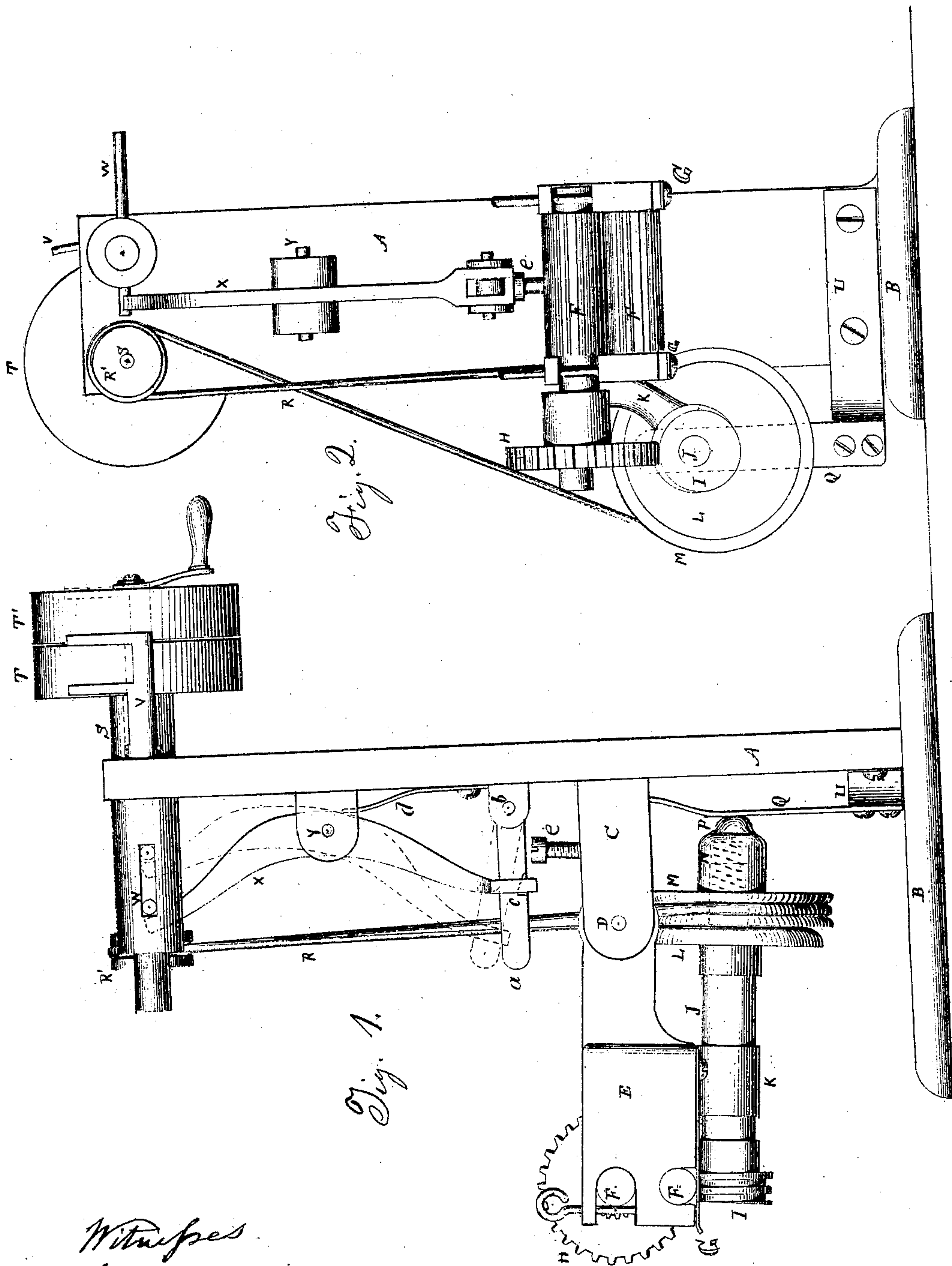


W. Aiken,
Knitting Mach.

No. 1670
32.674.

Patented July 2. 1861.



Witnesses
Charles Haddaway
John B. Srenholm

Walter Aiken
By his Atty. S. Dennis Jr

UNITED STATES PATENT OFFICE.

WALTER AIKEN, OF FRANKLIN, NEW HAMPSHIRE.

KNITTING-MACHINE.

Specification of Letters Patent No. 32,674, dated July 2, 1861.

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
5 certain new and useful Improvements in Knitting-Machines; and I do hereby declare that the same are described and represented in the following specification and accompanying drawings.

10 The nature of my invention consists in the combination and arrangement of certain devices or mechanism to operate the rollers and take up the fabric knit by knitting machines, and also to stop the machine when
15 the stitches run off of the needles.

To enable others skilled in the art, to make and use the improvements which I have invented, I will proceed to describe their construction and operation referring
20 to the accompanying drawings in which the same letters indicate like parts in each of the figures.

Figure 1 is a side elevation of my improvements. Fig. 2 is a front elevation of
25 the same.

In these drawings A, is a perpendicular metal stand made in the form shown in the drawing or in such other form as will answer the purpose and provided with a foot
30 or base B, to hold it upright which foot may be fastened to the floor. There are two horizontal stands C, projecting from the stand A, to support the axis D, of the vibrating frame E, which is made in the form
35 shown and provided with a pair of fluted drawing rollers F, F, between which rollers the knit fabric is drawn as it is produced by the knitting machine arranged above the rollers. The upper roller F, turns in bearings
40 fitted for it in the frame E, and the lower roller F, is pressed toward the upper one, and against the knit fabric by the springs G, G, fastened to the frame E. To turn the upper roller F, and draw the knit
45 fabric from the machine and take it up as fast as it is produced, I fasten the gear H, to it (the roller F,) which gear is turned by the screw I, on the shaft J, which is fitted to turn in the arm K, fastened to the swinging
50 frame E.

The disk L, is fastened to the shaft J, and is fitted to a recess in the pulley M, which pulley is fitted to turn freely on the shaft J, and turn the shaft when required
55 by its friction on the disk L. The end of

the shaft J, is perforated for the spiral spring N, which acts against the inside of the hub of the pulley M, to push it away from the disk L, when the swinging frame rises or is drawn up by the fabric knit so
60 as to disengage the pulley from the disk and let it stop until more fabric is knit and the frame E, descends until the knob P, on the hub of the pulley M, comes against the spring Q, which is stiffer than the spring
65 N, so that as the frame E, descends the pulley M, is pushed against the disk L, and turns the shaft J, and rollers F, F, which take up the knit fabric, until the frame E, is raised so as to draw the knob P, from the
70 spring Q, and allow the spring N, to push the pulley from the disk and, stop the shaft J, until more fabric is knit and the frame E descends again, and the operation is repeated as above described.
75

The pulley M, has a score in it for the band R, from the pulley R', on the shaft S, which turns in the top of the stand A, and is provided with a fast, pulley T, and loose pulley T', by which it may be turned
80 by a band from a pulley on the driving shaft of the knitting machine. The opening Q, is fastened to the arm U, from the stand A, as shown in Fig. 2.

To traverse the band from the tight to
85 the loose pulley, the shipper V, is fitted to traverse in the stand A, parallel, to the shaft S, and to traverse the shipper and traverse the belt from the tight to the loose pulley
90 when the knit fabric drops from the needles, because the supplying thread of yarn breaks or runs out, a pin W, is put through the shipper which is acted on by the lever X, which vibrates on the pin Y, shown in the
95 drawing. The latch lever a, is hung on the pin b, in the stand A, and vibrates in a slot in the lower end of the lever X, and has a notch c, in it to lock the lever against the spring d, fastened to the stand A, when the
100 band is on the fast pulley. But when the fabric knit drops from the needles, the swinging frame E, drops and carries the screw e, up against the latch lever a, and releases the lever X, which is swung into
105 the position shown in dotted lines by the spring d, and moves the shipper V, and carries the band from the tight or fast pulley to the loose one and the machine stops.

I contemplate that a fast and loose pul-
110

ley or pulley and clutch may be substituted for the disk L, and pulley M, and used as their equivalent.

I believe I have described and represented
5 my improved take up for knitting machines so as to enable any person skilled in the art to make and use it.

I will now state what I desire to secure by Letters Patent to wit.

10 1. In knitting machines the vibrating frame E, with its system of gearing and friction pulleys, for alternately operating

and releasing the take up rollers, substantially as above described.

2. Operating the belt shifting apparatus 15 by means of the vibration of the take up frame E, through the action of the adjustable pin or screw *e*, on the latch *a*, and its connections substantially as described.

WALTER AIKEN.

Witnesses:

EPHRAIM G. WALLACE,
JOHN W. JOHNSON.