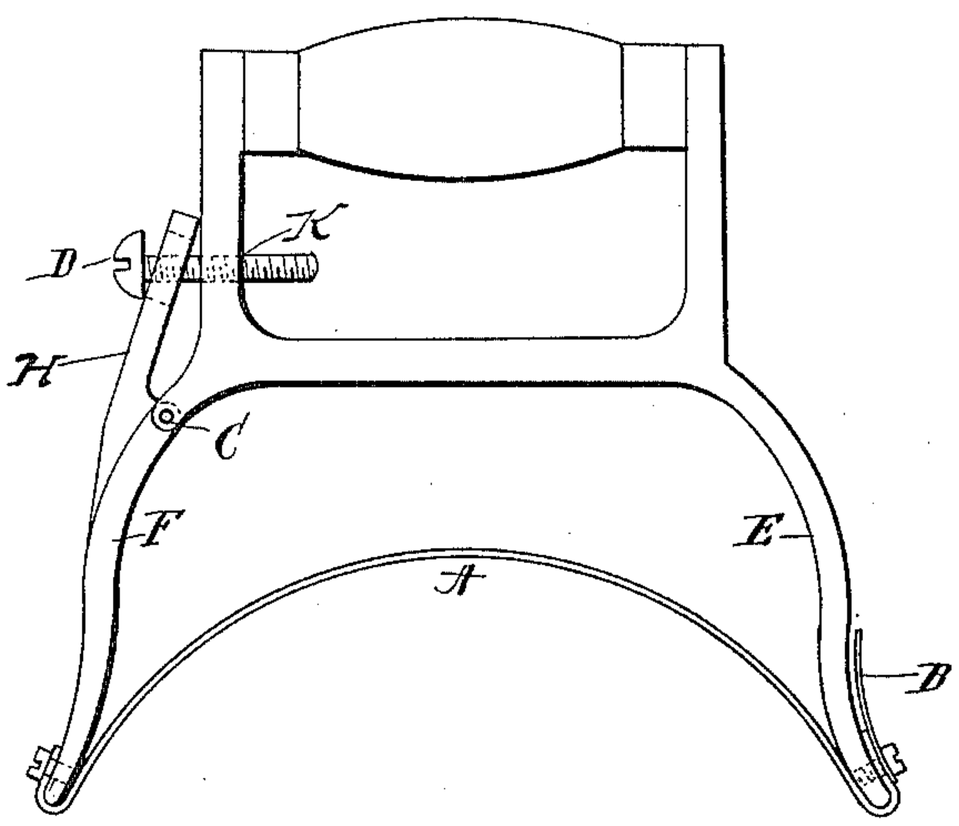
(No Model.)

W. P. ADAMS.

TOOL OR APPLIANCE FOR USE IN TRUING UP COMMUTATORS OF DYNAMOS, ELECTRIC MACHINES, &c.

No. 581,840. Patented May 4, 1897.



WITNESSES

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TOOL OR APPLIANCE FOR USE IN TRUING UP COMMUTATORS OF DYNAMOS, ELECTRIC MACHINES, &c.

SPECIFICATION forming part of Letters Patent No. 581,840, dated May 4, 1897.

Application filed August 15, 1896. Serial No. 602,887. (No model.) Patented in England November 18, 1894, No. 21,855.

To all whom it may concern:

Be it known that I, WALTER PAYNTER ADAMS, a subject of the Queen of Great Britain, and a resident of Furze Cottage, Roehampton, London, in the county of Surrey, England, have invented certain new and useful Improvements in Tools or Appliances for Use in Truing Up Commutators of Dynamos, Electric Machines, Cylinders, and the Like, (and which was patented in Great Britain November 18, 1894, said patent being No. 21,855,) of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to devices for truing up, scouring, polishing, or cleaning dynamo-electric machines or the cylinders thereof, and for other and like purposes, and is the same for which Letters Patent were granted in Great Britain November 18, 1894, No. 21,855, and the object of the invention is to provide a portable tool or device for this purpose which is simple in construction and operation; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

Up to the present time the cleaning and polishing of commutators or the collecting-cylinders of dynamo-electric machines or motors has been carried out by the attendant in charge by means of emery or other scouring devices of varying degrees of fineness, such device or devices being held in the hand or applied by a pad having a soft surface or by a block of wood hollowed out to fit the surface of the commutator. This last method of applying the scouring device is preferable to others, as it has a tendency to maintain a true cylindrical surface on the commutator, whereas if the scouring device is applied by hand or by a soft pad there is a tendency to wear away the depressions as well as the prominences, and so aggravate the untrue conditions of the cylindrical surface.

The chief difficulty in applying a hollowed-out wood block is that as the commutator wears away and is consequently reduced in diameter the wooden block no longer fits it, and a fresh one must be provided; and to obviate this difficulty I employ a flexible strip of metal or other suitable material of the correct thickness and stiffness to accommodate itself generally to the cylindrical form of the commutator, but does not adapt itself to the small depressions.

My invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, said drawing being an end view of a polisher intended for truing up the commutators of dynamo machines or motors.

In the practice of my invention I provide a flexible strip A, of suitable material, which is varied in width to suit the particular commutator it is intended to polish, and this strip A is secured to the supporting-arms E and F of a suitable frame provided with a handle G. The arm E in this case is rigidly connected with the frame or frames or a part thereof and the other arm F is hinged thereto at the point C and capable of adjustment by the supplemental arm or handle H, which is formed thereon or secured thereto and through which passes a set-screw D, which also passes through one side of the frame, as shown at K. This construction enables the strip A to adapt itself within certain limits to commutators varying in diameter, and the polishing-surface, which may be of any convenient form of emery-cloth or similar material, is supported by the said flexible strip, as shown in the drawing, and is held in position at one end by a clip B, the other end being left free.

In most cases it is not necessary to secure the second end of the polishing-cloth; but in such cases where it is necessary a second clip can be added, but instead of being a spring-clip, as at B, it may be a removable one.

In cases where it is necessary to use pitch-blocks instead of the polishing-cloth they are attached to the concave surface of the strip A in any desired manner.

The mere action of pushing or pulling the strip A up against the cylindrical surface of the commutator causes the strip to adapt itself to the cylindrical surface sufficiently for the purpose desired, but other methods of applying the strips will readily suggest themselves.

The scouring-cloth or other flexible polish-

ing material employed can be readily held in the required position by the clips, as hereinbefore described, but in some cases it may be simply held in position by hand.

In some cases where very great exactness is required I attach to the surface of the strip blocks of polishing-pitch, such as are usually employed by lens or spectacle polishers, and by "polishing-pitch" I mean any pitchy substance which has the true liquid but extremely viscous nature of pitch, which qualities peculiarly fit it for this purpose, and in this case the strip A may be somewhat stiffer and less yielding than that required for carrying a scouring-cloth.

The pitch may be applied in an even layer to the working surface of the strip, and said pitch may also be divided crosswise at short intervals. The strip A, when thus covered with pitch, can be applied to the revolving surface of the commutator, and it will adapt itself to the cylindrical surface thereof with great exactness, and the polishing or scouring material can be applied to and will embed itself in the surface of the pitch.

When it is desired to true up or polish the commutators and motors when the motor is caused to revolve, driven by a current passing through its own commutator, I use a polish of my construction in which the flexible strip is made of non-conducting material and the arms or forks E and F are made of such distance apart as to make the curved portion of the strip embrace as large an arc of the commutator as possible without running the risk of disturbing the brushes; and in another method I polish the commutator of a running motor by substituting for its ordinary brushes small ones of less than the usual width and apply a polisher which embraces the ordinary length of arc, with a flexible strip of non-conducting material, to that portion of the commutator on which the brushes do not rest, and in another method I cause the motor to revolve by pressing two narrow brushes against the end of the commutator, and thus leave the cylindrical portion of the commutator entirely free for polishing purposes.

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

1. In a device for truing up or polishing cylindrical surfaces, a frame provided with a handle and two projecting arms, one of which is pivoted or hinged to the frame, and a flexible strip connected with the ends of said arms, substantially as shown and described.

2. In a device for truing up or polishing cylindrical surfaces, a frame provided with a handle, and two projecting arms, one of which is pivoted or hinged to the frame, and a flexible strip connected with the ends of said arms, and means for adjusting the position of the hinged or pivoted arm, substantially as shown and described.

3. In a device for truing up or polishing cylindrical surfaces, a frame provided with a handle, and two projecting arms, one of which is pivoted or hinged to the frame, and a flexible strip connected with the ends of said arms, and means for adjusting the position of the hinged or pivoted arm, consisting of a supplemental arm or handle formed thereon, and a set-screw, which passes therethrough, and through the adjacent side of the frame, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 28th day of July, 1896.

WALTER PAYNTER ADAMS.

Witnesses:

ERNEST E. ADAMS,

WALTER W. CLARK.