

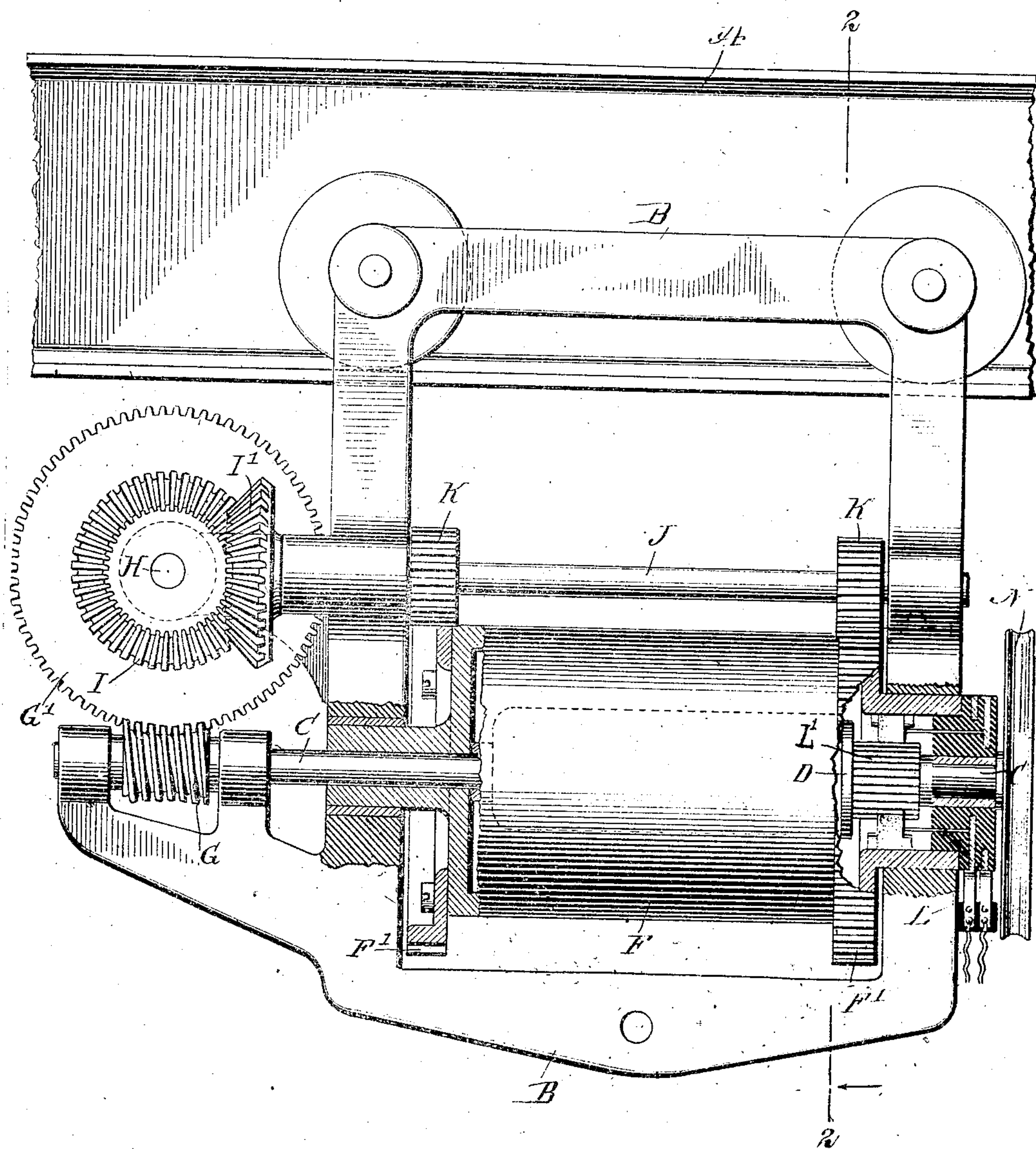
G. RASMUS.
ELECTRIC HOIST.
APPLICATION FILED JAN. 28, 1908.

898,782.

Patented Sept. 15, 1908.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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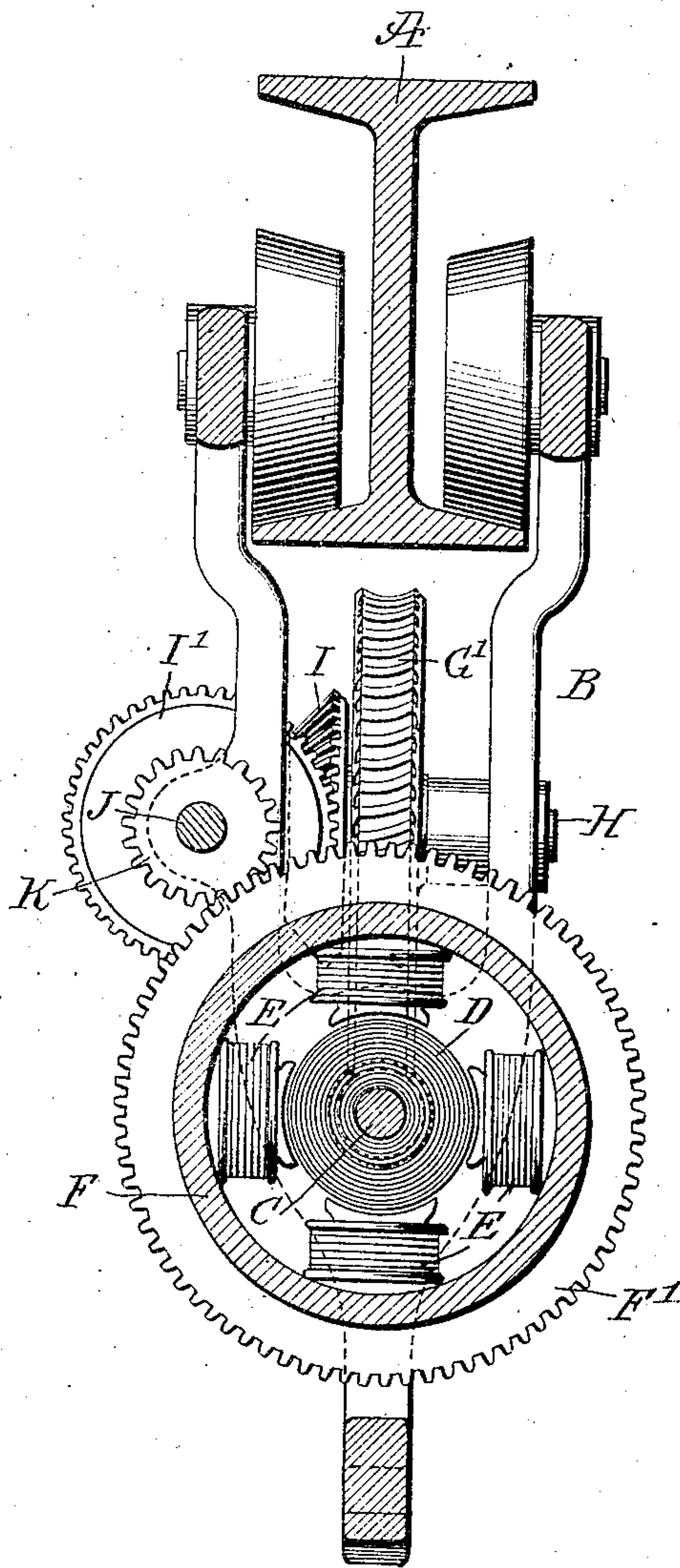
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2 SHEETS—SHEET 2.

Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

GUSTAV RASMUS, OF NEW YORK, N. Y.

ELECTRIC HOIST.

No. 898,732.

Specification of Letters Patent.

Patented Sept. 15, 1903.

Application filed January 23, 1903. Serial No. 412,355.

To all whom it may concern:

Be it known that I, GUSTAV RASMUS, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Electric Hoist, of which the following is a full, clear, and exact description.

The invention relates to hoisting machines, and its object is to provide a new and improved electric hoist having an electric motor provided with a revoluble armature and a revoluble field, the latter being driven from the said armature and forming the hoisting drum, so that the apparatus takes up very little room, requires no brake mechanism and is exceedingly serviceable for use in overhead traveling cranes.

The invention consists of novel features and parts and combinations of the same, which will be more fully described herein-after and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a side elevation of the improvement, parts being shown in section, and Fig. 2 is a transverse section of the same on the line 2—2 of Fig. 1.

On the traveling beam A of an overhead crane is mounted to travel the carriage B, in the frame of which is journaled the electric motor shaft C carrying an armature D surrounded by magnets E arranged within the hoisting drum F, the latter thus forming the field of the electric motor. The drum F is journaled in the motor frame concentric with the motor shaft C, and the said hoisting drum is driven from the armature D at a greatly reduced speed but in the same direction, so as to increase the hoisting power of the drum F at the expense of the speed. For the purpose mentioned the following arrangement is made: On the motor shaft C is secured a worm G in mesh with a worm wheel G' secured to a transversely-extending shaft H, journaled in suitable bearings arranged on the frame of the carriage B, and on the said shaft H is secured a bevel gear wheel I in mesh with a bevel gear wheel I' fastened on a longitudinally-extending shaft J, journaled

in suitable bearings arranged on the frame of the carriage B. On the shaft J are secured pinions K in mesh with gear wheels F', secured to or formed on the hoisting drum F at the ends thereof, so that when the motor is running the armature D drives the hoisting drum F at a greatly reduced speed but in the same direction in which the armature is running. Electricity is supplied to the electric motor in the usual manner by the use of a brush and brush holder L to and through the primary commutator L' of any approved construction. On the motor shaft C is secured a wheel N adapted to be turned by hand in case the electric motor fails to work, so as to allow turning the hoisting drum F from the shaft C when the latter is rotated by the operator turning the manually-controlled wheel N.

From the foregoing it will be seen that the electric hoist is rendered exceedingly compact, and the load is held suspended from the hoisting drum F whenever the latter is stopped, without the use of brake mechanism, owing to the employment of the worm G and worm wheel G', forming part of the gearing connecting the armature shaft C with the driving shaft J for the drum F.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a device of the class described, a carriage, a drum journaled in the frame of the carriage and provided at each end with gear wheels, a shaft provided with an armature journaled in the drum, said shaft having at one end a worm, a shaft journaled in the frame above the drum, and provided with pinions meshing with the gear wheels, and on its end with a bevel gear wheel, a shaft arranged transversely of the drum, and provided with a worm wheel in mesh with the worm, and with a bevel gear wheel in mesh with the first named bevel gear wheel, and magnets within the drum and connected thereto, and cooperating with the armature of the shaft.

2. A device of the class described, comprising a carriage, a drum, journaled in the frame of the carriage, a shaft provided with an armature journaled in the drum, and having at one end a worm, a shaft journaled in the frame above the drum, a driving connec-

tion between the shaft and the drum, a shaft arranged transversely of the drum, a worm wheel thereon meshing with the worm, a bevel gear connection between the said shaft and the last named shaft, and magnets within the drum, and connected thereto and cooperating with the armature of the shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV RASMUS.

Witnesses:

THEO. G. HOSTER,

EVERARD B. MARSHALL.