

No. 626,114.

Patented May 30, 1899.

J. VERNON.
KNITTING MACHINE NEEDLE.

(Application filed Oct. 19, 1898.)

(No Model.)

Fig. 1.

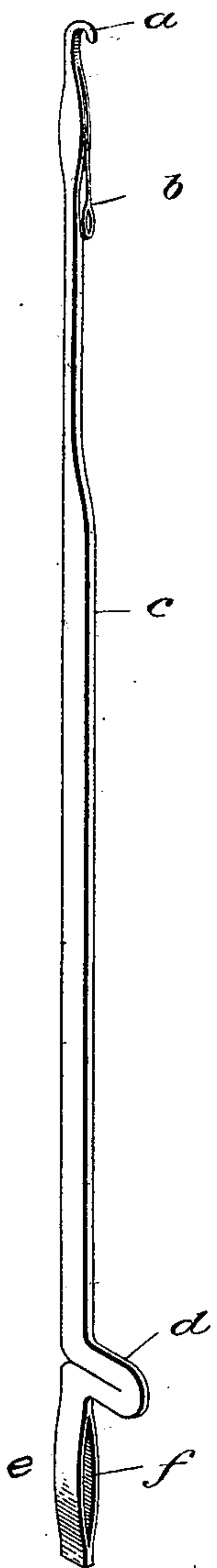


Fig. 2.

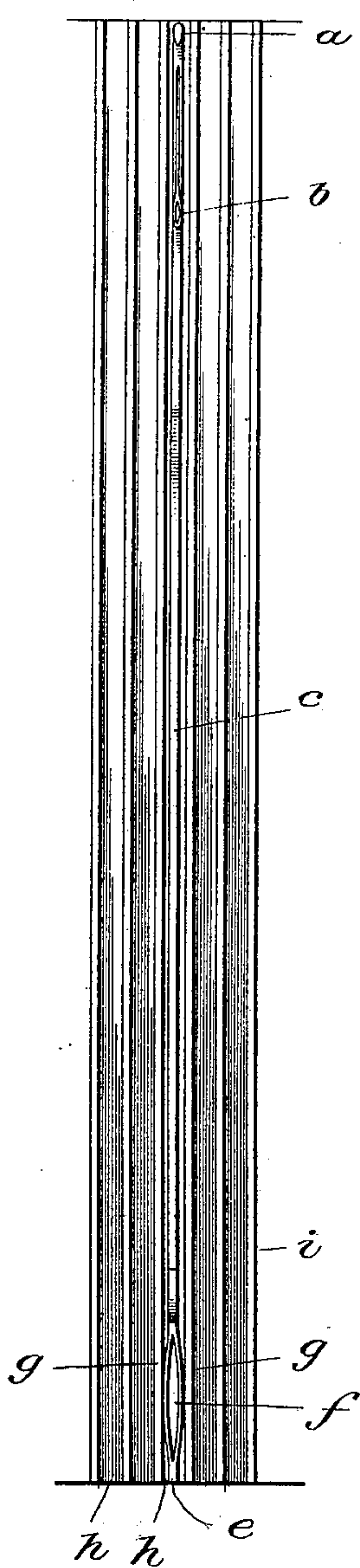
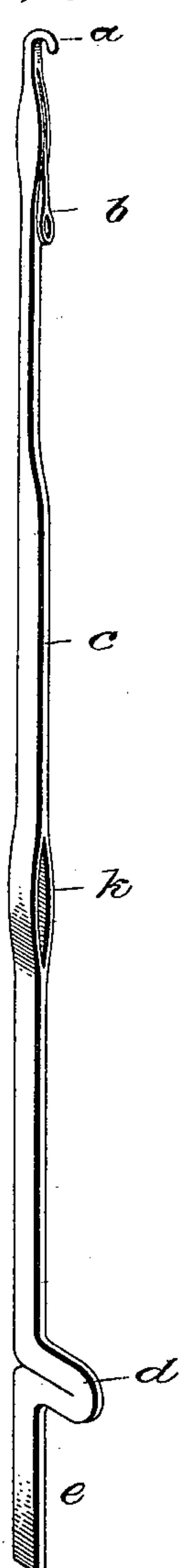


Fig. 3.



WITNESSES

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KNITTING-MACHINE NEEDLE.

SPECIFICATION forming part of Letters Patent No. 626,114, dated May 30, 1899.

Application filed October 19, 1898. Serial No. 694,012. (No model.)

To all whom it may concern:

Be it known that I, JOHN VERNON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Knitting-Machine Needles, of which the following is a full, clear, and exact description.

This invention relates to knitting-machine needles of the class which are designed for use in those knitting-machines in which the needle is moved upwardly by a cam and retained in such position for an interval in the cycle of motions of the machine; and the object of the invention is to provide the needle itself with means whereby it will be frictionally held in such raised position.

Prior to my invention such needles have been constructed with springs having free ends; but while this construction affords the necessary elasticity in the needle itself to hold it the needles are difficult to insert in the grooved cylinder or needle-support, and, moreover, in the reverse movement the free ends of the needles have a tendency to wear away the metal of the grooves and form irregularities therein, with the result that frequently in such reverse movement these worn-away portions form obstructions for the free descent of the needle and the needle is broken. This constitutes an objection which my invention is designed to and does overcome.

The invention consists of a knitting-machine needle slotted longitudinally and having the walls of the slot bulged out laterally to an extent sufficient to exert enough pressure against the walls of the groove of the cylinder to support the needle frictionally within said groove, and without constituting any obstruction to the free insertion of the needle in the groove, and without impeding the downward movement of the needle in the groove, and also without any liability to wear away the groove irregularly.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of a knitting-machine needle containing one embodiment of my invention. Fig. 2 is an elevation of portion of a grooved needle cylinder or support with a

needle in position in one of the grooves. Fig. 3 is a perspective view of a knitting-machine needle containing another embodiment of my invention.

The hook *a*, latch *b*, body *c*, and heel or shank *d* of the needle may be of any approved construction. The foot or lower end *e* of the body of the needle is provided with a slit or slot *f*, which may be conveniently made by means of a circular saw, and the walls of this slit or slot are bulged out laterally, so as to come into frictional contact with the walls *g* of the groove *h* of the needle cylinder or support *i*, a portion only of which is shown.

Instead of forming the slit or slot in the foot or lower end of the needle, as shown in Figs. 1 and 2, it may be formed in the body of the needle, above the shank or heel, as at the point *k*, Fig. 3, or at any other point along the body of the needle.

The laterally-bulged walls of the slit or slot have sufficient elasticity to retain the needle in any vertical position to which it may have been moved by the action of the cams and which it is desired it shall retain until in the cycle of movements of the machine it is necessary to return it, and inasmuch as these walls are continuous and joined at both ends to the body of the needle there are no laterally-projecting free ends to wear away the walls of the groove, and thus endanger the needle and its descent, and moreover and for the same reason, the needles may be readily inserted in the grooves.

By my construction I have produced a simple, practical, and eminently efficient self-retaining needle.

I do not limit my invention to the described manner of constructing the laterally bowed or bulged walls, and, as already stated, do not limit my invention to the location of the retaining device at any particular point on the body of the needle.

What I claim is—

1. A knitting-machine needle, having a laterally bulged or bowed retaining device formed in and integral with its body, the upper and lower ends of such retaining device being united with the body of the needle, substantially as described.

2. A knitting-machine needle, having its

body slit or slotted longitudinally, and the walls of such slit or slot bulged or bowed out laterally between the ends of the said slit or slot, substantially as described.

- 5 3. A knitting-machine needle, provided with a longitudinal slot in its body, the walls of the slot being bulged or bowed out laterally, and the top and bottom ends of such

walls being solid with the body of the needle, substantially as described. 10

In testimony whereof I have hereunto set my hand this 18th day of October, A. D. 1898.
JOHN VERNON.

Witnesses:

E. H. STURTEVANT,

H. H. SINNAMON.