

(No Model.)

F. WILCOMB.
KNITTING MACHINE.

No. 350,793.

Patented Oct. 12, 1886.

Fig. 1.

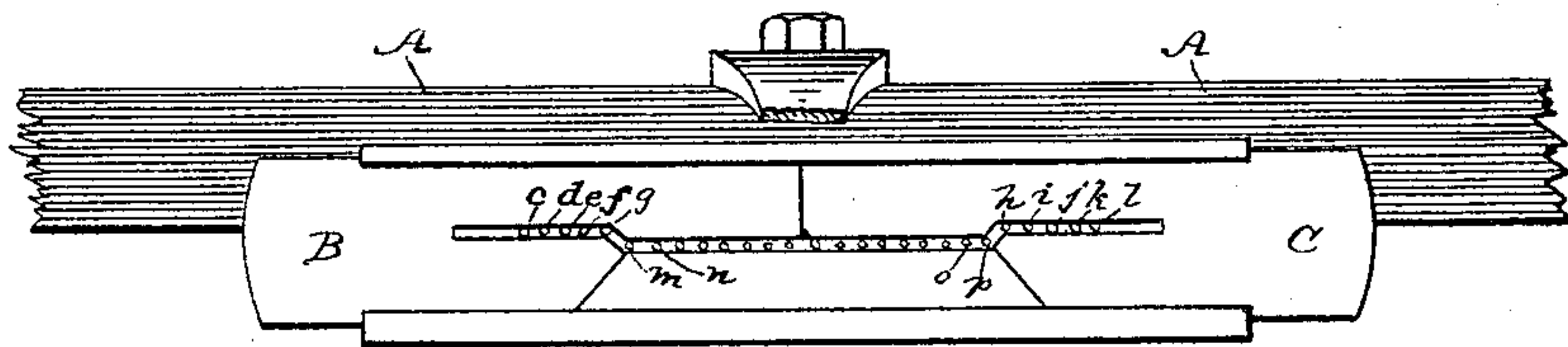


Fig. 2.

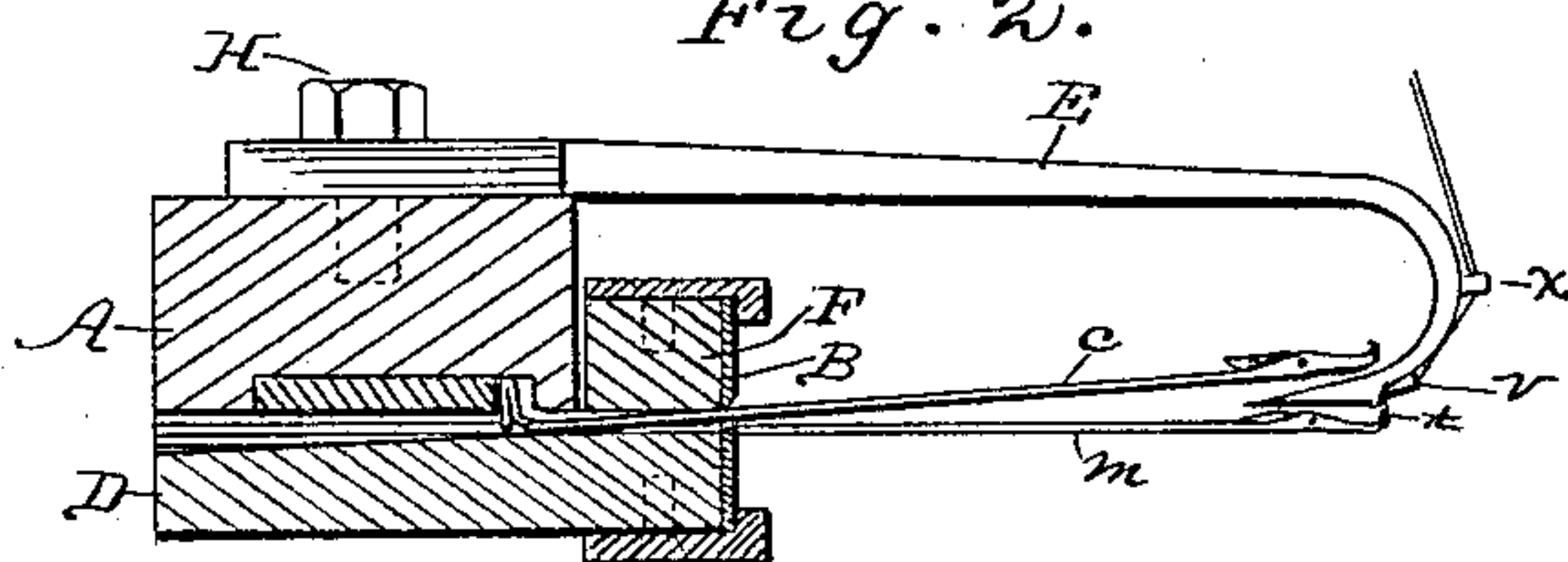


Fig. 3.

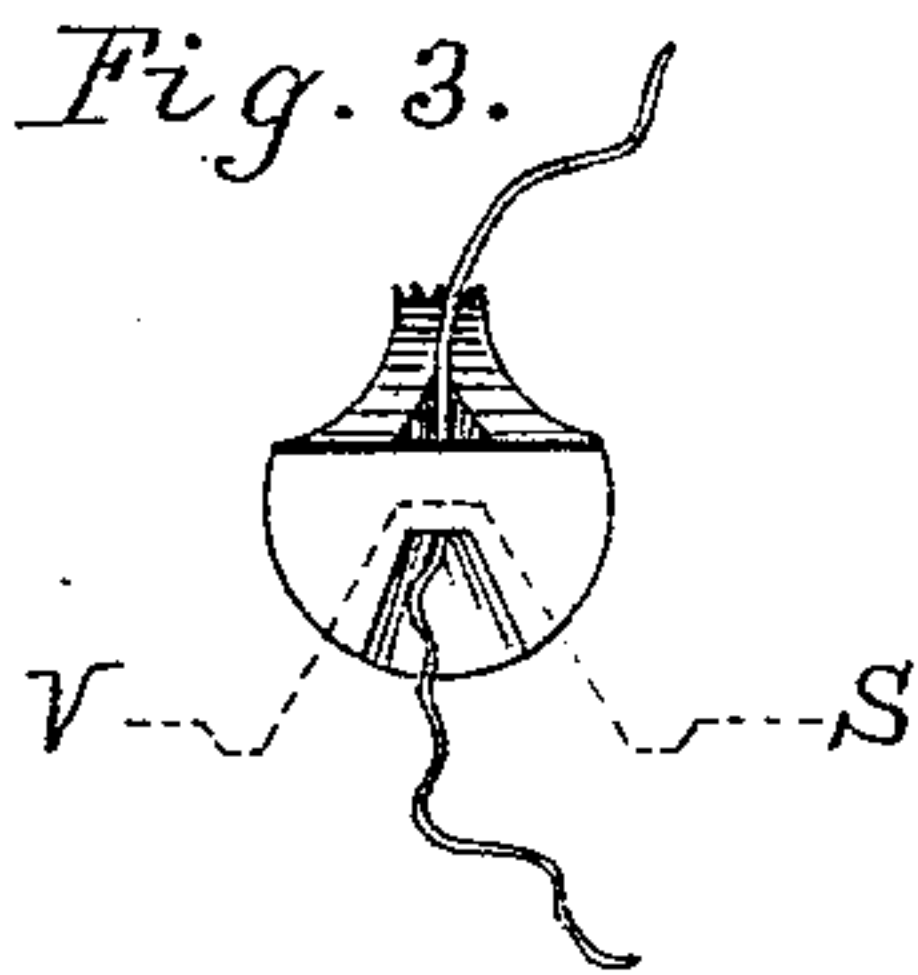


Fig. 4.



Fig. 5.

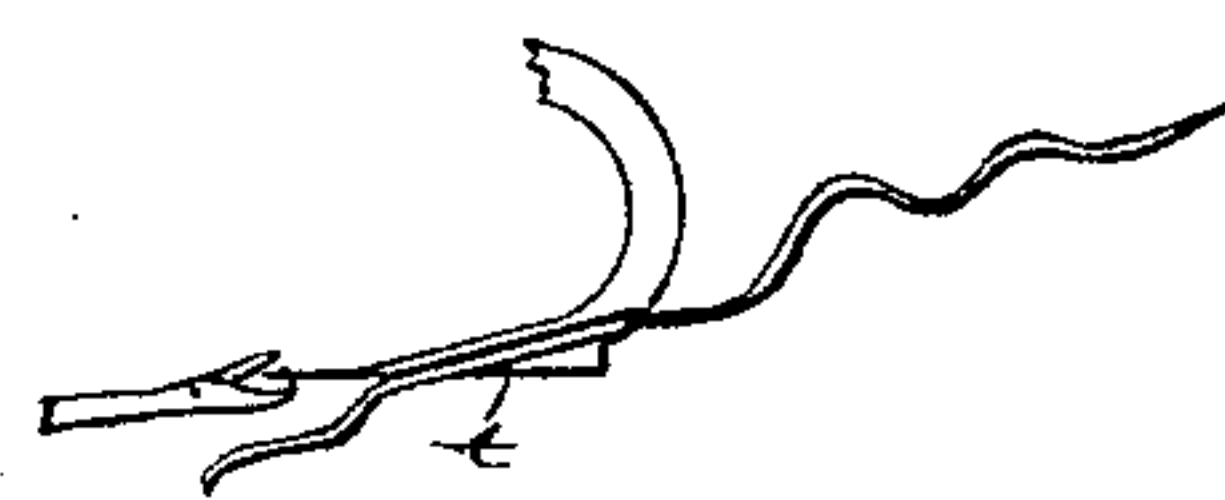


Fig. 6.

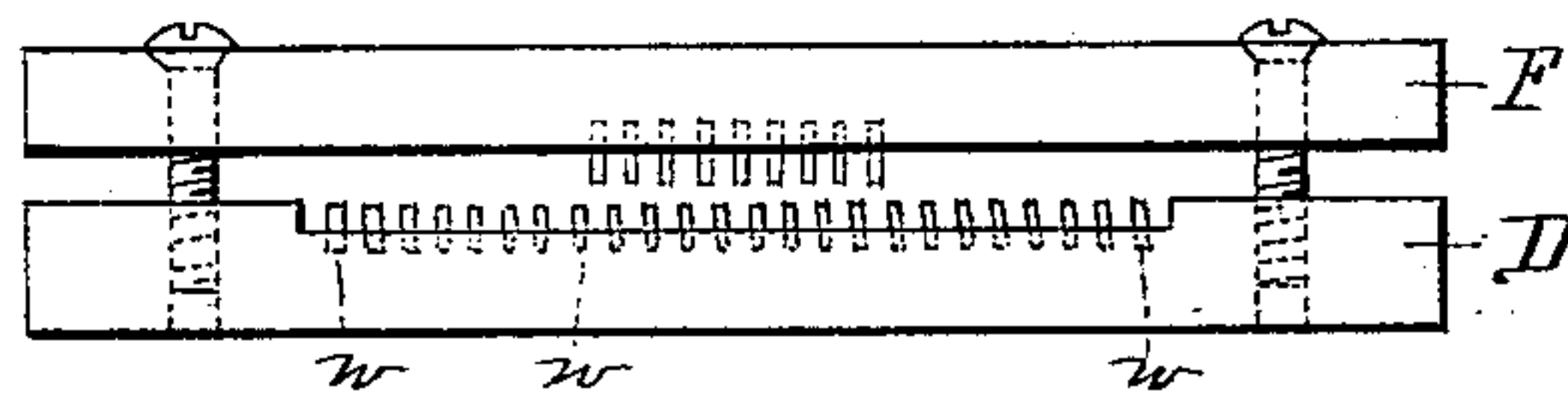


Fig. 7.

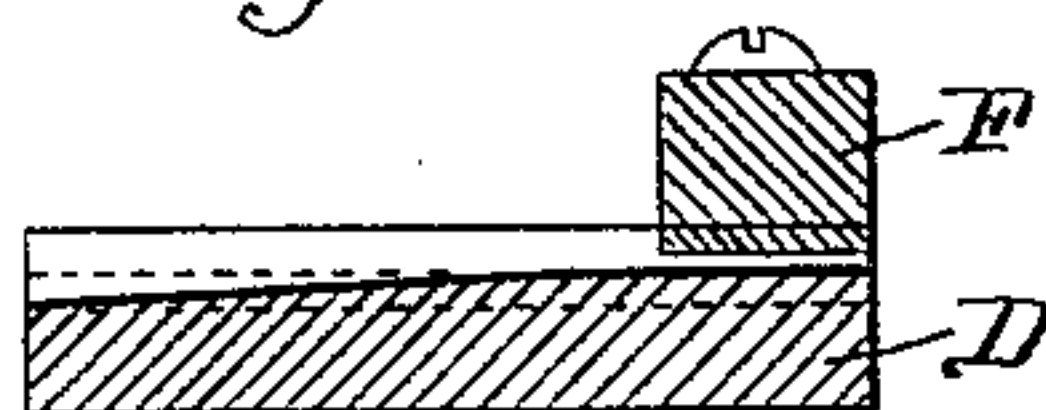


Fig. 8.

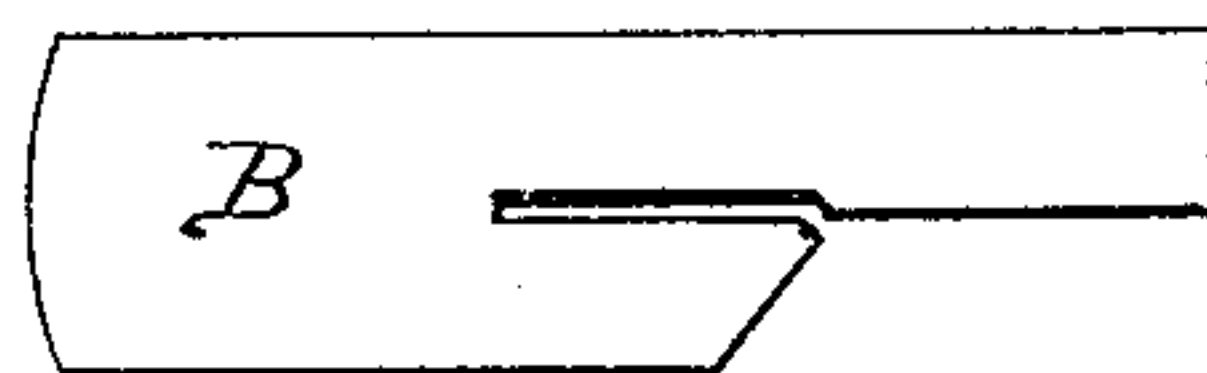


Fig. 9.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK WILCOMB, OF SAN FRANCISCO, CALIFORNIA.

KNITTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 350,793, dated October 12, 1886.

Application filed February 26, 1886. Serial No. 193,319. (No model.)

To all whom it may concern:

Be it known that I, FRANK WILCOMB, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Knitting-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to produce a device applicable to a straight latch-needle knitting-machine, with which to make a portion of a series of needles inactive in the regular process of knitting by raising said portion of the series above the plane of the needles in operation, and to pass the thread under the said inoperative needles, so that there will be no liability of the thread catching on the hooks of the latter and breaking.

Figure 1 is a front view of my improved device, part of the guide being broken away. Fig. 2 is a representation of a transverse section of the needle-bar D, slide-bar A, needle-slide B, and cap-piece F, with a side view of the thread guide or carrier E and one of the latch-needles *c* raised above the level of the plane of the row of needles *m*. Figs. 3, 4, and 5 represent the form and construction of the beak of thread-guide E. Figs. 6, 7, 8, and 9 are views of several parts detached.

Like letters designate corresponding parts in all the figures.

My invention consists of a needle-bar, D, having the bottom of its needle-grooves W W inclined from front to rear, instead of from rear to front, as in other needle-bars in common use; a slide-bar, A, and needle-slides B C, such as are used on the Nesmith machine and others, but inverted, so as to raise the needles, instead of dropping them. The thread-guide E, instead of being made in the ordinary manner, is constructed as shown in Figs. 2, 3, 4, and 5—that is, it is bent back upon itself in order to allow inactive needles to be elevated above the plane of the operating-needles. The under side of its beak, *t*, Figs. 2 and 5, is flat to cover the hooks and hold the latches of the

needles open, the edges being thin and beveled from the top to lift and open the latches of the needles. The carrier is provided with a thread-tunnel, *v*, which terminates in an open-mouth channel, *v'*, as shown in Fig. 3, to prevent chafing and consequent cutting of the thread while the needles are going forward to receive it. The thread-guide E is attached to the slide-bar A by the screw H, and the whole devices are arranged and attached in the usual manner, as shown in Figs. 1 and 2, on a straight-knitting machine—such, for instance, as in the patent to Nesmith, below referred to, and others—and operated by the usual and ordinary method in the regular process of knitting. By these devices a portion of the series of needles (lettered from *c* to *l*) are raised by the slides B and C above the plane *m n o p*, and are then inoperative. The thread-guide E passes underneath these raised inoperative needles and delivers the thread to the lower needles, *m n o p*, and others in the row on the plane, without possibility of the thread catching on the hooks of the raised inoperative needles *c* to *l*, and when adjusted on the hooks of the needles in operation opens and holds the latches on the needles in the plane as they come forward to receive the thread from the thread-guide E, as shown in Fig. 2.

I am aware that the slide-bar A and needle-slides B C are similar to those described by the patent to J. Nesmith, No. 15,435, of July 29, 1856; therefore I do not claim any of said devices as new in itself, but the novel combination of the old with the new, as hereinafter set forth in the claims.

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

1. In a knitting-machine, the combination of a series of needles, and mechanism for raising the inactive needles above the plane of the operating-needles, with a thread-carrier having the delivery end thereof adapted, substantially as described, to pass under the inactive needles, substantially as described.

2. The thread guide or carrier E, constructed substantially as described, whereby a portion of the series of needles are permitted to be elevated above the delivery-point of the carrier, said carrier having a flat surface along the under side of its beak to cover the hooks

and hold open the latches of the needles, and a tunnel through said beak adapted to receive and protect the thread while delivering the same to the needles, as set forth.

5 3. The thread guide or carrier E, constructed substantially as described, whereby a portion of the series of needles are permitted to be elevated above the delivery-point of the carrier, the beak of said carrier having a flat
10 surface along its under side and provided with a thin beveled edge adapted to open the latches, and a suitable tunnel to receive and protect the thread while delivering the same to the
15 needles, as set forth.

4. The described thread-carrier formed with

a return-bend, as described, and having a beak provided with a flat surface along its under side, said beak having a thin beveled edge adapted to open the latches, and a tunnel for the passage of the thread, said tunnel terminating in an open-mouthed channel, substantially as described. 20

In testimony whereof I affix my signature in presence of two witnesses.

FRANK WILCOMB.

Witnesses:

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JULIUS KREBS.