

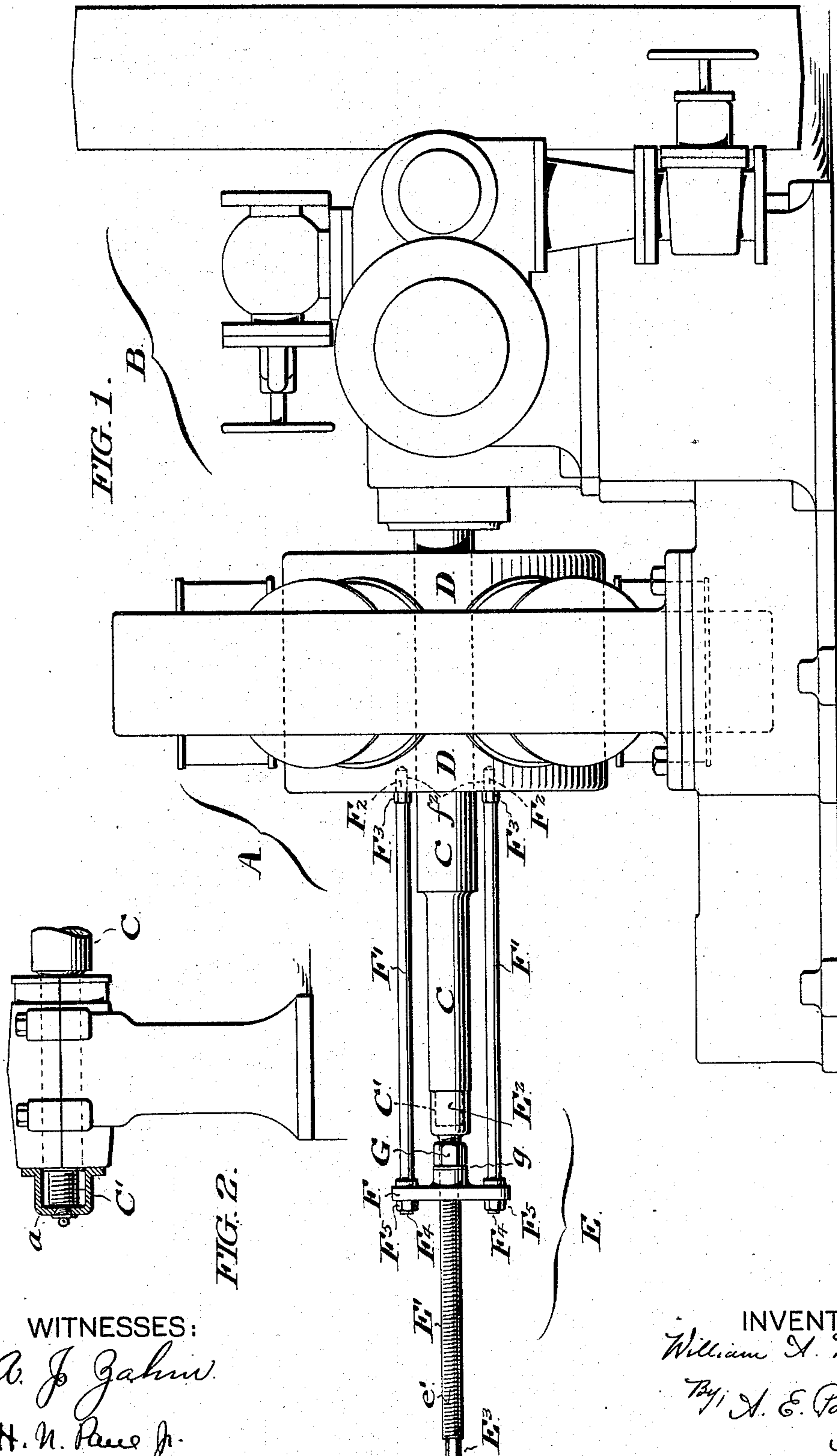
(No Model.)

2 Sheets—Sheet 1.

W. A. DRYSDALE.
ARMATURE JACK.

No. 573,323.

Patented Dec. 15, 1896.



WITNESSES:
A. J. Gahr
H. N. Rane Jr.

INVENTOR:
William A. Drysdale
By A. E. Paige
Att'y.

(No Model.)

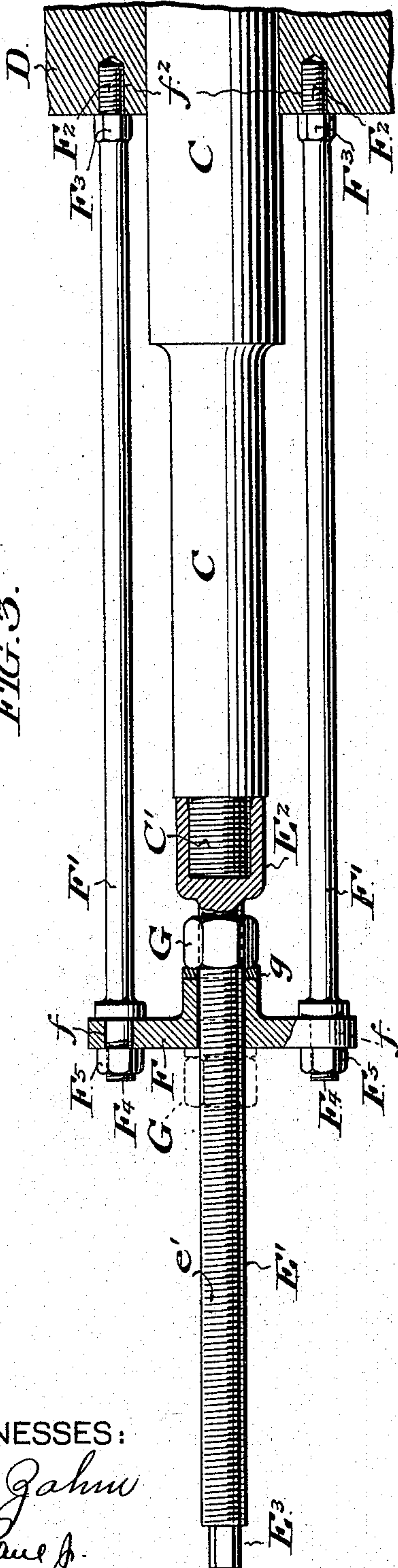
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W. A. DRYSDALE.
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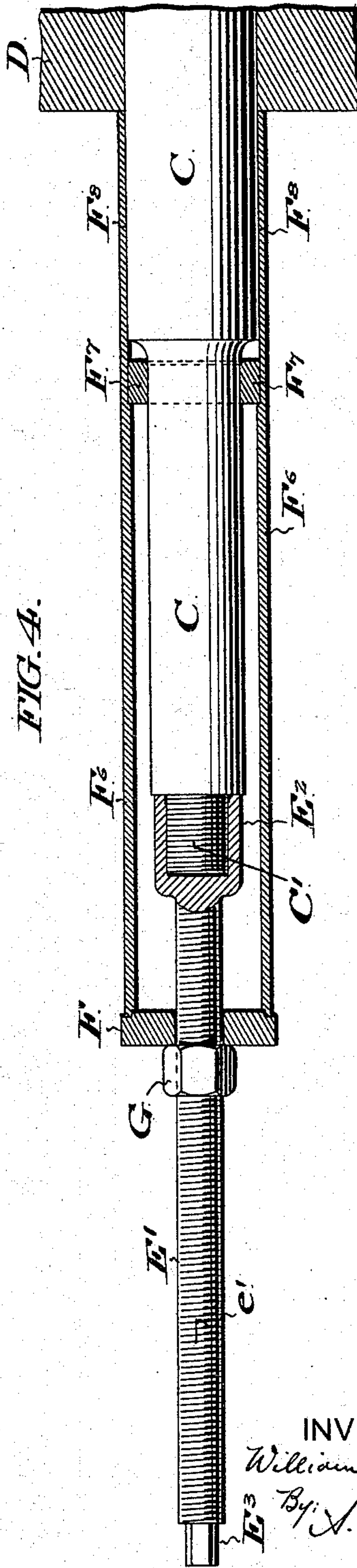
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FIG. 3.



WITNESSES:
A. J. Zahm
H. N. Paul J.

FIG. 4.



INVENTOR:
William A. Drysdale
By *A. E. Paige*
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM A. DRYSDALE, OF OVERBROOK, PENNSYLVANIA.

ARMATURE-JACK.

SPECIFICATION forming part of Letters Patent No. 573,323, dated December 15, 1896.

Application filed August 22, 1896. Serial No. 603,572. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. DRYSDALE, of Overbrook, Pennsylvania, have invented certain new and useful Improvements in Armature-Jacks, whereof the following is a specification, reference being had to the accompanying drawings.

It is customary to ship dynamos or motors to the place of their erection in a dismembered condition, the armature being removed from the supporting-shaft.

It is the object of my invention to provide means to conveniently effect the placing of an armature upon its shaft in said primary assembling of the parts, and also to facilitate its subsequent removal and replacement when necessary for repairs or other cause.

The manipulation of an armature above referred to has been hitherto effected by means of ordinary jack devices temporarily rigged to suit the particular environment of the individual structure. Usually said jacks are either connected by bolts to the frame of the machine and the armature drawn on its shaft by rigging connecting it with the jack or said jacks are supported by timber-braces reaching to an adjacent wall, and the armature thereby thrust upon its shaft, which is held in its bearings in the frame of the machine, said frame being bolted upon its foundation. In every such instance damaging strains occur, and frequently distortions are produced throughout the structure in the application of sufficient force to move the tightly-fitting armature upon its shaft.

Broadly speaking, my invention consists in a jack device one member of which is adapted to be connected directly upon a shaft and preferably in alinement therewith, and another member of said device being adapted for direct connection to the armature which is to be moved upon said shaft, said two members being combined with means by which their relative movement may be occasioned to effect longitudinal movement of said armature upon said shaft.

I have shown a convenient embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a side elevation of a dynamo of the direct-connected type with my invention applied thereto, the frame-support for the end

of the armature-shaft being removed. Fig. 2 is a side elevation of the frame member omitted from Fig. 1, an ornamental cover for the shaft end being shown thereon in central section. Fig. 3 is a side elevation of the form of my invention shown in Fig. 1, but on a larger scale and with certain parts broken away. Fig. 4 is a modified form of my invention, shown partly in side elevation and partly in section.

A is the dynamo, and B is the engine to which said dynamo is directly connected.

C is the armature-shaft, and D the armature.

E is the armature-jack. E' is the shaft member of said jack and is provided with an end socket E², threaded to fit upon the threaded end C' of the armature-shaft C.

To facilitate the engagement and disengagement of the socket end of said member E' upon the shaft C, the other end of said member E' is squared for a wrench-hold, as indicated at E³.

F is the armature member of the jack, connection being conveniently made to said armature D by bars F', said bars being threaded upon their ends F² to fit similarly-threaded sockets f² in the armature D. Said bars F' are provided with convenient wrench-holds F³ to facilitate their connection to the armature. Connection of said bars F' to the jack member F is conveniently effected by means of their threaded ends F⁴, which extend through smooth holes f in the member F and are provided with nuts F⁵.

The body of the shaft member E' is provided with an external thread e', and a running nut G is fitted thereon. Said nut is externally shaped as indicated to be readily grasped by an ordinary wrench. A friction-washer g is preferably interposed between the nut G and the adjacent face of the member F, as indicated in Figs. 1 and 3.

As shown in Figs. 1 and 3, the jack E is adapted to remove the armature D from the shaft C by rotation of the nut G against the jack member F, which is connected to said armature as above described. It is, however, obvious that this relative movement of the jack members E' and F may be reversed by rotating the said nut G against the member F in the position indicated by the dotted lines

of Fig. 3 on the opposite side of said member F.

In Fig. 4 I have shown a modified form of my invention which differs from that just described only in the means of connection between the armature member F of the jack E and the armature. In said figure this connection is made by a piece of ordinary commercial tubing F⁶, which is cut of the length required and may be provided with a washer F⁷ to center it upon the smaller diameter of the shaft C, and may be internally enlarged, as indicated at F⁸, to fit over the larger diameter of said shaft C.

It is obvious that the construction of Fig. 4 is adapted for thrusting the armature D upon the shaft C.

Although other means of connecting the jack E to the shaft C may be employed, the diametrically-reduced end of said shaft, provided with a screw-thread for that purpose, as described, has the merit of simplicity, and said shaft end may be covered by an ornamental cap *a* upon the frame, as shown in Fig. 2. The sockets *f*² in the armature D may also be covered with ornamental caps or plugs.

It is to be observed that by the use of my invention the damaging strains hereinbefore referred to as consequent upon the use of ordinary jacks connected to the framing of the machine to effect the desired movement of the armature are entirely obviated. Moreover, there is no danger of displacing the frame of the structure from its position upon its foundation, as when an ordinary jack is braced to an adjacent wall, as however great the force applied by my device said force is directed to the relative movement of the two

members of the jack and their respectively-connected shaft and armature.

I do not desire to limit myself to the precise embodiment of my invention which I have described, as it is obvious that many modifications may be made therein without departing from the spirit of my invention. Furthermore, I do not desire to limit myself by the technical or scientific meaning of the term "armature," but use said term herein as comprehensive of that member of a machine which my invention is adapted to shift longitudinally upon its shaft.

I therefore claim—

1. In an armature-jack, a member F, provided with openings *f*, bars F', each fitted to a respective opening *f*, as to one extremity F⁴, and provided with a screw-thread upon the other extremity F², a member E', freely mounted for longitudinal movement in said member F, and provided with a threaded, end socket E², a screw-thread *e'*, upon said member E', and a running nut G, fitted to said thread *e'*, substantially as and for the purpose set forth.

2. In an armature-jack, a member F, a fixed bearing in said member F, a brace extending from said member F, parallel with said fixed bearing, a member E', freely mounted for longitudinal movement in said fixed bearing, a threaded coupling end upon said member E', a screw-thread *e'*, upon said member E', and a running nut G, fitted to said thread *e'*, substantially as and for the purpose set forth.

WILLIAM A. DRYSDALE.

Witnesses:

FRED. J. SCHAEFER,
A. E. PAIGE.