

No. 627,613.

Patented June 27, 1899.

F. R. GOOLMAN.  
CLUTCH.

(Application filed Apr. 17, 1899.)

(No Model.)

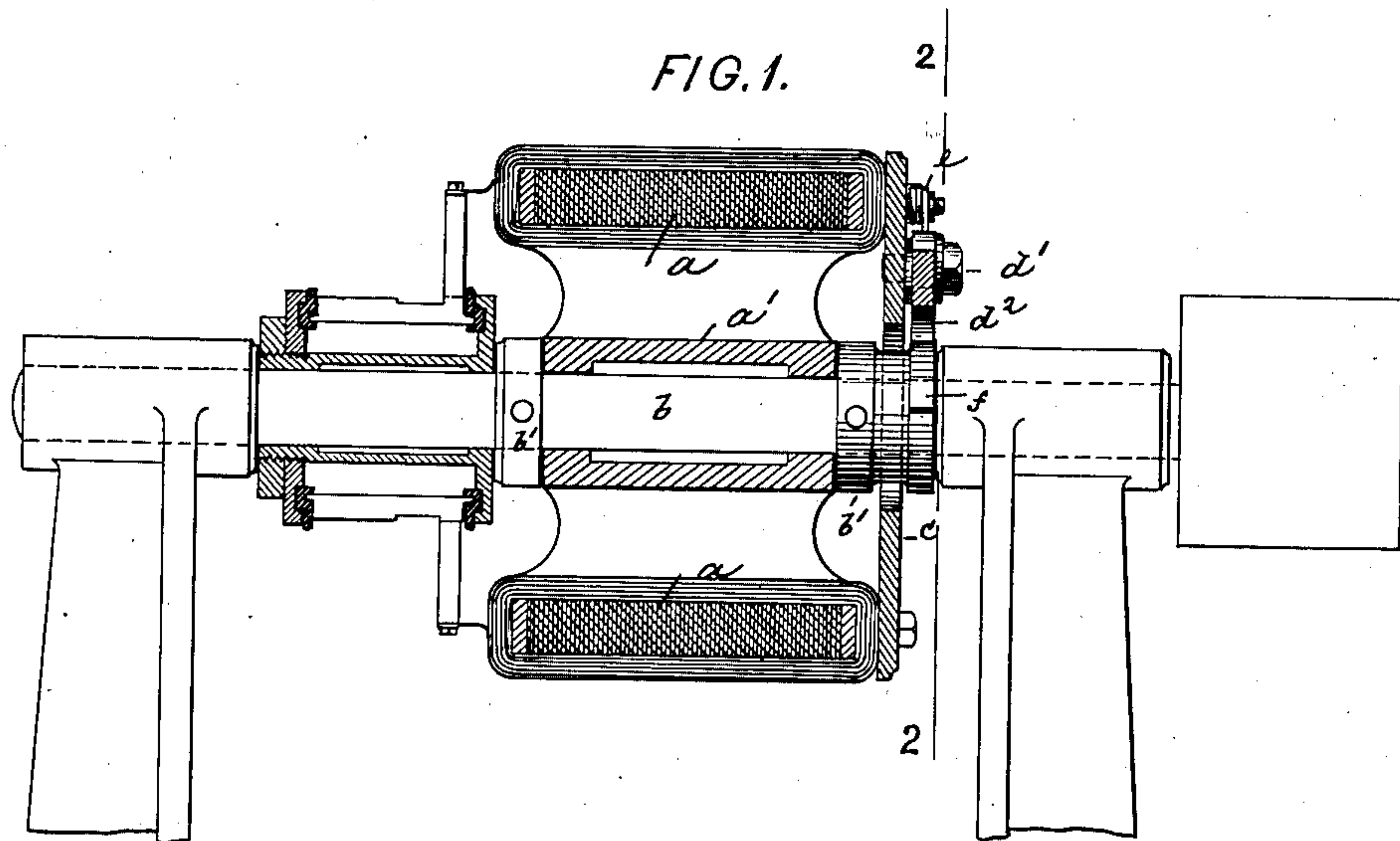
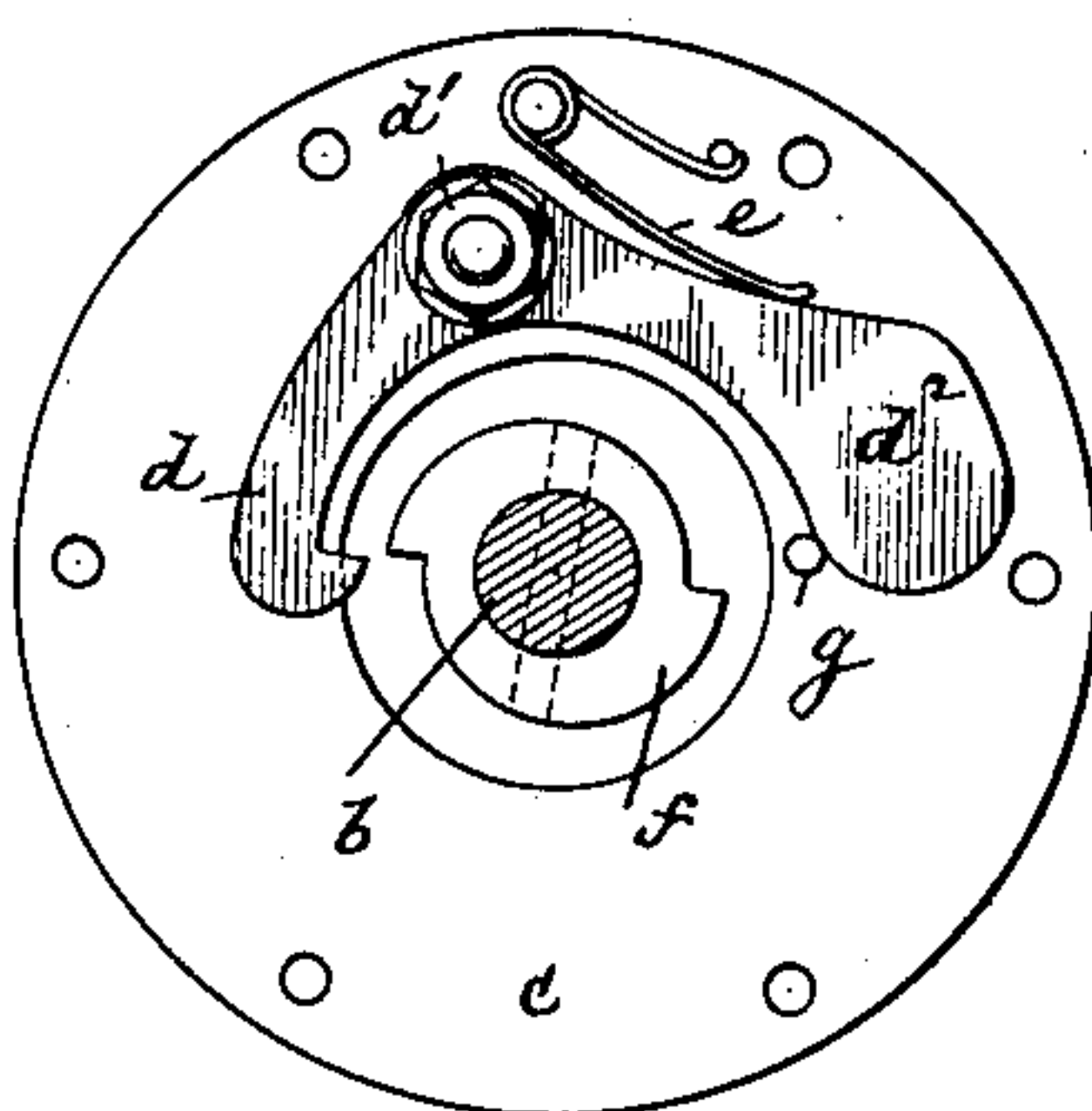


FIG. 2.



Witnesses:

John Becker.  
William Miller.

Inventor:

Fred R. Goolman  
by his attorneys  
Roeder & Sweeney

# UNITED STATES PATENT OFFICE.

FRED R. GOOLMAN, OF ST. JOHNSVILLE, NEW YORK, ASSIGNOR OF THREE-FOURTHS TO ALFRED P. ROTH, FREDERICK ENGELHARDT, AND JOHN N. GOOLMAN, OF SAME PLACE.

## CLUTCH.

SPECIFICATION forming part of Letters Patent No. 627,613, dated June 27, 1899.

Application filed April 17, 1899. Serial No. 713,275. (No model.)

*To all whom it may concern:*

Be it known that I, FRED R. GOOLMAN, a citizen of the United States, and a resident of St. Johnsville, Montgomery county, New York, have invented certain new and useful Improvements in Clutches for Electric Motors, of which the following is a specification.

This invention relates to electric motors of the class which are started under a load. It is well known that induction-motors cannot start when under a load except with outside assistance. By my invention the load is taken up at any desired rate of speed, thus obviating the difficulties heretofore experienced.

In the accompanying drawings, Figure 1 is a sectional elevation of part of a motor embodying my invention; Fig. 2, a section on line 2 2, Fig. 1.

The armature *a* of the motor has a hub *a'* revolubly mounted upon shaft *b* between a pair of collars *b'*. To one end of the armature is attached an annular disk *c*, to the face of which is pivoted at *d'* an elbow-shaped dog *d*, having a weighted tailpiece *d'*. A weak spring *e* engages this tailpiece and tends to swing the jaw of the dog outward. In the same plane with dog *d* there is keyed to shaft *b* a ratchet-wheel *f*, having one or more teeth. When the motor is at rest, the spring *e* will crowd the tailpiece *d'* against a stop *g*

and hold the jaw off the ratchet-wheel *f*. When the current is turned on, the armature, being entirely free on its shaft, starts freely, and after the armature has attained the desired rate of speed the centrifugal force, overcoming the tension of the spring *e*, will throw the dog into engagement with ratchet-wheel *f*. Thus the shaft *b* will be rotated, together with the armature, and will carry the load until the current is turned off. By regulating the strength of the spring *e* any desired rate of speed may be attained before the load is taken up.

What I claim is—

In an electric motor, the combination of a shaft with an armature having a hub revoluble upon the shaft, a disk secured to the armature, a dog having a weighted tailpiece and pivoted to the disk, and a ratchet-wheel mounted upon the shaft, the jaw of the dog being adapted to engage the ratchet-wheel when the weighted tailpiece of the dog is swung outward by centrifugal force, substantially as specified.

Signed by me, at St. Johnsville, New York, this 6th day of April, 1899.

FRED R. GOOLMAN.

Witnesses:

EDWARD R. HALL,  
W. H. STAHL.