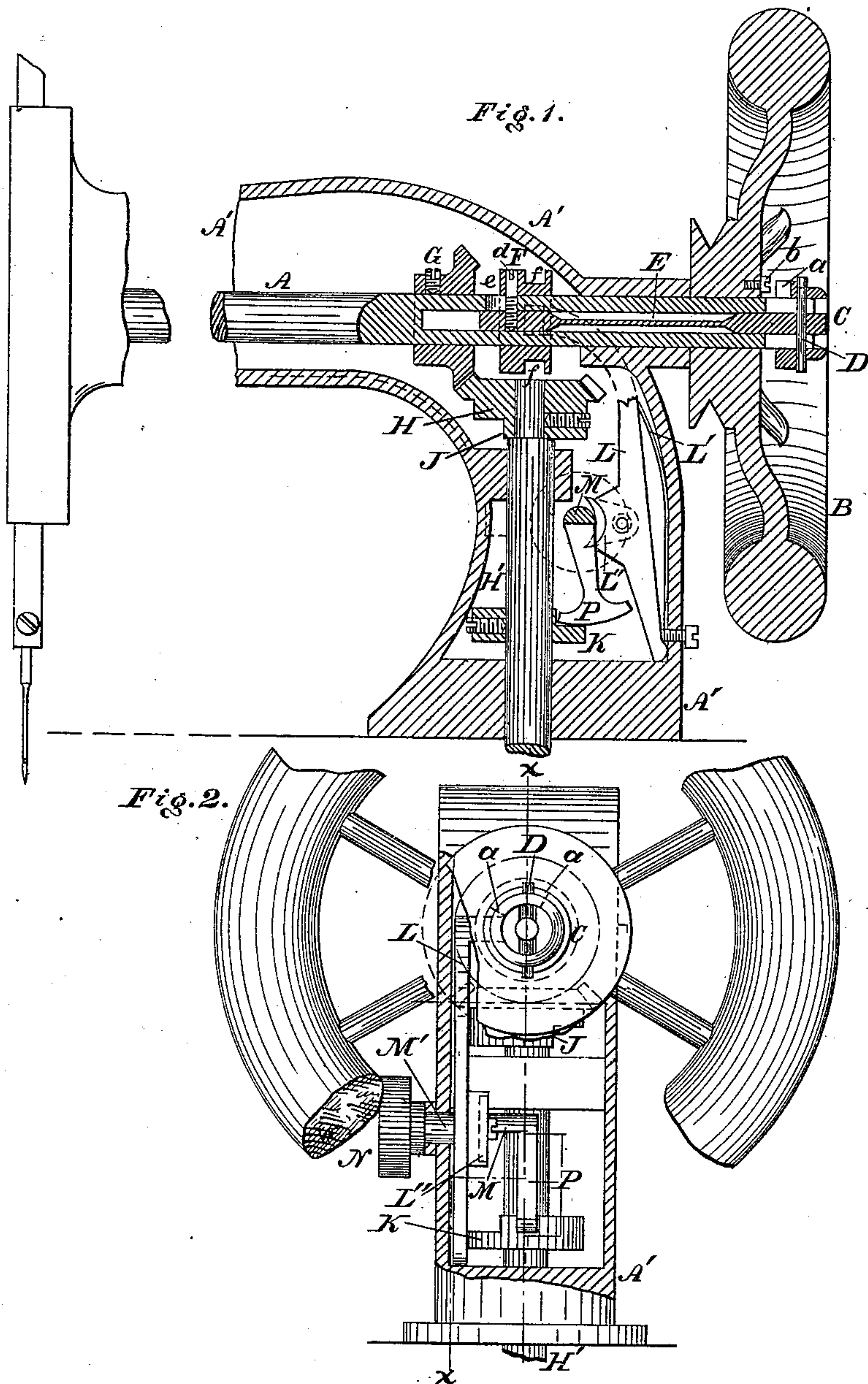


G. W. HUNTER.
Stop Mechanism for Sewing Machines.

No. 230,941.

Patented Aug. 10, 1880.



Witnesses:

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GEORGE W. HUNTER, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
OF ONE-HALF OF HIS RIGHT TO ABRAHAM REX, OF PHILADELPHIA, PA.

STOP MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 230,941, dated August 10, 1880.

Application filed January 27, 1880.

To all whom it may concern:

Be it known that I, GEORGE W. HUNTER, a citizen of the United States, residing at Washington, in the District of Columbia, have
5 invented a new and useful Improvement in Stop Mechanisms for Sewing-Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

10 Figure 1 is a vertical section of the stop mechanism for a sewing-machine embodying my invention. Fig. 2 is an end view thereof, partly broken away.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists of means for stopping the needle-bar and shuttle-driver of a sewing-machine without stopping the power-wheel or treadle, as will be hereinafter set forth.

20 It also consists of means for preventing injury to the machine when it is abruptly stopped or subjected to strain, as will be hereinafter set forth.

Referring to the drawings, A represents the
25 rotary shaft which, by means of suitable connections, operates the needle-bar, said shaft being properly mounted in the arm or neck A', and made hollow or partly hollow.

B represents the power-wheel, which is
30 loosely fitted on said shaft, and is provided with pins, shoulders, or lugs *b*, for engagement with the shoulders *a* of a sliding collar, C, after the manner of a clutch, said collar being fitted on the end of the shaft and secured thereto by
35 means of a pin, D, which passes through the collar C and a slot in the shaft, and is also attached to the outer end of a flat or torsional spring, E, located in the hollow of the shaft A.

F represents a rotary and sliding collar
40 placed on the shaft A within the neck A', and secured to said shaft by a screw, *d*, which passes through a slot, *e*, in the shaft, and is also attached to the inner end of the torsional spring E, whereby said collar F and the collar
45 C are connected.

To the shaft A, adjacent to the collar F, is secured a bevel-gear wheel, G, which meshes with a bevel-gear wheel, H, keyed or otherwise secured to the vertical shaft H', this shaft

H' having its bearings on the arm or neck A' 50 and operating the shuttle-driver, as usual and well known, said wheel H being provided with a shouldered collar, J, as an integral or separate piece. A shouldered collar, K, is secured to the shaft H' below the collar J, the shoulders of the two collars J K facing each other. 55

The collar F on the shaft A has a circumferential groove, *f*, into which projects freely the upper bent or turned end of a lever, L, whose lower end is sustained on the lower end 60 of the neck A' as a fulcrum. A spring, L', bears against the lever L, and is attached to the neck A', so as to press against said lever and thus force the collar F in the direction toward the bevel-gear wheel G. 65

M represents a cam which is in contact with the bearing-piece L' of the lever L, said cam being on a shaft, M', mounted horizontally on the neck A', and provided with a button, N, on the outside of the neck, and by rotating 70 said button the cam M operates the lever L and causes the collar F to be moved toward or from the bevel-gear wheel G.

Attached to or formed with the shaft M' of the cam M is a T or equivalent-shaped piece, P, 75 which by the rotation of said shaft is adapted to engage with a shoulder of either of the collars J K.

The operation is as follows: When the parts are in their normal or operative positions the 80 wheel B and shaft A are connected as one by means of the collar C. When power is communicated to the wheel B the horizontal shaft A and needle-bar and the vertical shaft H' and connected parts of the shuttle-driver are 85 operated as usual. When it is required to stop the machine the button N is turned so as to move the headed piece P to an engaging contact with either of the shouldered collars J K. The cam M, by its swell portion, moves back 90 the lever L, which thus carries the collar F in a direction toward the wheel B. By means of the spring E as a connection the collar C is pushed outward and disengaged from the wheel B, so that said wheel B rotates freely on the 95 shaft A without imparting motion to said shaft A. The shaft H' being stopped by the piece P also stops the shaft A, and thus the needle-

bar and shuttle-driver are quickly at rest. In Fig. 1 the headed piece P is shown as being engaged with the lower collar, K.

When it is desired to operate the machine, or sew, the button N is again rotated, and the flat portion of the cam M assumes such position in relation to the lever L that this lever, pressed by the spring L', returns to the first position and moves the collar F toward the gear-wheel G. The spring E, as the connection of the collar F and collar C, moves with the collar F and draws the collar C into engagement with the power-wheel B, whereby the shaft A and said wheel B are clutched and the shaft A again rotates, motion being also communicated to the shaft H' by means of the gear-wheels G H. The needle-bar and shuttle-driver now operate as usual.

As there are two collars, J K, on the shaft H', the button N may be rotated in either direction and bring the headed piece P in contact with either of said collars, so as to cause the stoppage of the shaft H' regardless of the direction of rotation of the button.

The shoulders *a a* of the collar C are separated sufficiently to allow some play of the

shaft in the collar. Should there be any strain on the shaft A or abrupt motion thereof in the direction opposite to that in which it is rotating, the collar C leaves its seat or "gives," thus twisting the spring E without affecting or injuring the gearing G H and connected parts.

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

1. The shaft A, collars F and C, means for connecting said collars, loosely-fitted power-wheel B, shaft H', and gearing G H, in combination with lever L, shaft M', having button N and cam M, headed piece P, and the shouldered collars J K on said shaft H', substantially as and for the purposes set forth.

2. The shaft A, in combination with loosely-fitted power-wheel B, the collars F and C, the torsional spring E, by which said collars are connected, and means of moving said collars longitudinally to the shaft A, substantially as and for the purposes set forth.

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Witnesses:

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