(No Model.)

V. W. BLANCHARD.

DYNAMO ELECTRIC MACHINE.

No. 267,136. Patented Nov. 7, 1882.

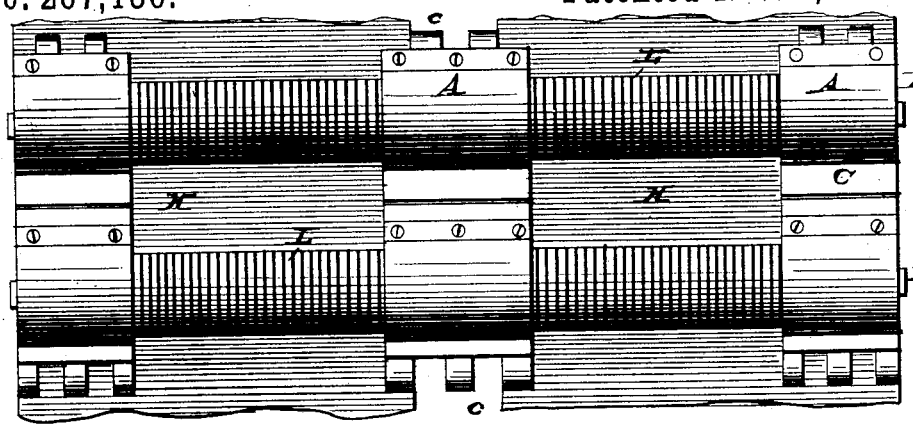


Fig. 1.

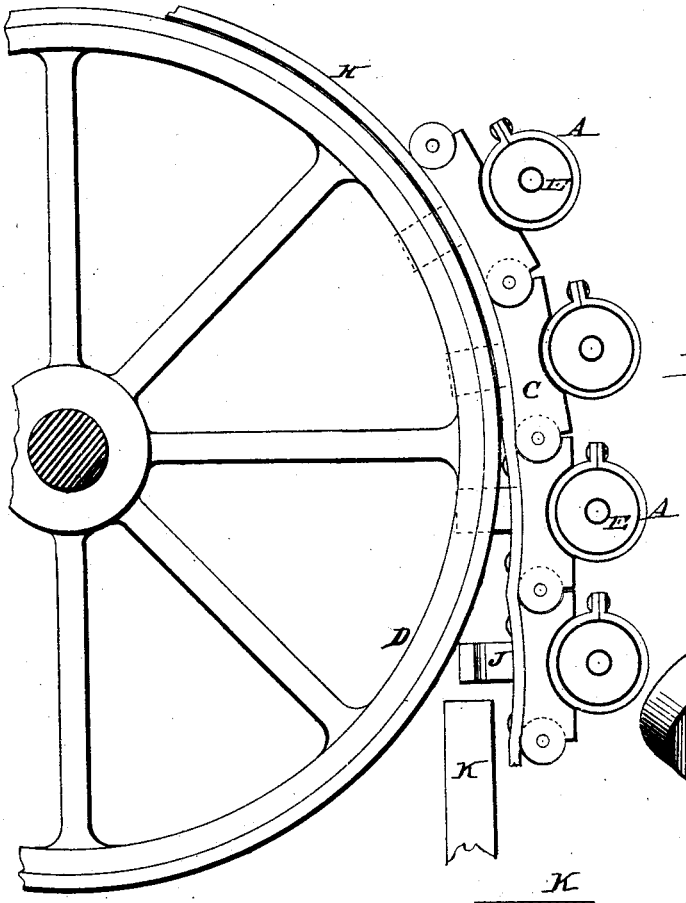
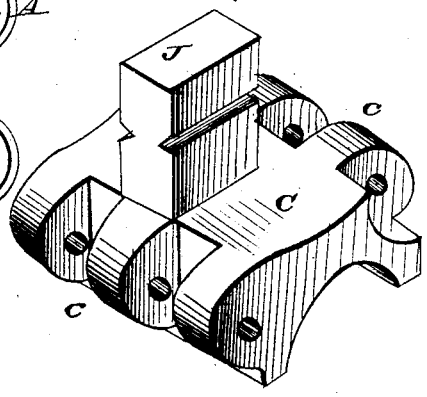


Fig. 2

Fig. 4.



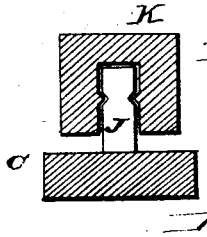


Fig. 3.

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UNITED STATES PATENT OFFICE.

VIRGIL W. BLANCHARD, OF NEW YORK, N. Y.

DYNAMO-ELECTRIC MACHINE.

SPECIFICATION forming part of Letters Patent No. 267,136, dated November 7, 1882.

Application filed July 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL W. BLANCHARD, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in an Endless Magnet-Carrying Belt for a Dynamo-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My present invention relates to the construction of an endless belt of exciting or field magnets for magneto-electric generators; and it consists in arranging, combining, and operating the several parts for generating the electric current, said belt, with its magnets, being made to move in a straight line between stationary armatures; and it further consists in the peculiar construction of parts necessary to carry out my invention, as will be hereinafter fully described.

In the accompanying drawings, in which similar letters indicate corresponding parts, Figure 1 is a plan view of a portion of the completed belt of magnets. Fig. 2 is a side view of the same, also showing part of the driving and guiding mechanism. Fig. 3 is a sectional view of one of the guides; and Fig. 4 is a perspective view of one of the sections of the magnet-supporting belt, showing the general construction thereof.

C represents a series of castings, preferably of "phosphor-bronze," which are made in short lengths and of the form shown. Each section is provided at its ends with perforated lugs *c*, and these sections are flexibly secured in one continuous belt by steel pins passing through the holes in the said lugs *c*. These endless bands of metal joints are preferably arranged in series of three, placed parallel and equidistant, and secured by rivets or screws to a flexible carrying belt or belts, such as are used on ordinary pulleys, and preferably of rubber. Each of the central bands of jointed castings is provided with an arm, J, extending inward therefrom, which arms J pass through or between the carrying belt or belts, and the said arms are all formed with V-shaped grooves therein. The castings C are so formed at their ends that when in a straight line their ends touch, and the belt is thereby rendered perfectly rigid so long as held in a straight line.

To the outside of each casting C is screwed or otherwise secured a strap of metal, A, which is provided with suitable clamping-screw, and by means thereof the magnets to form the exciting portion of an electric generator are secured in position across the face of the belt, with their poles projecting beyond the edges thereof.

The magnets E are constructed of copper plates arranged along a core of soft-iron wires, and each plate or disk is insulated by a similar disk of insulating material, the said metal disks being continuously connected.

The special construction of the magnet that I prefer to use is not herein particularly described, as it forms the subject of a separate application for Letters Patent; but any form of magnet may be used according to my herein-described system.

The described belt of magnets is mounted upon two sets of pulleys, D, each set consisting of two pulleys somewhat narrower at their faces than the distances between the rows of castings, and sufficiently separated to permit the guide arms or projections J to pass freely between said pulleys D, by which arrangement increased flexibility is secured, and the liability of the castings to be torn out of the material of the carrying-belts by contact with the pulleys is diminished.

In order to prevent swaying and other irregularities in the movement of the belt, I provide the grooved metallic guides K, preferably constructed of steel, which have V-shaped projections fitted to the size and shape of the grooves in the arms J, and between which the said arms J can travel freely. The said guides being secured in line with the circumference of the two sets of pulleys, the arms J will travel successively therein as the pulleys rotate, and that portion of the belt between the two sets of pulleys will move at all times in the same line. The V-shaped grooves and projections on arms and guides are sufficient to entirely control and guide the movement of the carrying-belt; but I prefer to form the castings C so that when brought into a straight

line the edges of the joints touch, forming "knuckle-joints," and adding strength and rigidity to the endless belt.

By my special construction I bring together a large number of magnets, which may be used at a comparatively low speed, thereby avoiding counter or local currents. If high speed is desired, it can be maintained without danger of burning the generating machinery, the current produced being one of great quantity, rather than intensity.

The magnets, straps, and castings are to be properly insulated from each other, and for this purpose I prefer to use asbestus paper, although any other efficient material may be used without departing from the spirit of my invention.

As the operation of the belt of magnets, together with the remaining parts of the generator, forms the subject of a separate application for Letters Patent, I have not considered it necessary to further describe its relation or use therewith in this application.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A continuously-supported series of magnets, consisting of separate electro-magnets secured in endless series across the face of a belt, constructed as described, and suitable driving mechanism, whereby the said belt may be moved in proximity to stationary magnets in a magneto-electric generator, substantially as described.

2. A continuously supported and connected series of electro-magnets extending across the faces of suitable supporting-belts and arranged with their poles projecting beyond the edges thereof, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

VIRGIL W. BLANCHARD.

Witnesses:

HENRY P. LISSON,

GEORGE F. WONSON.