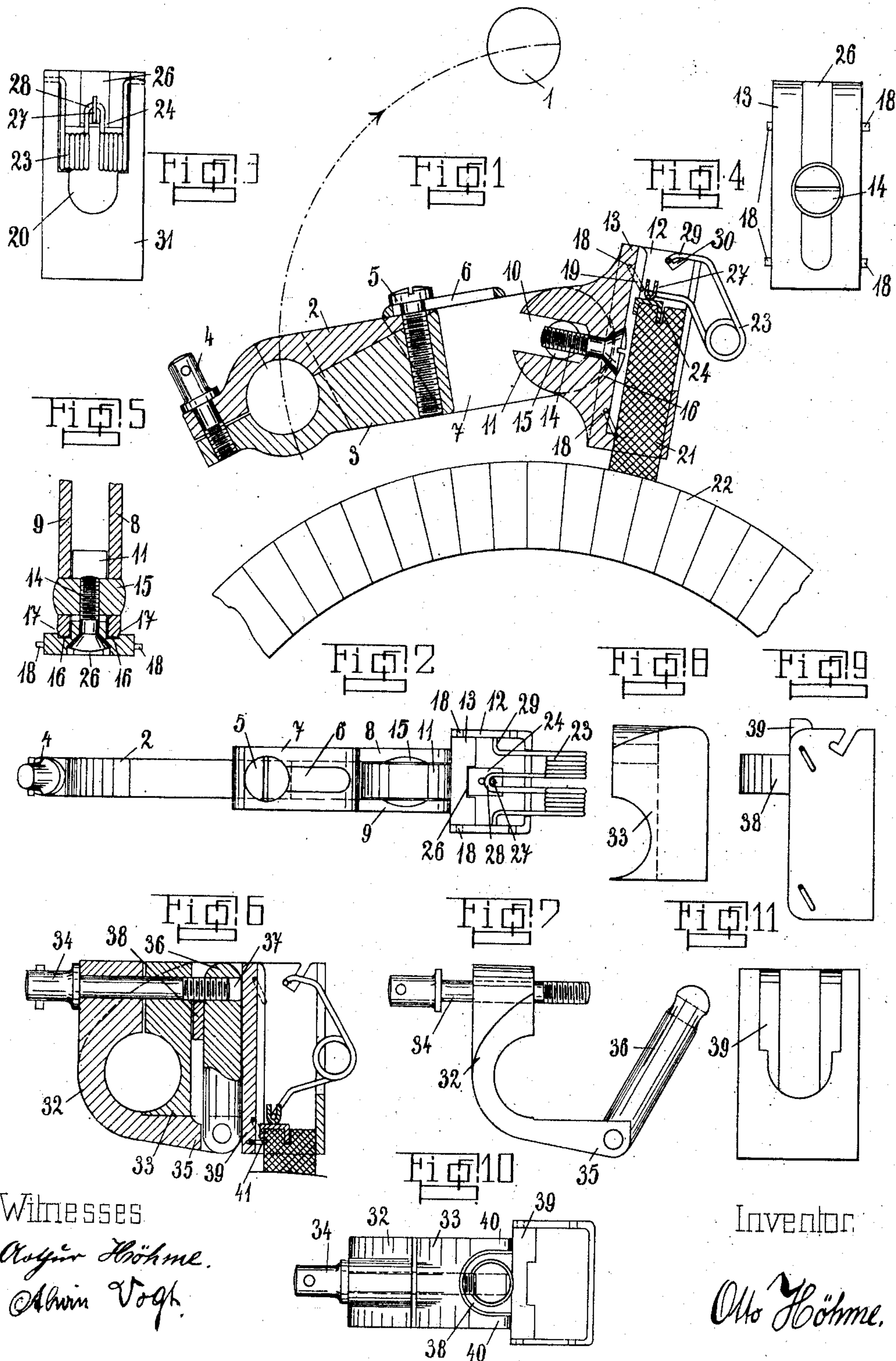


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DYNAMO BRUSH HOLDER.  
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983,230.

Patented Jan. 31, 1911.



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# UNITED STATES PATENT OFFICE.

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## DYNAMO-BRUSH HOLDER.

983,230.

Specification of Letters Patent.

Patented Jan. 31, 1911.

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*To all whom it may concern:*

Be it known that I, OTTO HÖHME, a subject of the German Emperor, and residing at Radebeul, near Dresden, Kingdom of Saxony, Empire of Germany, have invented certain new and useful Improvements in Dynamo-Brush Holders, of which the following is a specification.

My invention relates to dynamo brush-holders, and a primary object is to provide a brush holder which can be removed readily at any time from the pin or spindle on the dynamo frame and is provided with an adjustable and revoluble brush-box.

Some illustrative embodiments of my invention are represented by way of example in the accompanying drawings wherein:

Figure 1 is a longitudinal section, Fig. 2 a top plan view, and Fig. 3 a rear elevation of one form of brush-holder; Fig. 4 is a rear view of the carrier or holder which carries the brush-box; Fig. 5 is a cross-section through this carrier and part of the hollow arm to which it is revolubly and fixably attached; Fig. 6 is a longitudinal section through the device attaching a brush-box to a non-adjustable holder, Figs. 7 to 9 show details in elevation of parts of the holder according to Fig. 6, Fig. 10 is a top plan view of the holder shown in Fig. 6, and Fig. 11 is a rear elevation of a part of the latter holder.

Referring to the drawing and firstly to Figs. 1 to 5, 1 is the pin or spindle on which the brush-holder is secured by two clips or half boxes 2, 3 held together at both ends by screws 4, 5. The screw 5 passes, in addition, through the slot 6 in a hollow arm 7 pushed over the end of the clips 2, 3. Consequently said clips can be caused to clamp the stud 1 and also be adjusted longitudinally in the sliding arm 7 owing to its being possible to slide the screw 5 in the slot 6. The arm 7 runs out into two limbs 8, 9 embracing a lug or projection 11 of a carrier or holder 13 carrying the box 12, said lug 11 having a slot 10. The arm 7 is secured to the holder 13 by a screw 14 which passes through the holder 13, projects into the slot 10 and is screwed into a pin 15 revolubly mounted in the limbs 8, 9. In order to be able from time to time to prevent the brush-box moving relatively to the arm 7, I provide grooves 16 in the holder 13, in which the beveled ends 17 of limbs 8, 9 can be fixed by tightening the screw 14, as

will be readily understood from Figs. 1 and 5. The curved dotted line and the stud circle 1 at the upper end thereof in Fig. 1 clearly indicate the possible amount of angular movement of the clips 2, 3 relatively to the carrier 13. On said holder 13 are arranged four pins 18 on which is suspended a box 12 by means of its slanting slots 19. Into this box is pushed the carbon 21 which slides on the commutator 22.

The carbon brush is pressed against the commutator by a spring 23, the arrangement being as follows: On the carbon head is pushed a clamp 24 of elastic material in such manner that its one limb enters into a slot 25 in the carbon and the other lies against the outside of the carbon. For this latter limb is provided in the rear wall of holder 13 a cavity 26 in which the limb slides without the firm hold of the carbon in the box being impaired. On said clamp 24 is soldered an open ring 27 in which the loop 28 of spring 23 is placed. The two ends 29 of spring 23 are hooked into slot 30. The rear wall of box 12 has an incision 30 in order to enable said spring to be arranged and to allow it to move. The purpose of spring 23 is to press the carbon constantly downward against the commutator. Simultaneously, however, its upper ends 29 tend to raise box 12. The consequence of this is that the chamber or space in box 12 is made smaller, in consequence of its being suspended by the slanting slots 19, and the box always lies firmly against the carbon.

An adjustable and revoluble brush-holder as shown in Figs. 1 to 5 will not always be necessary, however, and in this event a form of my invention according to Figs. 6 to 10 may be used. Referring to these figures, showing a holder which can be removed from the pin just as readily as that described above, the clips 32, 33 are held together by a screw 34. The one clip 31 has an extension or arm 35 in which a pin 36 is mounted to rock. This pin has in its head a screw-threaded hole 37 corresponding to the screw 36. Over this pin 36 is pushed a sleeve 38 soldered to the carrier or holder 39. The latter, the box 39' for the carbon, the attachment of the box to the holder, and the spring-pressed arrangement of the carbon are similar to the form described above with reference to Figs. 1 to 5. The holder is firmly pressed against the spindle carrying the brush-holder by tightening screw 34



until the sides 40 lie firmly against said holder 39. By pushing holder 39 up and down on pin 36, the distance between the commutator and the spindle carrying the brush-holder can be increased or diminished in this constructional form. I may mention, in addition, that the cavity 26 (Figs. 1 to 5) in holder 13 does not extend quite through the same, but some material is left at the bottom edge so that the carbon is not pressed entirely out of the box by the spring. If preferred, the cavity may extend quite through the holder, in which event a pin 41 (Fig. 6) will be screwed into the same at a suitable place, which pin will offer resistance to the one limb of the carbon clamp.

I claim:

1. In a dynamo brush-holder, the combination, with two clips, of a hollow arm movably mounted thereon, a carrier mounted on said hollow arm, a brush-box suspended from said carrier, and a spring-pressed brush in said box.
2. In a dynamo brush-holder, the combination, with two clips, of a hollow arm movably mounted thereon, a carrier pivotally and fixably attached to said hollow arm, a brush-box suspended from said carrier, and a spring-pressed brush in said box.
3. In a dynamo brush-holder, the combination, with two clips, of a hollow arm telescopically mounted thereon, a carrier mounted on said hollow arm, a brush-box suspended

ed from said carrier, and a spring-pressed brush in said box.

4. In a dynamo brush-holder, the combination, with two clips, of a hollow arm movably and fixably mounted thereon, a carrier mounted on said hollow arm, a brush-box suspended from said carrier, means for firmly securing said box to said carrier, and a spring-pressed brush in said box.
5. In a dynamo brush-holder, the combination, with two clips, of a hollow arm telescopically mounted thereon, a carrier pivotally attached to said hollow arm, a brush-box suspended from said carrier, means for firmly securing said box to said carrier, and a spring-pressed brush in said box.
6. In a dynamo brush-holder, the combination, with two clips, of a carrier adjustably connected therewith, pins on said carrier, a brush-box having slots suspended from said pins, and a spring-pressed brush in said box.
7. In a dynamo brush-holder, the combination, with two clips, of a carrier adjustably connected therewith, means for firmly securing said carrier to, and simultaneously compressing said clips, pins on said carrier, a brush-box having slots suspended from said pins, and a spring-pressed brush in said box.

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