(No Model.)

H. W. WHITE.

DRIVING MECHANISM FOR SEWING AND OTHER MACHINES.

No. 303,089. Patented Aug. 5, 1884.

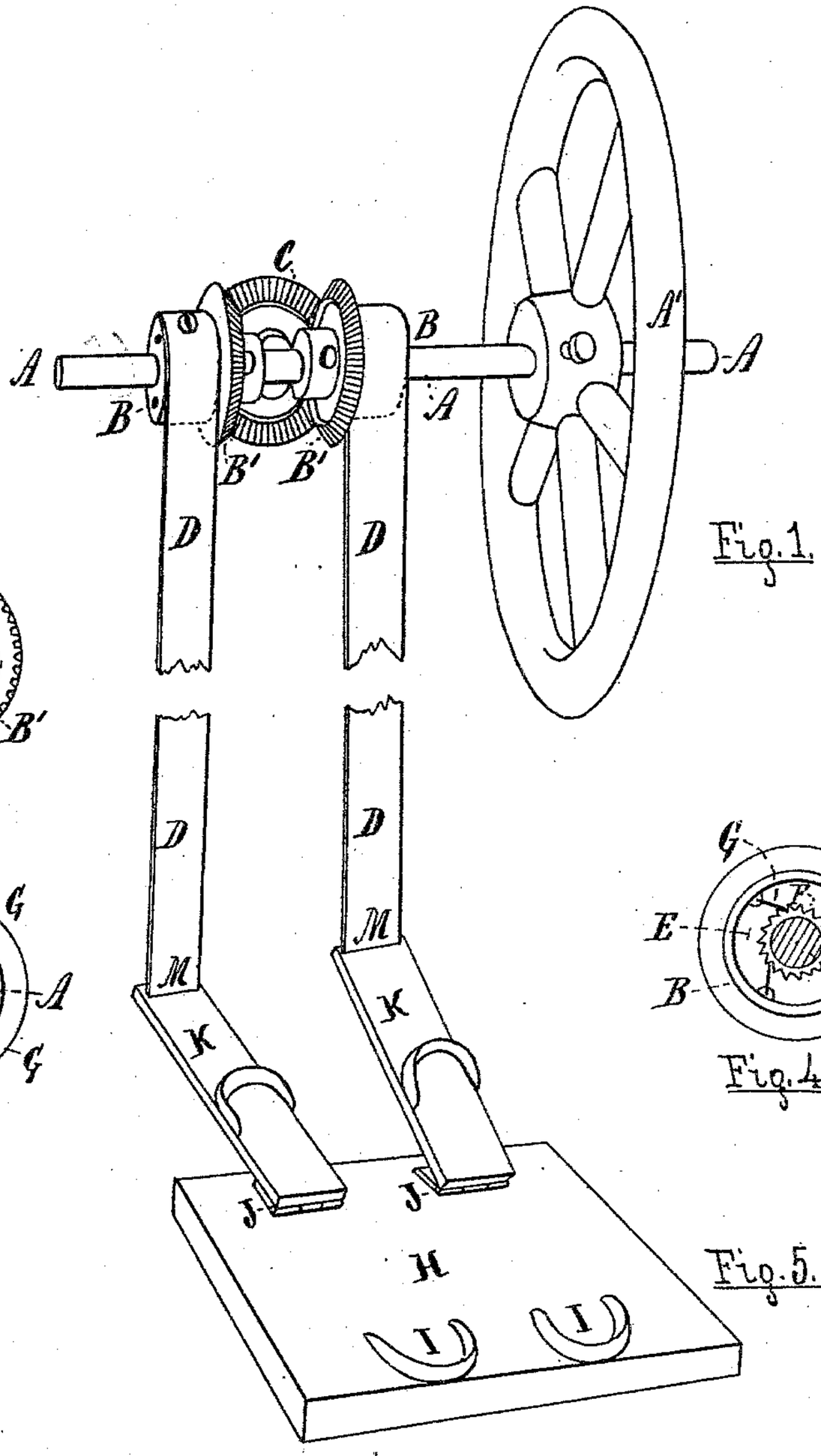

Fig. 1.

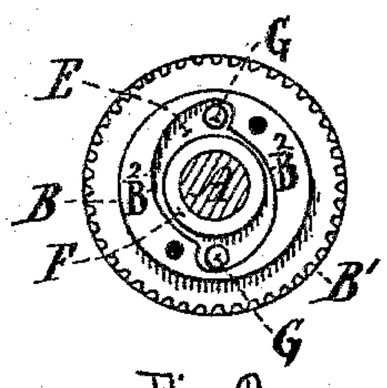

Fig. 2.

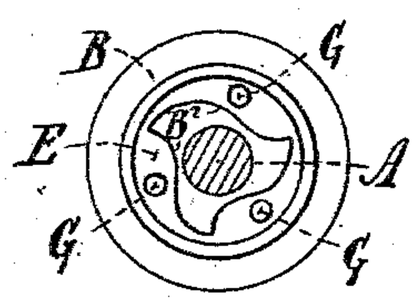

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses:

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HENRY WINSLOW WHITE, OF BROOKLYN, NEW YORK.

DRIVING MECHANISM FOR SEWING AND OTHER MACHINES.

SPECIFICATION forming part of Letters Patent No. 303,089, dated August 5, 1884.

Application filed May 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY WINSLOW WHITE, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Devices for Imparting Motion to Shafting of Sewing and other Machines, of which the following is a specification.

My invention consists of a hollow clutch-wheel arranged loosely upon the shaft, having its interior provided with devices acting in combination therewith, whereby motion may be imparted to the shaft in one direction, and a backward motion completely prevented.

It consists, also, in a combination of two of such clutch-wheels upon the shaft provided with gear-wheels, and a third intermediate gear-wheel, not on the shaft, engaging with both clutch-wheels, whereby the power applied to either clutch-wheel will be transmitted to the other alternately, so that constant motion can be applied to the shaft from two treadles alternately operated.

It further consists in a peculiar treadle, the treadle constructed with a bed, stationary, and having at its one end a heel stop or rest, and at its other end, extending outward, hinged to the upper surface of the bed, a lever, upon which is arranged at suitable distance a toe rest or stop, and further at proper distance, the end of said lever-arm is connected to a strap or rod communicating with the shaft of a sewing or other machine, as hereinafter set forth, the object of this construction of treadle being to relieve the foot, preventing fatigue, and preserving health.

It further consists in the combination of two such treadles with the two clutch-wheels and intermediate gearing, hereinbefore mentioned, by straps or belts, whereby continuous rotary motion may be imparted to a shaft by moving the treadles alternately, as hereinafter set forth.

In the accompanying drawings, Figure 1 is a perspective view, showing a piece of shafting provided with a fly-wheel, and having thereon two of my clutch-wheels gearing with intermediate gear-wheel. Straps are shown to connect with treadles below. Fig. 2 is an end elevation of the clutch or belt wheel, the cap removed and the interior exposed, showing the shape of the hollow and device within the same. Fig. 3 represents a similar view of an equivalent device. Fig. 4 is a similar view illustrating another application of the principle. Fig. 5 is a perspective view of the treadles with straps attached. This view, in connection with Fig. 1, shows the combination of treadles with the clutch-gearing, the straps being broken away to shorten up the drawing.

A represents the shaft; A′, the fly-wheel; B, the clutch; B′, the gearing of the clutch; C, the intermediate gear-wheel; D, the straps secured to the clutch and having lower ends attached to treadles. The clutches are on the shaft and may be made to operate without the gearing, but to get continuous motion alternately imparted, the intermediate wheel is used with gearing. This latter gear-wheel may be located above the others or behind, as shown, or beneath, or in front, as may be most suitable to the machine of which they may form a part.

E represents a hollow of the clutch-wheel formed with inclined surface B^2.

F represents a rough medium upon which the device G operates in turning the shaft. This may be of rubber tubing or any other suitable material, gutta-percha, or even metal, so that it will answer its purpose.

G represents the device for communicating motion from the revolving wheel to the shaft. It may be a roller, ball, or any other suitable medium which will be enabled, when in the clutch-wheel, to catch or hold upon the shaft for forward motion, and not hold in backward motion or when the clutch is stationary. When two clutch-wheels are used with the intermediate gear-wheel, one clutch is revolving forward while the other is revolving backward. By this arrangement only one has a grip upon the shaft, and thus they are operated alternately by the motion imparted from the treadles, one strap being unwound while the other is winding up, to get the downward motion of the treadle.

H represents the stationary bed of the treadle having thereon the heel rest or stop I.

At J is hinged the lever K, having thereon the toe rest or stop L, and at M is attached the strap D, connecting with the clutch-wheel B by several turns, and its upper end then fastened thereto. As the treadles are brought down alternately the clutch-wheels are re-

volved by the unwinding of the strap D thereon.

These treadles are easy to the foot, not fatiguing as those heretofore in use, therefore more conducive to health, the force being given by the toes and forward part of the foot.

What I claim as my invention, and desire to claim and secure by Letters Patent of the United States is—

1. The shaft-clutch B, consisting of gear-wheel B′, provided with the hollow E, having within the rollers G G, wedging-surface B^2, and presser F, combined essentially as shown and described.

2. A hollow, E, loosely placed upon a shaft, A, having interior devices consisting of free rollers G, and wedging or eccentric surface or track B^2, in combination, substantially as shown and described.

3. A belt-wheel, B, arranged loosely upon a shaft, A, and having its interior provided with clutching devices in combination, consisting of wedging-surface B^2 and moving device G arranged therein, substantially as shown and described.

4. The treadle consisting of bed H, provided with the heel-stop I, lever K, provided with toe-stop L, the bed resting stationary, substantially as shown and described.

5. In combination with shaft-clutches B and gear-wheel C, the treadles K, connected therewith by straps or belts, substantially as shown and described.

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