(No Model.)

J. A. BARFOOT.

COVERING POINT FOR KNITTING FRAMES.

No. 431,135. Patented July 1, 1890.

Fig. 1.

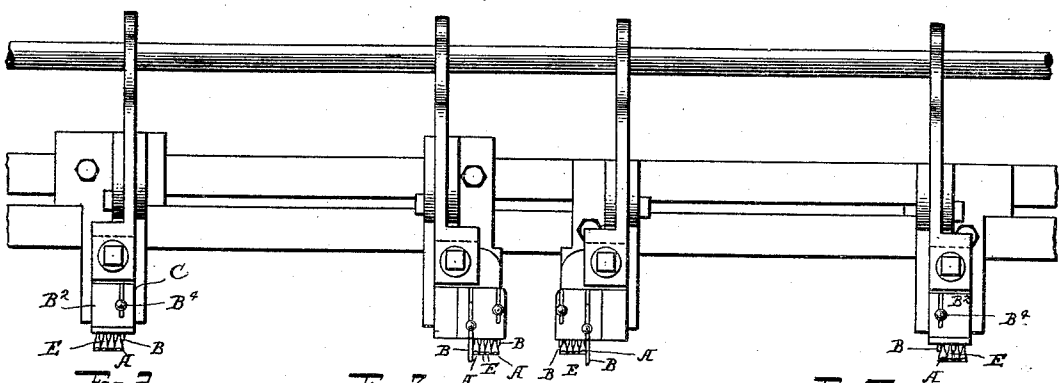


Fig. 2.

Fig. 3.

Fig. 5.

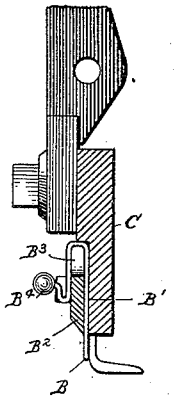


Fig. 4.

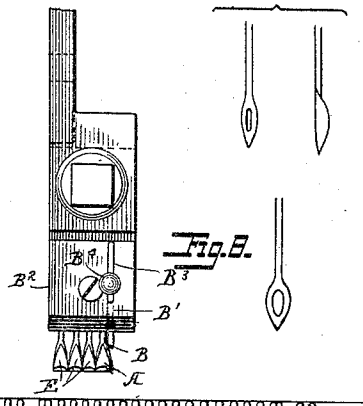


Fig. 8.

Fig. 7.

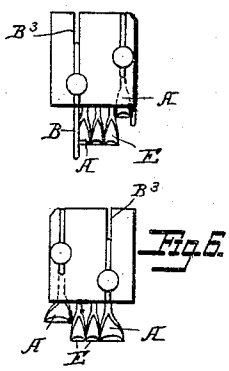


Fig. 6.

Witnesses
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H. L. McArthur

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By his Attorneys Foster & Freeman

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN ARTHUR BARFOOT, OF LEICESTER, ENGLAND, ASSIGNOR OF ONE-HALF TO HENRY JOSIAH GRISWOLD, OF SAME PLACE.

COVERING-POINT FOR KNITTING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 431,135, dated July 1, 1890.

Application filed June 7, 1889. Serial No. 313,468. (No model.) Patented in England October 8, 1888, No. 14,434.

To all whom it may concern:

Be it known that I, JOHN ARTHUR BARFOOT, a subject of the Queen of Great Britain, residing at Leicester, county of Leicester, England, have invented certain new and useful Improvements in Covering-Points for Knitting-Frames, (for which I have obtained a patent in Great Britain, No. 14,434, bearing date October 8, 1888,) of which the following is a specification.

My invention relates to straight-bar knitting-frames similar to the one shown and described in Cotton's British Patent No. 70 of 1860, and has for its object to effect an improvement in the means employed for fashioning the fabric while in the course of manufacture upon such frames.

The usual method of fashioning is by the employment of a certain number of covering points or needles constructed and adapted to fit over the needles and to receive their loops and transfer them onto the next adjacent needles. The result of this operation when widening the fabric is that one of the needles is deprived of its loop, a hole in the fabric being the result. Now by means of my improvement this disadvantage is obviated and the fabric is produced in an approximate state of completeness.

In the accompanying drawings, Figure 1 is a front view of part of a knitting-frame, showing the covering-points and the sliding bars on which they are mounted. Fig. 2 is an enlarged vertical transverse section, and Fig. 3 is a front elevation, of a set of covering-points and the plates in which they are fixed. Fig. 4 shows the position of the needles when the operation of widening is being performed. Figs. 5 and 6 show modifications hereinafter referred to (Figs. 2, 3, 5, and 6 being drawn on a larger scale than Figs. 1 and 4.) Fig. 7 shows two views, front and side, of a covering-point as used for narrowing on self-acting or latch-needle machines. Fig. 8 shows my improved covering-point for widening on latch-needle machines.

Instead of all covering-points E being of the same size—*i. e.*, so that each point covers one needle only—I prefer to construct certain of them, as shown at A, of increased width.

Arranged at preferably a right-angle to the wide covering-point A is a vertical steel pin or prong B, movable in a groove B′, formed in the plate B^2, fixed to the front of the plate C, carrying the covering-points. The pin or prong B is doubled to pass through a slot B^3 in the upper part of the plate B^2, the doubled portion of the said pin B forming a downward continuation on the exterior of the plate B^2 and terminating with a knob B^4, by which the pin may be moved downward or upward to be placed in or out of contact with the needles.

The number of sets of covering-points shown in Fig. 1 is the number employed on one division of a knitting-frame of the kind before referred to, the two end sets of covering-points being used for fashioning the right and left hand sides of the fabric, respectively, when making the body or sleeves of Cardigan jackets, and the two center sets of covering-points being employed for fashioning the inner sides of the sleeves of the jackets. Each of the two center sets of covering-points is provided with an additional wide covering-point and an additional vertical pin or prong on its outer side, so as to be capable of widening in either direction, although the two vertical pins on the same set of covering-points are not generally brought into requisition at one and the same time.

When the pin or prong is intended to be used for the purpose of widening the fabric, it is placed in its lower position, as shown by the outer pins or prongs in the two center sets of covering-points in Fig. 1, so that when the covering-points are lowered on the needles D for the purpose of receiving the loops of the latter the pin or prong enters between the needles, and when the covering-points receive their sidewise motion the said pin or prong forces the needle D′ (which has been deprived of its loop) in the direction of and close to the next adjacent needle, as shown in Fig. 4,

and when the said covering-point A descends to transfer its loops it covers the needle D′ and the said next adjacent needle and places its loop over them both, so that one loop now hangs over two needles, and at the next course, instead of a hole appearing in the work, a perfectly-widened fabric is the result.

When the covering-points are employed for narrowing the fabric, the pin or prong is moved into its higher position, as shown in Figs. 2 and 3, so as to be out of contact with the needles.

Figs. 5 and 6 show modifications of my invention by which widening may also be effected.

Instead of allowing the wide covering-point and the vertical pin or prong to be separate and distinct, they may be attached to each other, as shown in Fig. 5, the wide covering-point on the left-hand side being fixed to the pin or prong and carried thereby, and on the right-hand side the pin or prong is fixed to the side of the wide covering-point and carried thereby; or they may be formed integral with each other.

In the modification shown in Fig. 6 the pin or prong is dispensed with and the two outer selvage-covering points are formed extra wide, so as to be capable of covering two needles in their usual or normal positions.

When the operation of narrowing is being performed, and apart from the structural alterations mentioned, the general construction and operation of these modifications are the same as that of the other figures referred to.

Fig. 7 shows two views of a covering-point such as is ordinarily used in narrowing the web knit on latch-needle frames. They differ from the covering-points used in barbed-needle machines only in being deeper and in having a hole right through to engage the hook of the needle and draw it forward until its latch is free from the loop.

Fig. 8 shows my improved covering-point for latch-needle frames, which is wider than usual and has the hole large enough to engage the hook of two needles at a time.

I wish it to be understood that I do not confine myself strictly to the construction of the upper part of the prong or pin and the wide covering-points, as it is obvious that various modifications may be adopted and other means employed than those described to enable the pin or prong or the wide covering-points to be moved upward out of contact with the needles when desired.

It will be understood that my invention is applicable to straight-bar knitting-frames for knitting either plain or ribbed work.

I do not here claim the method of widening fabrics herein set forth, as the same constitutes the subject of my application, Serial No. 351,732.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a knitting-machine, the herein-described covering-point of increased width adapted to embrace a plurality of adjacent needles.

2. In a knitting-machine, the combination of a covering-point of increased width adapted to embrace a plurality of adjacent needles and a pin or prong adapted to engage with said needles, substantially as described.

3. In a knitting-machine, the combination of a covering-point of increased width adapted to embrace a plurality of adjacent needles and a pin or prong adapted to engage with said needles, the said covering-point and prong being united, substantially as described.

4. In a knitting-machine, the combination of a covering-point of increased width adapted to embrace a plurality of adjacent needles and a pin or prong adapted to engage with said needles, said covering-point and prong being adjustable, substantially as described.

5. In a knitting-machine, the combination of a covering-point of increased width adapted to embrace a plurality of adjacent needles and a pin or prong adapted to engage with said needles, the said covering-point and prong being united and adjustably mounted to be withdrawn from or placed into operative position, substantially as described.

6. In a knitting-machine, the combination of the ordinary covering-points E, a covering-point A of increased width adapted to embrace a pair of adjacent needles, and a pin or prong B adapted to engage with said needles, substantially as described.

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

JOHN ARTHUR BARFOOT.

Witnesses:

JOS. BARBER HARBY,
Solicitor, Leicester.

JNO. BARKER WARING,
His Clerk.