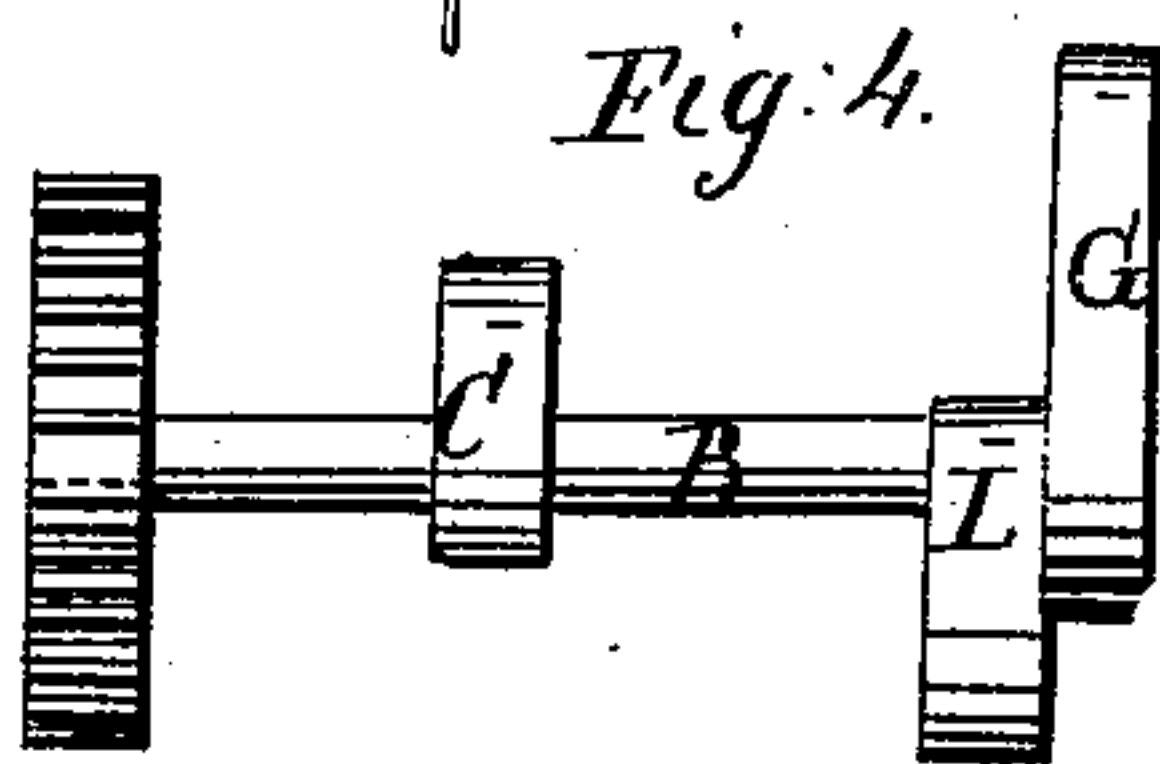
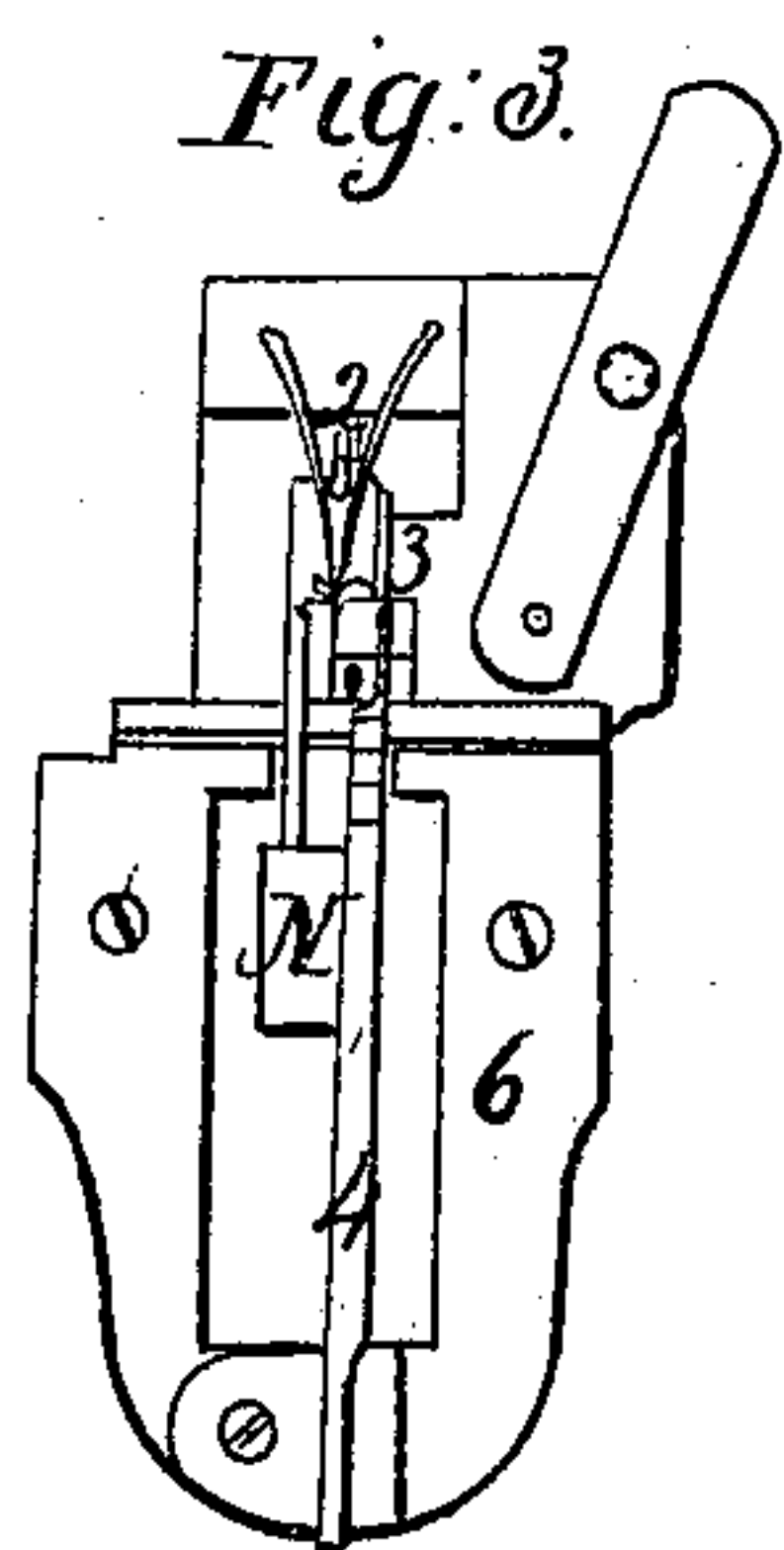
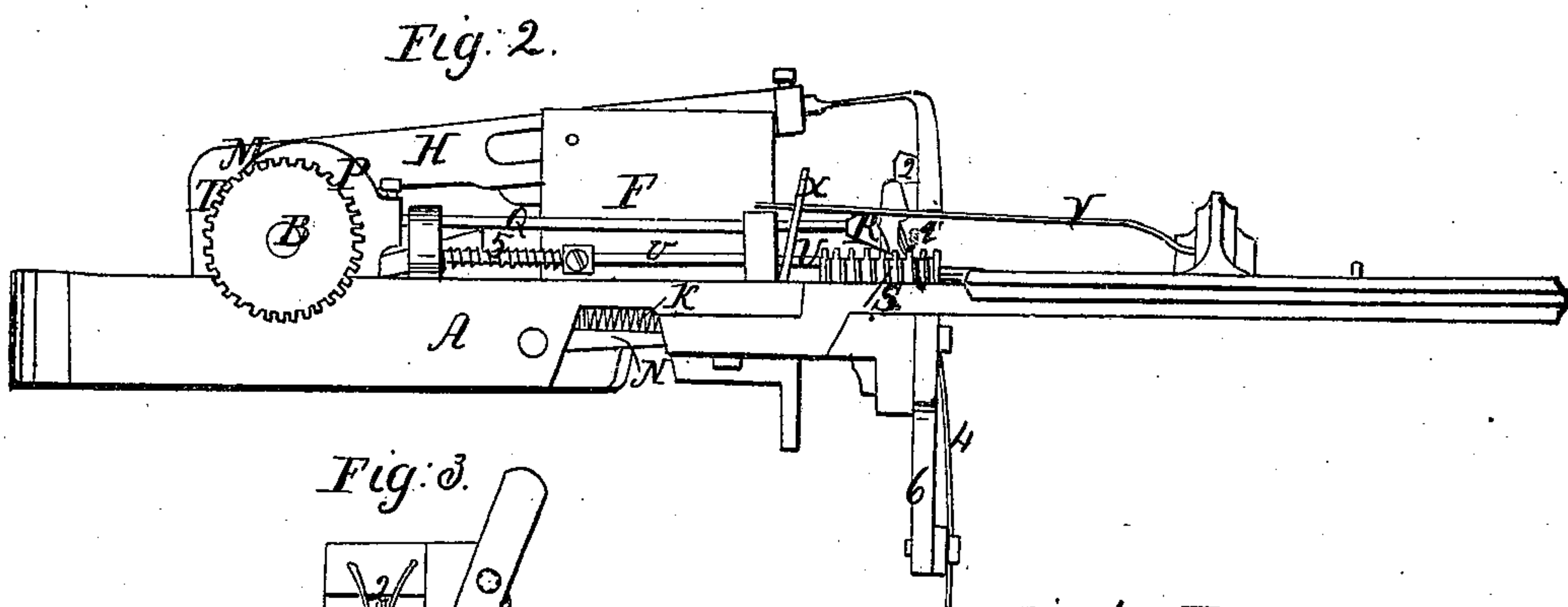
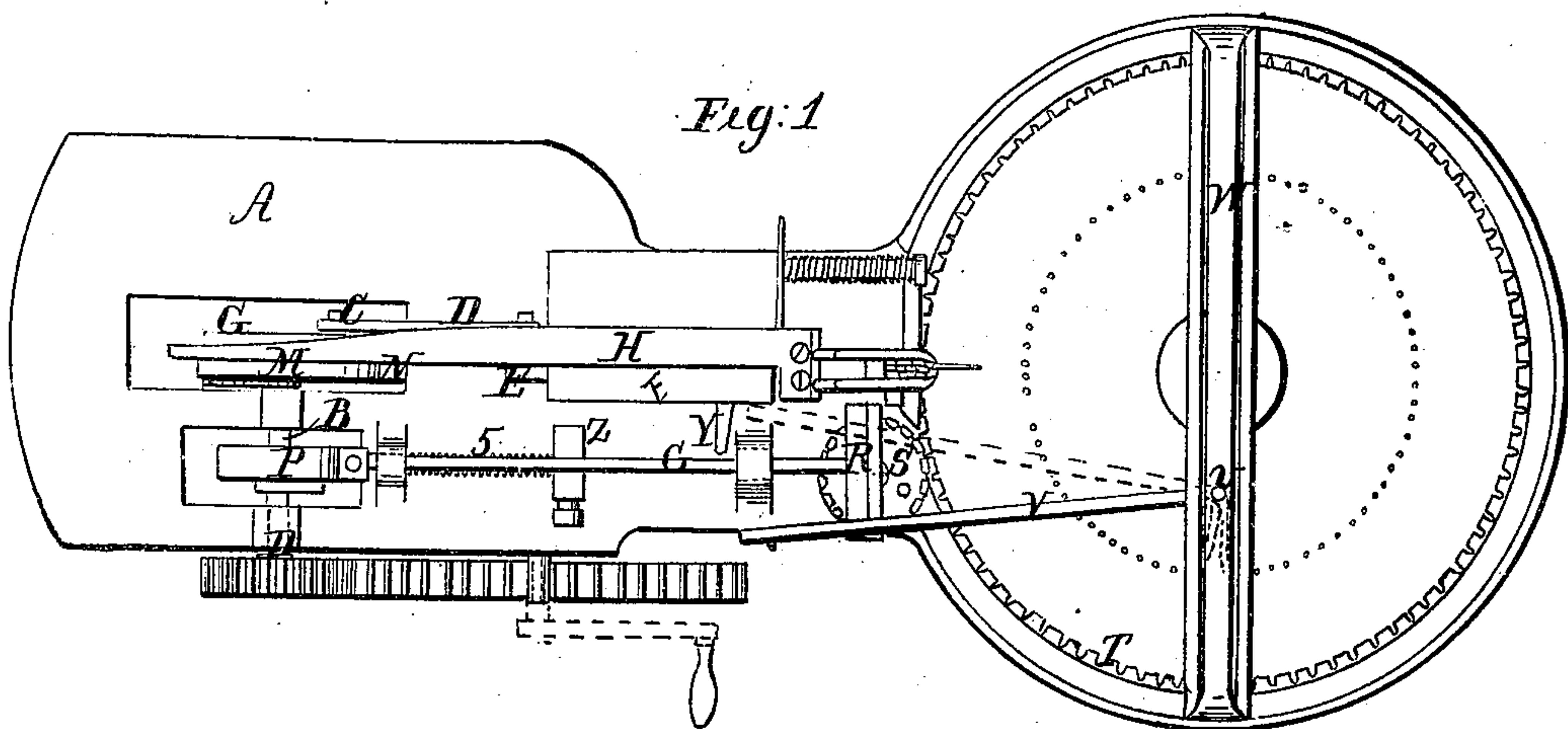


A. B. Prouty.
Knitting Mach.
Nº 98,410. Patented Dec. 28, 1869.



Witnesses;
Robert Lang
G. Sanford

Inventor;
A. B. Prouty

UNITED STATES PATENT OFFICE.

A. B. PROUTY, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO SAMUEL V. ESSICK, OF MANSFIELD, OHIO.

IMPROVEMENT IN KNITTING-MACHINES.

Specification forming part of Letters Patent No. 98,410, dated December 28, 1869.

To all whom it may concern:

Be it known that I, A. B. PROUTY, of Worcester, in the State of Massachusetts, have invented certain Improvements in Knitting-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention is an improvement on the knitting-machine patented to S. V. Essick, September 3, 1867, and numbered 68,425; and it consists in a novel mechanism by which a reversible movement is automatically imparted to the toothed disk, in a hanger and a deflector-spring sustained thereon to deflect the yarn to the right side of the teeth of the disk as the needle is moved forward, and in other details of construction.

In the drawings, Figure 1 is a plan or top view of my improved machine; Fig. 2, a side view; Fig. 3, a detail view; and Fig. 4, a view of the main shaft, pinion, and cams.

The same letters and figures refer to the same parts in the several illustrations on the drawings.

A is the bed of the machine, adapted to be secured by clamp, thumb-screw, or in any convenient manner to the ledge or leaf of a table, so that it may be driven by a hand-crank.

The general frame-work of the machine, being very similar to that in the aforementioned patent, need not be here particularly described.

B is the main shaft, having thereon a crank, C, which, by means of the connecting-link D, actuates the needle-bar E, which reciprocates in bearings in the block F.

G is a cam on the same shaft, B, and is so formed as to impart to the bar H, which carries a portion of the loop-forming devices, a forward-and-back and also an up-and-down motion, a projection, I, on said bar serving for receiving from the cam the proper movements for this purpose, and a spring, K, underneath the table and connected to the bar H, assisting therein.

L is a cam, side by side with cam G, and it is spanned by the yoke M of lever N, the rotation of cam L serving positively to raise the forward end of N as the needle advances

and to lower it when it retreats. To the forward end of N is secured a vertical piece having thereon, as shown, a tooth, 1, to pass between the teeth of the disk, a projection, 2, to pass between and spread open the spring-jaws which enter between the needle and its thread, and a side projection, 3, which, just before the feed takes place, passes down between the ends of the teeth of the disk and the spring thread deflector 4, the latter yielding for this purpose.

O is a cam on the same shaft, B, and which is grasped by the yoke P of the sliding and rocking rod or shaft Q, the cam in its revolutions serving to impart a reciprocating motion forward and backward in its bearings to the slide-rod, but not yet preventing a slight tilting of the yoke when the rod is rocked on its longitudinal axis, as hereinafter mentioned. To the forward end of this slide-rod Q is rigidly secured at right angles thereto a cross-piece, R, having on its lower surface an acute angle at its forward edge, so that it may at either end act as a pawl or pusher against the teeth on the upper face of wheel S. This wheel has also cuts or nicks on its periphery, as shown, and which are adapted to receive the teeth T of the stitch and cloth-holding disk, and by so doing drive the latter into one of these same cuts or nicks. A detent, U, enters at every stitch, as hereinafter mentioned.

V is a stitch-lever, pivoted at v upon the stationary cross-bar W, and having an arm at its forward end projecting over the circular series of holes in the face of the disk, in order that it may be actuated by any pin or pins which may be inserted in any of said holes. The long arm of this switch-lever is a spring having a downward tendency, so that when bearing on either arm of the cross-piece R it shall press down that arm into the teeth on one side of the upper surface of wheel S and correspondingly lift the other arm of the cross-piece out of the teeth with which it had previously engaged. A wire or post, X, serves to limit in one direction the movement of the switch-lever, the block F serving to limit it in the opposite direction.

Y is a side projection or pin on the needle-bar, during the backward motion of which it comes in contact with and carries back with it the block or projection Z, secured to the slide-rod U, thus releasing the same from that

one of the side notches in the periphery of the wheel S with which it last engaged, and leaving the wheel free to be rotated by the forward movement of the pawl. When this latter-named feed movement has taken place, the spring 5 forces the rod U back to its former position, and the wheel is again locked to place during the forward position of the needle and while the stitch is being formed.

6 is a hanger depending from the underside of the bed, and adjustably secured to which is a spring-piece or thread-deflector, 4, which has on its side toward the needle an incline which serves to deflect or guide the yarn to the right side of the tooth of the disk while the needle is moving forward, thus insuring its always being in proper position. The yielding or springing quality of this thread-deflector enables the side projection, 3, of the presser, which is attached to the forward part of the arm N, to carry the thread down between the spring and the disk.

I claim—

1. The combination of the toothed work-holding disk with the wheel S, having teeth

on its periphery serving to propel the disk, and also notches or teeth on its upper surface by which it is itself propelled, substantially as shown and described.

2. The combination, with the wheel S, of the propelling-pawl R, mounted on a reciprocating shaft arranged to rock in its bearings, so as to bring either arm of the pawl into or out of action, substantially as shown and described.

3. The combination of the cam O on the driving-shaft, the reciprocating rocking-shaft Q and its pawl R, wheel S, spring switch-lever V, and adjustable pin or pins on the disk.

4. The combination of the pin or projection Y on the needle-stock, the slide U and its spring 5, and the wheel S, substantially as shown and described.

5. The combination, with the toothed disk, of the hanger 6 and the spring piece or deflector 4, substantially as shown and described.

A. B. PROUTY.

Witnesses:

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