

A. J. CHARLTON.
MOTOR STARTER.
APPLICATION FILED SEPT. 23, 1911.

1,047,746.

Patented Dec. 17, 1912.

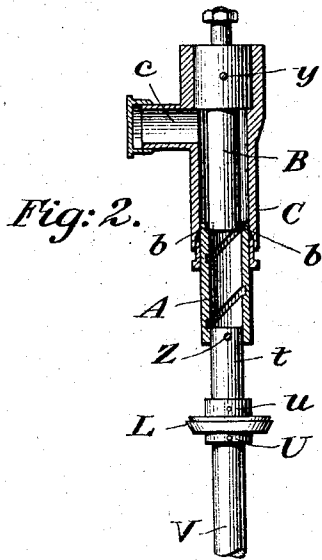


Fig. 2.

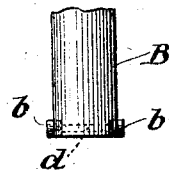


Fig. 3.

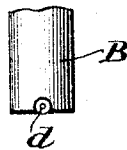


Fig. 4.

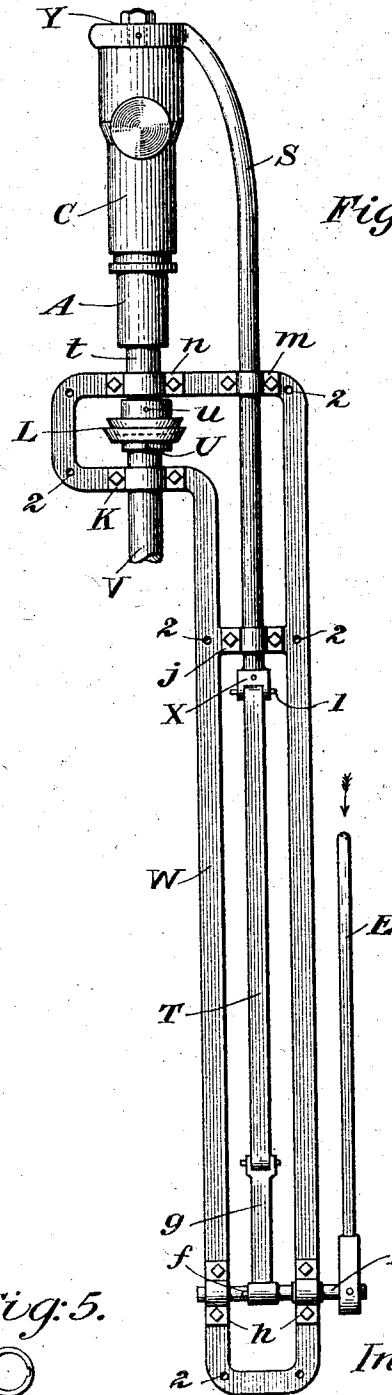
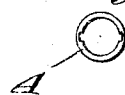


Fig. 1.

Fig. 5.



Witnesses:

John Lillio
P. B. Brady

Inventor:

Albert John Charlton

UNITED STATES PATENT OFFICE.

ALBERT JOHN CHARLTON, OF LOWDEN, IOWA.

MOTOR-STARTER.

1,047,746.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed September 23, 1911. Serial No. 650,990.

To all whom it may concern:

Be it known that I, ALBERT J. CHARLTON, a citizen of the United States, and a resident of Lowden, in the county of Cedar and State of Iowa, have invented an Improved Motor-Startér, of which the following is a specification.

My invention is an improvement in that class of motor starters in which a spiral member coacts with another, one being rotatable, so that by sliding or rectilinear adjustment of one of the members, the other one is rotated, with the effect of imparting rotation to the motor shaft.

The details of construction, combination, and operation of parts are as hereinafter described, and illustrated in the accompanying drawing, in which—

Figure 1 is a plan view of the apparatus comprising a frame and movable parts arranged thereon. Fig. 2 is a sectional view of a portion of the apparatus. Figs. 3 and 4 are different side views of one end of the baffling pin or device which is directly connected with the motor shaft for rotating it. Fig. 5 is an end view of the spirally grooved sleeve connected with the motor shaft.

The movable parts of the apparatus are attached to, and supported upon, an L-shaped skeleton frame W, which is, in practice, arranged horizontally and attached to the motor by screws inserted at 2. A hand lever E is keyed on a transverse shaft F arranged in bearings h, and a crank arm g is keyed to such shaft at f. The said crank arm is connected at e, by a link T, with a curved rod S which is adapted to slide in guides j and m and whose outer end is attached to the baffling pin B—see Fig. 2.

By shifting the lever E, or pulling it toward the operator, in the direction indicated by the arrow in Fig. 1, the baffling pin will obviously be moved lengthwise, and it is this movement which effects the desired rotation of the motor shaft B. The latter is shown journaled at K in the frame W, and in alinement with said shaft is a short shaft t which is adapted to slide in a bearing n in frame W. The opposed ends of the two shafts V and t are provided with members adapted to form a friction clutch L, the hubs of the

clutch members being secured to the respective shafts by pins inserted at U and u.

A sleeve A, having, interiorly, spiral grooves, is secured by a pin Z to the outer end of the stub shaft t and in alinement therewith. The baffling pin B is provided at its inner end with opposite projections formed of rollers b journaled on a transverse pin d. The pin B is in alinement with the sleeve A and the rollers b are adapted to ride in the spiral groove of the latter. The outer portion of said pin is provided with a cylindrical enlargement, and the whole, except the reduced head shown in Fig. 2, is enclosed by a casing C which is provided on its upper side with a tubular extension c having a removable cap which permits the convenient insertion of a lubricant. The sleeve C thus serves not only as a holder for lubricant, but as a means for excluding dust and dirt from the spirally grooved bearing.

The outer end of the slidable, curved rod S, before described, is attached to the baffling pin at Y and secured by means of a nut, as shown.

It is obvious that, by pulling the lever E, the baffling pin B will be thrust into the sleeve A, and the engagement of the rollers b with the spiral grooves of the sleeve will cause the latter to move endwise until the outer cone clutch engages with the inner or concave member, and then, the end thrust being arrested, the sleeve A will be revolved more or less according to the distance which the baffling pin is forced into it; and this rotary motion of the sleeve A being imparted to the stub shaft t, will be transmitted through the engaged clutch to the motor shaft B, which, in this case, represents the ordinary crank shaft of a motor. When the motor is thus started, the clutch L will be disengaged or released by reason of the sleeve sliding back sufficiently on the baffling pin rollers b, which occurs in consequence of the more rapid motion of the crank-shaft B.

What I claim is:—

In a motor starter of the type indicated, the combination with a supporting frame and motor and stub shafts journaled therein in due alinement and provided at their meeting ends with engaging members, of a spi-

rally grooved sleeve attached to the stub shaft in alinement therewith, a baffling pin alined with the shaft and having lateral projections adapted to ride in the grooves, a
5 curved slidable rod connected with the head of the baffling pin, and a lever and mechanism connecting it with said rod for effect-

ing first the engagement of the clutch and then the rotation of the alined shafts, substantially as described.

ALBERT JOHN CHARLTON.

Witnesses:

WM. GILLIS,

H. H. PETERSEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."