

(No Model.)

E. McNERNEY.
ELECTRIC MOTOR.

No. 599,913.

Patented Mar. 1, 1898.

Fig. 1.

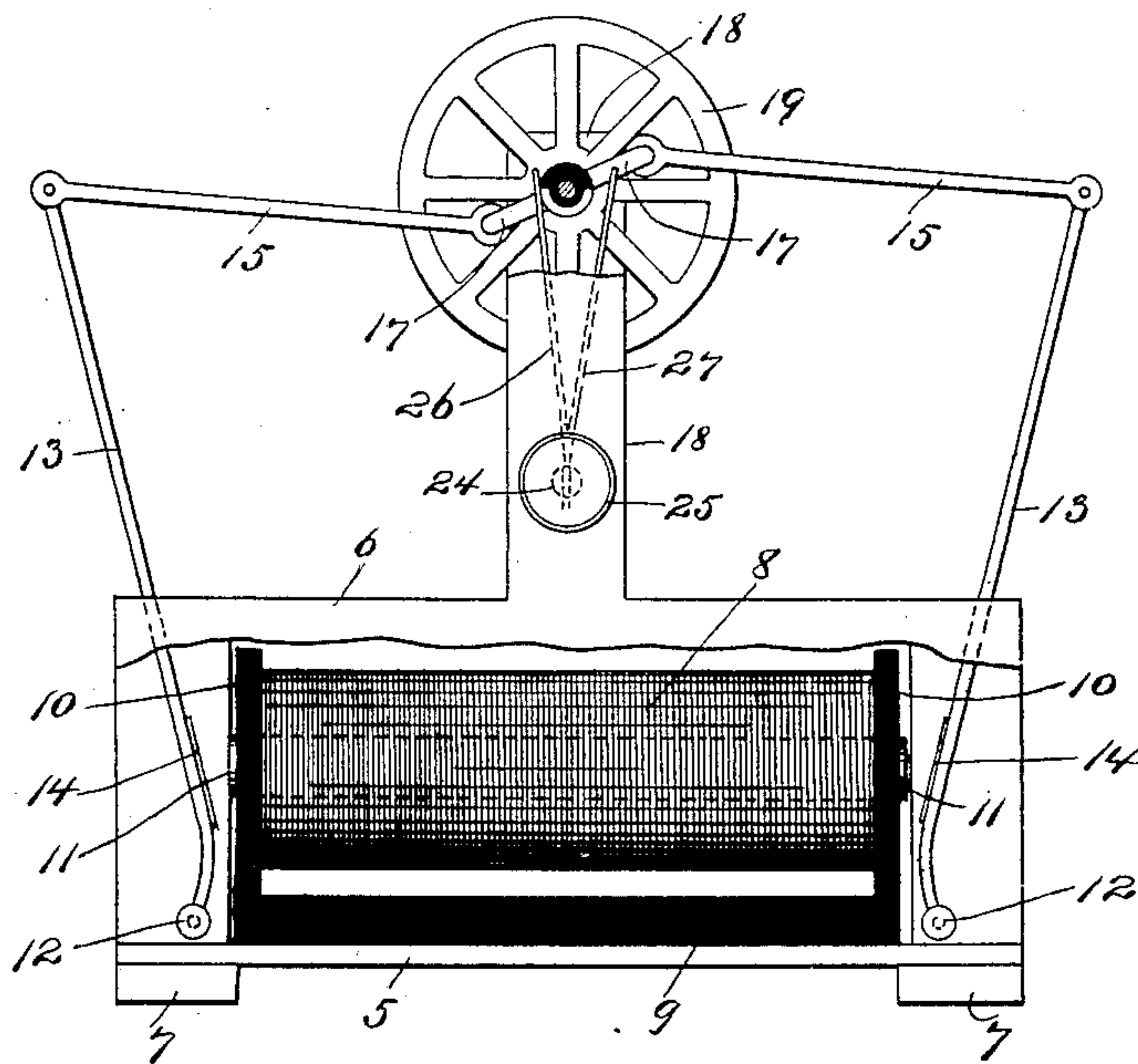
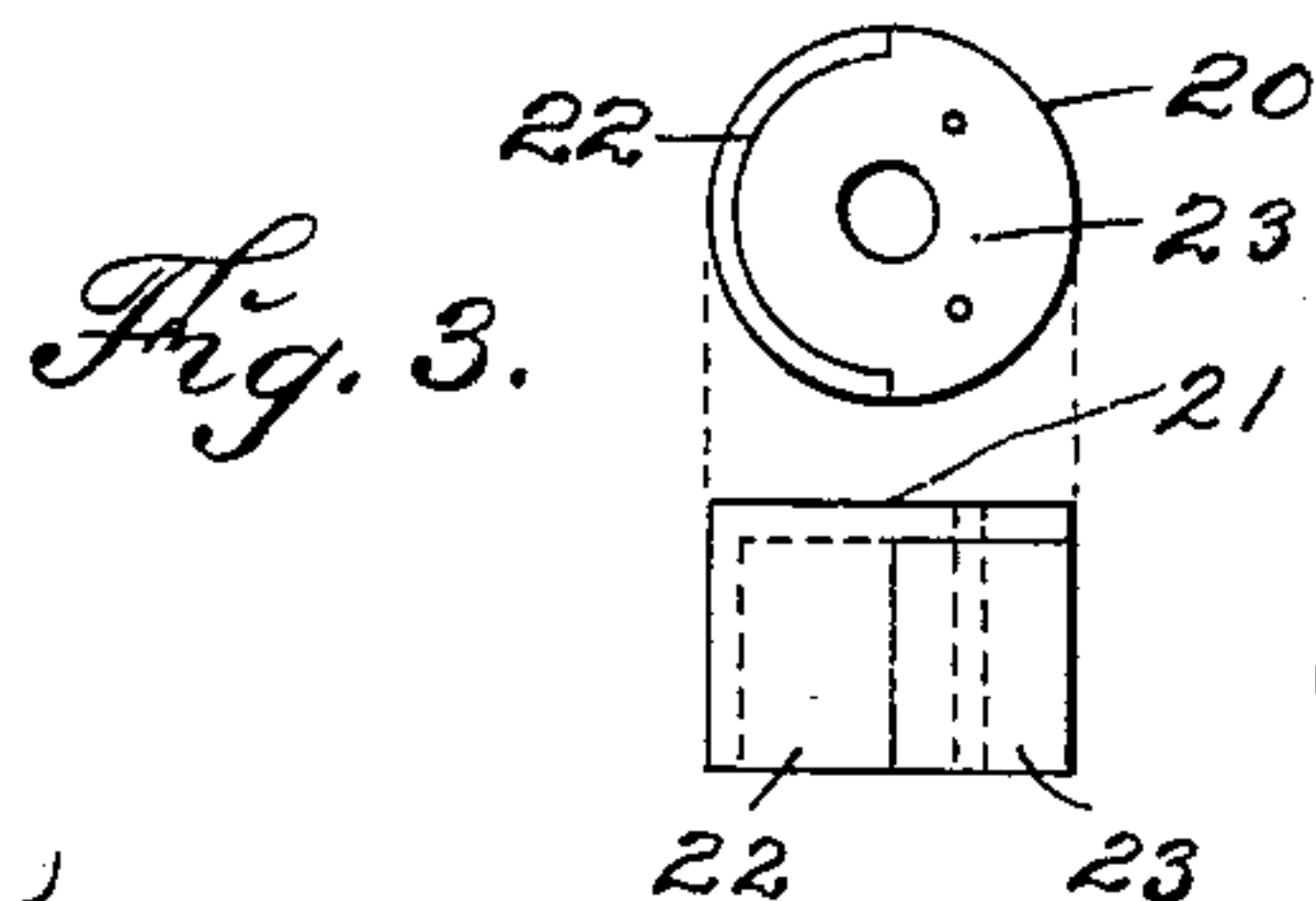
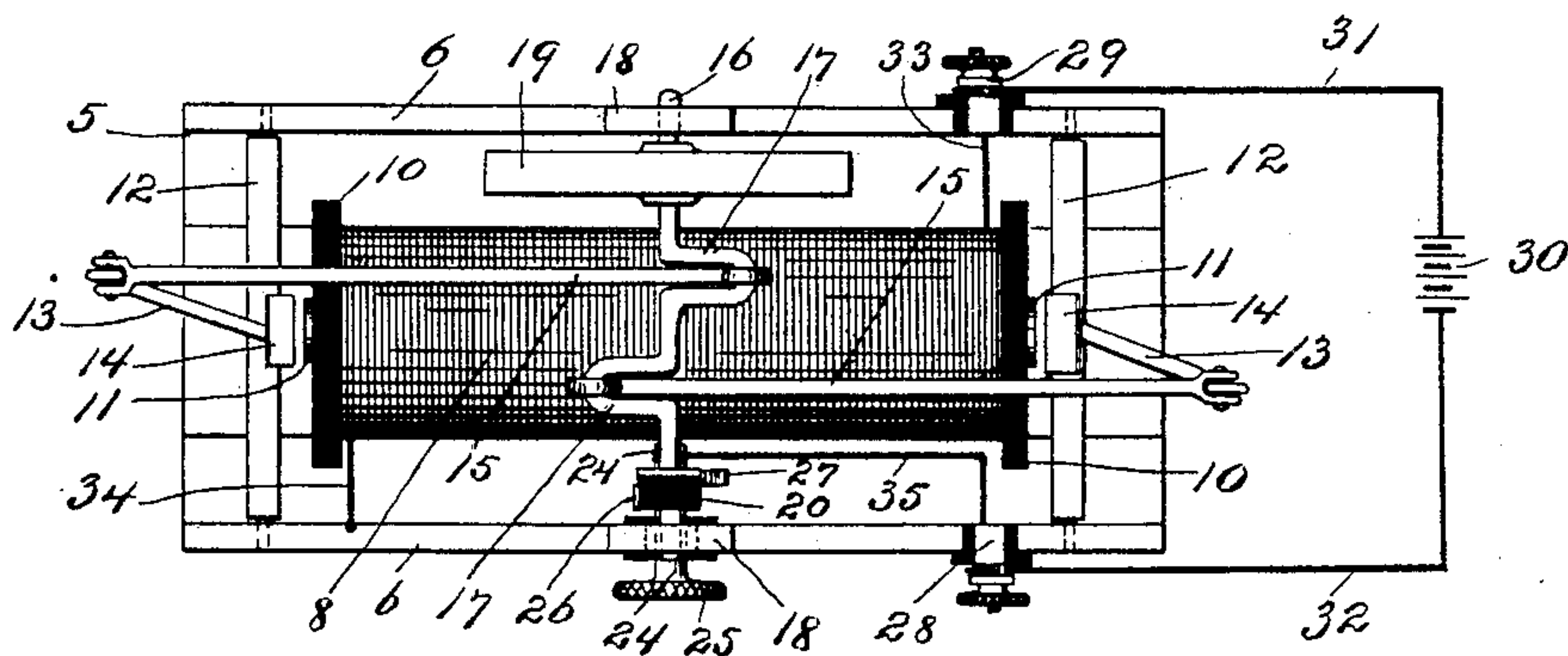


Fig. 2.



WITNESSES:

C. Voragous
C. Gerst

INVENTOR

Edmund McNeerney
BY
Edgar Tate & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDMUND MCNERNEY, OF PITTSFIELD, MASSACHUSETTS.

ELECTRIC MOTOR.

SPECIFICATION forming part of Letters Patent No. 599,913, dated March 1, 1898.

Application filed May 22, 1897. Serial No. 637,735. (No model.)

To all whom it may concern:

Be it known that I, EDMUND MCNERNEY, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Electric Motors, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to electric motors; and the object thereof is to provide an improved device of this class which is simple in construction and operation and which is adapted for use in running small machinery and which may be employed wherever motors of this class are required.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side view of my improved motor, a part of the frame or casing being broken away; Fig. 2, a plan view thereof, and Fig. 3 an end and side view of a wheel which forms a part of the motor.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in the practice of my invention I provide a frame or support which may be of any desired form or construction, but which, as shown in the drawings, consists of a base-plate 5 and upwardly-directed side plates or boards 6, and said frame is preferably open at both ends, and the base plate or board 5 is provided with transverse strips 7, which are secured to the ends thereof.

I also provide an electromagnet 8, which is supported in a frame consisting of a bottom 9 and upwardly-directed ends 10, and this frame is composed of hard rubber or other insulating material, and the core of the magnet projects through the ends 10 of the support thereof, as shown at 11.

Mounted transversely of the frame of the motor at each end of the magnet is a revoluble bar 12, and these bars are provided with upwardly-directed spring-arms 13, and the lower ends thereof are inwardly and outwardly curved and provided with armatures 14, and each of the spring-arms 13 is provided

at its upper end with a crank-rod 15, and these crank-rods are connected with a shaft 16, which is provided centrally with two oppositely-directed cranks 17, with which said crank-rods are connected, and said shaft is supported in uprights 18, which are secured to or formed on the sides of the frame of the motor, and said shaft is also provided with a balance-wheel 19, and at one end thereof, within the side of the frame or the support thereof, with a compound wheel 20, which consists of a metal disk or plate 21, at one side of which is a semicircular flange 22, and the body portion 23 of the wheel is composed of hard rubber or similar material, which is bolted to the disk or plate 21.

Passing through one of the uprights 18 and insulated therefrom is a shaft 24, which is provided with a milled head 25, and connected with the inner end of said binding-post directly beneath the compound wheel 20 are two upwardly-directed spring-arms 26 and 27, which are adapted to make contact with the compound wheel 20, and the opposite sides of the frame of the motor are also provided with insulated binding-posts 28 and 29, and I also provide a battery 30, which is provided with conductors 31 and 32, one of which connects with the binding-post 28 and the other with the binding-post 29, and the binding-post 29 is also in electrical connection with one end of the magnet 8, as shown at 33, and the opposite end of said magnet is in electrical connection with the frame of the motor, as shown at 34, and the binding-post 28 is in electrical connection with the inner end of the shaft 24, as shown at 25, and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

When the motor is not in operation, neither of the spring-arms 26 and 27 is in contact with the compound wheel 20, and in order to start the motor it is only necessary to turn the shaft 24 by means of the milled head 25 or any suitable device, so as to bring one of the spring-arms 26 or 27 into connection with the compound wheel 20, and by reversing the movement of the shaft 24, so as to bring the other spring-arm in connection with said wheel, the movement of the motor will be re-

versed, as will be readily understood. If at any time this operation does not start the motor by reason of the fact that the shaft 16 is at a dead-center, the said shaft may be
 5 started in the proper direction by means of the balance-wheel 19 or by a crank connected with one end thereof, and it will thus be seen that I accomplish the object of my invention by means of a device which is simple in con-
 10 struction and operation, and it will be apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

15 Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. An electric motor, consisting of a suitable frame, or support, an electromagnet mounted
 20 longitudinally thereof, and insulated therefrom, two revoluble rods or rollers, one of which is mounted at each end of said magnet, upwardly-directed spring-arms connected with each of said rods or rollers, and provided
 25 with an armature, crank-rods connected with the upper ends of each of said spring-arms, and with a crank-shaft, said crank-shaft being also provided with a compound wheel composed of metal and rubber or other insulat-
 30 ing material, and a shaft which passes through one side of the frame or support of the motor, and which is provided with two upwardly-directed spring-arms, which are adapted to operate in connection with said compound
 35 wheel, substantially as shown and described.

2. An electric motor, consisting of a suitable frame, or support, an electromagnet mounted longitudinally thereof, and insulated there-
 40 from, two revoluble rods or rollers, one of which is mounted at each end of said magnet, upwardly-directed spring-arms connected with each of said rollers or rods, and provided with an armature, crank-rods connected with the upper ends of each of said spring-arms,
 45 and with a crank-shaft, said crank-shaft being also provided with a compound wheel composed of metal and rubber or other insulating material, and a shaft which passes through one side of the frame or support of the motor,

and which is provided with two upwardly-di- 50 rected spring-arms, which are adapted to operate in connection with said compound wheel, said magnet being also in electrical con-
 55 nection with the frame or support at one end, and a battery which is in connection with said magnet, and with the shaft provided with said spring-arms, substantially as shown and described.

3. An electric motor, comprising a suitable frame or support, an electromagnet mounted 60 longitudinally thereof, and insulated therefrom, rods or rollers revolubly mounted at each end of said magnet, and provided with upwardly-directed spring-arms, and arma-
 65 tures, crank-rods connected with the upper ends of said spring-arms, a shaft supported above said magnet, and provided with cranks with which said crank-rods are connected, a balance-wheel mounted on said shaft at one
 70 end, a compound wheel mounted thereon, at the other end, and composed of metal and rubber or similar material, and a shaft mounted below said crank-shaft, and provided with upwardly-directed spring-arms which are
 75 adapted to operate in connection with said compound wheel, said magnet and the shaft which is provided with said spring-arms being also in an electric circuit, of which the frame or support of said magnet forms a part,
 80 substantially as shown and described.

4. In an electric motor of the character de-
 85 scribed, a compound wheel mounted upon the fly-wheel axle and consisting of insulating and non-insulating material, a shaft mounted on the frame, a double-pronged brush mount-
 90 ed upon said shaft and means for projecting either prong against said compound wheel and for holding the same in contact therewith, substantially as and for the purpose described.

In testimony that I claim the foregoing as
 90 my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of May, 1897.

EDMUND MCNERNEY.

Witnesses:

W. L. LA RUE,
 G. E. HUMPHREY.