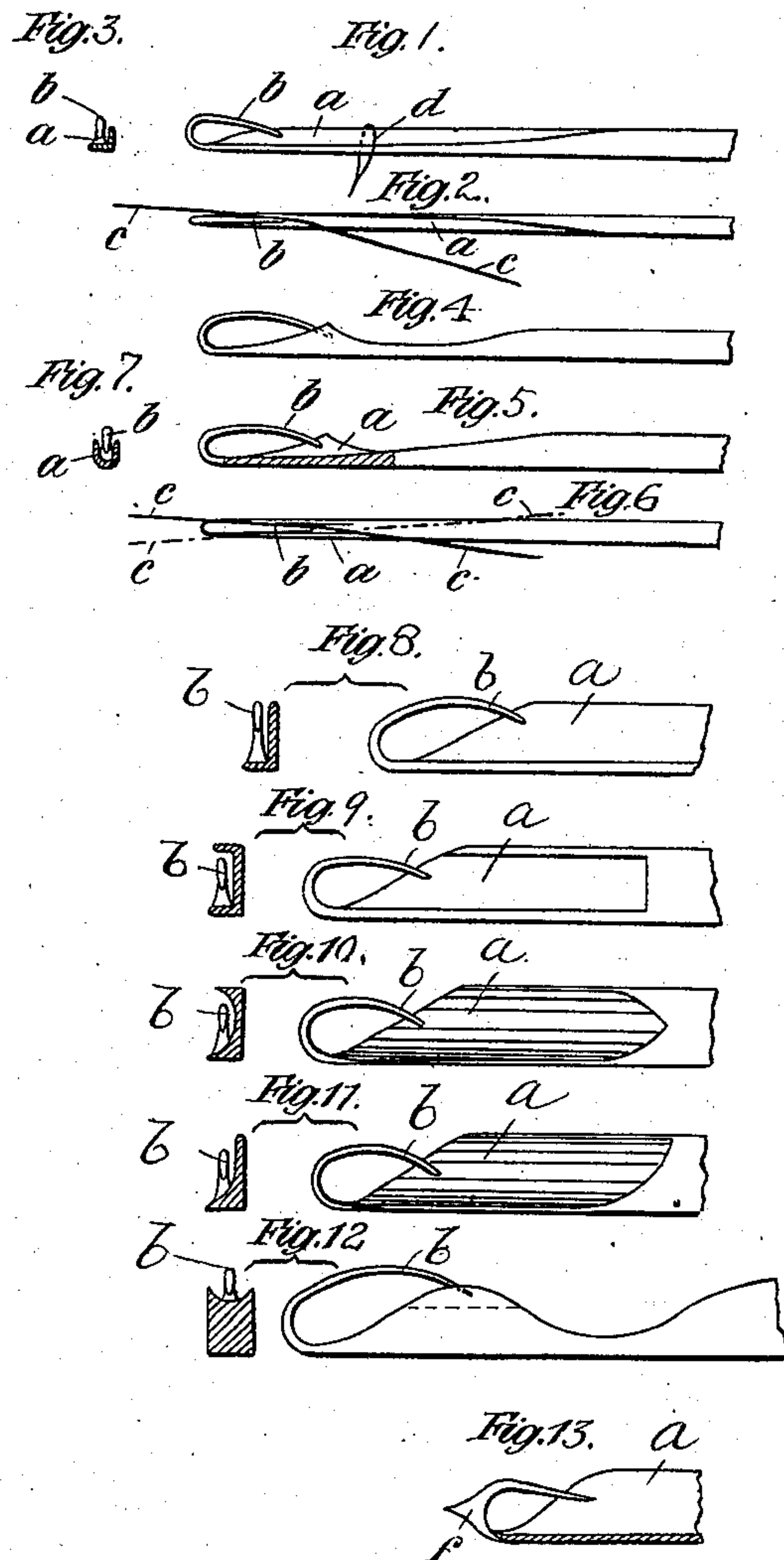


No. 726,758.

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F. B. REUTHER.
NEEDLE FOR KNITTING, &c.
APPLICATION FILED JAN. 9, 1902.

NO MODEL.



WITNESSES:
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UNITED STATES PATENT OFFICE.

FRIEDRICH BERNHARD REUTHER, OF GEYER, GERMANY.

NEEDLE FOR KNITTING, &c.

SPECIFICATION forming part of Letters Patent No. 726,758, dated April 28, 1903.

Application filed January 9, 1902. Serial No. 89,040. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH BERNHARD REUTHER, a subject of the King of Saxony, and a resident of Geyer, in the Kingdom of Saxony, German Empire, have invented certain new and useful Improvements in Hook-Needles for Crocheting, Knitting, Netting, Embroidering, Stitching, and Like Operations, of which the following is a full, clear, and exact description.

Hitherto in order to form the stitches in crocheting, knitting, working, embroidering, and stitching machines and the like in addition to tongue-needles only simple hook-needles were employed having an open hook, which had to be depressed in order to allow the stitches to slide off over the hook. The depressing device for this purpose took up a considerable space and was therefore deleterious to the machine and also made the employment thereon of many other devices quite impossible. The same drawbacks are found with tongue-needles and tubular needles. In the former case it is the tongues and in the latter the movable parts for covering the points of the hooks which require space for their movements, thus preventing the use of other appliances.

In the drawings, Figure 1 is a side view of one form of my invention. Fig. 2 is a plan view of Fig. 1; and Fig. 3 is a transverse section of Fig. 2, taken just in front of the point of the hook. Fig. 4 is a side view of a modified form of needle. Fig. 5 is a similar view, partly broken away. Fig. 6 is a plan view of Fig. 5, and Fig. 7 is a cross-sectional view of Fig. 5. Figs. 8, 9, 10, 11, and 12 are views showing in elevation and transverse section various modifications of the invention. Fig. 13 is a sectional view of a further modification.

By the present invention a hook-needle is produced which removes the objections stated. It is characterized by the hook being made to enter a recess in the needle-shank, and thereby not requiring to be depressed, and also by the needle-shank being of such a form that it still allows the thread to be slipped under the hook, the thread entering near the point of the hook into a recess in the needle-shank and being thus enabled to slip under the hook. The recess in the needle-shank, together with the point of the hook which lies therein, may either be arranged at one side of the needle or in the center or middle of the same, in which latter case the thread may be slipped in from both sides of the hook. The thread is slipped under the hook by first laying it in a direction lengthwise of the needle, passing it down along the side of the hook, and thence under the point of the hook.

Figs. 1, 2, and 3 of the accompanying drawings show the first-named form of construction, and Figs 4 to 7 the second of these two constructions, of the needle. In the first case a recess *a* is formed on one side of the needle-shank in which the hook-point *b* lies. Between the point *b* and the needle-shank the thread *c* slips when suitably guided, and thus is enabled to enter the hook of the needle. When the needle moves backward, the stitch *d*, hanging on the needle-shank, escapes freely away over the hook, as the latter, as may be seen from the drawings, offers no resistance to it, and thus no pressing down of the point of the needle is required. Of course the recesses *a* and the hook-point *b* may be suitably situated on one side or the other of the needle-shank.

In the forms of construction shown in Figs. 4 to 7 the recess *a* is in the center of the needle-shank and is formed in the shape of a slot, in which the needle-point *b* lies. The crocheting-thread *c* may thus be slipped into the hook from one side or from the other, as desired. (See the positions of the thread *c* shown in full and dotted lines in Fig. 6.) The needle-shank at the place where the hook-point comes may be otherwise of any suitable shape, and Figs. 8 to 12 show some forms of construction having different profiles.

In needles which are intended to pierce material a point *f* may, as is well known, be formed in front of the needle—as shown, for instance, in Fig. 13.

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

1. A needle for the purpose described comprising a shank having a recess therein and a normally non-depressed hook having its point lying in said recess throughout the

stitch-forming operation, substantially as described.

2. A needle for the purpose described comprising a shank having a recess therein and
5 an incline, and a normally non-depressed hook having its point inclining downwardly and lying in said recess throughout the stitch-forming operation, the incline on the shank

being adjacent to the hook of the needle, substantially as described. 10

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRIEDRICH BERNHARD REUTHER.

Witnesses:

GUSTAV TIPPMANN,
G. LOUIS MÜLLER.