bearded needles *a*, the striping-wheel *G*, mounted on a movable support, and mechanism connecting said striping-wheel with the needle-cylinder, whereby the striping-wheel is automatically thrown in and out of engagement with the needles, substantially as set forth and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 6th day of January, 1882.

JAMES DENTON. [L. S.]

Witnesses:

C. H. DUELL,
R. GRIFFIN.