

No. 680,756.

Patented Aug. 20, 1901.

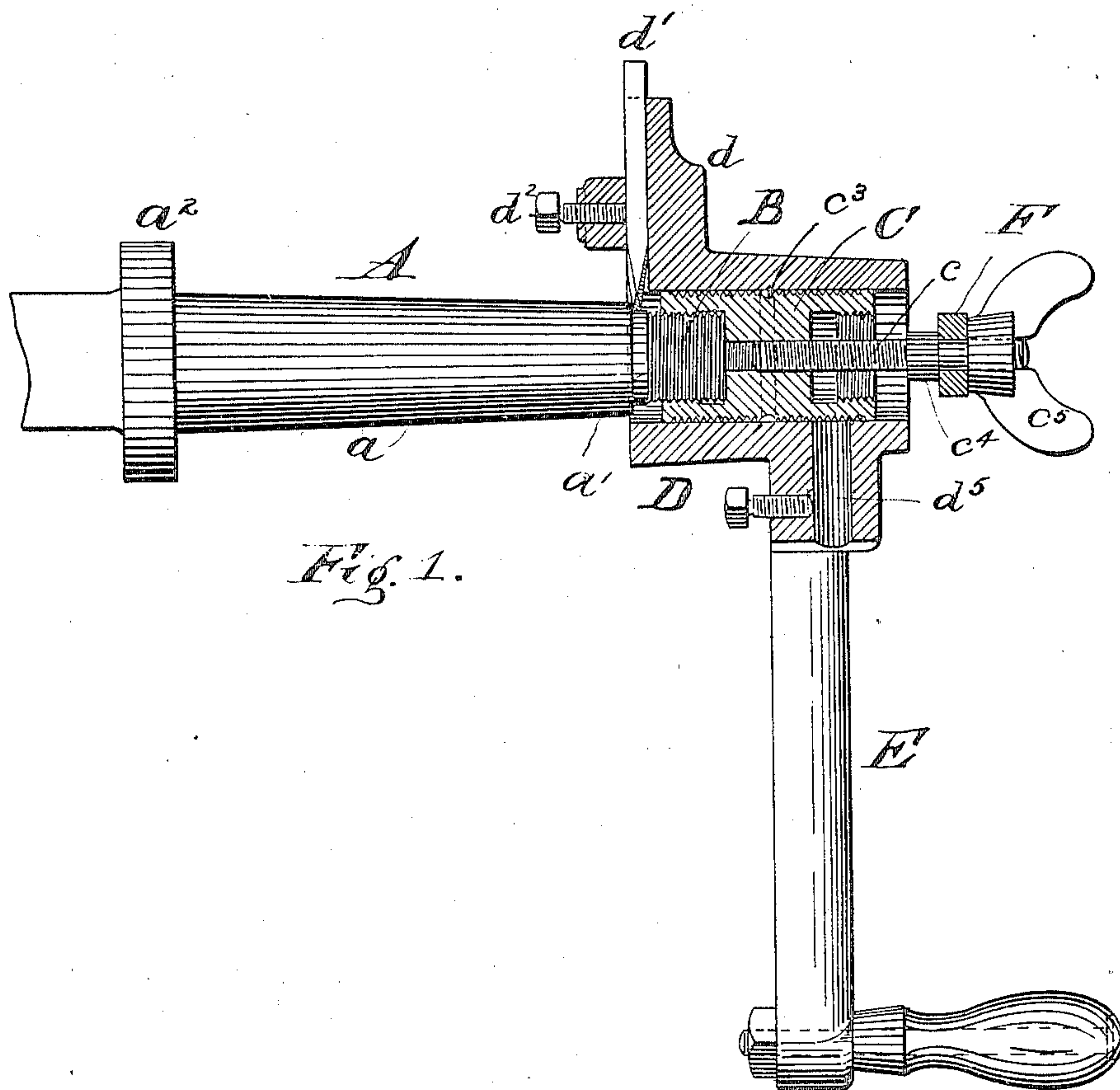
E. F. BOND.

PORTABLE AXLE TURNING AND THREADING DEVICE.

(Application filed Mar. 12, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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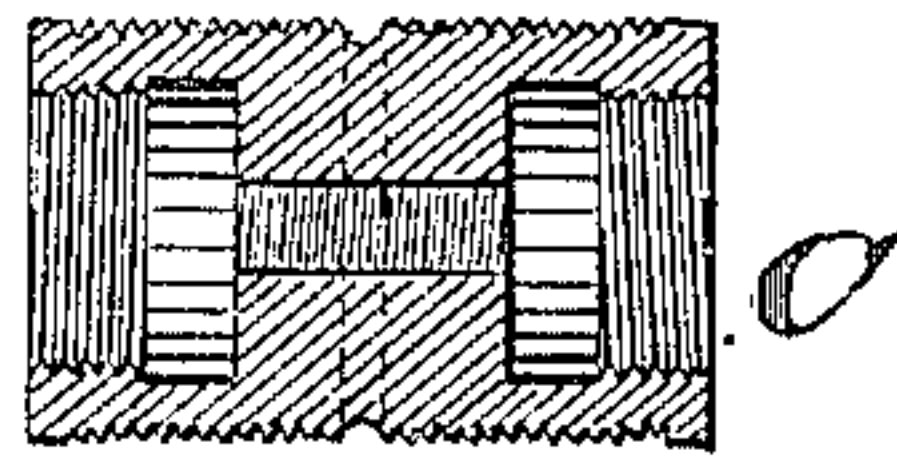
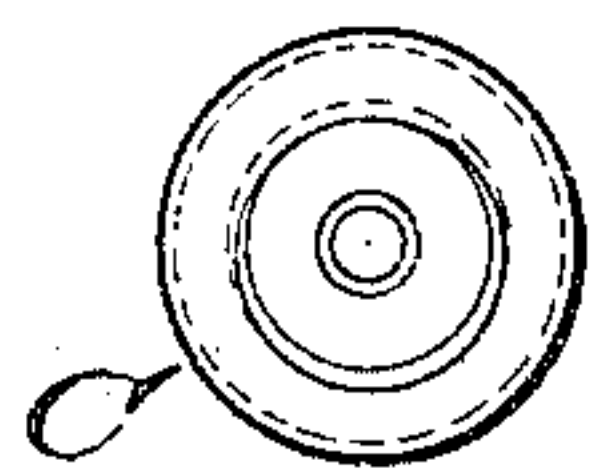
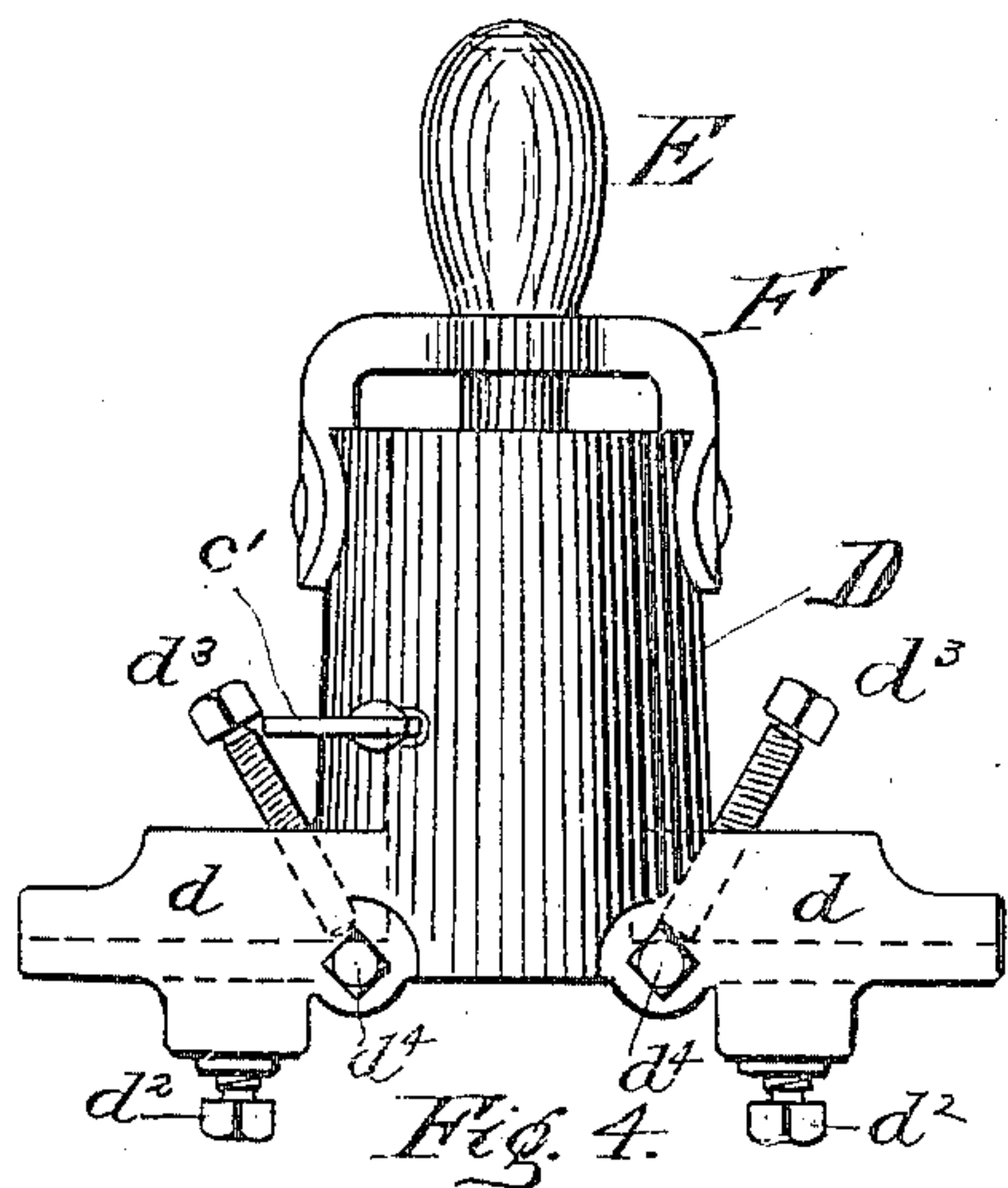


Fig. 6.

Fig. 5.



Fig. 7.

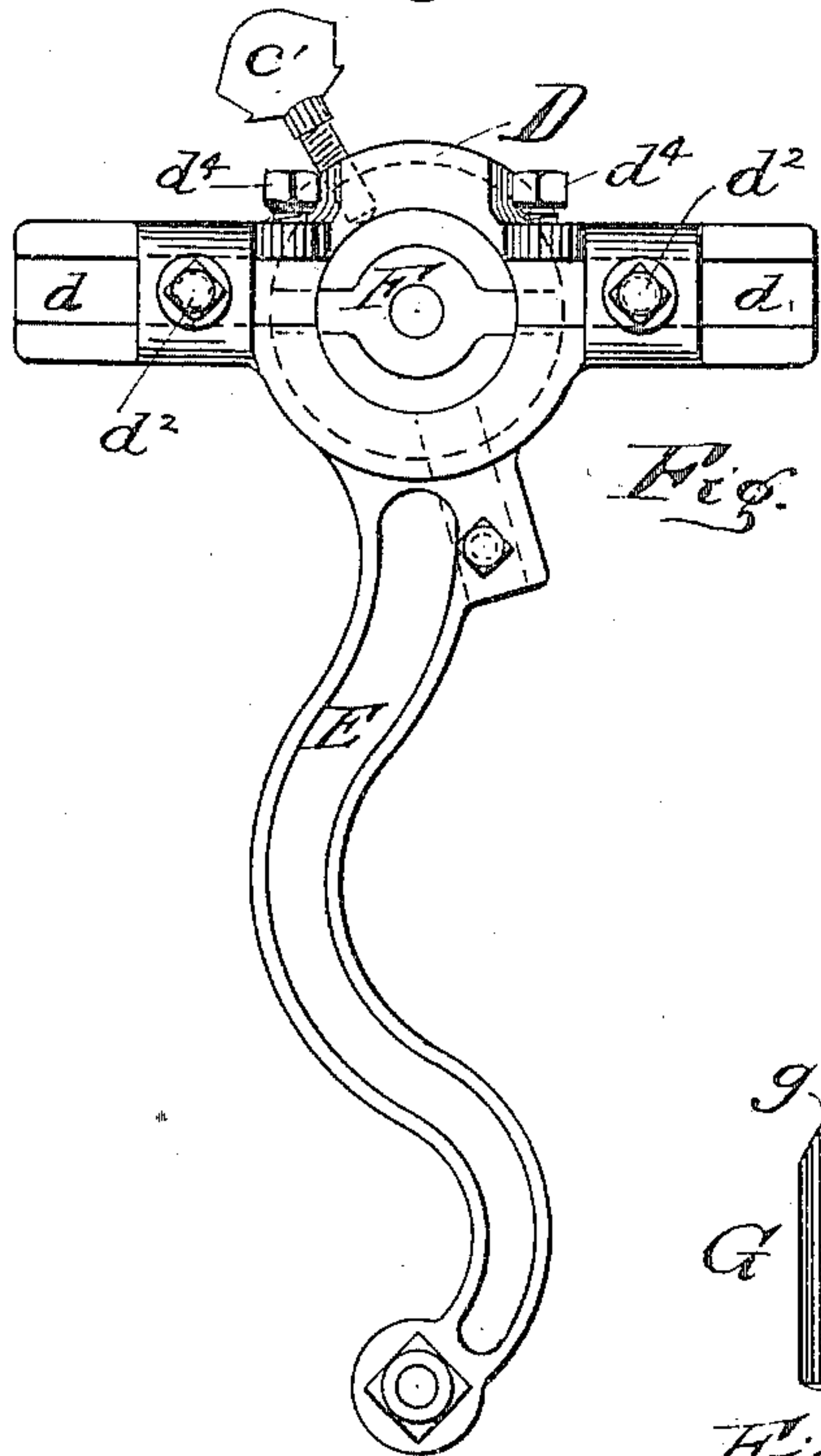


Fig. 3.

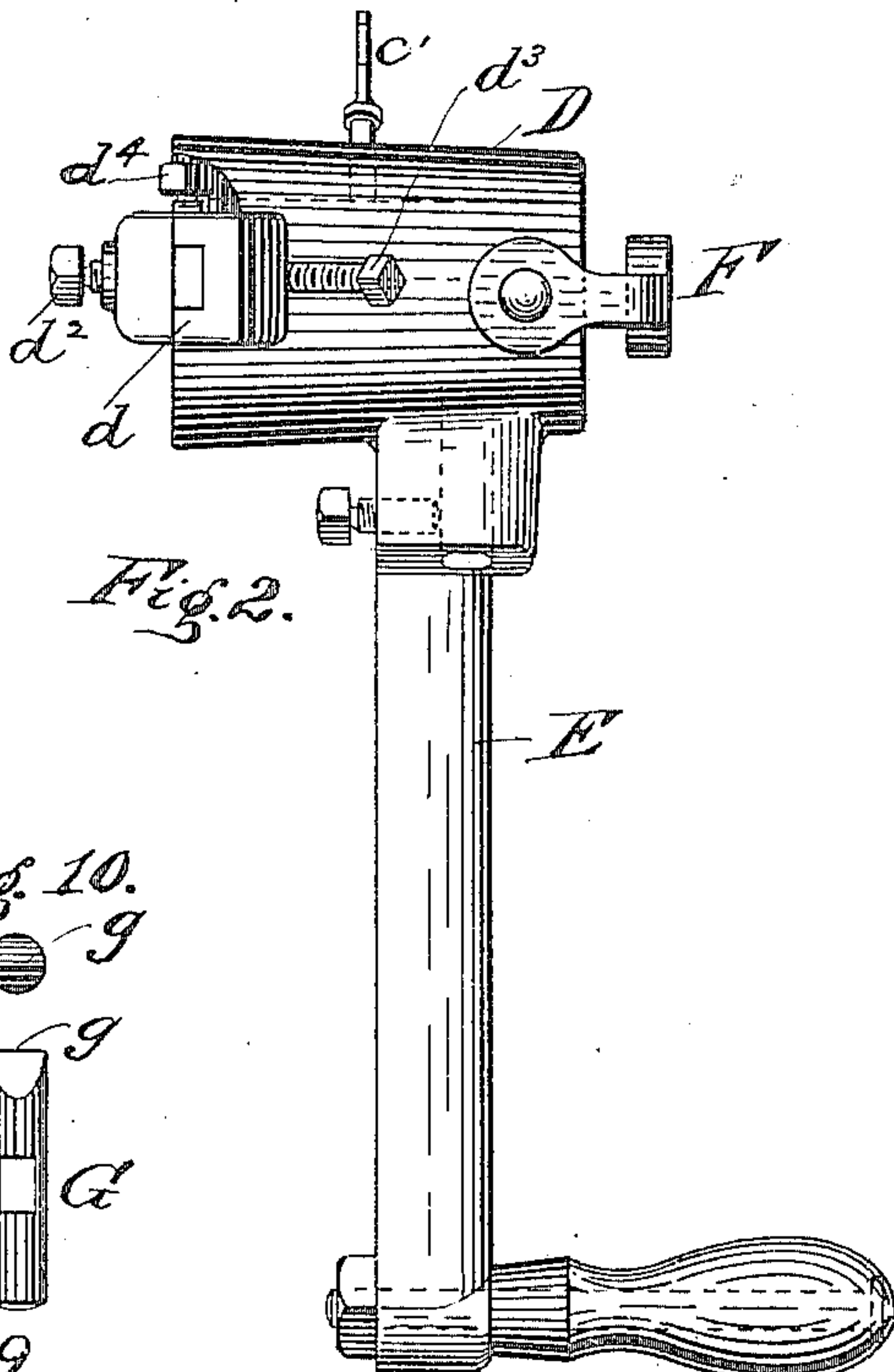


Fig. 2.

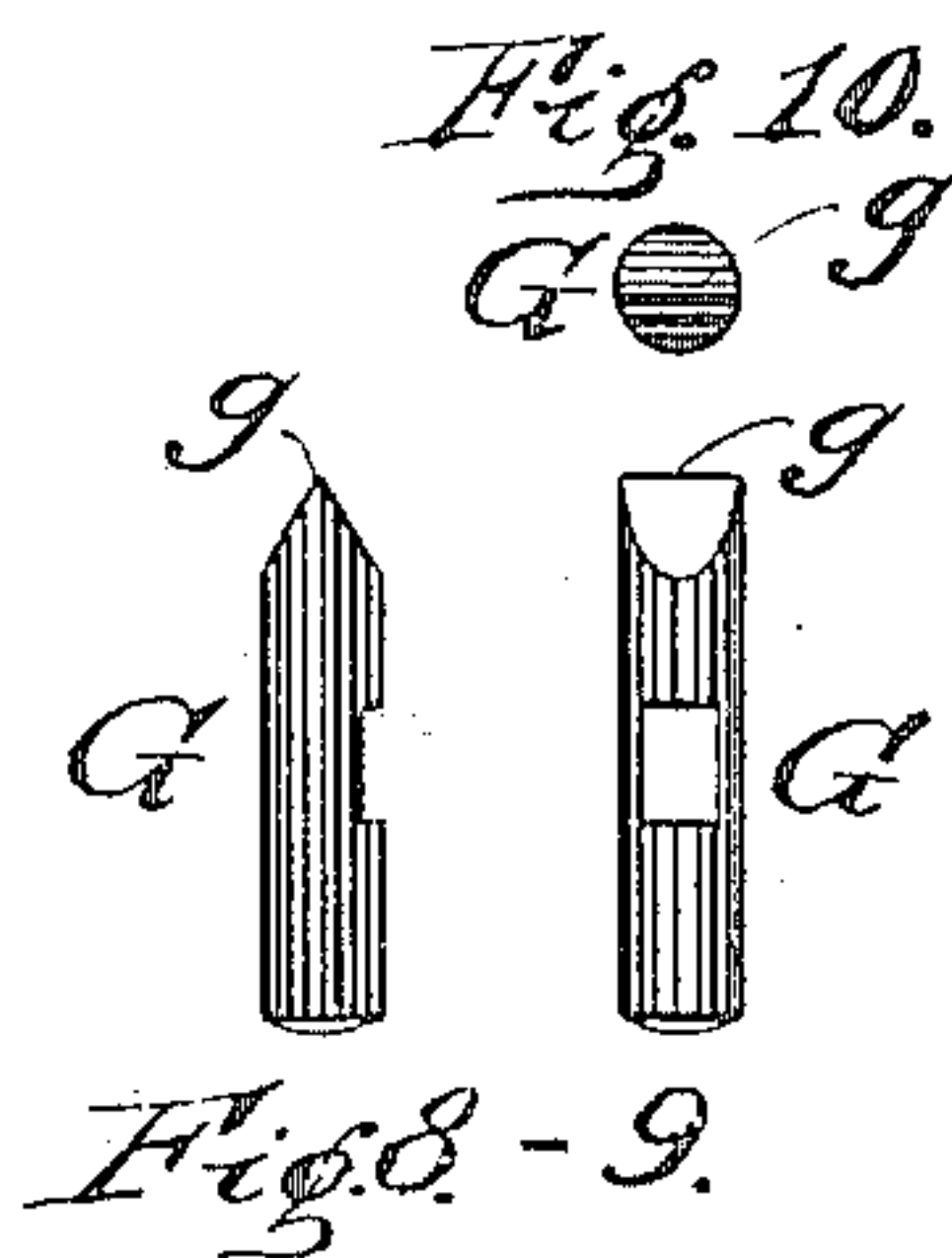


Fig. 8-9.

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# UNITED STATES PATENT OFFICE.

ED F. BOND, OF ATHENS, GEORGIA, ASSIGNOR TO THE NORTH AMERICAN MANUFACTURING CO., OF BOGART, GEORGIA.

## PORTABLE AXLE TURNING AND THREADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 680,756, dated August 20, 1901.

Application filed March 12, 1900. Serial No. 8,280. (No model.)

*To all whom it may concern:*

Be it known that I, ED F. BOND, a citizen of the United States of America, and a resident of Athens, in the county of Clarke and State of Georgia, have made a certain new and useful Improvement in Portable Axle Turning and Threading Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such

as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form part of this specification.

This invention relates to devices for turning the ends of wagon-axles while the same are in place on the vehicles, the object of the invention being to provide a device which can be used to take up lost motion between the axle and the hub-box.

To this end the invention consists in the device shown in the accompanying drawings, in which—

Figure 1 is a sectional view of the device in position on an axle, showing the operation of preparing same to be threaded farther up than it was originally. Fig. 2 is a side elevation of the device, and Fig. 3 an end view thereof. Fig. 4 is a plan. Fig. 5 is a sectional view of the attaching-sleeve, and Fig. 6 is an end view thereof. Fig. 7 is a side view of the lead-screw. Figs. 8 and 9 are side views of the chaser, and Fig. 10 is an end view thereof.

In the figures like reference characters are uniformly employed in the designation of corresponding elements of construction.

A is the axle, and B is the screw-threaded tenon thereon, adapted to receive the axle-nut, which can be made of standard sizes and of right and left hand screw-threads. As is well known, the wheel fits upon the tapered portion  $a$  of the axle, while the nut screws onto the aforesaid portion B up against a small shoulder  $a'$ . Obviously the wheel becomes loose when the distance between this shoulder and the collar  $a^2$  is greater than the length of the axle-box. Now in order to shorten this distance and make it coincide with the length of the axle-box it is necessary to cut away a small portion of the tapered part of the axle

and to thread same of the same diameter, pitch, and direction as the old portion of the tenon B is threaded. To this end I have devised the following device.

C is a sleeve which is screw-threaded on its periphery from each end to the center of opposite direction, as will be presently described. In the ends of this sleeve C are cylindrical recesses, which are screw-threaded also right and left, the recess on one end being screw-threaded in the same direction as the screw-threads on the opposite end of the sleeve. The sleeve is bored concentrically with its periphery in these recesses with a hole sufficiently large to receive the lead-screw  $c$ , for which purpose the said sleeve is screw-threaded in the central aperture. In operation this sleeve C is screwed by its proper end onto the tenon B, and during turning operations the lead-screw  $c$  is screwed into the central aperture, as shown in Fig. 1.

D is the main frame or body of the device, which is provided with a crank-handle E, by which, as the body D fits loosely over the outside of the sleeve C, same may be caused to rotate thereon. Upon the inner end of this body is a lateral projection  $d$ , which is provided with a channel for the turning or screw-cutting tool  $d'$ , which is held in place by means of a set-screw  $d^2$  or otherwise, as desired. As shown in Figs. 3 and 4, there are two holding-arms, which, however, is merely a matter of expediency providing for the use of a roughing and finishing tool and facilitating quick rotation of the axle end to the proper size. Shown in Figs. 2 and 4 are set-screws  $d^3$  and  $d^4$ , which bear on the tool nearer its cutting edge than does the set-screw  $d^2$ , one of said screws—namely, that marked  $d^3$ —bearing on the side of the tool, which is of advantage, as will be hereinafter described, in making the necessary adjustment for continuing the thread onto the newly-turned portion of the tenon. The screw  $d^4$  serves to adjust the tool in such a manner as to bring it into proper cutting position. A U-shaped shackle F is secured by its ends to the outer end of the said body D and has a hole in its center adapted to receive the lead-screw  $c$ ,  $c^4$  being a collar on said screw, as shown in Figs. 1 and 7, and forming an abut-



ment which coöperates with the fly-nut  $c^5$  to secure the said lead-screw to the U-shaped shackle, so that as the body D rotates the said lead-screw will also rotate and draw the  
 5 body D along the sleeve C, forcing the tool's cut forwardly.

In order to screw the sleeve C onto the tenon of the axle conveniently, I provide a thumb-screw  $c'$ , which may be tightened and  
 10 cause an engagement between the body D and the hub C, threads being cut away at  $c^3$ , Fig. 1, for the double purpose of forming a clearance between the right and left hand threads at their inner ends and of affording a suitable  
 15 bearing-point for this thumb-screw. By this means the sleeve C may be screwed onto the axle much more firmly than could be done merely with the hand and may be easily removed in the same manner.

20 Shown in Figs. 8, 9, and 10 is a chaser which is adapted when the lead-screw  $c$  is thrown out of action, either by its removal or by removing the fly-nut  $c^5$  and screwing the said lead-screw so far into the sleeve C that  
 25 it will clear the shackle F, to be inserted in the hold at  $d^5$ , so that its pointed end  $g$  will enter the threads in the periphery of the cylinder C and cause the tool, which should of course be a diamond-pointed screw-cutting  
 30 tool, to cut a thread of the same pitch upon the newly-turned portion of the tenon. This screw-cutting tool is inserted in the channel

in the arm  $d$  and the screw  $d^3$ , Figs. 2 and 4, is utilized to set it, so that when the chaser G is in position in a thread on the sleeve C  
 35 the thread-cutting tool will be in a correlative position in the old thread, whereby the uniformity of the new thread with the old will be guaranteed.

Having thus described my invention, what  
 I claim as new, and desire to secure by Letters  
 Patent of the United States, is—

1. A hollow body provided with a tool-carrying arm, means for rotating same, a sleeve fitting within said body and adapted to be se-  
 45 cured to the axle-tenon and means for feeding said body along said sleeve consisting of a lead-screw adapted to be set in the outer end of said sleeve, a shackle therefor secured to said body and a feed-nut on said lead-  
 50 screw for the purpose specified.

2. A hollow body provided with a tool-holding arm and means for rotating same, a sleeve recessed in its end and screw-threaded in said  
 55 recess to receive the axle-tenon, screw-threads in the periphery of said sleeve, and a chaser adapted to seat in said body and project into and engage the said peripheral screw-threads.

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

ED F. BOND.

Witnesses:

ROBERT THOMPSON,  
 J. D. WAGES.