No. 700,532. Patented May 20, 1902.

S. MILLER.

POWER TRANSMITTER.

(Application filed Mar. 5, 1902.)

(No Model.)

Fig. 1.

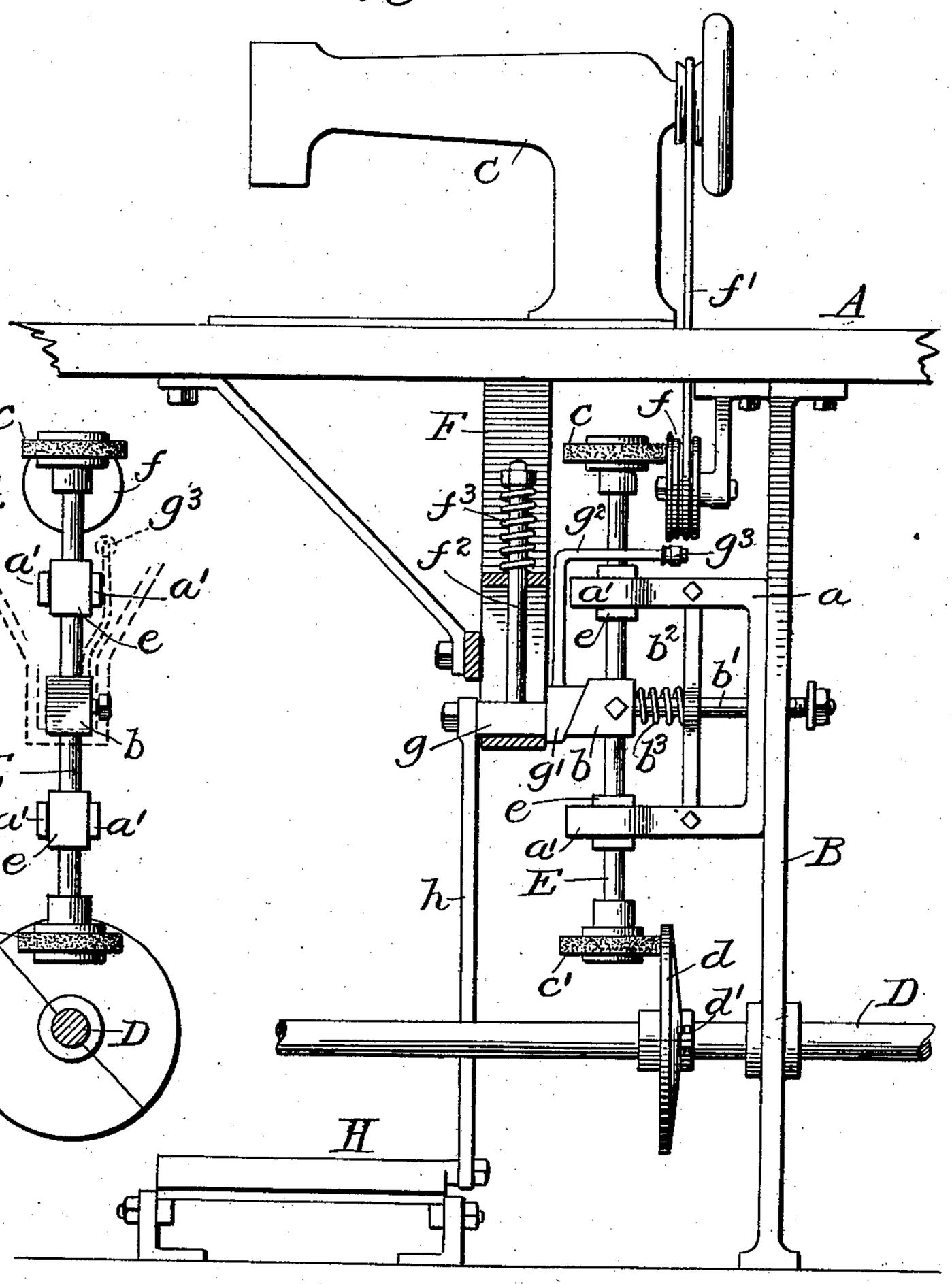
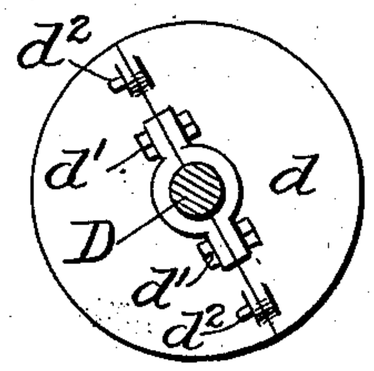


Fig. 2.

Fig. 3.



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POWER-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 700,532, dated May 20, 1902.

Application filed March 5, 1902. Serial No. 96,825. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL MILLER, a citizen of the United States, and a resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Power-Transmitters for Sewing-Machines, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to improvements in mechanisms for transmitting power from a continuously-revolving driving-shaft to sewing or other machines, which are adapted to be connected to or disconnected therefrom at will. In devices of this kind it is desirable, among other things, to have the top of the work-table entirely free from machinery or mechanism which would interfere with or be likely to soil the material operated upon. By means of the combinations and parts hereinafter specifically pointed out I have produced a transmitter which not only possesses this desirable feature, but which is cheap to construct, easy to install, which requires a minimum amount of power to operate, and which is at all times positive and certain in its operation.

In the accompanying drawings, Figure 1 is a front elevation; Fig. 2, a vertical view of the transmitting-shaft, bearings, &c.; and Fig. 3 is a detail view showing the construction of the main or driving disk.

The same reference-letters indicate like parts in all the views.

A represents a portion of the power-table, B being one of the standards thereof.

C represents in outline a sewing or other machine adapted to be periodically connected to the source of power.

D is the main power-shaft, upon which is secured in such a manner as to rotate therewith the disk *d*. The disk *d* is composed of two halves, adapted to be secured together by bolts *d'* or any other suitable means, the pins or fingers d^2, secured to one of the halves of the disk, fitting into proper recesses in the other half thereof, serving to keep the parts in proper position.

a is a U-shaped frame adapted to be bolted or secured by other suitable means to the standard B. The ends of the frame are forked, as at *a'*, and are adapted to receive the bearings *e* of the transmitter-shaft E. The transmitter-shaft revolving freely in its bearings also passes through a wedge-faced block *b*, to which is secured a guide-rod *b'*, passing through a brace b^2, secured to the frame *a* and also passing through the frame *a* and table-standard B; and a spring b^3, disposed between the wedge-faced block *b* and brace b^2 tends to force the block and accompanying shaft outwardly, while the rod *b'*, having but a longitudinal sliding motion, allows only the same amount of movement to each end of the transmitter-shaft, and thus prevents any tendency to bind or to become displaced. Upon the ends of the transmitter-shaft are secured the friction contact-wheels *c* and *c'*, the contact-surfaces of which are provided with any suitable friction material—such as leather, rubber, or the like. When in operation, the wheel *c'* is adapted to contact with and be operated by the disk *d*, while the wheel *c* is adapted to contact with and operate the disk-faced pulley *f*, mounted in suitable bearings to the under side of the table and connected by a belt *f'* to the driving-wheel of the machine.

To the under side of the table is secured the frame F, in which is mounted the vertical sliding block *g*, to which is secured the cam *g'*. The block *g* slides vertically in the frame F and carries a rod f^2, on which is a spring f^3, bearing against a cross-piece in the frame, and a nut on the rod tends to force the block *g* and cam *g'* upwardly. A rod g^2, attached to the wedge *g'*, carries a friction device g^3 at its end, which is adapted, when moved upwardly, to contact with the pulley *f* and retard its movement. The sliding block *g* is connected by any suitable means, such as the link *h*, with the treadle H.

From the foregoing specification the operation of the device will be obvious. When in normal position, the spring f^3 keeps the block *g* in its highest position and the cam *g'* out of contact with the block *b*. The spring b^3 forces the transmitter-shaft, bearings, &c., outwardly, and the friction-wheels *c c'* are thus out of contact with the disk-pulleys *f* and disk *d*. The main shaft and disk rotate

continuously, while the machine on the table is now at rest, the friction device g^3 tending to prevent any rotation of pulley f. When the treadle H is depressed, the block g and cam g' are forced downward, the cam g' bears against the block b and forces the transmitter-shaft laterally, and thus forces the friction-wheels on the transmitter-shaft in contact with the disk and pulley. Motion is thus imparted to the machine from the main shaft, the friction device g^3 being withdrawn from operation and permitting the pulley f to rotate freely. It will be observed that the movement of the treadle is comparatively large when compared with the lateral movement of the transmitter-shaft and accompanying mechanisms owing to the small degree of inclination of the cam-surfaces of b and g'. For this reason very little pressure is necessary to force the friction-wheels into contact with the coöperating disks. By constructing the disks d of two pieces it may be applied to a driving-shaft without necessitating the removal of the shaft from the table, which in many cases would be very undesirable.

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

1. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, and means for moving the cam whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks, substantially as described.

2. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, a friction device connected to and operating with said cam, and means for moving the cam whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks substantially as described.

3. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, a U-shaped frame provided with forked or Y-shaped ends, within which the said bearings move, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, and means for moving the cam whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks substantially as described.

4. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, a U-shaped frame provided with forked or Y-shaped ends, within which the said bearings move, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, a friction device connected to and operating with said cam, and means for moving the cam whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks substantially as described.

5. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, a rod connected to said cam and provided with a brake apparatus adapted to coöperate with the driven disk, and means for moving the cam and brake whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks and the brake withdrawn, substantially as described.

6. A power-transmitter located entirely below the work-table, comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, a braking device connected to and operating with said cam, means for moving the cam whereby the transmitter-shaft is shifted laterally and the friction-wheels brought into contact with the driving and driven disks, and means connecting the driven disk with a sewing-machine, substantially as described.

7. A power-transmitter located entirely below the work-table, comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, a U-shaped frame provided with forked or Y-shaped ends, within which the said bearings move, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, means for moving the cam whereby the transmitter-shaft is shifted and the friction-wheels brought into contact with the driving and driven disks, and means connecting the driven disk with the sewing-machine, substantially as described.

8. A power-transmitter comprising a driving-disk, a driven disk, a transmitter-shaft provided with movable bearings, a U-shaped frame provided with forked or Y-shaped ends, within which the said bearings move, friction-wheels on said shaft, a wedge-faced block connected to and movable with said shaft, a cam adapted to coöperate with the wedge-faced block, a rod connected to said cam and provided with a brake apparatus adapted to coöperate with the driven disk,

and means for moving the cam and brake whereby the transmitter-shaft is moved laterally and the friction-wheels brought into contact with the driving and driven disks and the brake withdrawn, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

SAMUEL MILLER.

Witnesses:
SIGMOND SEILLE,
JAMES E. CARRAHER.