

A. E. PEARSON.
 GRINDING MACHINE.
 APPLICATION FILED MAY 19, 1919.

1,328,894.

Patented Jan. 27, 1920.

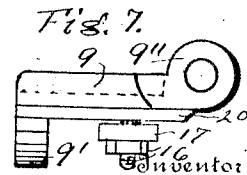
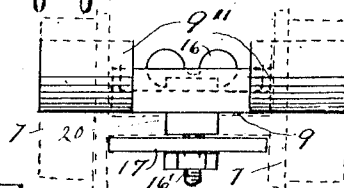
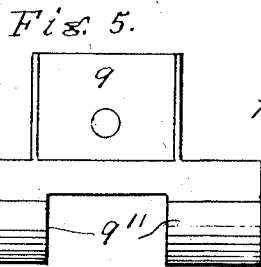
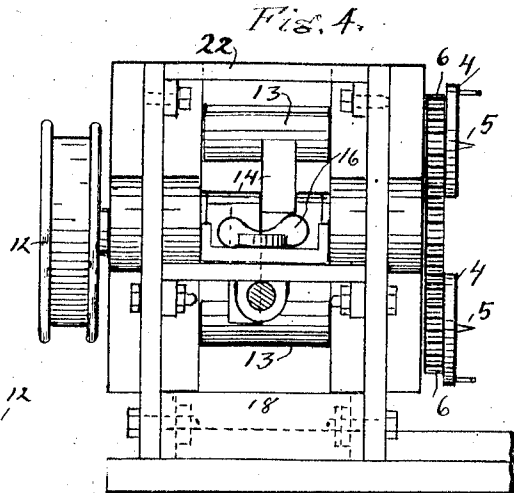
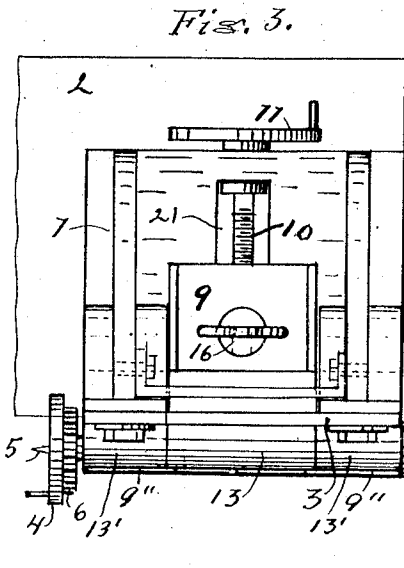
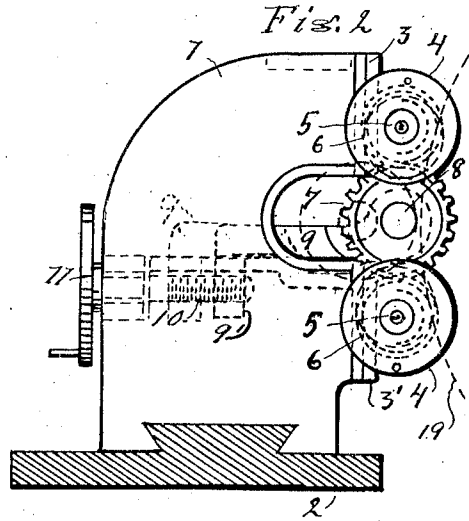
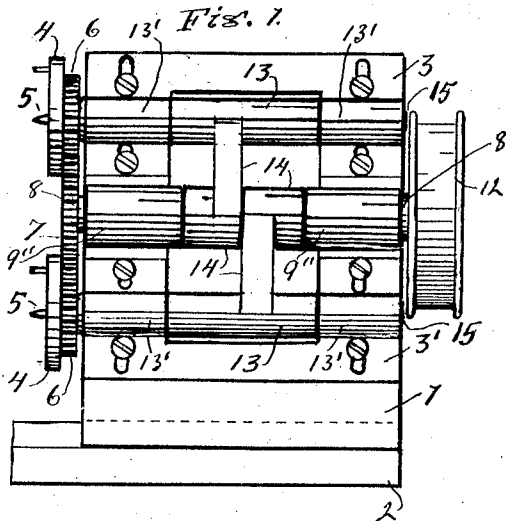


Fig. 6.

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UNITED STATES PATENT OFFICE.

ARTHUR E. PEARSON, OF MUSKEGON, MICHIGAN.

GRINDING-MACHINE.

1,328,894.

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To all whom it may concern:

Be it known that I, ARTHUR E. PEARSON, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful improvements in Grinding-Machines, of which the following is a specification.

My invention relates to improvements in grinding machines for grinding and forming metal objects, as shafting, cranks, eccentrics, &c., and its objects are: first, to provide a means whereby two objects, as two pieces of shafting, &c., may be ground at once and with a single emery grinding wheel; second, to provide a means whereby the grinding machine heads or centers may be drawn toward, or forced away from each other to adjust them to different positions for grinding objects of different sizes.

I attain these objects by the mechanism illustrated in the accompanying drawing in which Figure 1 is a front elevation of the head of my machine. Fig. 2 is a side elevation of the same. Fig. 3 is a plan of the same as it would appear with Fig. 1 turned relatively downward upon its face. Fig. 4 is a back elevation of the machine. Fig. 5 is a plan of the adjusting table or slide upon which the driving shaft and pulley are mounted. Fig. 6 is a front elevation, and Fig. 7 is a side elevation of the same detached from the frame of the machine.

In the construction of this machine I provide a supporting frame 1 that is mounted upon a base 2 so arranged that the tail block, not shown, may be placed nearer to, or farther from the head block or frame 1, after the manner of adjusting the tail block of any ordinary lathe.

I use, with this machine, two carrying, or driven shafts and one driving shaft mounted as follows: The driving shaft 8 is mounted upon the sliding frame 9 in the bearings 9' in such a manner that it may be made to revolve freely therein. This frame is provided with a wide rib or guideway 20 that is designed to slide freely but closely in the opening 21 for the purpose of insuring a perfect alinement of the frame no matter in what position it may be located. This frame is secured to its bed on the frame 1 by means of a bolt 16 and cross bar 17, substantially as indicated in Fig. 6, the cross bar being clamped by means of the nut 16', in the usual manner.

The frame 9 is made adjustable backwardly and forwardly by means of the adjusting screw 10 acting upon the arm 9', substantially as indicated in Figs. 2 and 3, the screw being actuated by means of the crank 11.

The shaft 8 has a driving pulley 12 mounted upon one end and a gear wheel 7 mounted upon the other end, and at the center, between the bearings 9' I mount two links 14 so the shaft may revolve freely within the bearings that surround this shaft. The opposite ends, 13, of these links are revolubly mounted upon the shafts 15, between the bearings 13'.

The shafts 15 are rigidly mounted in the bearings 13' which bearings are integral with the yokes 3 and 3'. The yokes 3 and 3' are made vertically adjustable so the shafts 15 and the face plates 4 and gear wheels 6 may be brought closer together or moved farther apart, as desired. With this machine I have arranged to bring this action about by the action of the table 9 and the connecting links 14 upon the shafts 15, as follows: As the links 14 are revolubly mounted both upon the shaft 8 and the shafts 15 the drawing of the frame 9 backward will, through the action of the links 14, draw the shafts 15 closer together, (see the dotted outlines of these parts in Fig. 2.)

The face-plates 4 and the gear wheels 6 are securely connected together and are revolubly mounted upon the ends of the shaft 15 so that the revolving of the shaft 8 and the gear wheel 7 will cause the face plates to revolve correspondingly, and by this means of mounting the face-plates the exact centering of the centers 5 is assured, as is, also, the positive meshing of the gears 6 with the gear 7.

The frame 1 may be connected and supported by any of the usual means for supporting this class of frames, as, for instance, by means of girths or beams 18 and 22.

The dotted lines 19 represent the outline of an emery grinding wheel in its relative position with the object being ground.

What I claim as new in the art, is:

1. In a grinding machine, a horizontally movable driven shaft having a driving pulley on one end and a driving gear on the other end, a driven shaft mounted each side of and parallel with the driving shaft and having gear wheels adapted to mesh with the gear wheel on the driving shaft, a link

connecting the driving shaft with each of the driven shafts in such a manner that any backward or forward movement of the driving shaft will impart a like vertical movement to the driven shafts.

5 2. In a grinding machine, a driving shaft mounted upon a horizontally movable table, means for securing said table firmly onto its bearings, a driving pulley on one end, and
10 a gear wheel on the other end of the driving shaft, a driven shaft mounted each side of

and parallel with the driving shaft, links so connected with the said shafts that a backward and forward movement of the driving shaft will impart a corresponding sidewise movement of the driven shafts, and means for securing the driven shafts in desired positions.

Signed at Muskegon, Michigan, May 7, 1919.

ARTHUR E. PEARSON.