A. Sessions Jr.
Knitting Mach.

No. 49,835. Patented Sept. 5, 1865.

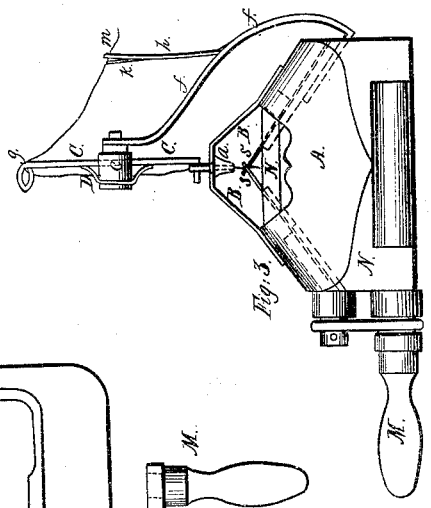

Fig. 3.

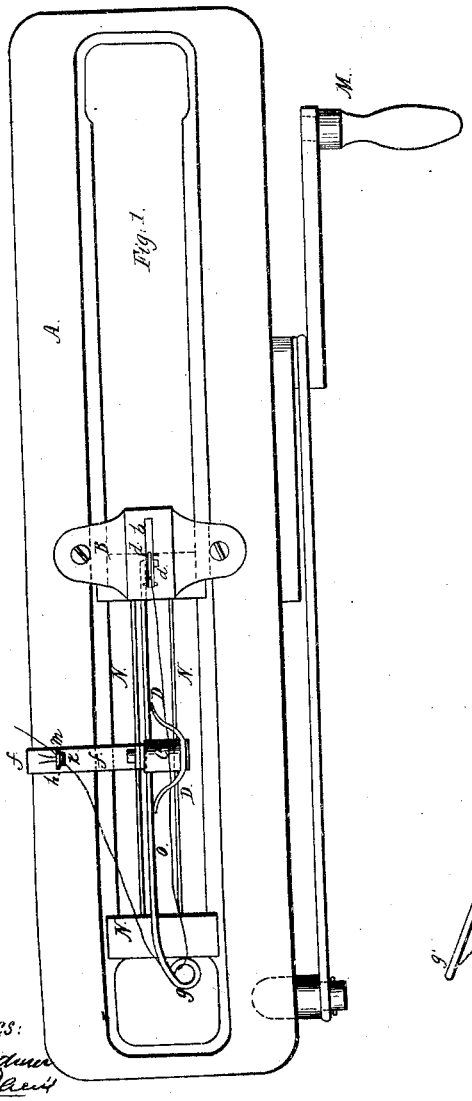

Fig. 1.

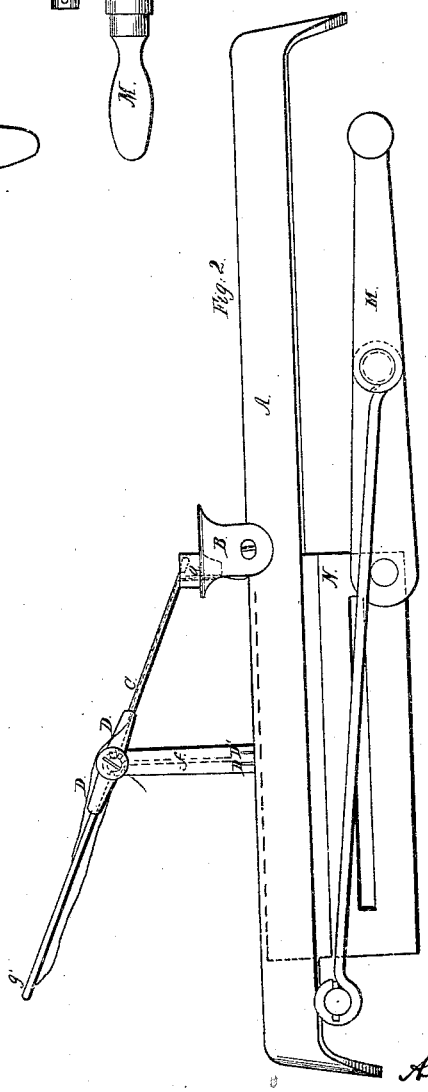

Fig. 2.

Witnesses:
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ASA SESSIONS, JR., OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO LAMB KNITTING MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN KNITTING-MACHINES.

Specification forming part of Letters Patent No. **49,835**, dated September 5, 1865.

To all whom it may concern:

Be it known that I, ASA SESSIONS, Jr., of Springfield, Hampden county, Commonwealth of Massachusetts, have invented certain Improvements in Knitting-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon.

In the drawings, Figure 1 is a plan, Fig. 2 a side elevation, and Fig. 3 an end view, of a machine with my improvements attached.

My improvements relate to that kind of machine known as the "Lamb knitting-machine," and patented September 15, 1863, and consists of a new and improved arrangement for regulating the supply of yarn, and which I will now describe.

To the bed A of the machine I attach the bridge B. This bridge is slotted and supports the yarn-feeder *a*, which travels in the slot *b*, for the purpose hereinafter more fully described. To this piece *a* the wire arm C is pivoted at *d*. This arm passes through the hub *c*, where a spring, D, presses against it on each side of the hub, for the purpose hereinafter described. This wire is formed into a loop at the end *g*, for the yarn to pass through. The hub *c* is fastened to the bed of the machine by means of arm *f*, to which it is pivoted. Attached to this arm *f*, and shown in Fig. 3, is a small wire, *h*, with a loop, *m*, in the upper end. At the side of this loop I place a spring, *k*, the purpose of which will be more readily seen in a description of the operation of this invention, which I will now give.

The yarn is passed through the loop *m* and on through the loop *g*, and then to the feeder *a*. Now, as the crank M is turned the slider N is driven backward and forward, bringing the yarn in contact with the needles, as in the ordinary machine. This slide N operates the needles by means of mechanism technically called a "lock," which is the same in every particular as the one used on the Lamb knitting-machine, and also operates the yarn-feeder in the manner hereinafter described. The arm C, by its vibrating motion derived from the motion of the slide N, pulls off the yarn from the bobbin, and at the same time produces tension thereon just sufficient to keep it from getting entangled.

The object of the slot *b* is to bring the yarn carrier or feeder *a* in a position so that it may feed the yarn to the needles *s s'* as they are going down. To do this it is necessary that the feeder *a* shall be at the end of the slot opposite the end of the machine toward which the slider is traveling, and for this reason it is necessary that it shall change from one end of the slot to the other with the change of stroke.

In order that the wire C may not slip through the hub *c* too easily, and thereby not move the feeder *a* along the slot *b*, the spring D is placed on the hub *c* so that it shall press on the wire C with sufficient force to hold it firmly until the feeder *a* has moved in the slot *b*, when, owing to the change of the parts and the operation of the machine, the friction of the spring D on the rod C will be overcome and the rod will slip in the hub *c*.

The spring K, which bears on the yarn as it passes through the loop of the wire *h*, is pulled outward by the pressure of the yarn passing over it as long as the carriage N is passing backward or forward, but gripes it firmly at each end of the stroke and keeps the slack from the needles, and thereby prevents the needles from losing a stitch or becoming entangled with the yarn.

By comparing this with the old feeding arrangement it will be seen that I have a much simpler arrangement, and consequently not so liable to get out of order, and of much cheaper construction, while at the same time it is surer in its operation, completely overcoming the difficulties and defects of the old feeder.

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

1. The combination of the arm C, hub *c*, and bridge B with the slider N and bed-piece A, substantially in the manner and for the purpose described.

2. The combination of the wire *h* or its equivalent and the spring K, when used in connection with the other parts of the machine, substantially as described.

3. The spring D, when used in combination with the other parts of the machine in the manner and for the purpose described.

4. The bridge B, slotted as described, when applied to a knitting-machine as and for purpose herein set forth.

ASA SESSIONS, JR.

Witnesses:

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