

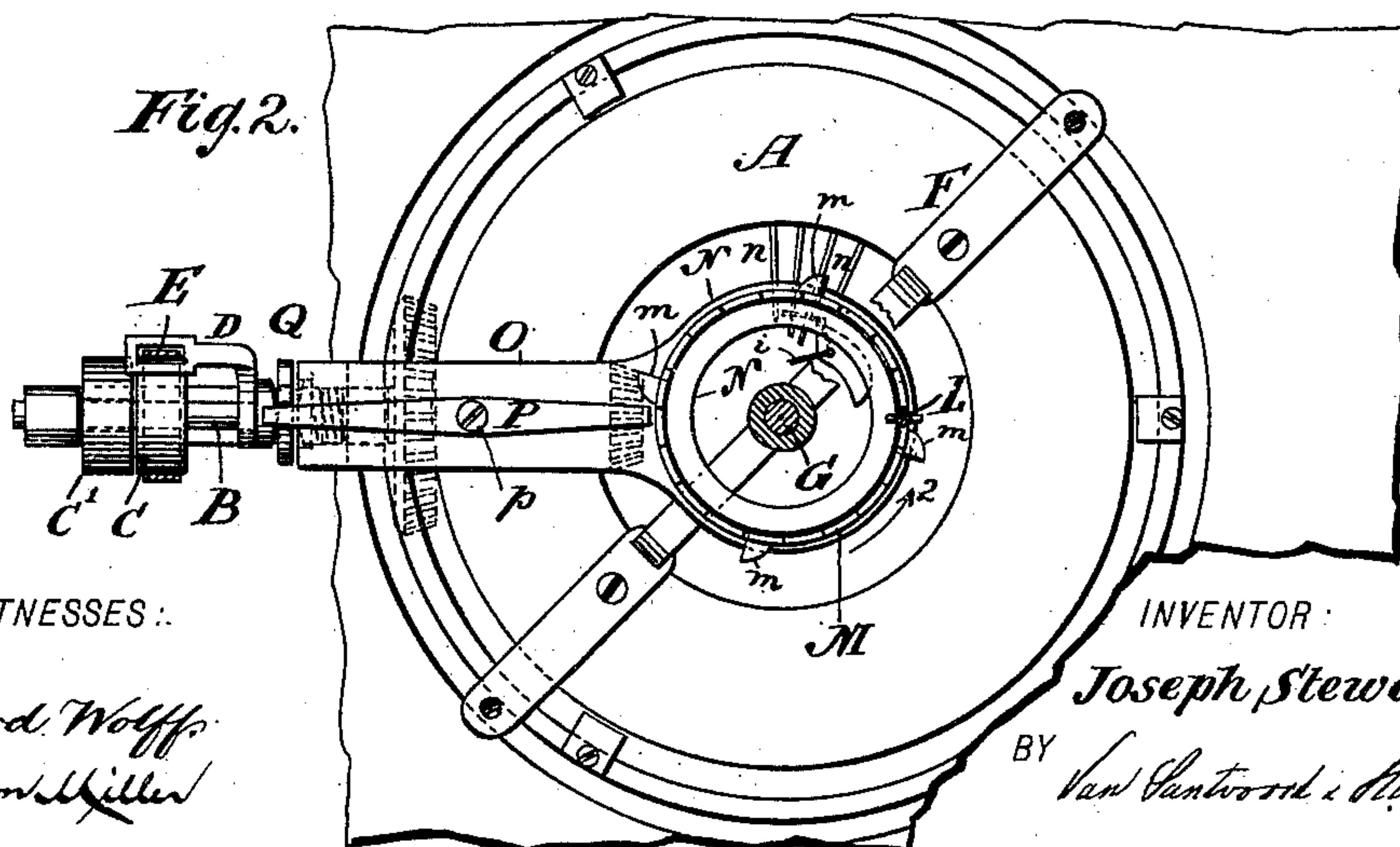
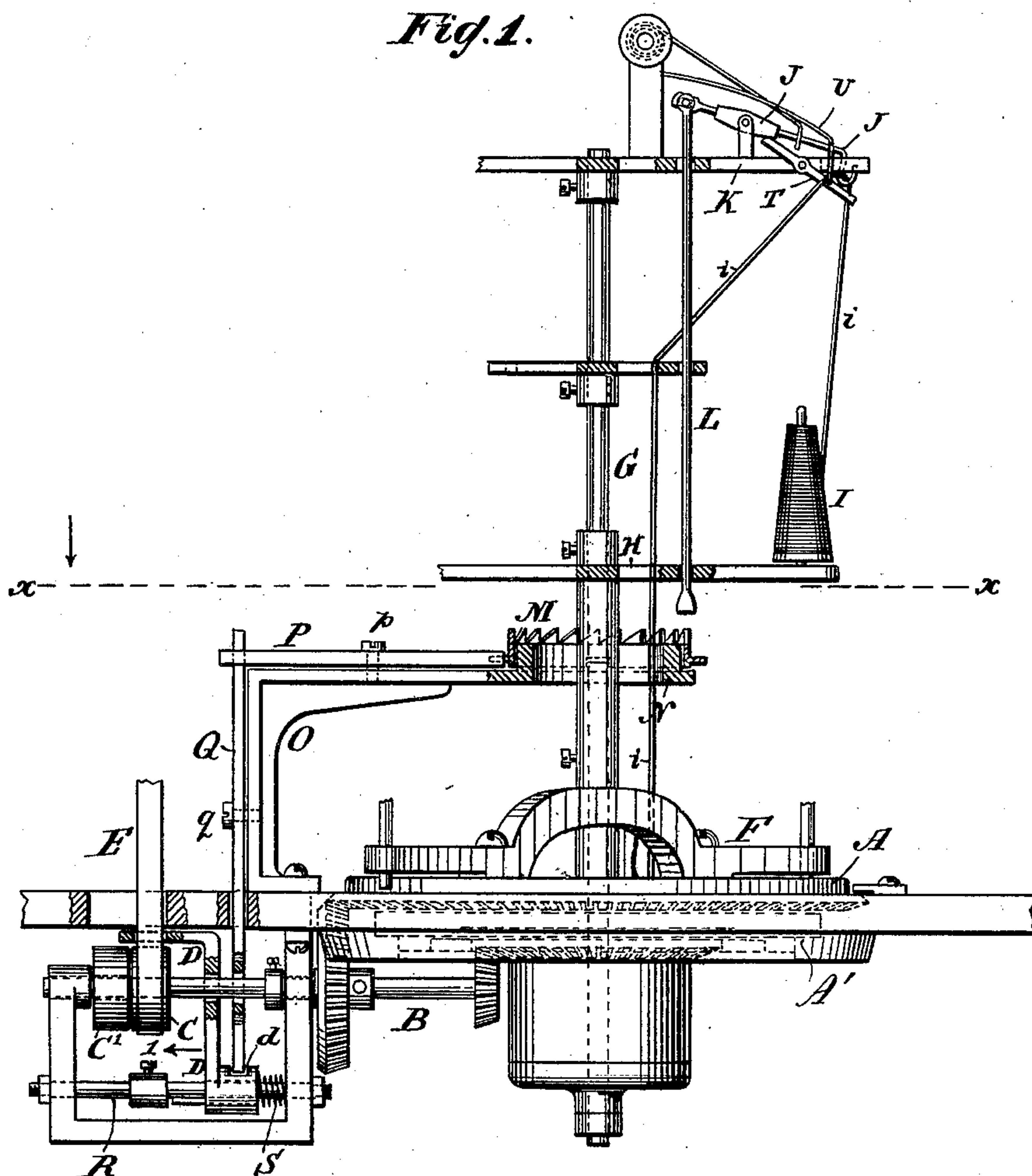
(No Model.)

J. STEWART.

STOP MECHANISM FOR KNITTING MACHINES.

No. 432,450.

Patented July 15, 1890.



WITNESSES :-

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JOSEPH STEWART, OF BROOKLYN, NEW YORK.

STOP MECHANISM FOR KNITTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 432,450, dated July 15, 1890.

Application filed March 13, 1890. Serial No. 343,757. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH STEWART, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Stop Mechanisms for Knitting-Machines, of which the following is a specification.

This invention relates to a stop mechanism which is intended particularly for circular-knitting machines, but which can also be used for certain kinds of braiding-machines. The peculiar and novel construction of my stop mechanism is pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 represents a front elevation, partly in section. Fig. 2 is a broken top view on the plane $\alpha \alpha$, Fig. 1.

In the drawings, the letter A designates the dial cam-plate of the ring A', which carries the needles, and to which a rotary motion is imparted by the shaft B, on which are mounted a fast pulley C and a loose pulley C'.

D is a belt-shifter, which throws the driving-belt E from the fast to the loose pulley, and vice versa. On the dial cam-plate A is firmly secured a standard F, which carries a spindle G, on which is firmly secured a cross H, which supports the bobbins or spools I, only one of which is shown in the drawings. The thread from each spool runs over a lever J, which has its fulcrum in a bracket K, secured to the spindle G, and from the inner end of this lever is suspended the rod L, which passes through the cross H, as shown.

M is a crown-wheel, which is fitted upon a ring N, formed upon the end of a standard O, which is firmly secured to the frame of the machine. Said crown-wheel turns freely upon the ring N, and it is provided with toes $m m$, projecting outward from its body.

P is a lever, which serves to release the belt-shifter. In the example shown in the drawings this lever has its fulcrum on a stud p , secured in the standard O, and its inner end extends close to the crown-wheels M, while its outer end engages the upper end of a lever Q, which has its fulcrum on a stud q , secured in the standard O. The lower end of this lever Q engages a notch d , formed in the hub of the belt-shifter D, which is feathered on a rod

R and exposed to the action of the spring S. When the lever Q is thrown out of gear with the hub of the belt-shifter D, the spring S moves said belt-shifter in the direction of arrow 1, Fig. 1, and the driving-belt is thrown from the fast pulley C on the loose pulley C'.

As already stated, the thread i from the bobbin I extends over the lever J, and thence down to the needles n , and the normal tension of this thread is such that it retains the rod L out of gear with the crown-wheel M; but as soon as the thread breaks the rod L drops in gear with the crown-wheel, causing the latter to turn on the ring N in the direction of arrow 2, Fig. 2. By this movement of the crown-wheel one of the toes m is caused to act upon the lever P, the lever Q is thrown out of gear with the hub of the belt-shifter D, and the driving-belt is thrown upon the loose pulley C', whereby the movement of the machine is stopped.

From the foregoing description it will be seen that the movement of the machine is stopped whenever the thread of one of the bobbins breaks; but the action of the stop mechanism is not instantaneous, and if the motion of the machine continues a short distance after the thread is broken close to the needles a faulty spot is produced in the finished fabric. This difficulty I have overcome by the following means: On the bracket K is secured a knife T, which is actuated whenever the normal tension of the thread is increased, so that it cuts the thread close to the bracket K before the same breaks close to the needles, and consequently a sufficient length of thread is left to supply the needles until the stop mechanism has time to act. In the example shown in the drawings the knife T is pivoted to the bracket K and its tail end bears against the lever J. The thread from the bobbin runs over the outer end of the lever J, and thence beneath the bracket K and over the cutting-edge of the knife down to the needles, a thread-guide U being provided which retains the thread out of contact with the cutting-edge of the knife. If the tension of the thread increases beyond the required limit, the outer end of the lever J is drawn down, the tail of the knife is depressed, and the thread is cut by the co-operation of the knife with the face of the bracket.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the bobbin-support H and the spindle G, of the lever J, the
5 rod L, the stationary ring N, the wheel M, and the lever P for releasing the belt-shifting mechanism, substantially as described.

2. The combination, with the bobbin-support H, the spindle G, the lever J, the rod L, the
10 stationary ring N, the wheel M, the lever P

for releasing the belt-shifting mechanism, and the knife T, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH STEWART.

Witnesses:

J. VAN SANTVOORD,

E. F. KASTENHUBER.