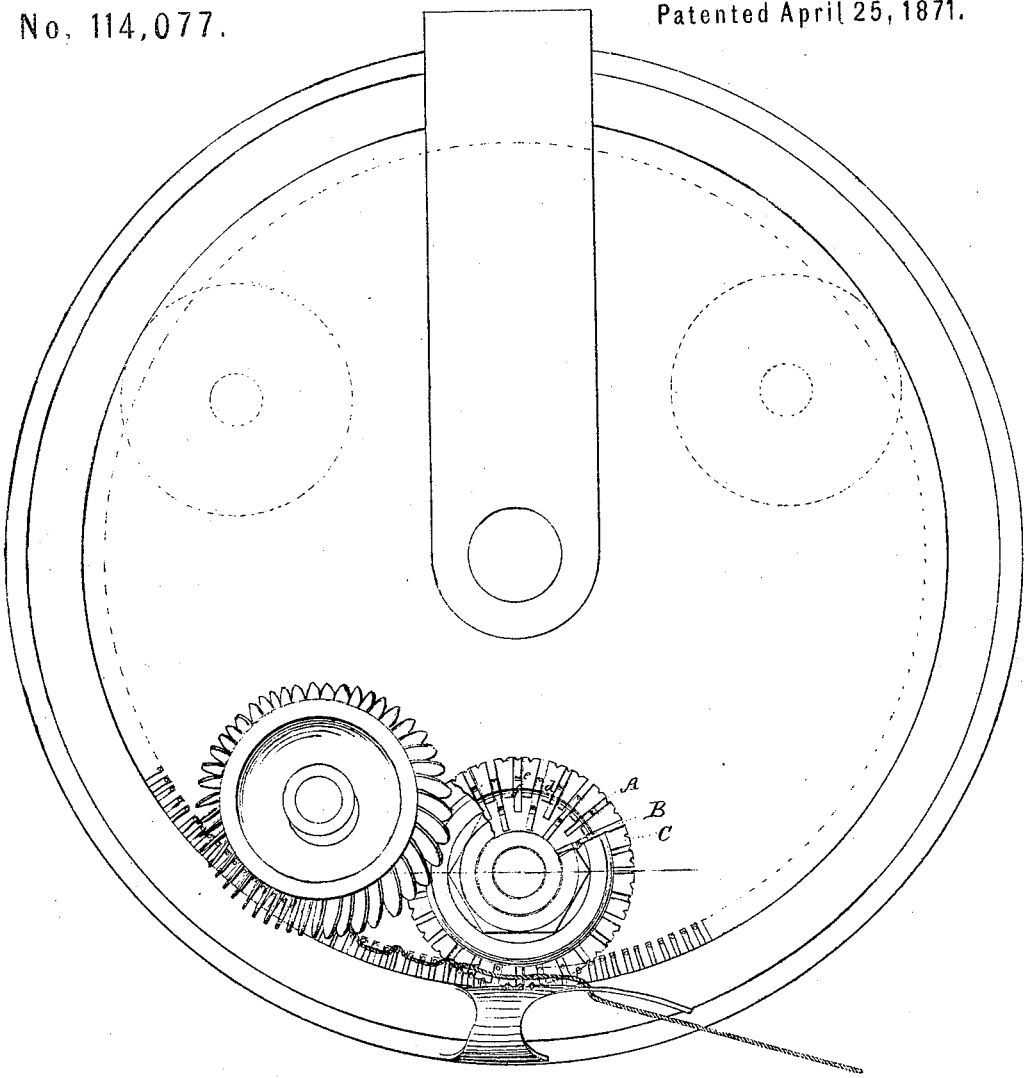
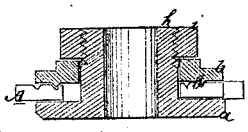
H. WOODMAN.

Improvement in Dividing-Wheels of Weft-Thread Knitting-Machines.

No. 114,077. Patented April 25, 1871.





Witnesses:

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UNITED STATES PATENT OFFICE.

HORACE WOODMAN, OF SACO, MAINE.

IMPROVEMENT IN DIVIDING-WHEELS OF WEFT-THREAD KNITTING-MACHINES.

Specification forming part of Letters Patent No. **114,077**, dated April 25, 1871.

To all whom it may concern:

Be it known that I, HORACE WOODMAN, of Saco, in the county of York and State of Maine, have invented a new and Improved Weft-Thread Knitting-Loom; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in weft-thread knitting-looms; and it consists in the application to the dividing-wheels, used in said looms for dividing the needles for the admission of the weft-threads, of movable or adjustable teeth, for increasing the capacity to vary the pattern, the said teeth being adjustable radially, so as to act on the teeth or not, as hereinafter described.

Figure 1 is a top view of a part of a knitting-loom to which my invention is applicable, shown partly in full lines and partly in outline; and Fig. 2 is a section of my improved dividing-wheel.

Similar letters of reference indicate corresponding parts.

The Patent No. 105,537, granted the 19th day of July, 1870, to William H. Abel, shows the application and use of a dividing-wheel, with notched teeth and spaces between them, arranged on a pivot in such relation to the needles that as they are carried past it, and while raised above the grooved cylinder by the cam, every alternate needle is received in a notched tooth and forced outward from the circular line in which the others, received in the notches of the wheel, remain, thereby dividing the needles for the reception of the weft-thread, to be introduced into the fabric by each alternate loop being cast off over it.

Now I propose to provide these dividing-wheels with adjustable notched teeth A in the spaces, B, between the radial plates, which, as here shown, constitute fixed notched teeth C; or all may be adjustable radially, so that I may arrange them to throw out each alternate needle, as in the aforesaid patent, or adjust them to fill out one, two, or more of the spaces, and throw out three or more needles between those not thrown out, for varying the character or the pattern of the work produced.

My wheels can be set so that any number of needles can be sprung out of line and as many left standing in line as desired, so that if each wheel is set so as to operate on the same needles throughout the entire series the result will be stripes; but if there are, say, ten of these wheels on each machine, so that there will be ten weft-threads introduced in the fabric at one revolution, and each wheel be set for operating different needles, the patterns may be greatly varied, as will be readily understood.

In this example I have only represented each alternate tooth as adjustable; but I propose, when required, to make them all adjustable, and the plan which I have here shown represents the wheels made of two disks, *a b*, one of which has radial dividing-plates *d*, permanently attached, forming between them radial grooves for the movable teeth A, which can be moved back and forth in them, and have two notches, *e f*, in one edge, and the other disk has an annular projection, *g*, for fitting in the notches of the movable teeth, to hold them in the position to which they may be adjusted, whether out or in, and is fitted for clamping against the said teeth and the plates *d*, preferably by a nut, *e*, screwing onto the hub *h* of disk *a;* but it may be clamped in any way.

In this example the teeth *c*, which are not movable, constitute the dividing-plates *d* also; but when all the teeth are made movable they will have spaces B made through them and movable teeth A inserted in them.

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

The dividing-wheel of a weft-thread knitting-machine, having the teeth made adjustable to vary the order of their action on the needles, substantially as specified.

HORACE WOODMAN.

Witnesses:

JAMES M. BURBANK,

EDW. GOODWIN.