H. C. BRADFORD.

Improvement in Sinker Wheels for Knitting Machines.

No. 115,426. Patented May 30, 1871.

Fig. 1.

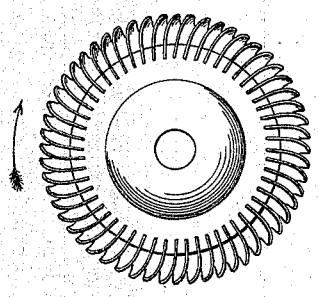

Fig. 2.

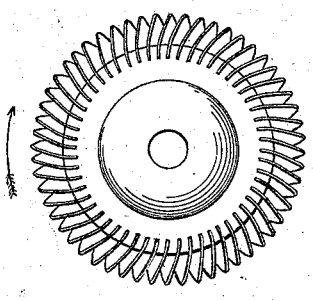

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses

Phil. D. Sarner.

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UNITED STATES PATENT OFFICE.

HORACE C. BRADFORD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN SINKER-WHEELS FOR KNITTING-MACHINES.

Specification forming part of Letters Patent No. 115,426, dated May 30, 1871.

To all whom it may concern:

Be it known that I, HORACE C. BRADFORD, of the city and county of Providence and State of Rhode Island, have invented a new and useful Improvement in Sinker-Wheels for Rotary Knitting-Machines.

My invention consists in a peculiar and novel form of the teeth of the wheel, for the purpose of bringing that portion of each tooth with which the moving needles first comes in contact on a true line with the flat sides of the needles, and also to lessen the liability of more than one needle being embraced in the space intervening between any two teeth of the wheel; and I do hereby declare that the following specification, taken in connection with the drawing furnished and forming a part of the same, is a true, clear, and exact description thereof.

Referring to the drawing, Figure 1 represents one of my improved wheels, top view. Fig. 2 represents a sinker-wheel with teeth, as heretofore constructed. Fig. 3 represents a knitting-needle in side view. Fig. 4 represents, on an enlarged scale, one of my improved teeth in contact with a needle. Fig. 5 represents one of the teeth, as heretofore constructed, in contact with a needle, both being in same relative position as in Fig. 4.

As is well known to persons skilled in the art, these wheels are mounted upon studs standing at angles oblique to the vertical line of the needles, and that they are revolved in the direction of the arrows by the needles as they move with the rotary cylinder to which they are attached. In some cases they carry the work down from a point near the tops of the needles to a point near the top of their cylinder. In the case of a "knocking-over" wheel the reverse motion is effected by similar action of the needles.

With the teeth as heretofore constructed, and shown in Figs. 2 and 5, it will be observed that the first needle which comes in contact with the wheel and exerts a moving power first touches the needle at its outer edge furthest from the wheel, as particularly illustrated in Fig. 5. With the teeth as formed in my improved wheel, that needle which first comes in contact with one of the teeth has a bearing with its full flat side upon the curved end, as illustrated in Fig. 4, while, at the same time, the tooth next behind, on account of its curved tip, is more likely to enter the space between the next two succeeding needles, and so on.

In the practical operation of a weft-thread knitting-machine, I have found, if any considerable degree of speed be attempted while using the straight-toothed wheel, as heretofore constructed, that there exists great liability of two needles being embraced in one space between two teeth of the wheel. With my improved wheel, having teeth with bent or curved lips, it is seldom that two needles can be so embraced. There is also but little liability of twisting the needles, as they bear against the teeth of the wheel.

I have found it desirable to make my wheel-teeth straight for about two-thirds of their full length, and then commence the bend or curve, completing it at, say, one-thirty-second of an inch from a true line. Some slight variation will, of course, be requisite in order to adapt them to various kinds of machines. The curves or bends should, in all cases, be made in the direction in which the wheel is to revolve.

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

The improved sinker-wheel for rotary knitting-machines herein described, the teeth of which are bent or curved at their tips, as and for the purposes specified.

HORACE C. BRADFORD.

Witnesses:

LEWIS F. BECKFORD,

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