(No Model.)

E. L. SMITH.

DEVICE FOR TRANSMITTING MOTION.

No. 256,395. Patented Apr. 11, 1882.

Fig. 1

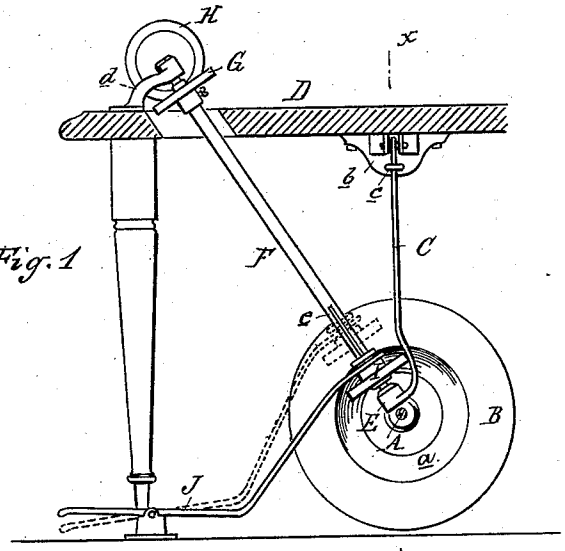


Fig. 2

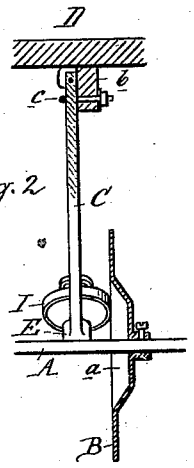
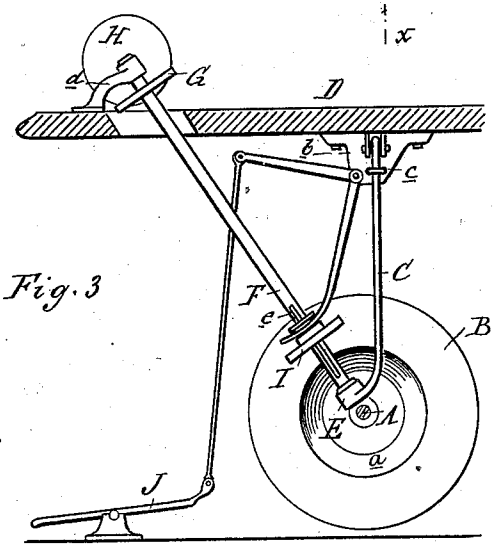


Fig. 3



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UNITED STATES PATENT OFFICE.

EMMET L. SMITH, OF JACKSON, MICHIGAN.

DEVICE FOR TRANSMITTING MOTION.

SPECIFICATION forming part of Letters Patent No. 256,395, dated April 11, 1882.

Application filed January 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, EMMET L. SMITH, of Jackson, in the county of Jackson and State of Michigan, have invented new and useful Improvements in a Device for Transmitting Motion; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

The nature of this invention relates to certain new and useful improvements in devices for transmitting power from a main line shaft which is constantly in motion to machines, like sewing-machines, which are alternately running and stopping, without the intervention of belts running alternately upon fast and loose pulleys, and is an improvement on inventions patented to me in July and October, 1881.

The invention consists in the peculiar construction and operation of parts, as more fully hereinafter described, and then pointed out in the claims.

Figure 1 is an elevation. Fig. 2 is a sectional elevation on the line X X in Fig. 1, and Fig. 3 shows a modification of Fig. 1 in the adaptation of the treadle.

In the accompanying drawings, A represents the main line of shafting, upon which is secured the disk B. This disk B is made preferably in the form shown in Fig. 2, the face being upon one vertical plane and the hub upon another, whereby a depression, *a*, is formed on the working-face side of such disk.

C is a hanger, the upper end of which is pivotally secured to the front of an ear, *b*, secured to the under side of the table D, and this hanger is drawn to or from the face of such ear by means of the looped bolt *c*. At the lower end of this hanger there is a hollow step, E, to receive the end of the counter-shaft F, the upper end of which runs in a bearing, *d*, secured to the top of the table, and near the upper end of this shaft there is secured the friction-wheel G, which engages with a like wheel, H, upon the machine to be operated. Near the lower end of this shaft F there is sleeved another friction-wheel, I, upon the shaft, and by means of a feather, *e*, the friction-wheel is compelled to rotate with the shaft without interfering with the reciprocating motion on the shaft of said friction-wheel.

J is a treadle pivotally secured to the floor, the inner end of said treadle embracing the hub of the wheel I, as shown in Figs. 1 and 3, and so arranged that depressing the free end of the lever will raise said wheel I upon the shaft to the position shown in dotted outlines, or to any other point on the face of the disk B in Fig. 1, where it engages with the face of the friction-wheel A and transmits the motion of such wheel to the machine above. Pressure being thrown upon the toe end of the treadle, the wheel I slides down the shaft and out of contact with the wheel B in the recess *a* in the face thereof. In Fig. 3 this treadle is shown in a modified form, whereby the friction-wheel I is pulled upward upon the shaft by means of the bell-crank lever. I consider either one of these treadles an equivalent for the other. When the friction-wheel I is thrown out of engagement with the higher plane of the disk B it impinges against the hanger C above the step, thereby acting as a brake to stop the machine above. It will be seen that by this arrangement any desired speed within the capacity of the device may be obtained by the operator by holding the treadle and the friction-wheel I stationary at any point on the outer plane of the disk B.

What I claim as my invention is—

1. In a device for transmitting power, a revolving friction-wheel combined with a power-disk having a bearing-face upon which said wheel traverses radially to transmit different rates of speed, and central recess in which said wheel is forced to break the connection, as specified.

2. In a device for transmitting power, a revolving wheel combined with a power-disk having bearing-surface for said wheel, and a central recess in which the wheel is forced to break connections, and with means, substantially as described, for breaking the speed of said wheel when disconnected, as specified.

3. The combination of the power-disk B, having a bearing-surface and central recess, with the friction-wheel I and the treadle J, substantially as set forth.

4. The combination of the power-disk B, having bearing-surface and central recess, and the hanger C, with the reciprocating friction-wheel I and the treadle J, as set forth, and for the purpose specified.

5. The combination, with the main shaft A, of the disk B, hanger C, step E, shaft F, friction-wheels G I, and treadle J, the parts being constructed, arranged, and operating substantially as and for the purposes set forth.

EMMET L. SMITH.

Witnesses:
H. W. MOULTON,
H. E. CHAPIN.