

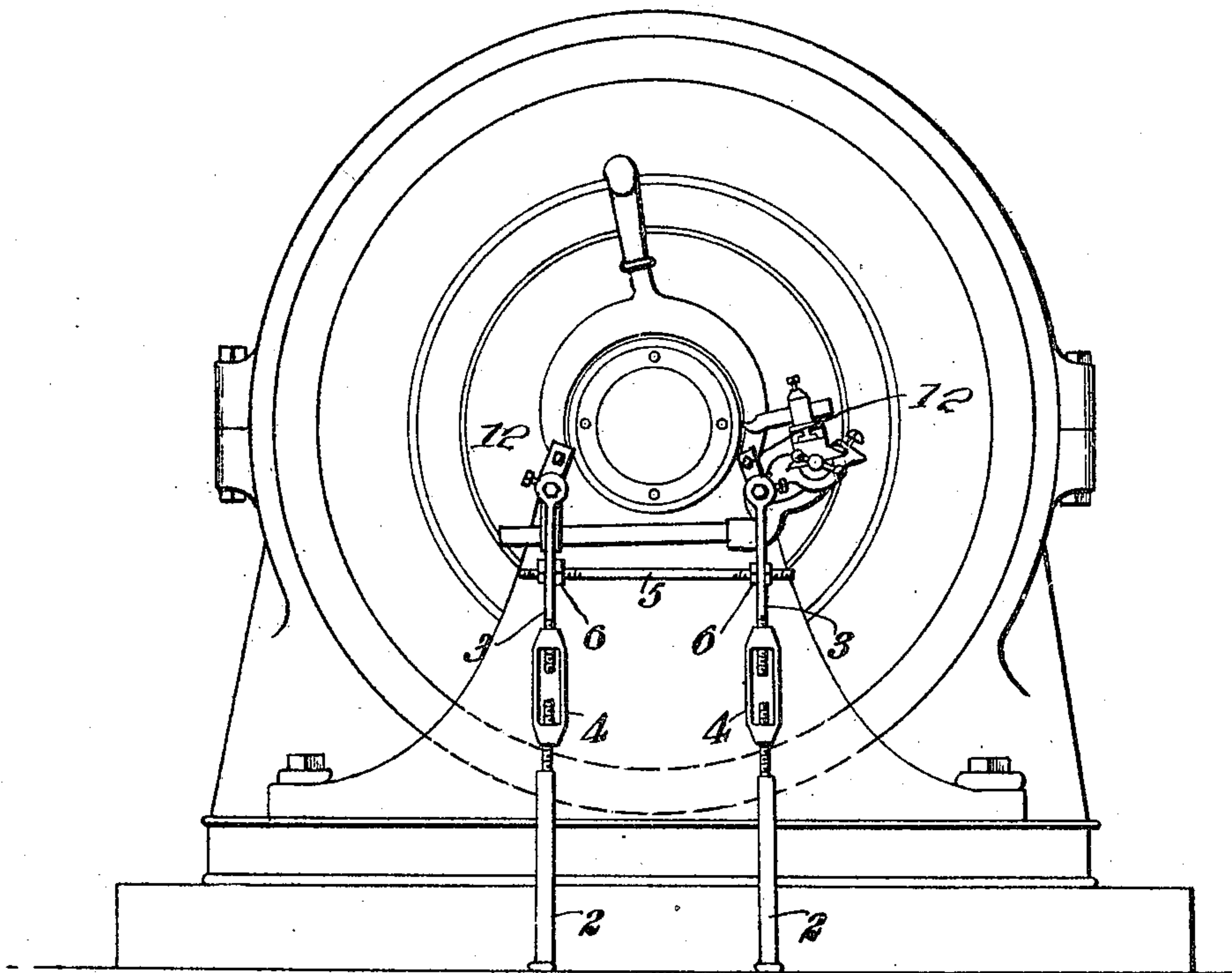
O. E. HUNT.  
COMMUTATOR TRUING MACHINE.  
APPLICATION FILED NOV. 13, 1908.

945,784.

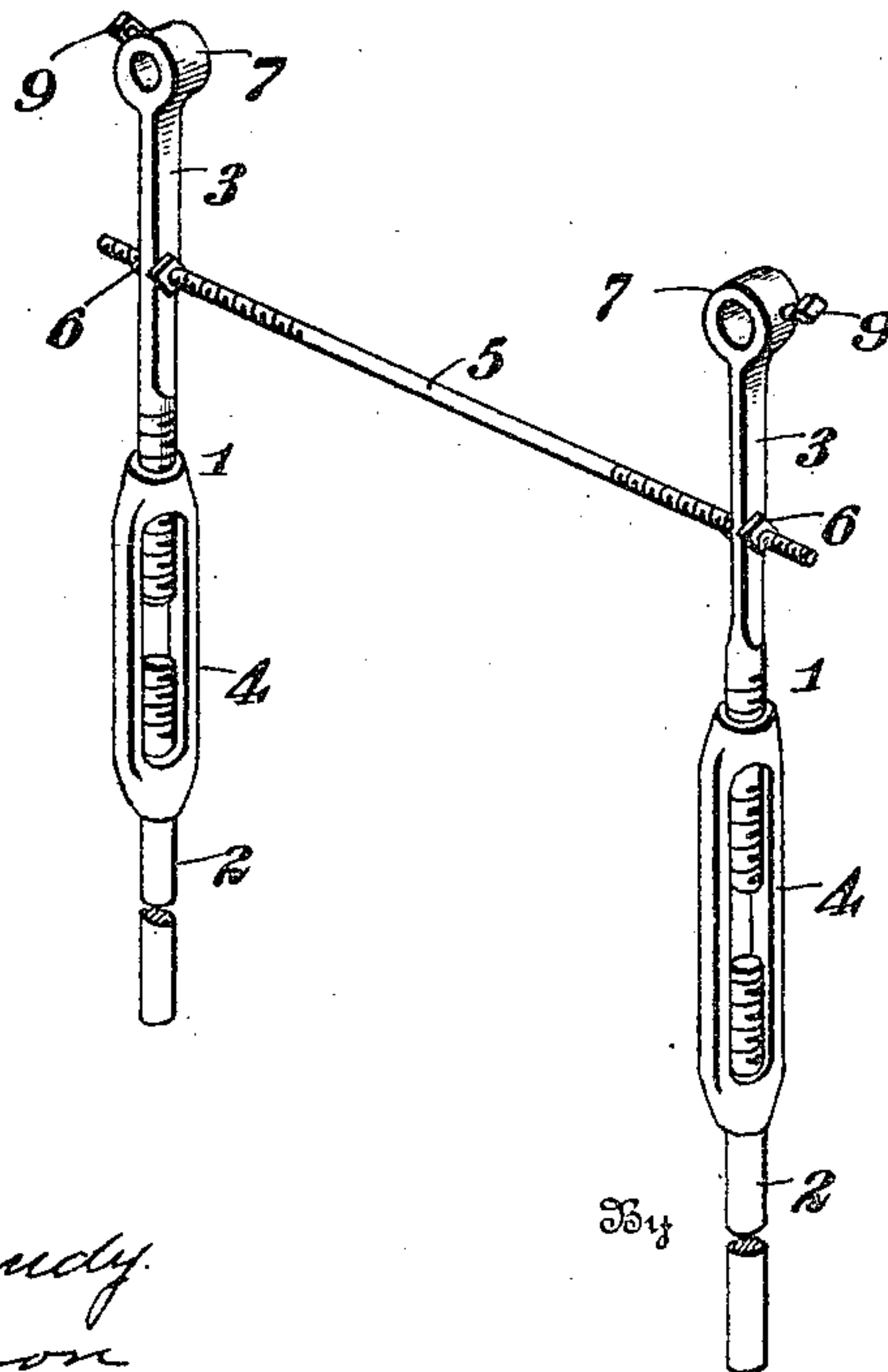
Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



Witnesses

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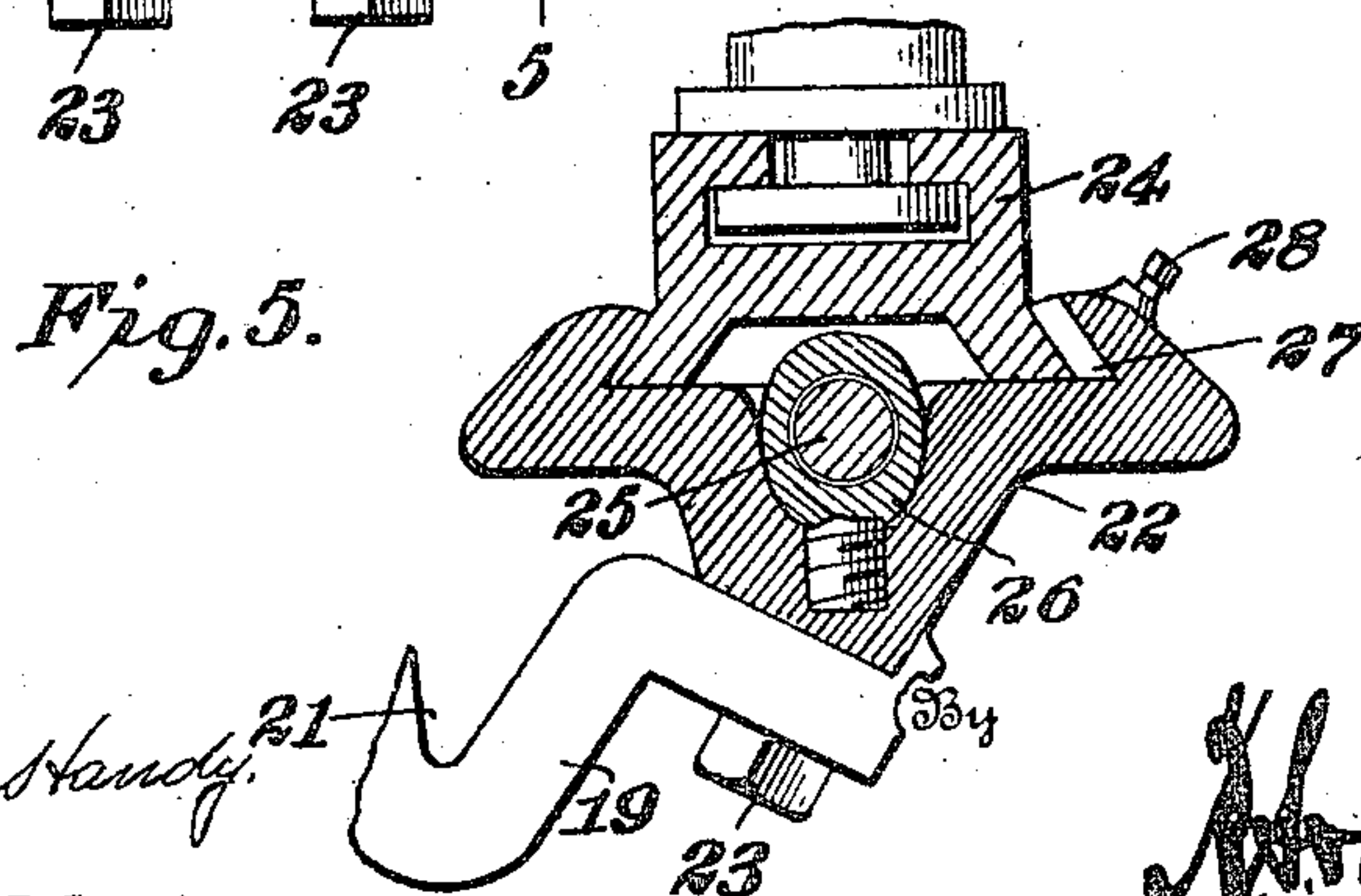
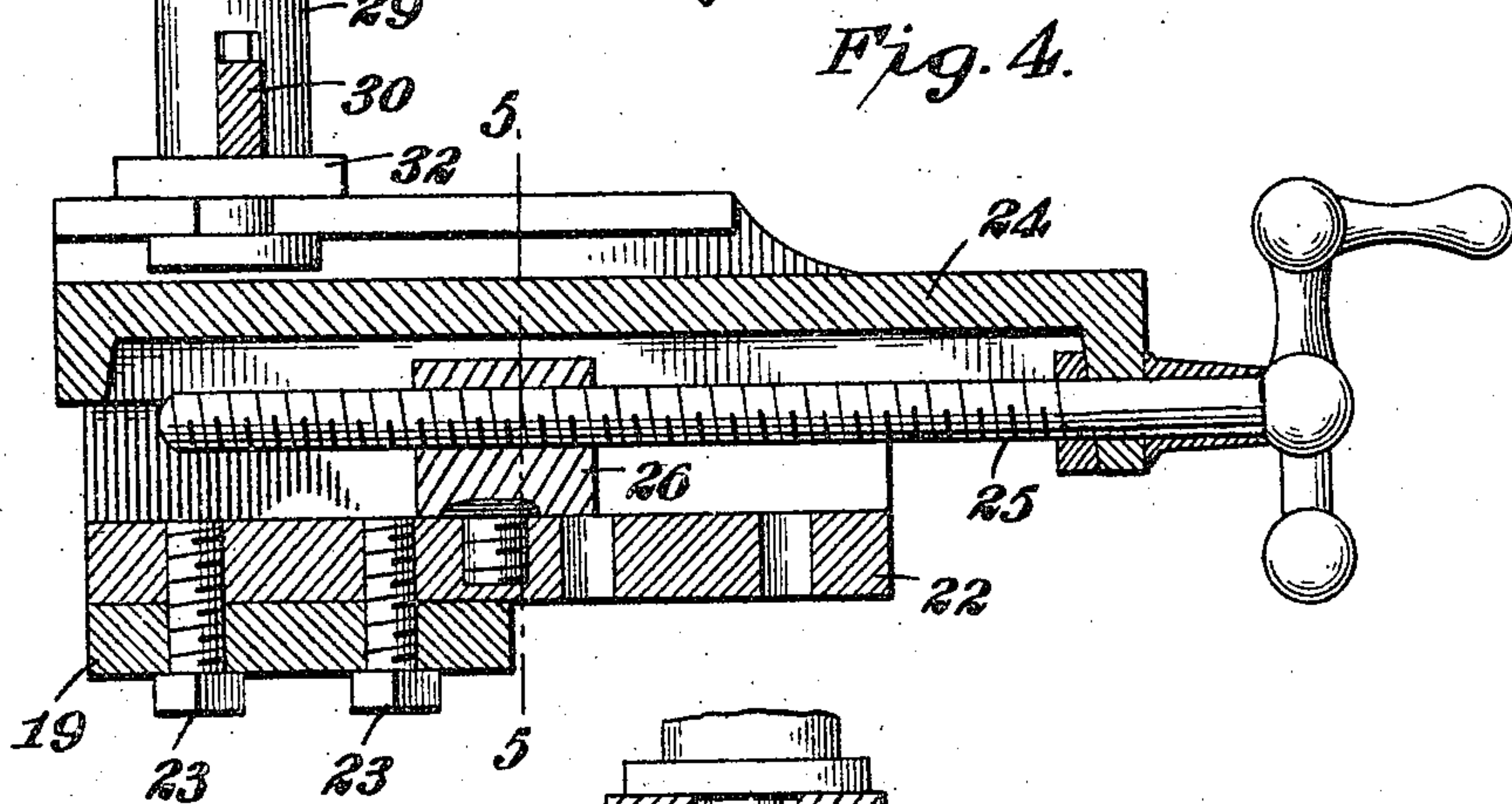
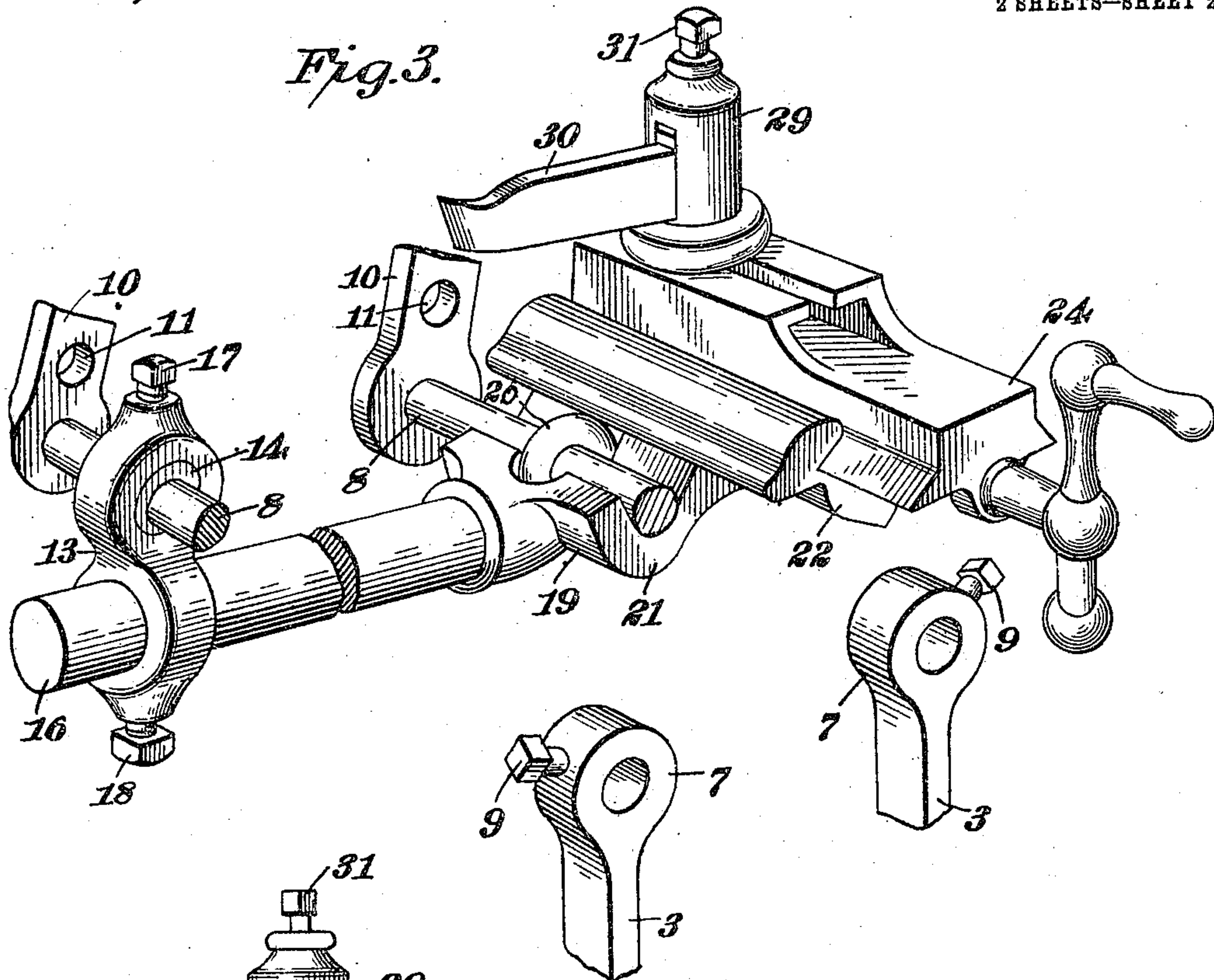
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

OSMAN E. HUNT, OF EAGLE GROVE, IOWA.

COMMUTATOR-TRUING MACHINE.

945,784.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed November 13, 1908. Serial No. 462,487.

*To all whom it may concern:*

Be it known that I, OSMAN E. HUNT, a citizen of the United States, residing at Eagle Grove, in the county of Wright and State of Iowa, have invented certain new and useful Improvements in Commutator-Truing Machines, of which the following is a specification.

The purpose of this invention is to supply a machine of novel structure for truing the commutators of dynamo-electric machines and which may be used without necessitating removal of the commutator from its shaft or the dismounting of the dynamo-electric machine thereby enabling the commutator to be trued in a comparatively short length of time and at a minimum expense.

In using the appliance in connection with a dynamo, the power of the machine may be employed for running the same, or when the truing machine is fitted to a motor the latter may be turned by means of a crank applied to the shaft.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction, of the means for effecting the result, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a side view of a dynamo having the invention in operative position, the brushes being removed and the machine placed in position for truing the commutator. Fig. 2 is a perspective view of the support including the two uprights and the tie. Fig. 3 is a detail perspective view of the head, guide and carriage, having the cutting tool in place and illustrating the several rods, and the upper ends of the support. Fig. 4 is a central longitudinal section of the carriage showing the guide and supporting head also in section. Fig. 5 is a transverse section on the line 5-5 of Fig. 4, looking to the left, the upper portion of the tool post being broken away.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The machine comprises uprights 1 which are extensible to admit of readily adapting the machine to the dynamo or electric motor whose armature is to be trued or made smooth. The uprights 1 consist of lower members 2, upper members 3 and turn buckles 4, the latter adjustably connecting the members 2 and 3. The upper members 3 are adjustably connected by means of a tie rod 5, the latter having its end portions threaded, and passed through openings in the members 3 and provided with a pair of set nuts 6. The members 3 are provided at their upper ends with sleeves 7 in which rods 8 are mounted so as to turn and move longitudinally to any required position, set screws 9 threaded into openings in the sides of the sleeves 7 and serving to secure the rods 8 in the adjusted position. Each of the rods 8 is provided at one end with an arm 10 having an opening 11 to receive a bolt or fastening 12, by means of which the machine is attached to the dynamo-electric machine.

A coupling 13 is mounted upon one of the rods 8 and is provided at its ends with openings having a right-angular arrangement, one of the openings 14 receiving a rod 8 and the other opening receiving a rod 16. Set screws 17 and 18, threaded into opposite ends of the coupling serve to secure the rods 8 and 16 in the adjusted position. The rod 16 is provided at one end with a head 19 which receives the other rod 8, the latter being adjustably connected thereto by means of a hook or eye-bolt 20. A groove or channel 21 is formed in the head 19 and forms a seat to receive the rod 8 which is held therein at the required adjusted position by means of the hook or eye bolt 20. The arms 10 at the ends of the rods 8 serve to connect the machine to the dynamo or electric motor, the uprights 1 bracing and supporting the rod 16 which is provided at one end with the connecting mechanism.

A guide 22 is mounted upon the head 19 and is adjustable thereon being secured in place by means of machine screws 23. The guide 22 supports a carriage 24 which is slidable upon the guide being moved backward and forward by means of a feed screw 25 which is connected with one end of the carriage 24 by means of a swivel connection and has screw thread connection with a lug 26 secured to the guide 22. The carriage 24 has a dove tail connection with the guide



22 so as to prevent both vertical and lateral displacement. A plate 27 is interposed between a side of the carriage 24 and the guide 22 and is adjustable by means of set screws 28 so as to take up wear and insure a snug fit between the guide and the carriage so as to prevent any possible play. A tool post 29 is mounted upon the carriage 24 and is adapted to be secured thereon in any adjusted position either angularly or in the length of the carriage. The cutting tool 30 is passed through the slot of the tool post 29 and is secured in place by means of a set screw 31, said set screw also serving as means to hold the tool post in adjusted position. The tool post is formed near its lower end with an annular groove to receive the inner flanges of the carriage 24, and a washer 32 mounted upon the tool post is confined between the cutting tool 30 and the carriage.

When it is required to dress or true the commutator of a dynamo-electric machine the brushes are removed and the arms 10 are secured to the rockers or other convenient portion of the machine by means of the fastenings 12, the uprights 1 being adjusted so as to rest upon the surface or bed and thereby hold the rods 8 and the parts mounted thereon in operative position. The cutting tool 30 is adjusted so as to remove a sufficient amount of the commutator to true the same. After the parts have been adjusted the commutator is rotated and the cutting tool is moved across the same by turning the feed screw 25. It will thus be understood that it is not necessary either to remove the commutator or to displace the machine from its mountings, hence the commutator may be trued in a comparatively short time and without entailing an extra amount of work such as necessitating removing the commutator or the machine from its mountings.

It is observed that the construction of the device is such as to admit accurately truing the commutator throughout its length, both at the ends and at intermediate points, which is of great advantage particularly in the readjustment of the brushes and in the efficiency of the machine after the commutator has been dressed.

Having thus described the invention, what is claimed as new is:

1. The combination of arms carried by a machine as specified, rods outwardly extended from said arms, uprights adjustably

secured to said rods, a transverse rod supported across said rods, a head carried by said transverse rod, a guide on said head, a carriage mounted in said guide and a cutting tool carried by said carriage for engagement with an armature disposed upon the machine.

2. In a machine of the character set forth, the combination of uprights, a tie rod adjustably connecting the uprights, a rod adjustably mounted in one of the uprights and provided with an arm for attachment to the work, a coupling mounted upon said rod, a second rod adjustably mounted in said coupling and provided with a head, a rod adjustably connected with said head, and supported by the other upright and having an arm to be attached to the work, a guide adjustable upon said head, and a carriage mounted upon the guide and provided with a cutting tool.

3. In a machine of the character specified, the combination of uprights each comprising members and turn buckles for adjustably connecting said members, a tie rod adjustably connecting said uprights, a rod mounted in one of said uprights and provided with an arm to be connected with the work, a coupling mounted upon said rod, a second rod adjustably mounted in the coupling and provided with a head, a third rod adjustably mounted upon said head and provided with an arm to be connected to the work and supported by the other upright, a guide mounted upon said head, and a carriage mounted upon the guide and provided with a tool carriage.

4. In a machine of the character set forth, the combination of a support provided at its upper end with spaced sleeves, a rod adjustably mounted in one of said sleeves, and adapted to be connected to the work, a coupling mounted upon said rod, a second rod adjustably mounted in the coupling and provided at one end with a head, a third rod adjustably mounted upon said head and adapted to be connected to the work, and mounted in the other sleeve, a guide mounted upon the head, and a carriage mounted upon said guide and provided with a cutting tool.

In testimony whereof I affix my signature in presence of two witnesses.

OSMAN E. HUNT. [L. s.]

Witnesses:

S. H. WILLIAMSON,  
SYLVESTER FLYNN.