

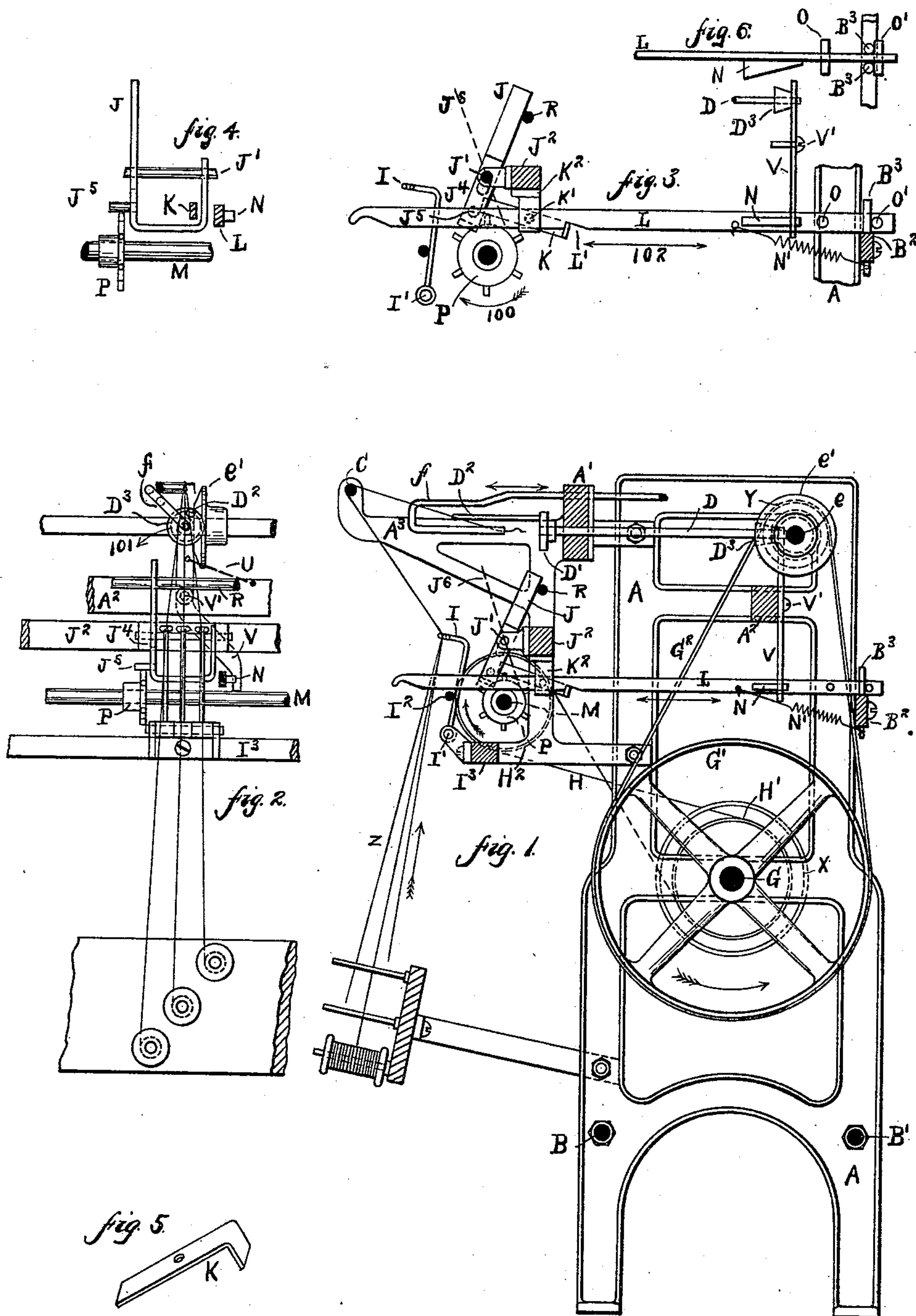
(No Model.)

D. ASHLEY.

STOP MOTION FOR QUILLING MACHINES.

No. 396,384.

Patented Jan. 22, 1889.



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UNITED STATES PATENT OFFICE.

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STOP-MOTION FOR QUILLING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 396,384, dated January 22, 1889.

Application filed February 1, 1888. Serial No. 262,593. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT ASHLEY, of the city of Paterson, in the county of Passaic and State of New Jersey, have invented a certain
5 new and useful Stop-Motion for Quilling-Machines, of which the following is a specification.

My invention relates to quilling-machines for silk, and is designed to facilitate doubling
10 and quilling in one operation.

The object of my invention is to provide an improved automatic stop-motion, so that one, two, or more threads, each coming from a separate bobbin, may be brought together
15 and wound on a quill, and the quill-spindle be stopped when one or more of the threads which are being wound by that spindle break. I attain this object by means of the mechanism hereinafter described, and illustrated in
20 the accompanying drawings, which form a part of this specification.

In the drawings similar letters and figures of reference indicate like parts.

Figure 1 is a sectional end view of the principal parts of a quilling-machine with my invention attached. Fig. 2 is a front view of one spindle and most of the parts of my stop-motion relating to that spindle. Fig. 3 is an
25 end view showing only those parts which comprise my invention. The illustration shows the position of the parts when the spindle is in operation. Fig. 4 shows the relative position of the tilting lever and other parts, the latch-lever and reach-rod being shown in section. Fig. 5 is a detail of the latch-lever.
30 Fig. 6 is a top view or plan of part of my invention, showing the taper piece used to push the rock-lever sidewise.

The frames A and studs B B' form a framework, and, together with the spindle D², spindle-disk D', and spindle-shaft D, the back shaft, e, carrying the friction-cone e', the friction-cone D³ on spindle-shaft D, the building-rod f, the tension-rod C, the main shaft G, pulley G' on the main shaft, and the pulley on the
40 back shaft, which drive the spindle through the intervention of back shaft, e, and cones e' D³, form, together with the tight and loose pulleys X, part of a quilling-machine which is
45 given only to illustrate the application of my invention.

My stop-motion is mounted partly on the bracket A³ and partly on the back bar, B², and girt A².

I is a drop-wire pivoted on the pin I', which
55 is held in a bracket secured to girt I³.

I is provided at its upper end with an eye for a thread. Several of these drop-wires are mounted in front of a tilting lever, J, and either of them, if not held against the stop-rod I² by the tension of the silk, would fall
60 back and strike the tilting lever J.

J is a tilting lever hanging loosely on pin J', which is fixed in a bracket secured to girt J². The tilting lever J is slotted, J⁴, Figs. 2
65 and 3, and is provided with a pin, J⁵. When the spindle is running, lever J leans against a fixed stop-rod, R.

L is a reach-rod, which passes through a slot in the bracket K², and extends backward
70 over the back bar, B², and between two pins, B³, fixed in back bar, B². It is provided with a taper piece, N, bearing against the rock-lever V, Figs. 2 and 3, pivoted at V', and also with a tension-spring, N', which tends to
75 draw it backward. It is prevented from being drawn backward by the latch-lever K. The motion of rod L in the direction of arrows 102 is limited by the pins O O', which strike
80 the pins B³.

The latch-lever K is pivoted at K' in bracket K², K² being fixed to girt J². The front end of the latch-lever is heavier than its back end; hence its back end lifts into the notch
85 L', Fig. 3, in the reach-rod L, and holds the rod against the action of the spring N', and in the position shown.

P is a toothed wheel secured to shaft M, which is continually revolved by a belt, H, running from pulley H' on the main shaft to
90 pulley H².

X represents tight and loose pulleys on the main shaft.

V is a rock-lever mounted pivotally at V', the upper end of which forms the back bearing of spindle-shaft D.
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A tension-spring, U, Fig. 2, which connects lever V to girt A², holds the friction-cones e and D² in contact. If this spring U were overcome and the rock-lever moved in the direction 101, Fig. 2, the friction-cones would be
100 separated and the spindle would stop. The

threads z , each coming from a separate bobbin, which may be placed as shown, pass upward, each thread through an eye in a separate drop-wire, I, over the tension-rod, C, where they meet and pass together through an eye in the end of the building-rod f , and thence directly to the quill, which is placed on the quill-spindle D^2 . The quill-spindle is placed eccentrically upon the spindle-disk, and is carried around the end of the building-rod in order to wind the silk upon the quill. Any of the drop-wires I not in use may be tied to the stop-rod I^2 . If a thread breaks, the drop-wire through which it passes falls backward and strikes the tilting lever J, which tilts toward the position represented by the line J^6 . The pin J^5 in lever J engages in teeth of wheel P; hence lever J is forced into position J^6 , and raises the front end of latch-lever K. This drops its lower back end out of the slot in rod L, which is then drawn backward by the spring N' , and the taper piece N pushes the rock-lever V in direction 101, as required to stop the spindle. The broken end is then tied up and the spindle restarted by pulling rod L forward and pushing lever J into the position shown, when the latch-lever K holds rod L in position. The

slot J^4 allows the pin J^6 to lift over the teeth in wheel P. 30

The stop-motion may be used either when the spindle is moved back and forth or when the building-arm is moved as indicated in Fig. 1.

With this description of my invention, what I claim is— 35

In a stop-motion or doubling attachment for quilling-machines, a rock-lever which carries one end of the quill-spindle shaft provided with a tension-spring, a tilting lever provided with a pin and a slot, as illustrated and described, a reach-rod carrying a taper piece used as a wedge, and having a spring for drawing the same backward when unlatched, and stop-pins to limit its backward and forward motion, a latch-lever which acts by gravity, a revolving toothed wheel which engages with a pin in the tilting lever to force it backward, and the drop-wires shown and described, and for the purposes described and set forth. 40 45 50

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Witnesses:

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