W. Aiken.

Straight Knitting Mach.

No. 18,725. Patented Dec. 1, 1857.

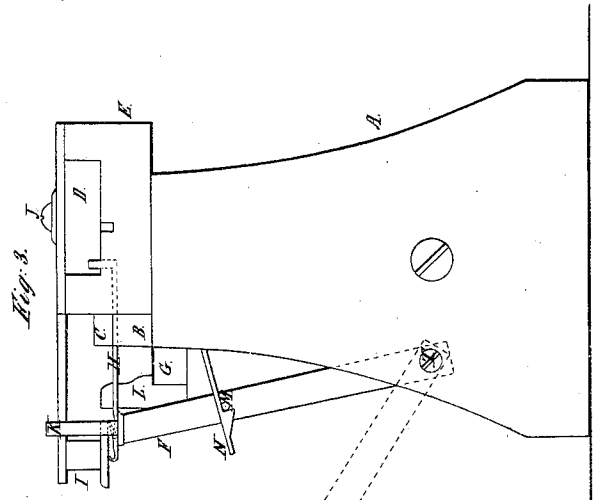

Fig. 3.

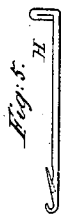

Fig. 5.

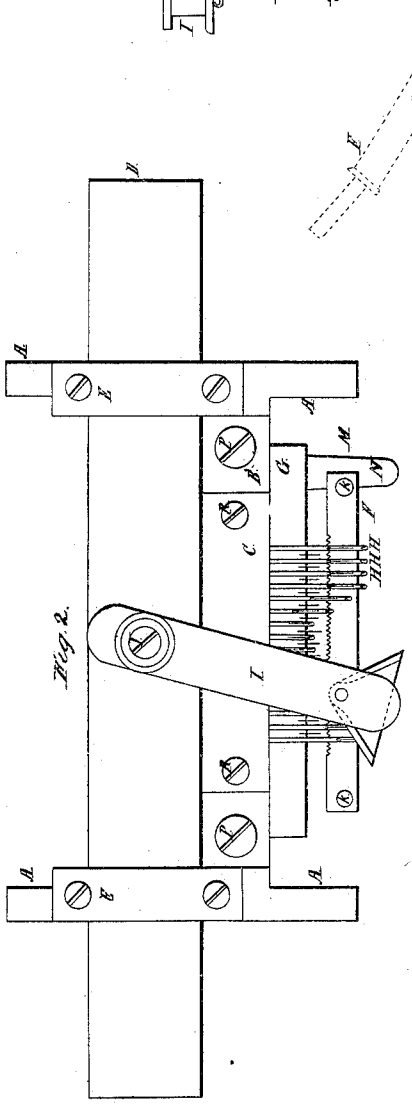

Fig. 2.

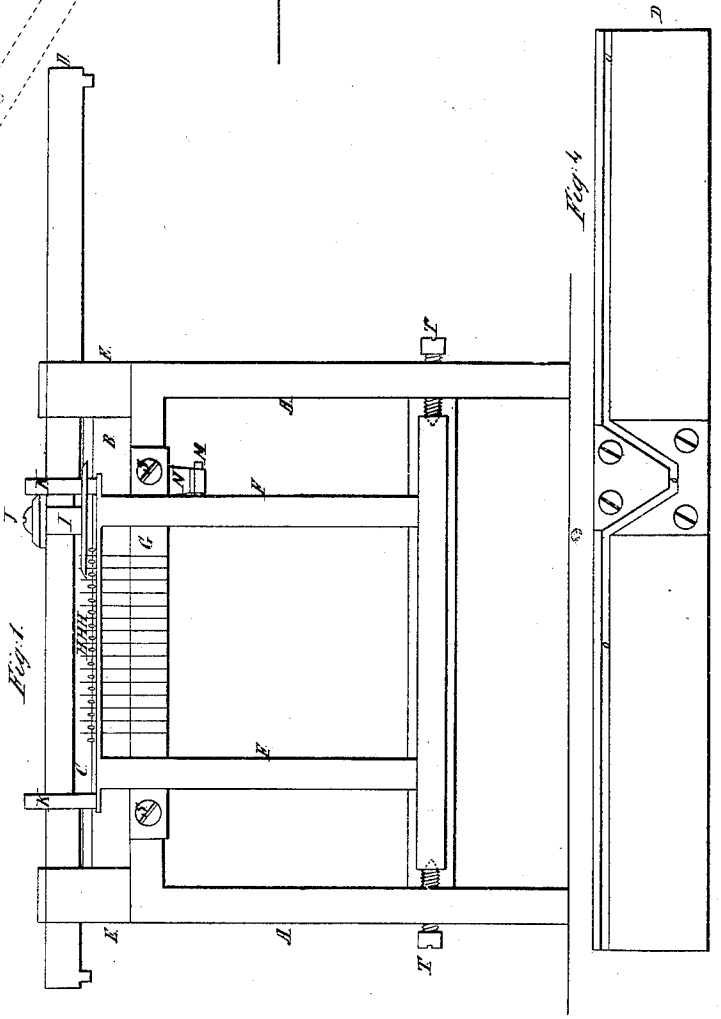

Fig. 1.

Fig. 4.

UNITED STATES PATENT OFFICE.

WALTER AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

KNITTING-MACHINE.

Specification of Letters Patent No. 18,725, dated December 1, 1857.

To all whom it may concern:

Be it known that I, WALTER AIKEN, of Franklin, in the county of Merrimack and State of New Hampshire, have invented a new and useful Improvement in Knitting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a front view, Fig. 2, a top view, Fig. 3, an end view. Fig. 4 shows the bottom side of sliding bar, and Fig. 5 shows the kind of needle used.

The same letters refer to like parts in all the drawings.

A is the body or frame of the machine.

B is the needle bar on which the needles move and is fastened to the frame A by screws P, P.

C is the cap which confines the needles in bar B, and is held down by the screws R R as shown in Fig. 2.

D is the sliding bar which gives motion to the needles H, H, H. The bar D runs in the boxes E, E, as shown in Figs. 1, 2, 3.

G is a bar holding the plates L between the needles for the purpose of keeping back the knit fabric, and to assist in throwing off the old loops from the needles, and in forming new ones, and is secured to the frame A by means of screws S, S, as shown in Figs. 1, 2, 3.

I is the yarn carrier attached to the bar D by means of the pivot screw J as shown in Figs. 1, 2, 3.

F is the rocker bar attached to the frame A by the pivot screws T, T, on which it turns.

N is a spring catching into the pin K, for the purpose of holding up the bar F, as shown in Fig. 3. The shanks of the needles H, H, H, are bent up as shown in Fig. 5, and run in the groove O in the sliding bar D as shown in Fig. 4. As the bar D is moved the shanks of the needles run in the groove O which gives them a forward and back motion corresponding to the shape of the groove O, as shown in Figs. 2 and 4. The rocker bar F has teeth on its inner edge as shown in Fig. 2 for the purpose of holding back the knit fabric when the needles are moved out and it also serves as a support for the needles to rest upon when they are moved out as shown in Figs. 2 and 3.

K, K, are pins secured to the plate F for the purpose of stopping the yarn carrier I, when it has reached the edge of the needles, and to move it so that it shall be in the right position to feed the yarn into the hooks of the needles upon its return movement. The bar F can be turned down as shown by dotted lines in Fig. 3 for the purpose of giving free access to the needles H, H, H. The yarn carrier has a hole through it as shown in Fig. 2, for the purpose of feeding the yarn to the needles.

Having described the different parts of my machine I will proceed to describe its operation. Insert the yarn into the carrier I and move the bar D across the machine. As the bar D is moved the needles are drawn in and as they do so they seize the yarn from under the carrier I, the plates L holding back the knit fabric, the needles are consequently drawn through the old loops and new ones are formed. As soon as carrier I reaches the edge of the needles it strikes pin K, which keeps it from going any farther and also moves it so that the yarn will be fed into the hooks of the needles upon its return. The bar D being moved back, the needles seize the yarn from under the carrier I, and are drawn in, cast off the old loops, and form new ones, the plate F, holding back the knit fabric, as the needles are moved out. By continuing to move the bar D, the same operations are repeated and the knit fabric passes down between the plate F and the plates L.

The advantages of the machine are these, the carrier I moving only to the edge of the needles gives down no slack yarn as it would do if not stopped by the pin K. By this arrangement a tight selvage is produced instead of a slack one, and consequently a better fabric is produced. By means of plate F, and the plates L, hooked sinkers and the cams and other attachments to work them are dispensed with, thus making a machine of fewer parts, lessening its cost of construction, and producing from it a better fabric.

I do not claim the plates L, between the needles when fastened to a movable bar as shown and described in John Nesmith's Patent of July 29th, 1856. Neither do I claim a rocker bar when made and arranged as described in the aforesaid patent of Nesmith but only when constructed and arranged as hereafter claimed.

I claim—

1. A set or series of traversing needles arranged to slide independent of each other in combination with the stationary plates L between the needles to hold the fabric knit when the stitches are formed, constructed and operating substantially as above described.

2. I claim a vibrating traversing yarn carrier operated so as to hold the yarn over or near the selvage while the carrier is vibrated, so as to change the latch opener substantially as above described.

3. I claim a double edged latch opener in combination with a vibrating yarn carrier, operated so as to change the latch opener, substantially as described.

4. I claim the stationary rocker or supporting bar F, so constructed and arranged as to support the outer ends of the needles beyond the fabric and under the latch opener substantially as described.

WALTER AIKEN.

Witnesses:

WALTER S. SARGENT,

R. G. ANNAM.