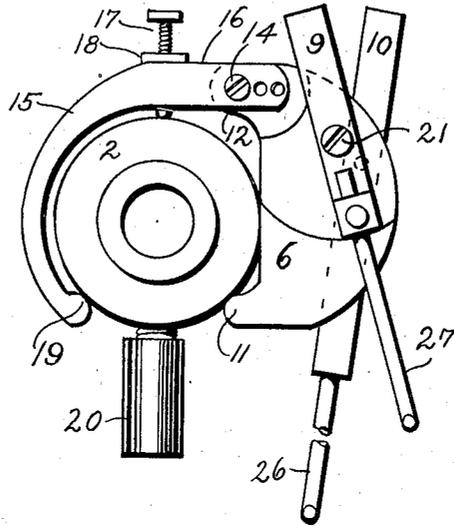


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 ADJUSTABLE CLAMP.  
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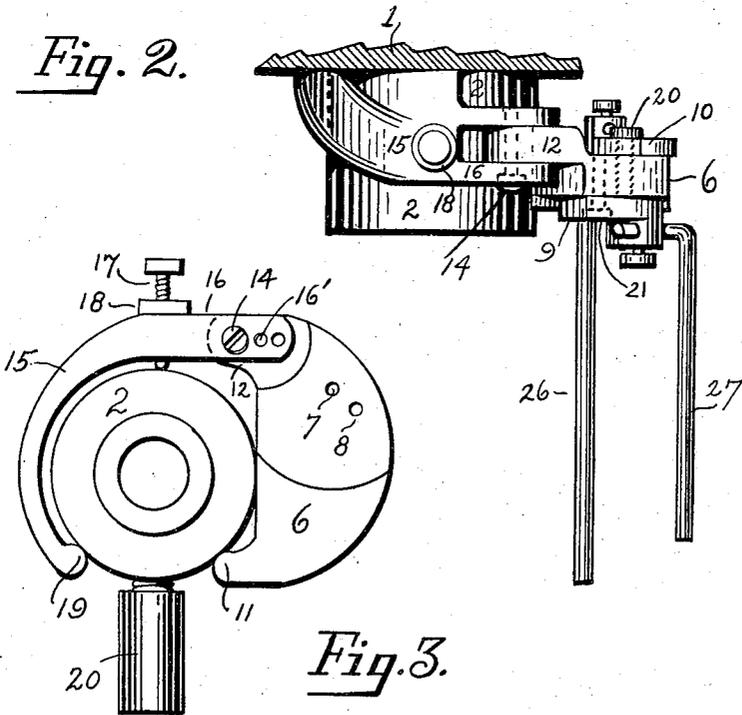
1,178,784.

Patented Apr. 11, 1916.  
 2 SHEETS—SHEET 1.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

Witnesses:  
*Augustus A. West*

Inventor  
*Thomas J. Davis*  
 By his Attorney  
*Christoph Schelfmar*

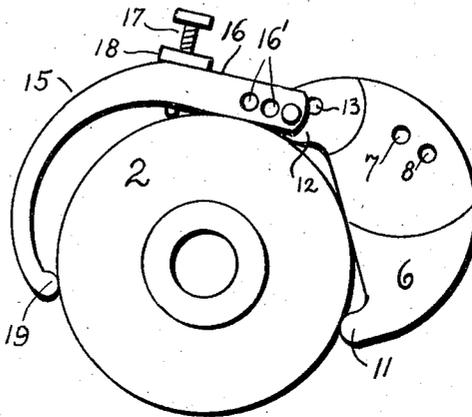
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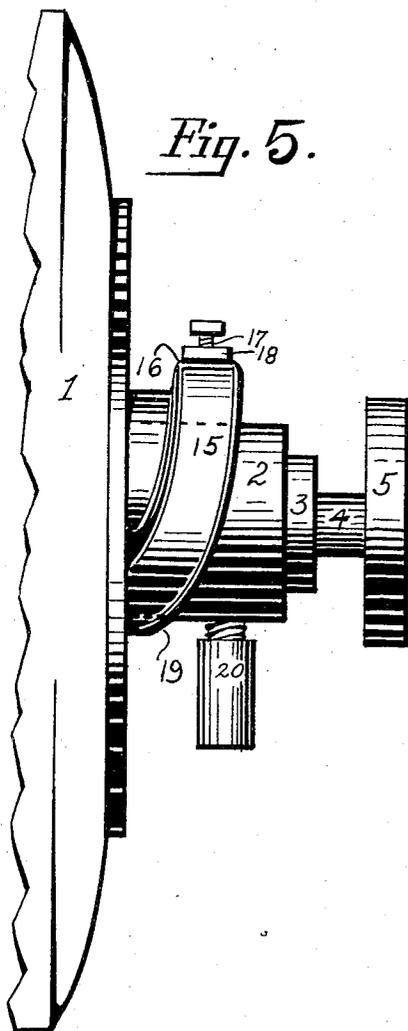
Patented Apr. 11, 1916.

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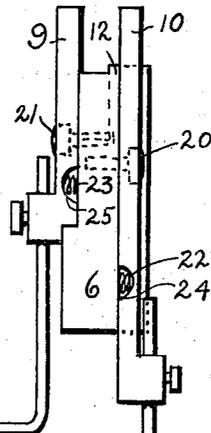
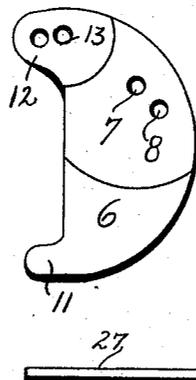
*Fig. 4.*



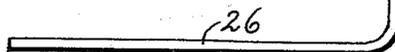
*Fig. 5.*



*Fig. 7.*



*Fig. 6.*



Witnesses:

*Augustine A. West*

Inventor  
*Thomas J. Davis*  
 By his Attorney  
*W. J. Phelps Ward*

# UNITED STATES PATENT OFFICE.

THOMAS JAMES DAVIS, OF NEW YORK, N. Y.

## ADJUSTABLE CLAMP.

1,178,784.

Specification of Letters Patent. Patented Apr. 11, 1916.

Application filed June 16, 1915. Serial No. 34,497.

To all whom it may concern:

Be it known that I, THOMAS J. DAVIS, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Adjustable Clamps, of which the following is a specification.

This application is one of a series wherein I have developed certain new and useful devices intended to be secured in operable relation with a tool commonly termed a grinding lathe. I refer particularly to the small grinding lathes used by dentists in shaping and polishing artificial teeth.

I have found it desirable that the supporting device be adjustably retained in operable position, and in relation to an abrasive wheel, and this application sets forth a clamp by means of which I may accomplish the desired results.

Grinding lathes are not uniform in construction, shape or size, but they are all provided with projecting bearing members through which the armature shaft projects, and I have utilized this bearing member, common to all lathes, as the supporting means for my device.

The bearing members are not of uniform diameter, and I find it desirable therefore to provide a clamp so adjustable that it may receive in firm engagement a bearing member of any general diameter. The clamp and its method of operation will be set forth as the specification progresses.

The following is what I consider a good means of carrying out this invention and the accompanying drawings form a part of this specification, in which—

Figure 1 is a side elevation of my clamp in operable position on a bearing member of small diameter. Fig. 2 is a plan view. Fig. 3 shows the clamp without attached parts. Fig. 4 shows the clamp secured to a bearing member of larger diameter. Fig. 5 is a side elevation of the clamp in position. Fig. 6 shows a side elevation of one portion of the clamp with certain devices attached thereto. Fig. 7 shows a part removed.

Similar reference numerals indicate like parts in all of the figures where they appear.

A grinding lathe is usually a small motor as indicated at 1 having a projecting bearing indicated at 2 in which a shaft 3 is rotatably mounted, and it is in this shaft that an arbor 4 is inserted and secured for the

purpose of receiving an abrasive wheel as indicated at 5. These parts are of well known construction and will require no lengthy description further than to merely call attention to the fact that the diameter of the shaft 3 and of the bearing member 2 is varied, not only because of a change in the size of the motor 1 but because of the different designs of the several manufacturers. It is because of the difference in the design of the motors and in the size of the bearing members 2 that I provide the device which I am about to describe, for I have found that the only portion of a grinding lathe supplied by all manufacturers of these devices is a projecting bearing member; I have, therefore, selected this bearing member as the means for supporting my several devices.

In several of the figures I have omitted the motor, the arbor, and the abrasive wheel as they are not necessary in the description of my clamping device, and in these figures the bearing member to which my clamp is secured is indicated and referred to merely by the reference character 2.

The clamp consists of two main portions, a block 6 provided with a plurality of perforations 7 and 8 into which screws may be secured, which screws will receive and retain certain L shaped blocks 9 and 10 which support devices not shown.

The block 6 is provided with a projection 11 at its lower end, which I may term a finger and which impinges upon and engages the lower half of the bearing member 2. The block member 6 has a projection 12 at its upper end which projection is provided with a plurality of screw threaded perforations indicated at 13. A screw 14, which enters one of the perforations 13, secures in pivotal engagement with the member 6 a finger 15. This finger has a straight portion 16 provided with a plurality of perforations 16' into any of which the screw 14 may pass, and through the straight portion 16 I produce a transverse or vertical screw threaded perforation which will receive a thumb screw 17 provided with a locking nut 18. The function of this screw 17 will be set forth as the specification progresses.

The finger 15 is offset as indicated in Figs. 2 and 5 and at its lower end I arrange a ball or angled projection 19 which shall engage a convenient point upon the lower half of the periphery of the bearing mem-

ber. The finger 15 is offset so that its lower end will not interfere with the lubricating device 20 or with any other member or device that may be secured to or operated by the bearing member 2.

When it is desired to secure my clamp in position the screw 14 is entered through the perforation 16' and the perforation 13 which shall be determined by the size of the member to be engaged by the clamp. The clamp is then placed in engagement with the bearing member 2 and the screw 17 turned inward until it bears firmly upon the bearing member 2. The clamp will then be locked in position. When the clamp is properly located the screws 20 and 21 which retain the angled members 9 and 10 may be loosened and these members placed in their proper position.

The members 9 and 10 are held not only by the screws 20 and 21 but also by a friction between the members 9 and 10 and the block 6; a friction increased and made positive by springs 22 and 23 received into recesses 24 and 25 which have been produced in the inner faces of the clamps 9 and 10. The springs attempt to force the members 9 and 10 away from the block 6 and when the screws 20 and 21 are forced inward to retain the members 9 and 10 in operable position the springs are compressed with such force as to establish a firm frictional engagement between the several parts. Engaged in each of the blocks 9 and 10 is an L shaped rod useful for adjustably supporting a tool to be ground, or a moistening device.

A clamp built according to the manner described may be constructed of wood, or of metal but I prefer that it should be of steel. I may also corrugate or serrate the projections 11 and 19 so as to cause them to engage with greater firmness. I may introduce a second pin or screw into the perforations 16' and 13 when the clamp is placed in position for engagement so that there will be no possibility of movement on the pivot 14.

Other modifications may be made within the scope of the appended claims without

departing from the principle or sacrificing the advantages of this invention.

Having carefully and fully described my invention to the best of my ability, what I claim and desire to secure by Letters Patent is

1. A clamp comprising an enlarged supporting member and an extended finger and means for adjustably and pivotally securing them together and means upon said finger for securing an operable tension as herein specified.

2. An adjustable clamp comprising an enlarged and perforated member and an extended and offset finger each provided with an engaging projection and means for pivoting them together as herein specified.

3. An adjustable clamp comprising an enlarged and perforated member and an extending and perforated finger, means for engaging them in operable relation, said finger being provided with an offset and tension securing means as and for the purpose set forth.

4. A device of the character described, comprising an enlarged member and an offset member pivoted together, a plurality of adjustable blocks secured to said enlarged member and means for obtaining a frictional engagement between said blocks and said enlarged member as and for the purpose set forth.

5. A device of the character described comprising an enlarged member, a block pivotally secured to each side of said enlarged member, a finger adjustably connected to said enlarged member and provided with an offset and tension creating means all arranged for joint operation as herein specified.

Signed at New York city, county and State of New York, this 11th day of June, 1915 in the presence of these two witnesses.

THOMAS JAMES DAVIS.

Witnesses:

G. E. S. MARR,  
ARTHUR PHELPS MARR.