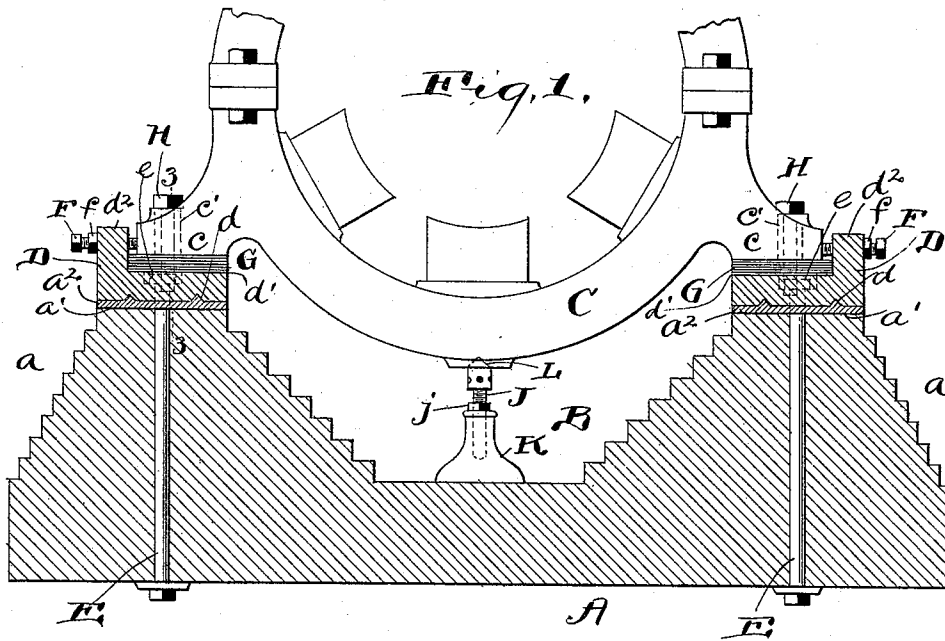
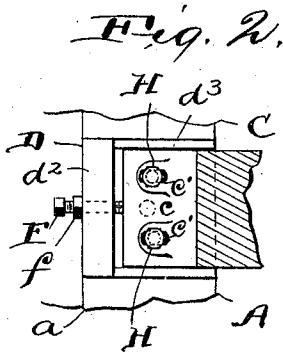
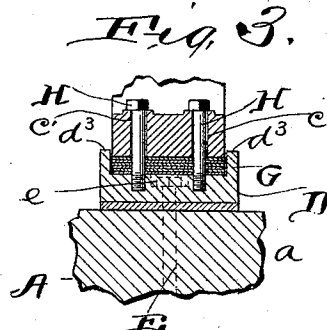
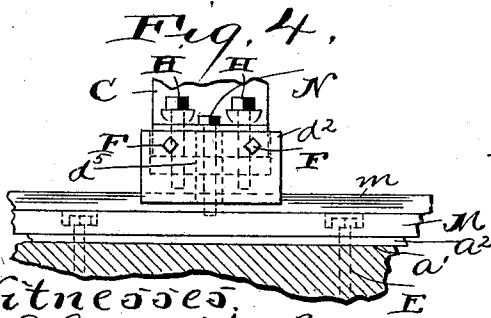
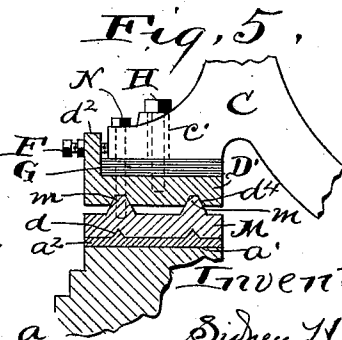


(No Model.)

S. H. SHORT.
FOUNDATION FOR GENERATOR FRAMES.

No. 596,280.

Patented Dec. 28, 1897.



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UNITED STATES PATENT OFFICE.

SIDNEY H. SHORT, OF CLEVELAND, OHIO.

FOUNDATION FOR GENERATOR-FRAMES.

SPECIFICATION forming part of Letters Patent No. 596,280, dated December 28, 1897.

Application filed March 13, 1897. Serial No. 627,417. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY H. SHORT, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Foundations for Generator-Frames and Means for Adjusting the Frames Thereon; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is for an improved foundation for generator-frames as well as for the means for adjusting the frame on the foundation.

Electric generators are commonly made self-contained by means of having their armature-shafts carried in bearings supported by the frame itself. In such construction a very accurate adjustment of the frame on its foundations is not necessary. In large slow-speed generators, however, the armature is mounted directly on the engine-shaft, which shaft does not have any bearing in the generator-frame, and therefore there is nothing to preserve the relative positions of the field-magnets and armature. The generator-frame in the construction referred to has been supported upon a masonry foundation. It is, however, essential that means be provided for nicely adjusting the generator-frame and for changing its position from time to time to compensate for the lowering of the shaft as its bearings wear, whereby the proper presentation of the pole-faces to the armature may be established and maintained. My invention provides simple and efficient means for doing this.

The invention will be readily understood from the description following. It consists of the combinations of parts there specified, and definitely enumerated in the claim.

In the drawings, Figure 1 is a sectional elevation of a generator-frame and supporting foundation made in accordance with my invention and illustrating the same. Fig. 2 is a plan of that part of the foundation which supports one side of the frame. Fig. 3 is a transverse section of said part, being a vertical section on the line 3 3 of Fig. 1. Fig. 4 is a side view of one of the frame-feet and the means for supporting and adjusting it,

and Fig. 5 is a sectional end view of the parts shown in Fig. 4.

Referring to the parts by letters, A represents the foundation, made of brick or stone secured together by mortar or cement. This foundation is usually a portion of the masonry forming the foundation for the engine-bed and outboard-bearing. It is built, as shown, with outside piers or walls *a a*, leaving between them a pit B, into which the generator-frame C and the engine fly-wheel may depend. The tops *a' a'* of the piers are rendered approximately level and are covered each with a layer of cement *a² a²*. Any desired cement may be used. Ordinary hydraulic cement or melted sulfur is good, though I prefer to use a mixture of iron-filings, water, and sal-ammoniac. The cement while soft runs into the rough surfaces on the tops of the piers and thus secures a firm hold thereto.

In the form shown in Figs. 1, 2, and 3 plates D D, having on their under surfaces notches or corrugations *d d*, are at once placed on the cement, and the latter passing up into the notches secures the plates against lateral displacement. Foundation-bolts E, which were placed in the foundation when it was built, project upward from the tops of the piers and pass through holes in the plates D. Nuts *e* are screwed onto these bolts, and thus the plates are securely locked to the foundation. Each plate D is planed off smooth on its upper surface *d'*, and it has the upwardly-extending end flange *d²*, through which passes the adjusting-screw F, provided, preferably, with a jam-nut *f* and the side flanges *d³ d³*. On the top surface of the plate D, between the flanges, are a number of thin sheets or shims of iron G.

The frame C of the generator has feet *c c* projecting on either side of the magnet-ring, which rest on the top of the shims G. The frame is now adjusted so that its pole-faces are all the same distance from the center of the armature-shaft, which is likewise the main shaft of the engine. This adjustment is accomplished as to elevation by placing shims G upon either or both plates if the frame is too low or withdrawing shims if the frame is too high. The lateral adjustment of the frame is made by the screws F. The one to-

ward which the frame is to come is first loosened and then the other turned in the required amount. The first screw is then tightened. Bolts H, passing through slots c' in the feet c and through holes or slots in the shims G into the plates D, are then turned tightly into place, and the generator-frame is thus rigidly held to the foundation.

Generators with frames of very large diameter sometimes tend to sag from their own weight. I have therefore provided a jack-screw J, having its base K resting upon the floor of the pit B. The upper end of the jack-screw enters into a socket L, provided in the generator-frame C, and by adjusting the screw J the frame may be supported and prevented from sagging. A jam-nut j is preferably provided to securely lock the screw J in place. This jack-screw further serves the purpose of raising the generator-frame when it is necessary to insert or remove the shims G.

In Figs. 4 and 5 is shown a modification whereby the generator-frame may be moved along parallel with the armature-shaft. The plates M are secured upon the foundation-piers parallel with the armature-shaft, preferably in the manner already described with reference to the plates D. On its upper surface are the V-shaped ways m . The plates D'

have corresponding grooves d^4 in their lower faces, which fit over said ways. The plate D' may therefore be moved longitudinally of the shaft any distance, depending on the length of the ways m . A bolt N may pass through a slot d^5 in plate D' and screw into a hole in plate M when the generator-frame has reached the proper position relative to the armature.

Having described my invention, I claim—

A foundation provided with a suitable pit, suitable tops placed upon opposite sides of the foundation, the plates or castings D provided with suitable notches or recesses in their under sides and the flanges at their top edges, and the adjusting-screw to pass through one of said flanges, combined with the generator-frame, thin sheets of iron placed between the frame and the plates D, and the foundation-bolts which are passed through the generator-frame, the plates and the foundation-wall, whereby the parts are secured rigidly in position, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SIDNEY H. SHORT.

Witnesses:

E. L. THURSTON,
ALBERT H. BATES.