

(No Model.)

S. H. SHARPSTEEN.
DEVICE FOR REMOVING ARMATURES.

No. 481,833.

Patented Aug. 30, 1892.

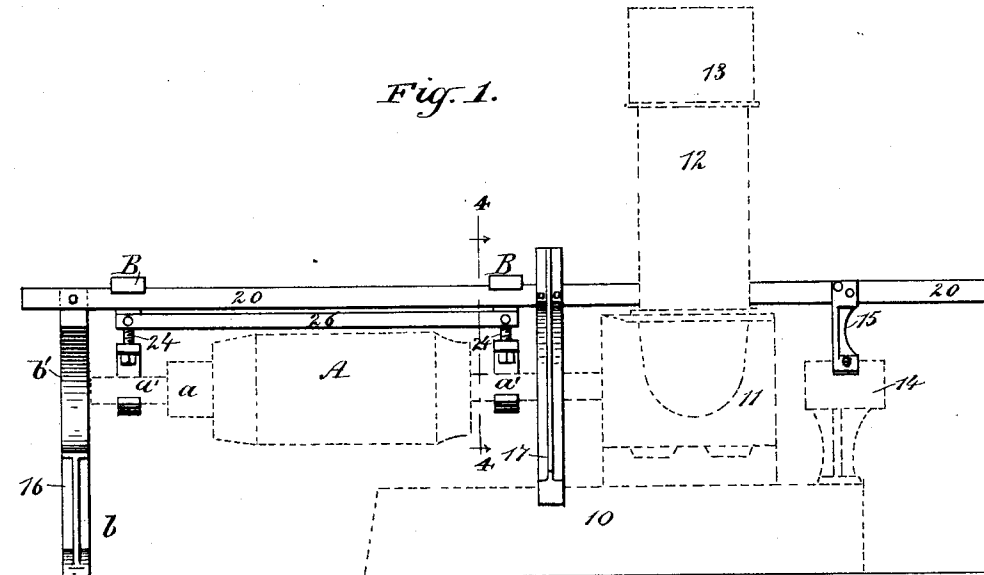


Fig. 2.

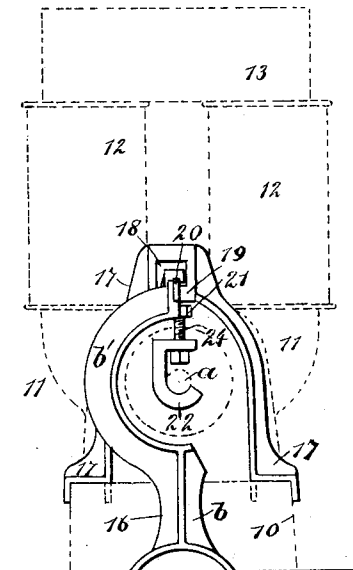


Fig. 3.

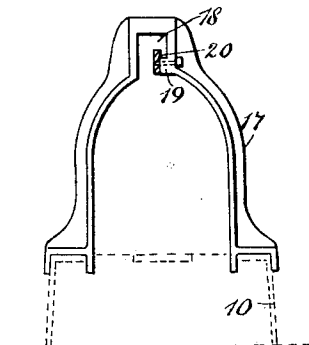


Fig. 4.

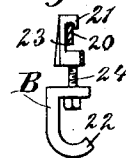
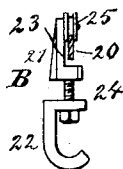


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

STEPHEN H. SHARPSTEEN, OF HONESDALE, PENNSYLVANIA.

DEVICE FOR REMOVING ARMATURES.

SPECIFICATION forming part of Letters Patent No. 481,833, dated August 30, 1892.

Application filed May 6, 1891. Serial No. 391,764. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. SHARPSTEEN, of Honesdale, in the county of Wayne and State of Pennsylvania, have invented a new and Improved Device for Removing Armatures from Dynamos, of which the following is a full, clear, and exact description.

My invention relates to an improved device for removing armatures from dynamos and like electrical machines, and has for its object to provide such a device of exceedingly simple and durable construction, whereby an armature may expeditiously and conveniently be removed from between the field-magnets and brought in position whereby it may be inspected or repaired.

Another object of the invention is to provide for the transportation of the armature and its support independently of the usual bearings and in a manner conducive to the safety of the operator.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the device illustrated as applied to a dynamo of the Edison type. Fig. 2 is an end view of the device. Fig. 3 is a side elevation of the central support, the track being in section. Fig. 4 is a section taken practically on the line 4-4 of Fig. 1, illustrating one of the traveling hangers. Fig. 5 is a side elevation of a slightly-modified form of such hangers.

I will describe the device as adapted for use in connection with an Edison dynamo, the said dynamo being shown in dotted lines, the base whereof is designated as 10, the magnet as 11, the magnet-coil as 12, the keeper as 13, while the armature is indicated by the reference-letter A.

The armature is represented with the commutator a slightly removed therefrom, and the shaft of the armature is designated as *a'*. Upon the base 10 at the rear of the machine and upon the rear bearing-box 14 for the armature-shaft an upwardly-extending bracket

15 is located, the said bracket being placed in a position to face the space between the field-magnets. In front of the opposite end of the machine a vertical bracket 16 is secured to the floor or other convenient support, which bracket consists of a lower shank-section *b*, essentially perpendicular, and an upper semicircular or C-shaped section *b'*.

In conjunction with the end brackets 15 and 16 an intermediate bracket 17 is employed, essentially inverted-U shape in side elevation. The base of this intermediate bracket rests upon the base 10 of the machine, as illustrated in Fig. 3, being attached thereto in any suitable or approved manner. In the upper or bow section of the bracket a recess 18 is produced, and in one side of the recess a lug 19 is formed. The brackets having been placed in position, a track 20 is bolted or otherwise secured to the upper end of the rear bracket 15 and to the lug or projection 19 of the intermediate bracket, the opposite end of the track being secured to the upper end of the bracket 16. The track thus passes between the field-magnets and is located over the central portion of the dynamo.

Two hangers B are adapted to slide upon the track 20. These hangers are constructed in two sections 21 and 22. The upper section 21 is provided in one edge with a recess 23, the upper wall whereof is undercut, as illustrated in Fig. 4. The lower section 22 of the hanger is substantially hook-shaped, being provided at its upper end with a horizontal extension, and the two sections are adjusted one toward the other through the medium of a connecting adjusting-screw 24. The sections are adjusted by turning the set-screw at the head thereof through the medium of a wrench or similar turning-tool. When the hangers are placed upon the track, the said track enters the recess 23 and engages with the side and upper walls thereof, being prevented from leaving the track by reason of the undercut in the upper wall of the recess. If in practice it is found desirable, the recess 23 may be dispensed with and the upper section 21 of the hanger may be made substantially L-shaped, as shown in Fig. 5, in which event a friction-roller 25, which is peripherally grooved, is journaled upon the upper portion of said section, as likewise shown in Fig. 5.

The two hangers are preferably connected by a readily-removable horizontal bar 26, as shown in Fig. 1.

In the operation of the device as illustrated in Figs. 1 and 2, after the device has been set up the journal box or bearing which is the opposite of the bearing or box 14, is unbolted from the base and moved a sufficient distance upon said base to draw the armature a slight distance from between the field-magnets and admit of sufficient space between the rear end of the armature and the box 14 to enable the shaft *a'* of the armature to be grasped by the hook-like member of the hanger B. When this hanger has been placed in position, the shaft is engaged in like manner by the opposite hanger at or near the opposite end of the armature and the hangers are pushed forward upon the track a sufficient distance to draw the shaft *a'* entirely from the bearing or box 14. When this is accomplished, by manipulating the adjusting-screws 24 of the hangers their lower sections may be so elevated as to carry the armature-shaft upward, so that the entire weight of the armature will be sustained by the hangers. If the boxings are of such nature that the cap-section may be removed, the shaft need not be entirely withdrawn from the box 14, as when the hangers engage with the shaft the former may be manipulated to raise the shaft entirely from its journal-boxes. It will be observed that when the hangers are carried in the direction of the bracket 16 the armature thus supported by the hangers will be moved entirely from between the field-magnets and will be brought outward in full view of an inspector—for instance, for purposes of inspection or for repairs—and that the armature may, if desired, be carried a sufficient distance upon the track to permit

of one end being carried within the upper section of the bracket 16.

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

1. An apparatus for removing armatures from dynamos, comprising a track extending through the dynamo between its field-magnets above and parallel with its armature, supports for said track at opposite sides of the dynamo, and two connected hangers mounted on said track to travel between the magnets and having depending vertically-adjustable hooks 22, projecting laterally in the same direction to hook under the ends of the armature-shaft, whereby said armature may be lifted and conveyed from the dynamo, substantially as set forth.

2. An apparatus for removing armatures from dynamos, comprising a short bracket 15 to rest on top of the rear armature-bearing box, a U-shaped bracket 17 at the opposite side of the dynamo and provided with a recess 18 and a lug 19 at one side of the recess, an outermost bracket 16, formed with a lower shank-section *b* and an upper semicircular section *b'*, a track-rail secured at its ends to the upper ends of brackets 15 16 and between its ends to the inner face of lug 19 and projecting at its upper edge above said lug, and a hanger traveling on the track between the field-magnets and having hooks to pass under the ends of the armature-shaft, whereby said armature may be readily removed from the dynamo, substantially as set forth.

STEPHEN H. SHARPSTEEN.

Witnesses:

BUEL DODGE,

CYRENE M. DODGE.