No. 841,678. PATENTED JAN. 22, 1907.

W. S. ELDER.

KNITTING MACHINE NEEDLE.

APPLICATION FILED MAY 22, 1906.

Fig. 1

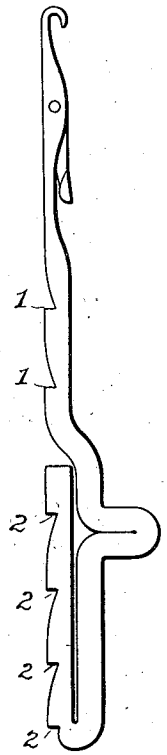
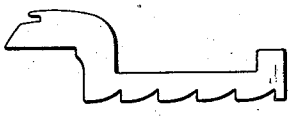


Fig. 2

Fig. 3.



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KNITTING-MACHINE NEEDLE.

No. 841,678. Specification of Letters Patent. Patented Jan. 22, 1907.

Application filed May 22, 1906. Serial No. 318,150.

To all whom it may concern:

Be it known that I, WILLIAM S. ELDER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Knitting-Machine Needles, of which the following is a specification.

The object of my invention is to prevent the accumulation of lint and other foreign matter in the bottoms of the guide-grooves of knitting-machines having reciprocating needles, web-holders, or the like, an object which I attain by so constructing the rear face of the needle-stem or web-holder that it will because of such reciprocating movement tend to remove and prevent accumulation of such foreign matter in the bottoms of the grooves.

In the accompanying drawings, Figure 1 is a side view, on an enlarged scale, of a knitting-machine needle constructed in accordance with my invention. Fig. 2 is a back view of the same, and Fig. 3 is a side view of a web-holder embodying the invention.

In ordinary knitting-machines having reciprocating needles oil, fine lint, dust, and other foreign matters accumulate in the needle-grooves and eventually become so packed in the bottoms of the grooves and form such a hard mass as to constitute what are, in effect, false bottoms for the grooves, thereby raising the needles from their seats in the grooves and affecting the character of the stitches produced by the needles, and as these accumulations are greater in some of the needle-grooves than in others the character of the stitches in some of the wales of the knitted web will differ from that of the stitches in the other wales, and the web will not present a uniform appearance.

I have found that by notching the rear face of the needle stem or shank such accumulations of foreign matter in the bottoms of the grooves can be prevented or can be removed after having once accumulated therein, the notches being so shaped as to engage the foreign matter and as the needles are reciprocated move it in one direction or the other until it finally reaches either the outer or the inner end of the needle-groove and is discharged therefrom.

In the drawings I have represented a needle of ordinary construction in which in accordance with my invention each notch has one face of a more abrupt character than the other. Thus, as shown, the lower or inner faces of the notches 1 in the upper or outer portion of the needle stem or shank are at the bottoms or inner portions of the notches, while the abrupt faces of the notches 2 in the lower or inner portion of the shank are at the tops or outer ends of the notches, the consequent effect being that the notches 1 will tend to move to the upper or outer end of the needle-groove any foreign matter contained in said groove and with which they are caused to engage by the reciprocating movement of the needle, while the lower or inner notches 2 will tend to move such foreign matter to the lower or inner end of the needle-groove. It is preferable that the distance between the successive notches in the needle-stem shall be less than the extent of reciprocating movement of the needle in its groove in order that the paths of the abrupt ends of the notches may overlap each other, and thus prevent any particle of foreign matter deposited in the bottom of the groove from escaping the clearing action of the needles.

Although I have shown my invention as applied to a latch-needle, it can, as will be evident, be applied also to that class of spring-beard needles which have reciprocating movement in guiding-grooves of the machine, or it may be applied to other members of the machine than the needles, Fig. 3, for instance, showing the adaptation of the invention to a reciprocating jack or bit which serves as a sinker and web-holder.

I claim—

1. A groove-guided and reciprocated knitting-machine member having, in its rear face, notches separated by a distance less than the extent of reciprocation of said member for engaging and progressively moving foreign matter in the bottom of the groove.

2. A groove-guided and reciprocated knitting-machine member, having, in its rear face, notches, each having one face more abrupt than the other.

3. A groove-guided and reciprocated knitting-machine member, having, in its rear face, notches, each with one face more abrupt than the other, one or more of the notches having the abrupt face disposed reversely to such disposition in the other notch or notches.

4. A knitting-machine needle having notches in the rear face of its stem or shank, said notches being so disposed as to overlap

each other's paths of movement when the needle is reciprocated in knitting, whereby they will engage and progressively move foreign matter in the bottom of the needle-groove.

5. A knitting-machine needle having notches in the rear face of its stem or shank, each of said notches having one face more abrupt than the other.

6. A knitting-machine needle having notches in the rear face of its stem or shank, each notch having one face more abrupt than the other, one or more of the notches having the abrupt face disposed reversely to such disposition in the remaining notch or notches.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WM. S. ELDER.

Witnesses:
HAMILTON D. TURNER,
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