No. 671,655. Patented Apr. 9, 1901.

F. T. OVERROCKER.

POWER TRANSMITTING MECHANISM.

(Application filed Dec. 27, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

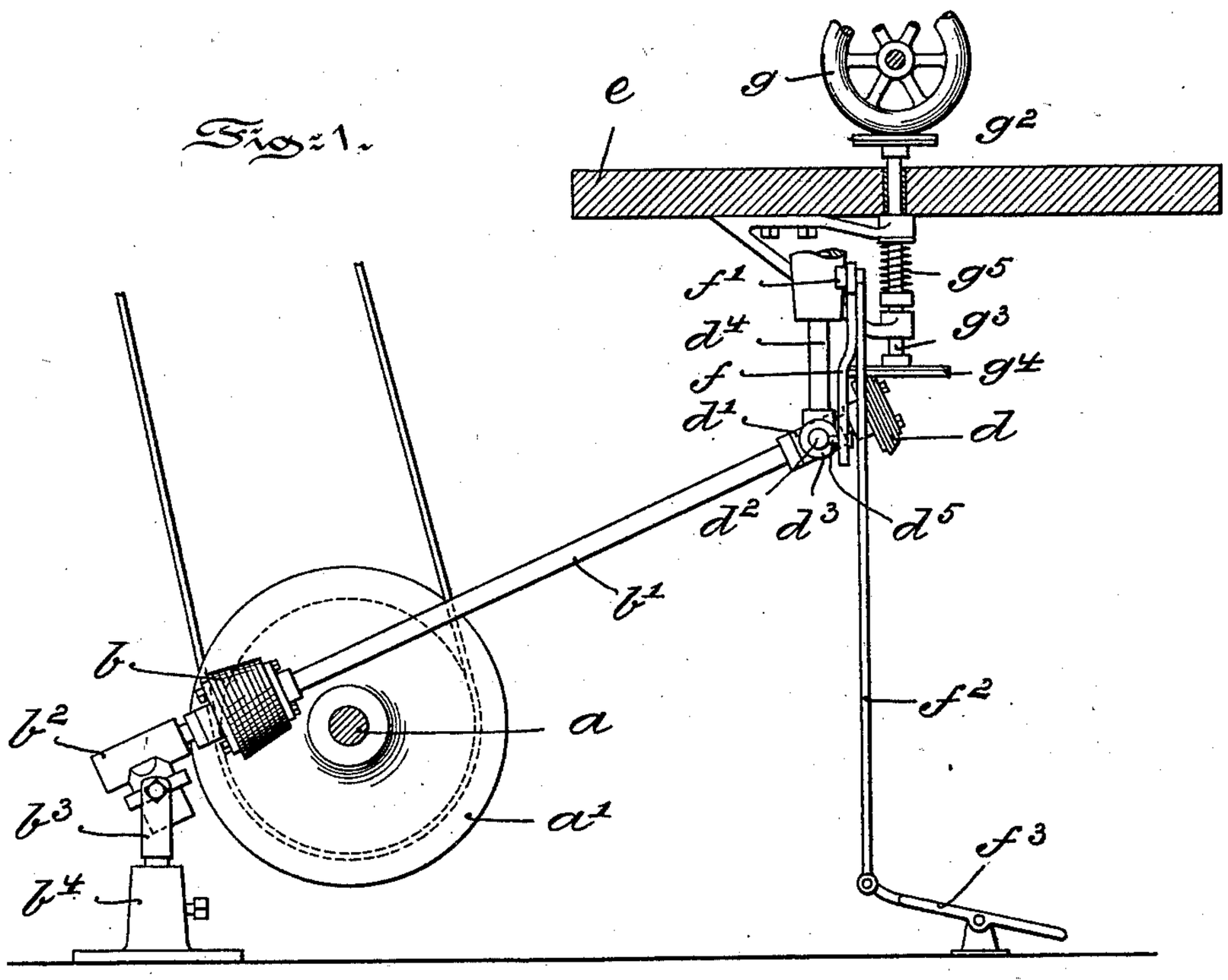

Fig. 2.

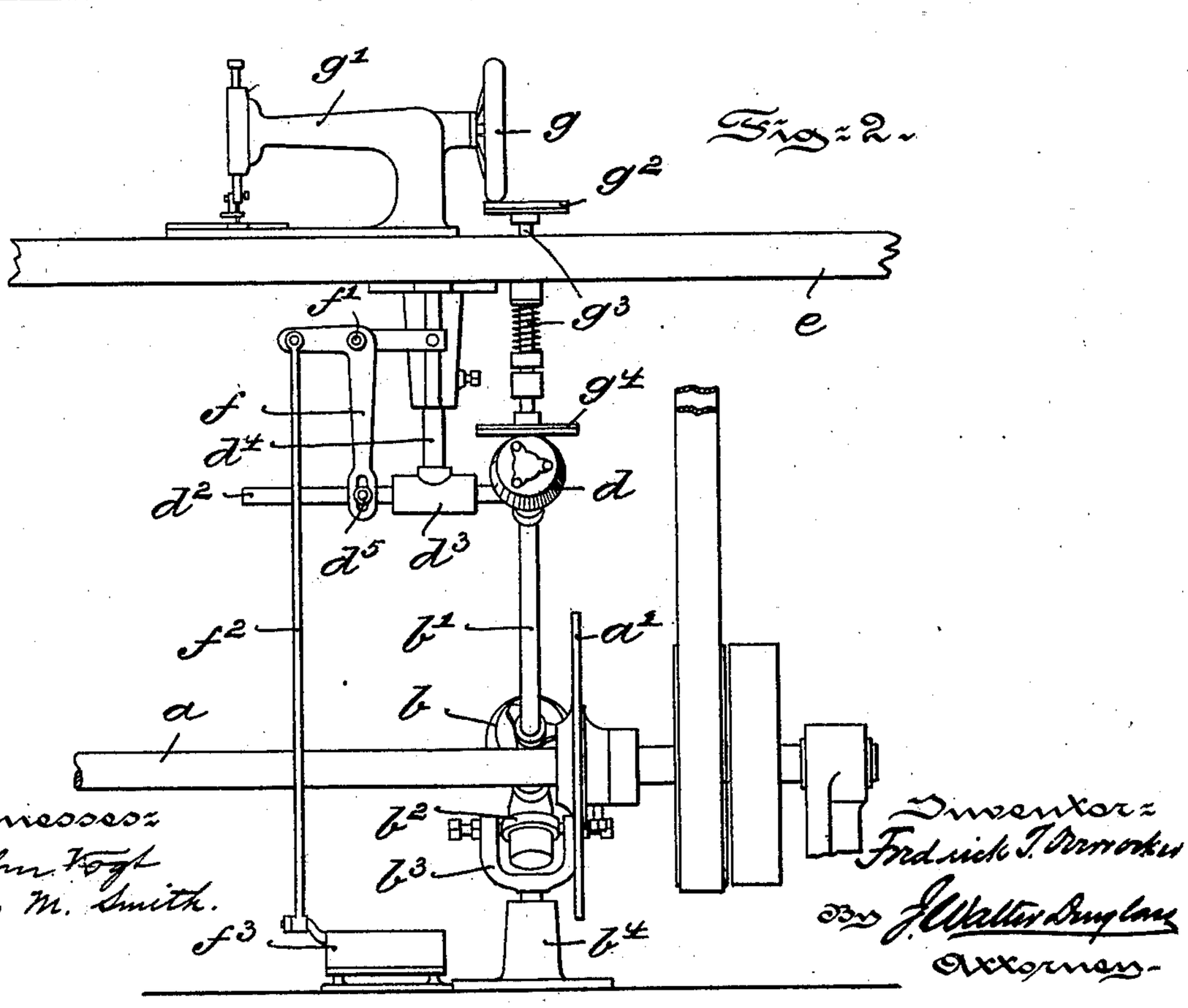

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Fig. 3.

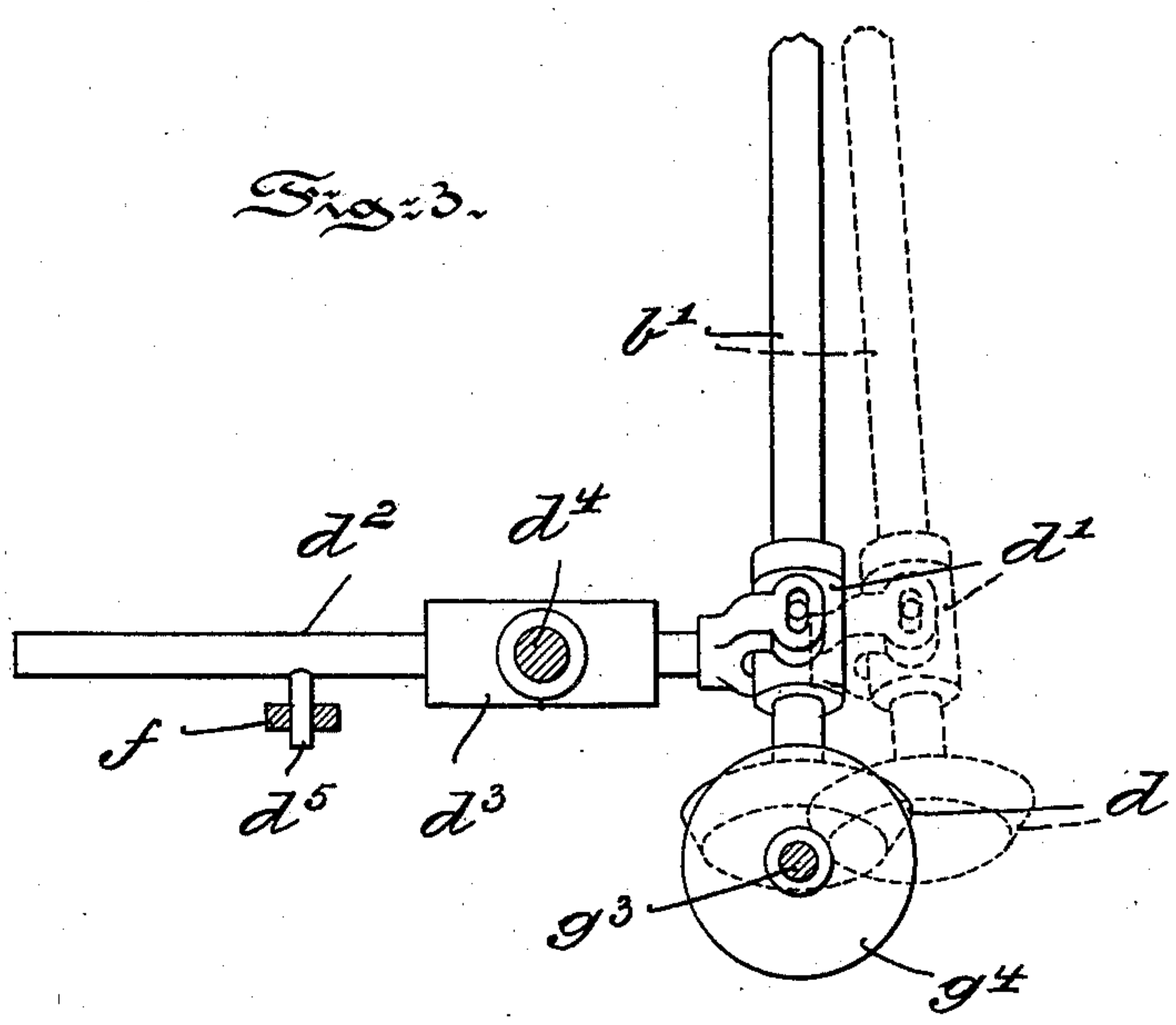
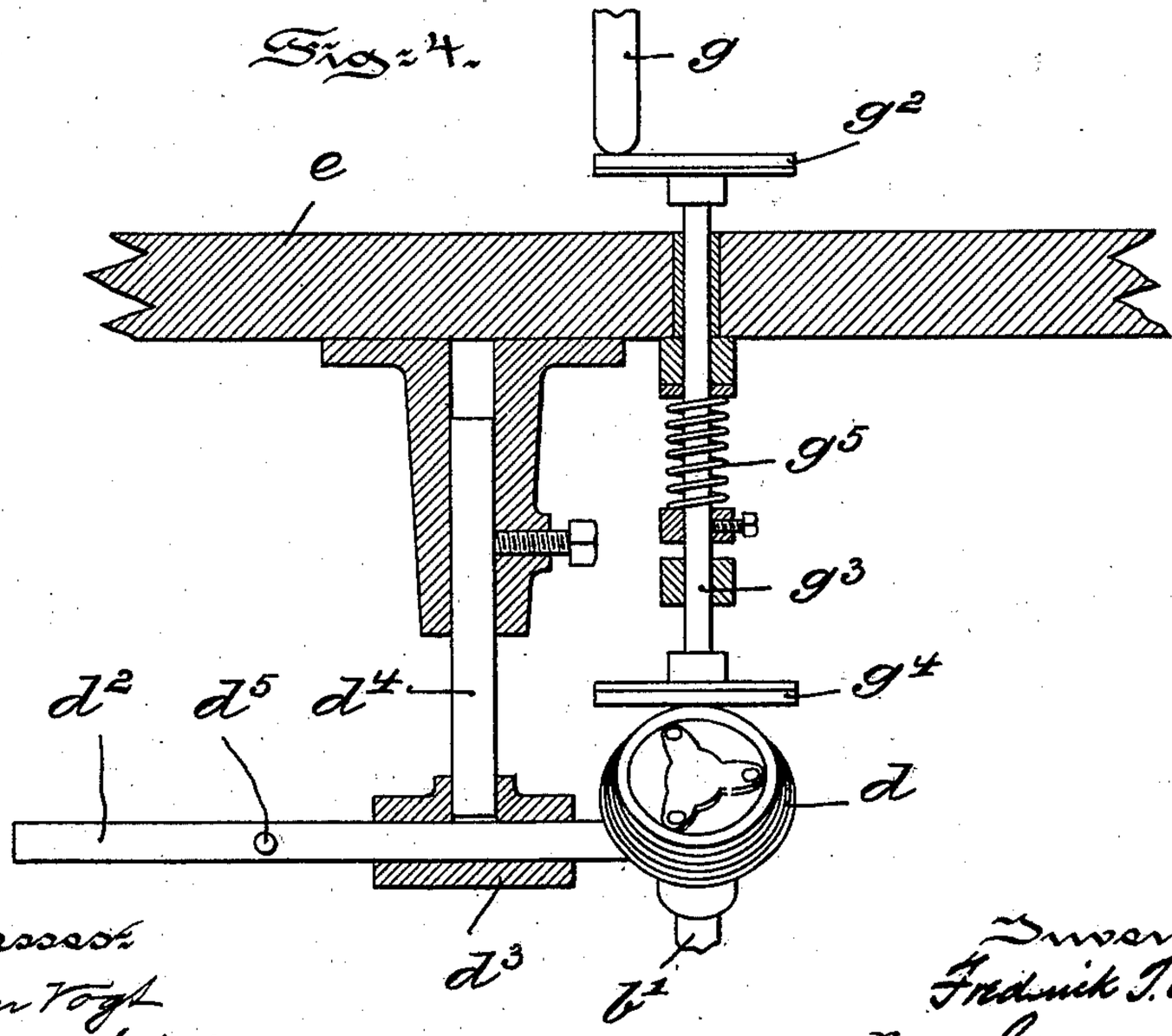


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDRICK T. OVERROCKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO ALONZO W. ALLEN, OF SAME PLACE.

POWER-TRANSMITTING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 671,655, dated April 9, 1901.

Application filed December 27, 1900. Serial No. 41,235. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK T. OVERROCKER, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Power-Transmitting Mechanism for Sewing and other Machines, of which the following is a specification.

My invention has relation to a mechanism for transmitting power from a power-shaft to a sewing or other similar machine, and in such connection it relates more particularly to the construction and arrangement of such a mechanism.

The principal object of my invention is to provide a power-transmitting mechanism for power-driven machines which is adapted to be readily controlled and regulated by the operator and also adapted to be instantly disconnected from the machine to permit of the immediate stoppage of said machine.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is an end elevational view of a power-transmitting mechanism embodying main features of my invention. Fig. 2 is a front elevational view thereof, and Figs. 3 and 4 are enlarged detail views of the upper portion of the transmitting mechanism.

Referring to the drawings, a represents the main or power shaft, upon which is secured a friction wheel or disk a'. Adjacent to one face of this wheel or disk a is located a friction-wheel b, the face of which, by preference, is cone-shaped. This friction-wheel b is secured to a shaft b', supported at its lower end in a bearing b^2, adapted to swing in a vertical plane in a fork or yoke b^3, which fork or yoke is adapted to swing in a horizontal plane in a bracket or support b^4. The lower end of the shaft b' is thus supported by a swiveled connection which permits of the rotation of the shaft b', as well as a vertical and sidewise or lateral movement of said shaft b'. The upper end of the shaft b' is provided with a second friction-wheel d, and intermediate of the two wheels b and d the shaft b' is supported in a collar or sleeve d'. To the sleeve d' is connected by a pin-and-slot arrangement (illustrated in Fig. 3) a forked arm d^2, adapted to slide back and forth in a bearing d^3, adjustably supported by a rod d^4 below the table e of the machine to be driven. The arm d^2 is adapted to be shifted in the bearing d^3 by means of a bell crank lever f, one end of which is slotted and connected by a pin d^5 to said arm d^2. The bell-crank or angle lever f is pivoted, as at f', to a fixed part of the machine, and the other end of the lever f is connected by a link f^2 with a treadle f^3 under the control of the operator. The driving-wheel g of the machine g' is arranged above the upper friction-disk g^2, supported by and turning with the vertically-arranged shaft g^3. To the lower end of the shaft g^3 is secured a second friction-disk g^4, arranged adjacent to and adapted to be engaged by the upper friction-wheel d of the shaft b' when the machine g is to be operated. The shaft g^3 and the two friction-disks g^2 and g^4 are adapted to be normally depressed under the tension of a spring g^5. The function of the spring g^5 is twofold—namely, to press the lower disk g^4 firmly down upon the friction-wheel d on the shaft b' and to lower the upper disk g^2 out of engagement with the driving-wheel g of the machine g' when the lower disk g^4 is out of engagement with the friction-wheel d.

The operation of the mechanism is as follows: The motion of the friction wheel or disk a' on the shaft a is transmitted through the friction-wheel b to the shaft b' and to the upper friction-wheel d. When this wheel d rests under the disk g^4 of the shaft g^3, then the said shaft and the disk g^2 are driven, and consequently the driving-wheel g of the machine g' is operated. The shaft b' and its upper friction-wheel d are both adapted to be shifted by the treadle f^3 and connections, so as to bring the friction-wheel d under the disk g^4 at its periphery or toward the center of said disk g^4. This movement of the friction-wheel d will result by reason of the fact that it is carried at the free end of the shaft b', the other end of said shaft oscillating in a swiveled bearing b^3, and hence as the shaft b' is shifted the wheel d travels in the arc of a circle. When, therefore, the shaft b' is

shifted in one direction, the wheel d approaches and also clears the periphery of the disk g^4, as indicated by dotted lines at the right of Fig. 3. When the shaft b' is shifted in an opposite direction, the wheel d in traveling through the arc approaches the axis g^3 of the disk g^4. The manipulation of the treadle f^3 will thus serve to regulate the speed of the disk g^4, and consequently of the shaft g^3, upper disk g^2, and driving-wheel g, since if the friction-wheel d rests on or near the periphery of the disk g^4 the speed of the said disk will be less than if the wheel d rests at or near the center of the disk. The wheel d may be shifted by the treadle f^3 and auxiliaries, so as to clear the disk g^4, in which instance the upper disk g^2 will be withdrawn by the spring g^5 from the driving-wheel g and the machine g' can be instantly stopped by the operator.

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

1. In a device of the character described, a main or power shaft, a second shaft in frictional connection at one end with the power-shaft, a driving-wheel for the machine to be operated, a vertical shaft and friction-disk adapted to drive said driving-wheel, and a second friction-disk on said vertical shaft adapted to be frictionally driven by the second shaft.

2. In a device of the character described, a main or power shaft, an inclined shaft, a swiveled bearing at one end of said inclined shaft and in frictional connection with the power-shaft, a friction-disk and shaft adapted to operate the driving-wheel of the machine, said disk being frictionally connected with the upper end of the inclined shaft, and means for laterally shifting the inclined shaft to increase or decrease the speed of the friction-disk and shaft.

3. In a device of the character described, in combination with a driving-wheel and means for operating the same, of a friction-disk controlling said means, a main power-shaft, a second shaft frictionally connecting the power-shaft with the friction-disk, and means for shifting said second shaft to cause it to approach toward or recede from the center of said friction-disk, whereby the speed of said disk may be varied.

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

FREDK. T. OVERROCKER.

Witnesses:

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