

J. J. WOOD.
ARMATURE BANDING DEVICE.
APPLICATION FILED JULY 12, 1902.

NO MODEL.

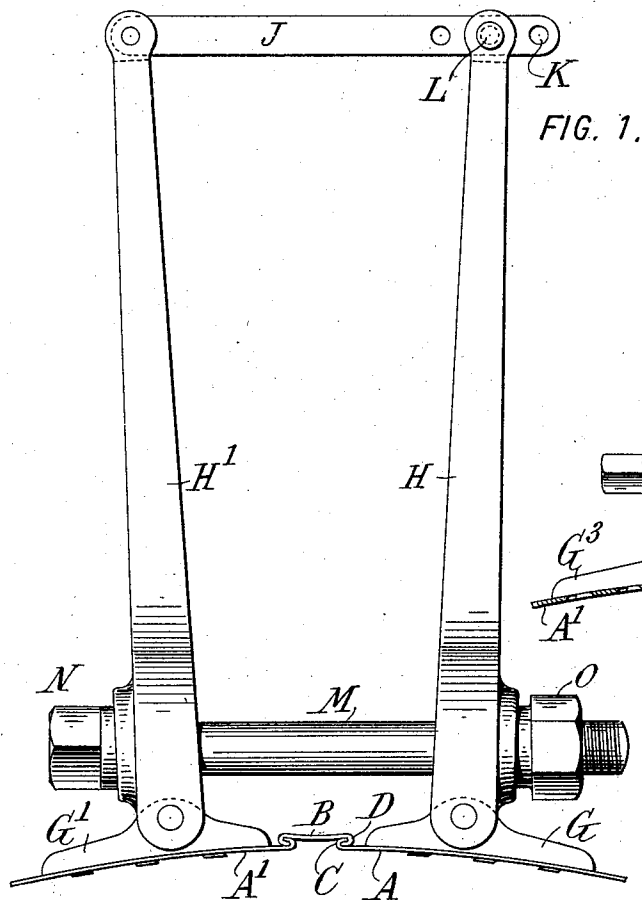


FIG. 1.

FIG. 4.

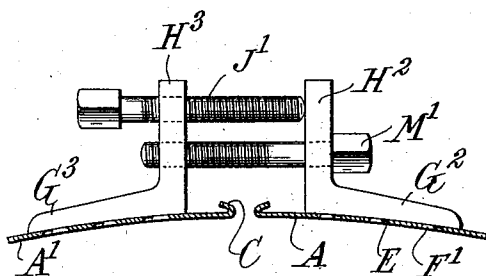
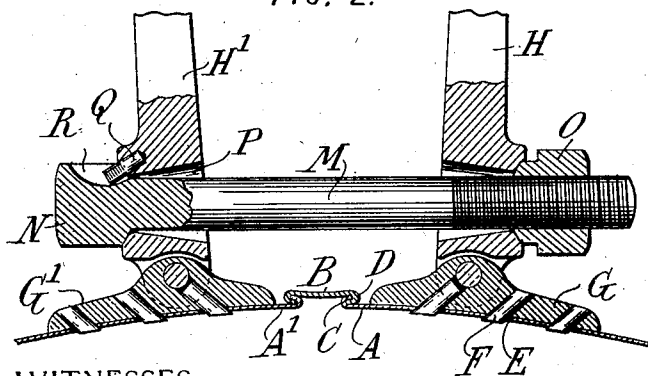


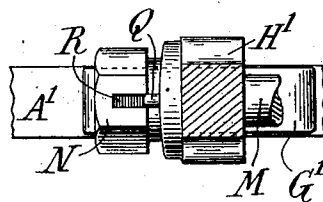
FIG. 2.



WITNESSES:

Fred White
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FIG. 3.



INVENTOR:

James J. Wood,

By Attorneys,

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UNITED STATES PATENT OFFICE.

JAMES J. WOOD, OF FORT WAYNE, INDIANA.

ARMATURE-BANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 720,308, dated February 10, 1903.

Original application filed February 26, 1902, Serial No. 95,705. Divided and this application filed July 12, 1902. Serial No. 115,372. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. WOOD, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Armature-Banding Devices, of which the following is a specification.

My invention aims to provide certain improvements in devices for applying bands to armatures, and especially for tightening and holding the same in position to be fastened thereon.

My invention relates especially to devices for applying bands of the type shown in my application for patent Serial No. 95,705, filed February 26, 1902, of which application the present application is in part divisional.

Referring to the accompanying drawings, illustrating embodiments of my invention, Figure 1 is a side elevation of the banding device in operation. Fig. 2 is a longitudinal section through the lower part of Fig. 1. Fig. 3 is a plan view of a portion of Fig. 2, and Fig. 4 is an elevation of another form of the invention.

The device of my invention is designed for temporary engagement with the ends of a band extending around an armature or around part of an armature to hold the windings of the latter in place. This temporary device draws the ends together and holds them in place for the application of the regular locking member, after which the temporary device is withdrawn.

To this end the device comprises a pair of members having provisions for temporarily engaging a strip near its ends and means for forcing or drawing said members toward each other sufficiently to permit the application of the regular locking member. In the specific form of the device shown, and applicable to the band described in my previous application, both the band and the banding device are provided with cooperating interengaging provisions whereby the banding device temporarily engages the band near its ends.

Referring to the embodiments illustrated in the accompanying drawings, A A' represent the end portions of a flat armature-band, which end portions are to be drawn and held together to apply the band to the windings of the armature. The ends A and A' after being drawn as tightly around the windings

of the armature as possible are held together by a substantially permanent clip or locking member B by reason of the overhanging flanges C of the band being engaged by the corresponding flanges D of the locking member. The drawing together of the ends A and A' in order that the clip B may be forced laterally over the flanges C is the purpose of the banding device which forms the chief subject of this application. For this purpose the end portions A A' of the band have suitable provisions, such as apertures E, for engagement with corresponding provisions, such as projections F, which latter are carried by the two members of the banding device and which members are adapted to be forced or drawn together, as explained. The projections F are carried, preferably, immediately upon the inner faces of members which bear on the outer face of the band—such, for example, as clamps G G', which in turn are pivoted on the inner ends of levers H H'. By reason of this arrangement the clamping device is prevented from entering to any substantial extent between the band and the armature, and the greatest tightness of the band is obtainable. A bar J holds apart and at the same time connects the outer ends of the levers H H' pivotally, so as to form fulcrums for the action of the levers and to permit the inner ends thereof to be drawn toward each other. The distance apart of the outer ends of the levers H H' is variable. For this purpose the lever H' is preferably permanently pivoted at one end of the bar J, and the lever H is adapted to be engaged with any one of a series of holes K by means of a pivotal pin L. The inner ends of the levers H H' may be drawn toward each other by means of a bolt M passing through the two levers. The inner face of the bolt-head N and also that of the nut O is convex and coöperates with the concave bearing-faces, Fig. 2, on the levers H H' to insure a good bearing at different angles, the apertures P in the levers being flared inwardly to permit the necessary angular movement relatively to the bolt. The bolt may be prevented from turning by means of a pin Q in the lever H', the outer end of which lies in a longitudinal slot R in the bolt-head N, suitably shaped to permit the necessary angular relative movement.

The projections F on the opposite members

of the banding device are preferably inclined inward, as shown, and the apertures E in the band are suitably undercut to correspond with the inclination of these projections.

5 The outer ends of the two members of the banding device are held, by means of the bar J, against any tendency to cant inward as the bolt is drawn up. Accordingly the inner ends of the members carrying the projections
10 F increase the security of engagement by increasing the angle at which the projections F cut under the band as the same is tightened. This is an important feature in preventing the separation of the banding device from the band during the application
15 of the latter. The pivoting of the clamp G to the inner ends of the levers H H' causes them to lie with an even bearing on the band regardless of the variation in angle of the
20 levers H and H' relatively to each other. I have designed a form of the device, however, in which there is no variation in angle of the two members of the device relatively to each other as they are drawn together and
25 in which accordingly there is no necessity of pivoting the clamp. As shown in Fig 4, this device comprises a pair of members having horizontal portions G² G³, analogous to the clamps G G' of Fig. 1 and provided with projections F', which incline inwardly and which
30 may, in fact, be undercut at both sides, as indicated. The clamping portions G² G³ are formed with integral upward extensions H² H³, which serve, like the levers H H' of Fig. 1, for applying the power to draw the two
35 members together. For this purpose a bolt M' draws the uprights H² H³ together near their lower portions, while the upper ends thereof are held against inward canting and consequent separation of the projections F'
40 from the band by means of a bolt J', both bolts M' and J' being screw-threaded through the member H³.

Though I have described with great particularity of detail apparatus embodying my invention, yet I am not to be understood as limiting the invention to the specific apparatus shown and described. Various modifications thereof are possible to those skilled in the art without departure from the invention.

What I claim, therefore, is—

1. A device for applying armature-bands, comprising in combination a pair of members having provisions for temporarily engaging a
55 band near its ends, means for forcing the inner ends of said members toward each other, and means for holding apart from each other the outer parts of said members.

2. A device for applying armature-bands
60 comprising in combination a pair of members adapted to bear on the outer face of the band and having on their inner faces provisions for temporarily engaging a band near its ends, and whereby they may engage said band
65 without entering between the band and the armature, and means for drawing said members toward each other.

3. A device for applying armature-bands, comprising in combination a bar, a pair of members pivotally connected to said bar at
70 their outer ends and having at their inner ends provisions for temporarily engaging a band near its ends, and means for drawing the inner ends of said members toward each other.

4. A device for applying armature-bands, comprising in combination a bar, a pair of members having at their inner ends provisions for temporarily engaging a band near its ends, means for pivotally connecting said members
80 at their outer ends to said bar at variable distances from each other, and means for drawing the inner ends of said members toward each other.

5. A device for applying armature-bands, 85 comprising in combination a pair of levers, clamps pivoted on the inner ends of said levers and having provisions for temporarily engaging a band near its ends, and means for drawing the inner ends of said levers toward each other.

6. A device for applying armature-bands, comprising in combination a bar, a pair of members having at their inner ends provisions for temporarily engaging a band near its ends, 95 and pivotally connected to said bar at their outer ends at variable distances from each other, a bolt connecting the inner ends of said members, means for holding said bolt against rotation, and a nut on said bolt for drawing
100 said inner ends toward each other.

7. The combination with an armature-band having shoulders at its ends, and a locking member having corresponding shoulders engaging the shoulders on said strip to hold said
105 ends together, of a device for drawing the ends of said band together to permit engagement thereof by said locking member, said band and device having cooperating interengaging provisions whereby said device may tempo-
110 rarily engage said band.

8. The combination with an armature-band having shoulders at its ends, and a locking member having corresponding shoulders engaging the shoulders on said band to hold said
115 ends together, of a device for drawing the ends together to permit engagement thereof by said locking member, said band and device having interengaging undercut recesses and projections whereby said device may temporarily
120 engage said band.

9. The combination with an armature-band, of a device for drawing the two ends thereof together, said band having undercut recesses, and said device having undercut projections
125 adapted to enter said recesses to temporarily engage said band.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES J. WOOD.

Witnesses:

W. H. CRIGHTON,
A. L. HADLEY.