Sept. 23, 1924.

R. M. MILLER

1,509,683

DRIVING CONNECTING MEANS

Filed Dec. 24, 1919

Fig. 1.

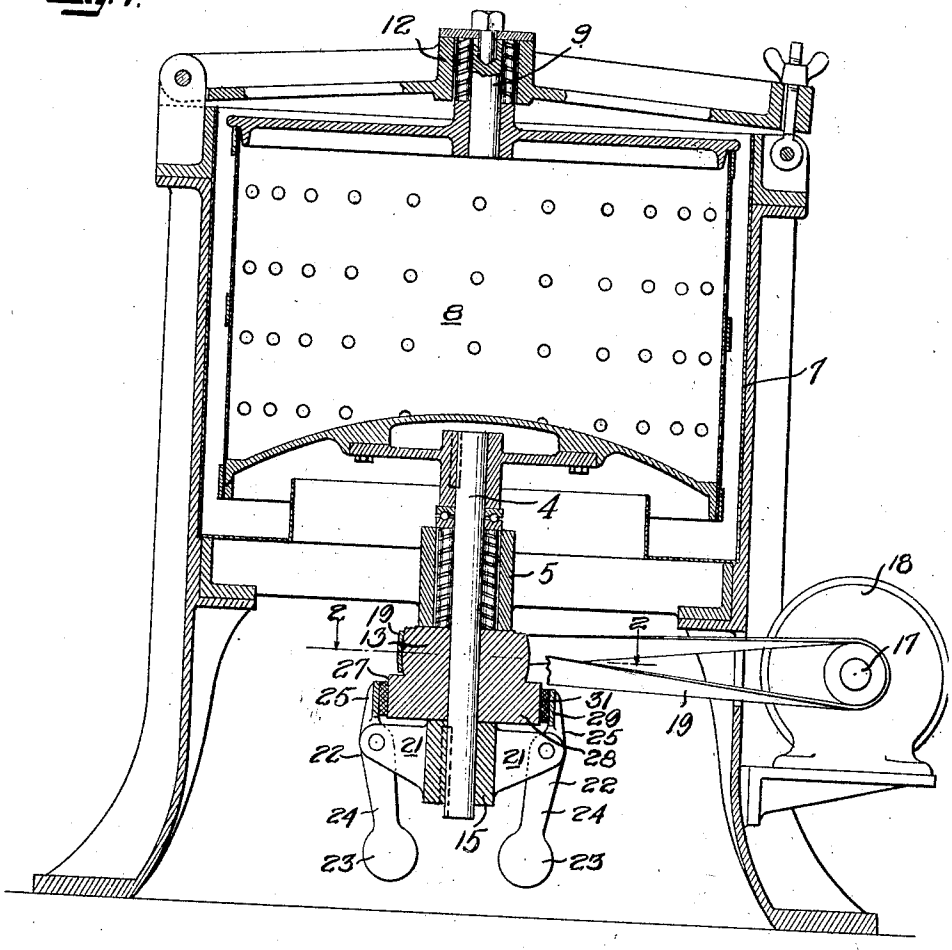
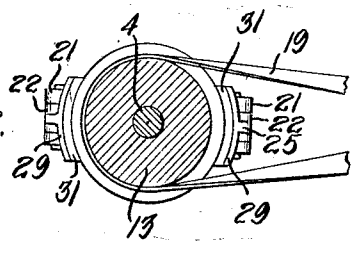


Fig. 2.



Witness

J. B. Gardner

INVENTOR

RALPH M. MILLER

By White & Frost.

his ATTORNEYS

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UNITED STATES PATENT OFFICE.

RALPH M. MILLER, OF OAKLAND, CALIFORNIA.

DRIVING CONNECTING MEANS.

Application filed December 24, 1919. Serial No. 347,170.

To all whom it may concern:

Be it known that I, RALPH M. MILLER, a citizen of the United States, and a resident of Oakland, county of Alameda, and State of California, have invented a new and useful Driving Connecting Means, of which the following is a specification.

My invention relates to mechanism for operatively connecting a driving element to a driven element, particularly where it is desired that the load of the driven element be transmitted to the driving element vary gradually.

An object of the invention is to provide a driving connection that will enable the driving element to pick up the starting load so gradually that a motor may be used which only possesses sufficient power to carry the load after the driven element has attained full speed.

Another object of the invention is to provide a drive connection in which the time required to effect complete engagement between the driving element and the driven element varies directly with the load.

A further object of the invention is to provide mechanism of the character described which will prevent the motor from being over-loaded.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of my invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawings and description, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claim.

Referring to said drawings:

Fig. 1 is a vertical cross-sectional view of my apparatus shown in connection with a clothes drying machine and electric motor.

Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1.

Briefly expressed my invention comprises a driving element which is arranged to be practically continually engaged frictionally by connecting mechanism that is fixed to the driven element.

A detailed description of my invention follows:

In the present embodiment of the invention the driven shaft 4 is vertically disposed in the bearing 5 formed in the frame of the clothes drying machine 7. The upper end of the shaft is secured to the rotatable clothes receptacle 8 which is further supported by the aligned complimentary shaft 9 and bearing 12 removably positioned at the top of the receptacle.

As shown in the present form of the invention the driving element comprises a pulley 13 which is mounted for rotation directly on the driven shaft 4. The shaft 4 extends below the pulley 13 and is provided with a collar 15 upon which the pulley may rest. The pulley is preferably connected to the shaft 17 of the electric motor 18 or any other suitable source of power by the belt 19.

Connecting mechanism is provided for the pulley 13 and the shaft 4 whereby the shaft is enabled to attain the speed of the pulley gradually and from a relatively stationary position upon the rotation of the pulley. Pivoted to ears 21 of the collar 15 which is fast to the shaft 4, are one or more levers 22 having a weight 23 formed on one of the arms 24 thereof. The free arm 25 of each lever is arranged to engage the cylindrical face 27 of the pulley extension 28 and is formed with a segmental shoe 29 having a wearing lining 31 provided on its inner face. The levers in the present instance are so formed and positioned that they press against the pulley in frictional engagement therewith continually, however this is not absolutely essential, it being of greater importance that the levers should frictionally engage the pulley at the time it is desired to effect a connection between the pulley and shaft 4 and thereafter.

To effect the operation of the apparatus the motor is started thereby causing the pulley to attain full speed almost instantly. As hereinbefore stated the levers are in frictional engagement with the pulley so that as soon as the latter is rotated the levers tend to rotate with it. However the initial engagement between the two members is only sufficient to cause what might be termed a slipping connection, but nevertheless the driven shaft is forced to rotate slightly. After the shaft begins to rotate the engagement between the levers and the pulley becomes more positive thereby enabling the driven shaft to rotate faster and faster. Meanwhile the rotation of the driven shaft causes the weighted arms of the lever to be

thrown outwardly thereby strengthening the engagement between pulley and shaft at each revolution of the latter until a positive connection between the two is effected and maintained.

I claim:

In a device of the character described, a vertically disposed driven shaft, a driving element mounted for rotation on said shaft and having a cylindrical outer face, a plurality of levers pivotally supported on said driven shaft and having one arm weighted in excess of the other, friction shoes on the other arms of said levers normally held in engagement with the cylindrical surface of said driving element whereby said driven element is caused to obtain the speed of the driving element gradually and from a substantially relatively stationary condition upon the rotation of said element.

In testimony whereof I have hereunto set my hand at Oakland, California, this 29th day of November, 1919.

RALPH M. MILLER.

In presence of—
J. B. GARDNER,
L. L. M. SALSBURY.