

(No Model.)

B. MERRITT.

## STARTING AND STOPPING MECHANISM.

No. 252,492.

Patented Jan. 17, 1882.

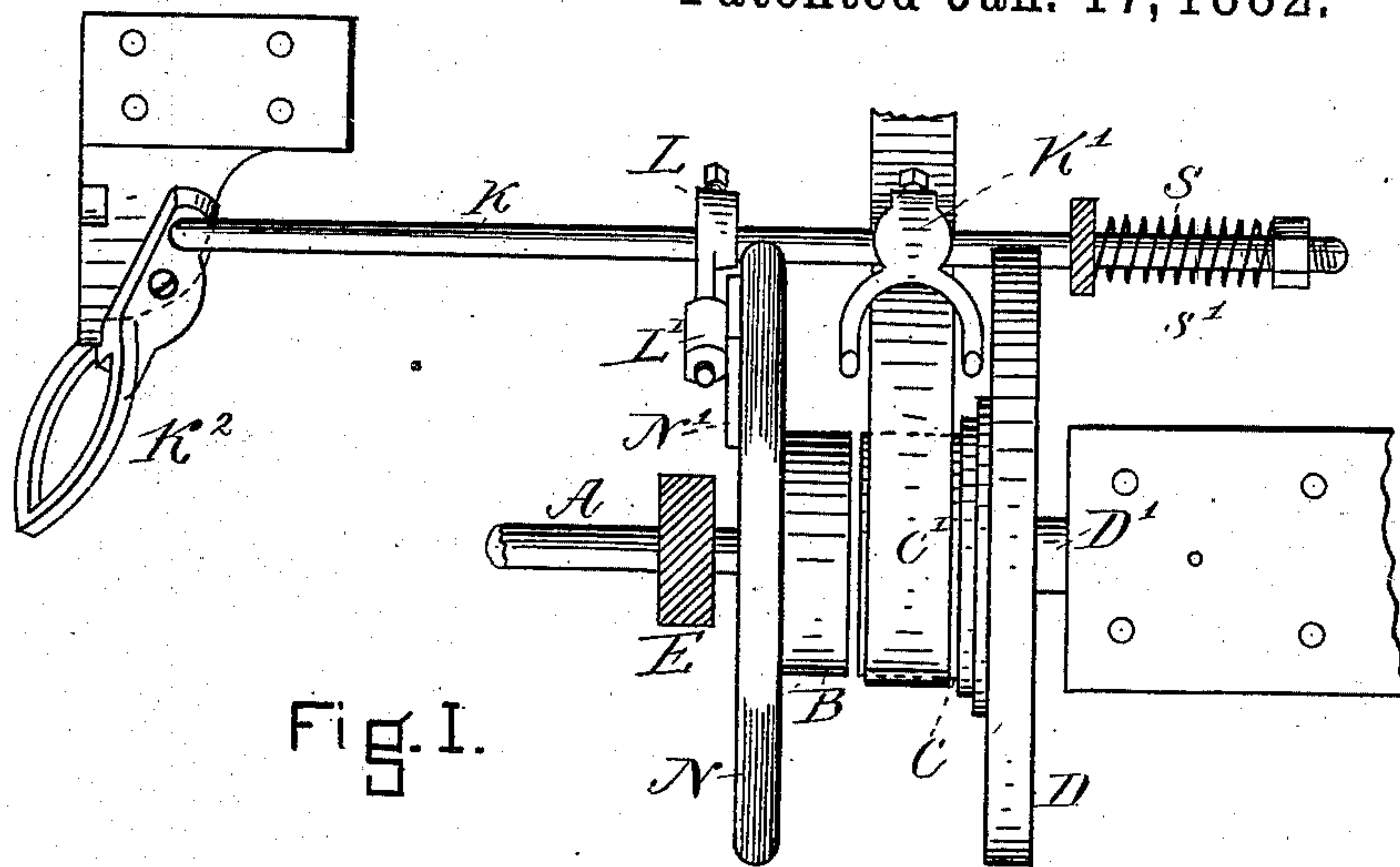


Fig. I.

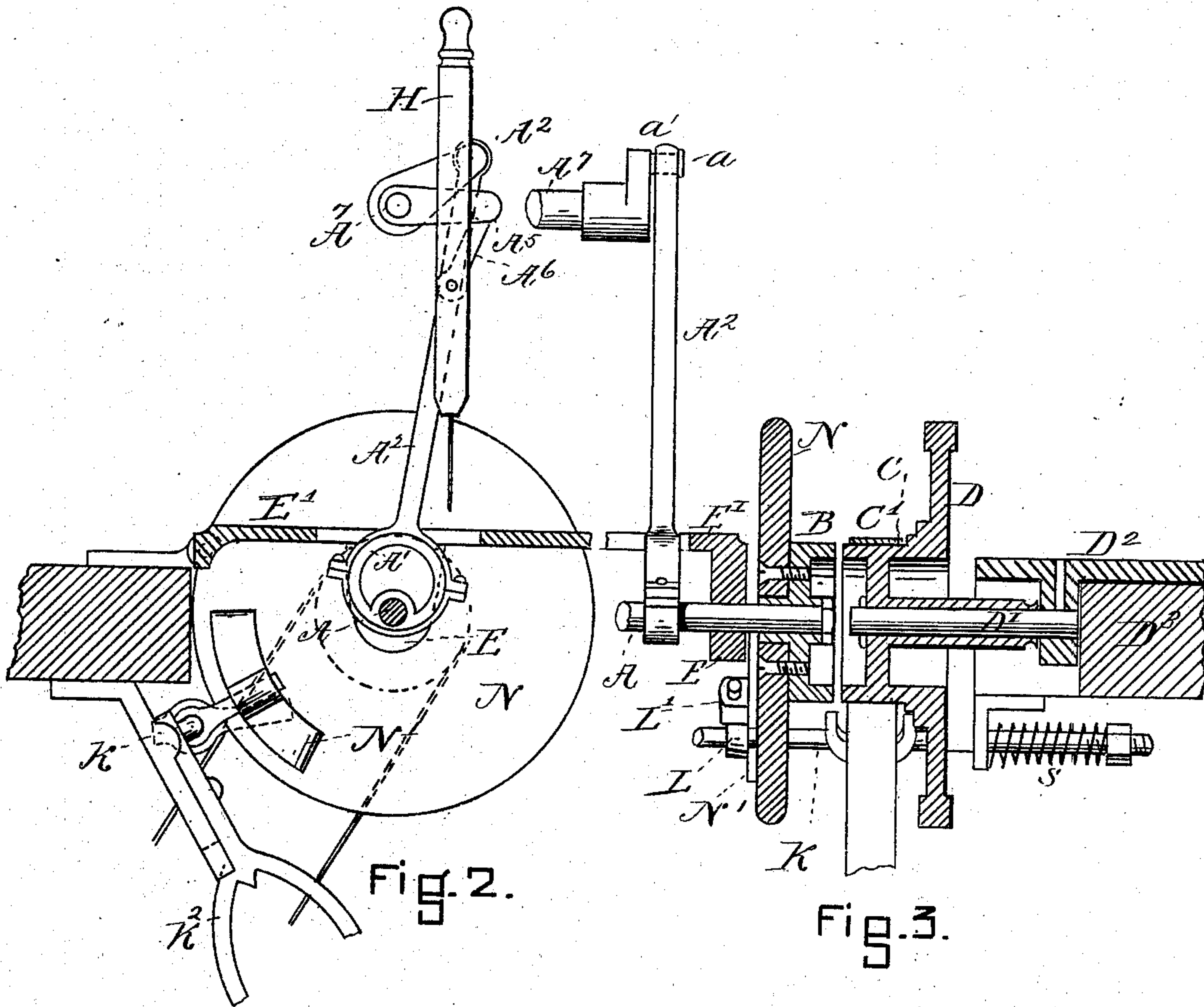


Fig. 2.

Fig. 3.

WITNESSES

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## STARTING AND STOPPING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 252,492, dated January 17, 1882.

Application filed November 14, 1881. (No model.)

*To all whom it may concern :*

Be it known that I, BENJAMIN MERRITT, of Newton, in the county of Middlesex and State of Massachusetts, have invented a certain new and useful Starting and Stopping Device for Machines, of which the following is a specification.

My invention relates to a device for starting and stopping light machines.

The main objects of my improvements are, first, to construct the fast and loose band-pulleys in such a manner that there is no connection whatever between them, except that formed by the belt itself, so that when the belt is on the loose pulley the machine may be moved or turned up for examination without disconnecting any parts or disturbing the belt or loose pulley; second, in providing the belt-shifting slide with a friction-arm to operate on a friction-pad located upon a certain part of the friction-disk, so that the machine may be stopped at any desired point in its progress. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan showing my improved devices as they are made when applied to a sewing-machine. Fig. 2 is a view in elevation of a part of my device, also showing a needle-bar in position for the purpose of illustrating the operation of my friction-brake. Fig. 3 shows my devices in vertical section.

A represents the main shaft of a sewing-machine, mounted in suitable housings, in connection with the table E E' of the sewing-machine. Upon this shaft I affix a band-pulley, B, and a friction-disk, N. The shaft A is provided with an eccentric, A', which, acting through the eccentric-rod A<sup>2</sup>, arm a a', rocker-shaft A<sup>7</sup>, arm A<sup>5</sup>, and link A<sup>6</sup>, operates the needle-bar H. The loose pulley C, Figs. 2 and 3, is shown affixed to a balance-wheel, D, although the said balance-wheel is not necessarily connected with my device, this pulley C being mounted upon a fixed axle, D', said axle D' being firmly attached to any permanent fixture, D<sup>2</sup> D<sup>3</sup>. The object of so hanging this loose pulley is that the machine proper, to which the driving-pulley B is attached, may be turned up or removed for the purpose of inspection or repairs without making any disconnections or disturbing the loose pulley C and belt C'.

The friction-disk N has at one point on its

surface a pad, N', this pad being so placed in relation to the position of the needle-bar H and the friction-arm L L' that whenever the said friction-pad N' comes in such position that it may be operated upon by the friction-arm L L', then the needle-bar H will be in the position in which the operator desires to have it stop. In the illustration it is stopped and held in such a position that the needle is entirely above the fabric being worked upon. In some cases it is desirable to stop the machine with the needle down, in which case it will be necessary to readjust the friction disk N on the shaft A.

The friction-arm L L' is attached to the shipping-rod K, which carries the shipping-fork K', and is so adjusted in relation to the fork K' that it (the friction-arm) will bear against the friction-pad N' only when the belt-shifter fork K' shall have thrown the belt C' entirely over onto the loose pulley C.

The shipping-rod K is provided with a spring, S, the tendency of which is to throw it in the direction of the arrow S'—that is, so the belt C' shall be kept upon the loose pulley C. When it is desirable to operate the machine the operator moves the lever K<sup>2</sup> in such a manner as to cause the shipping-rod K, acting through the fork K', to draw the belt C' over onto the pulley B, where it will remain so long as the rod K is held, and no longer, for as soon as the rod K is free the spring S will throw it back into the position indicated in Fig. 1, in which position the belt C' is on the loose pulley and the friction-arm L L' is ready to act on the friction-pad N', and thus stop the machine with the needle in the desired position.

I claim as my invention—

1. The combination of the driving-shaft A and the driving-pulley B with the detached fixed shaft D' and the detached loose pulley C, whereby the machine is free to be moved independently of the loose pulley, substantially as described, and for the purpose set forth.

2. The combination of the belt-shipper K', the shipping-rod K, and the lever K<sup>2</sup> with the friction-arm L L' and the friction-pad N' on the friction-disk N, substantially as described, and for the purpose set forth.

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Witnesses:

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