

F. PIERCE.
POLISHING HEAD.
APPLICATION FILED MAY 23, 1908.

904,805.

Patented Nov. 24, 1908.

Fig. 1.

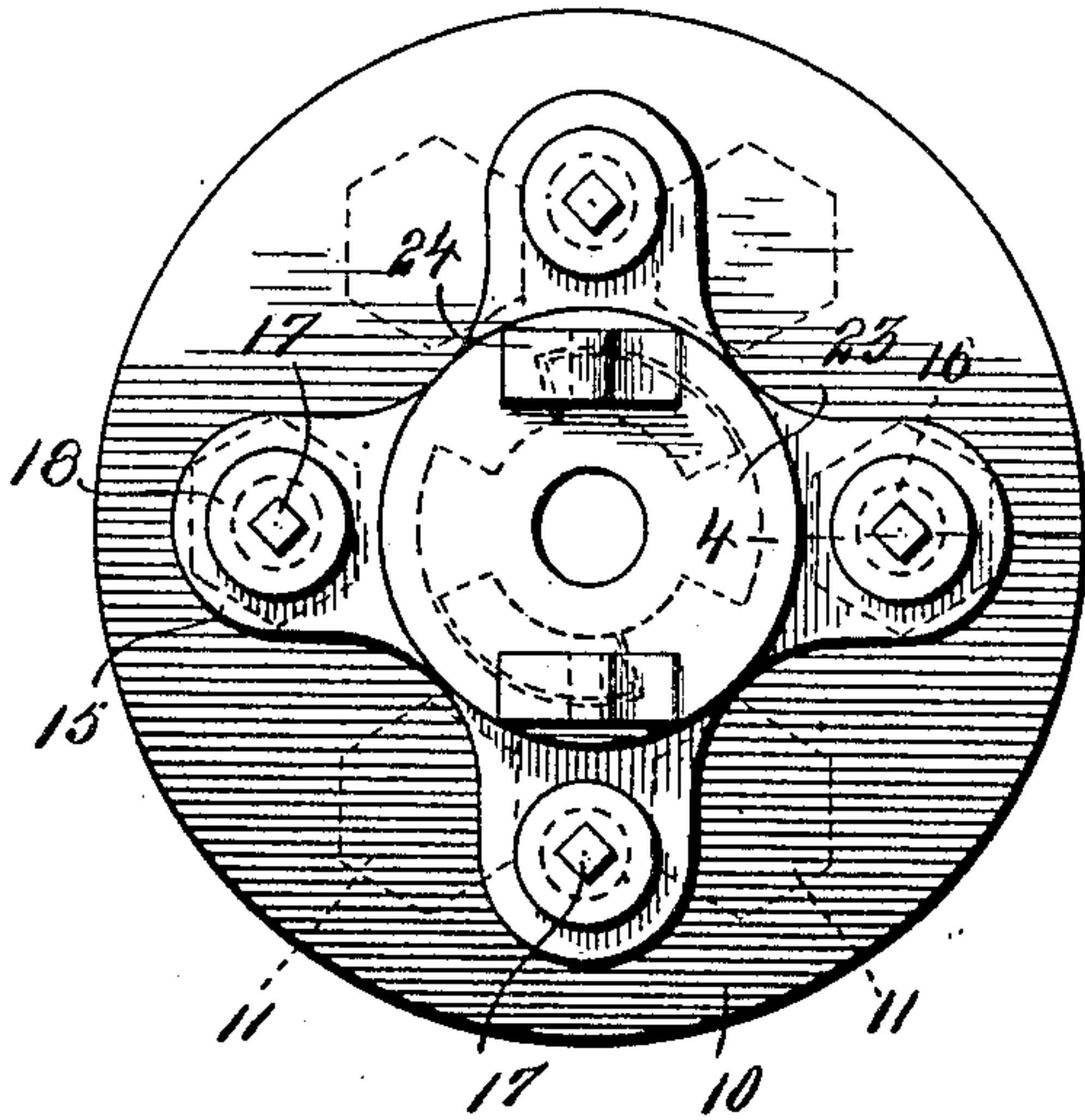


Fig. 2.

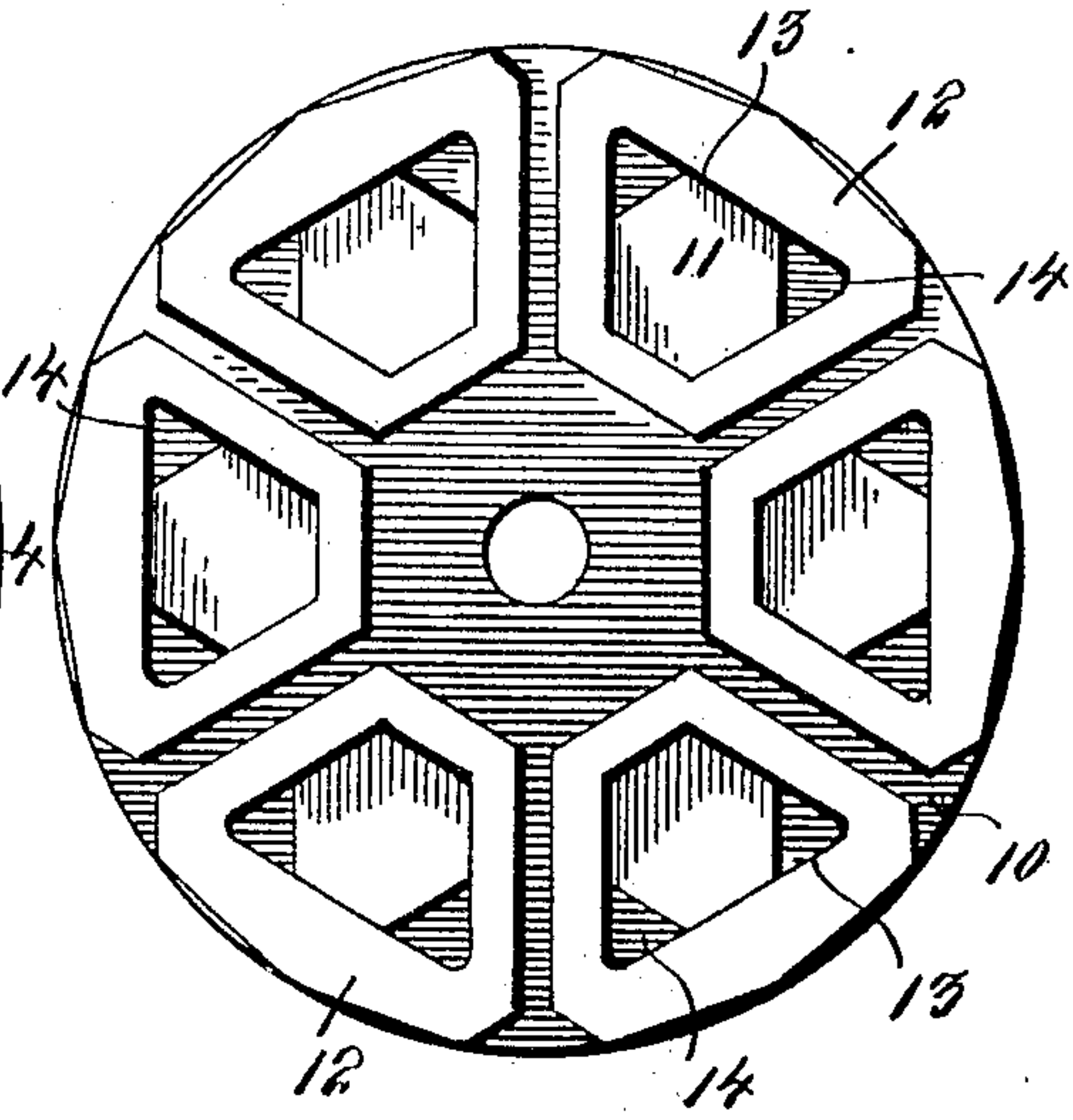


Fig. 3.

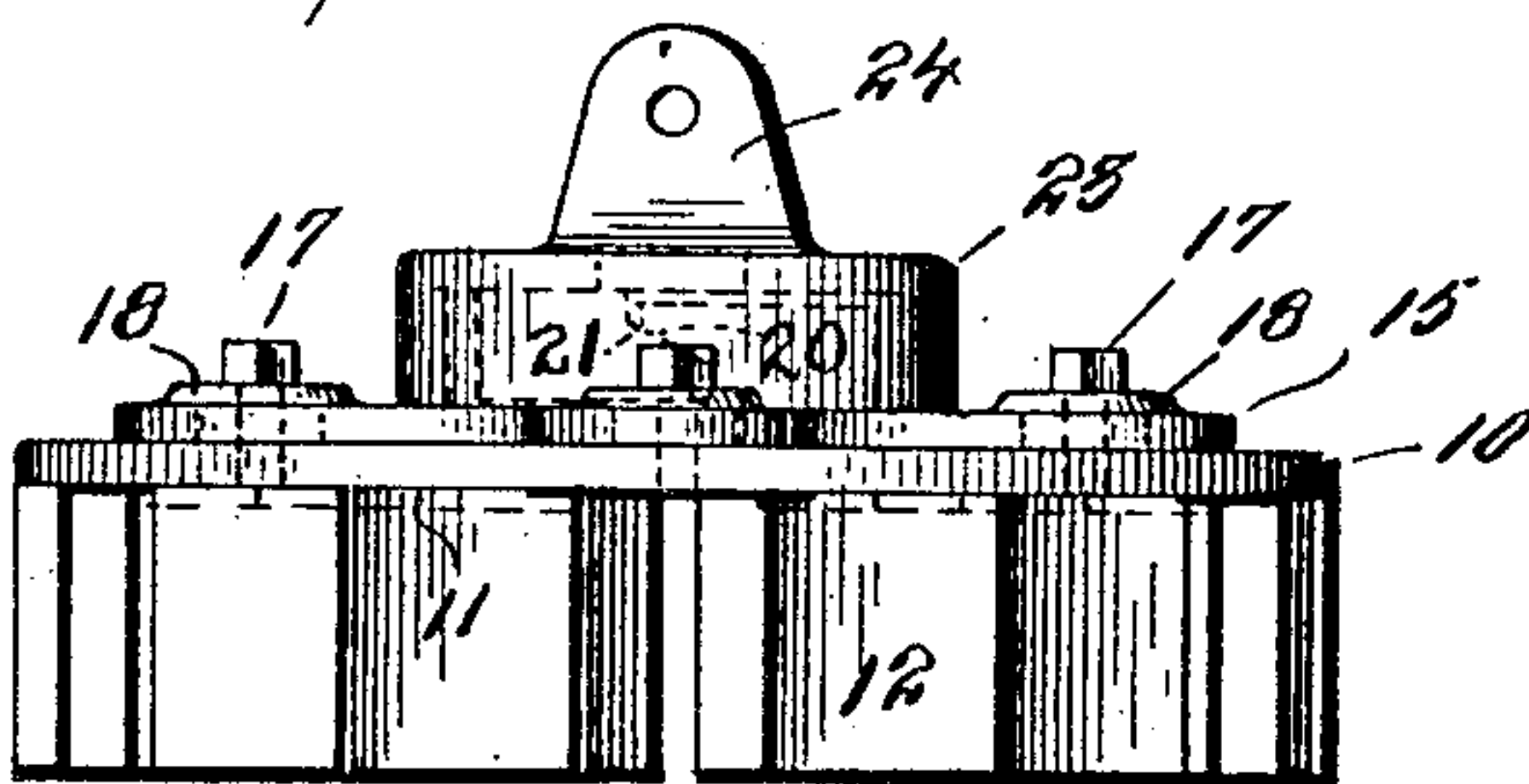


Fig. 4.

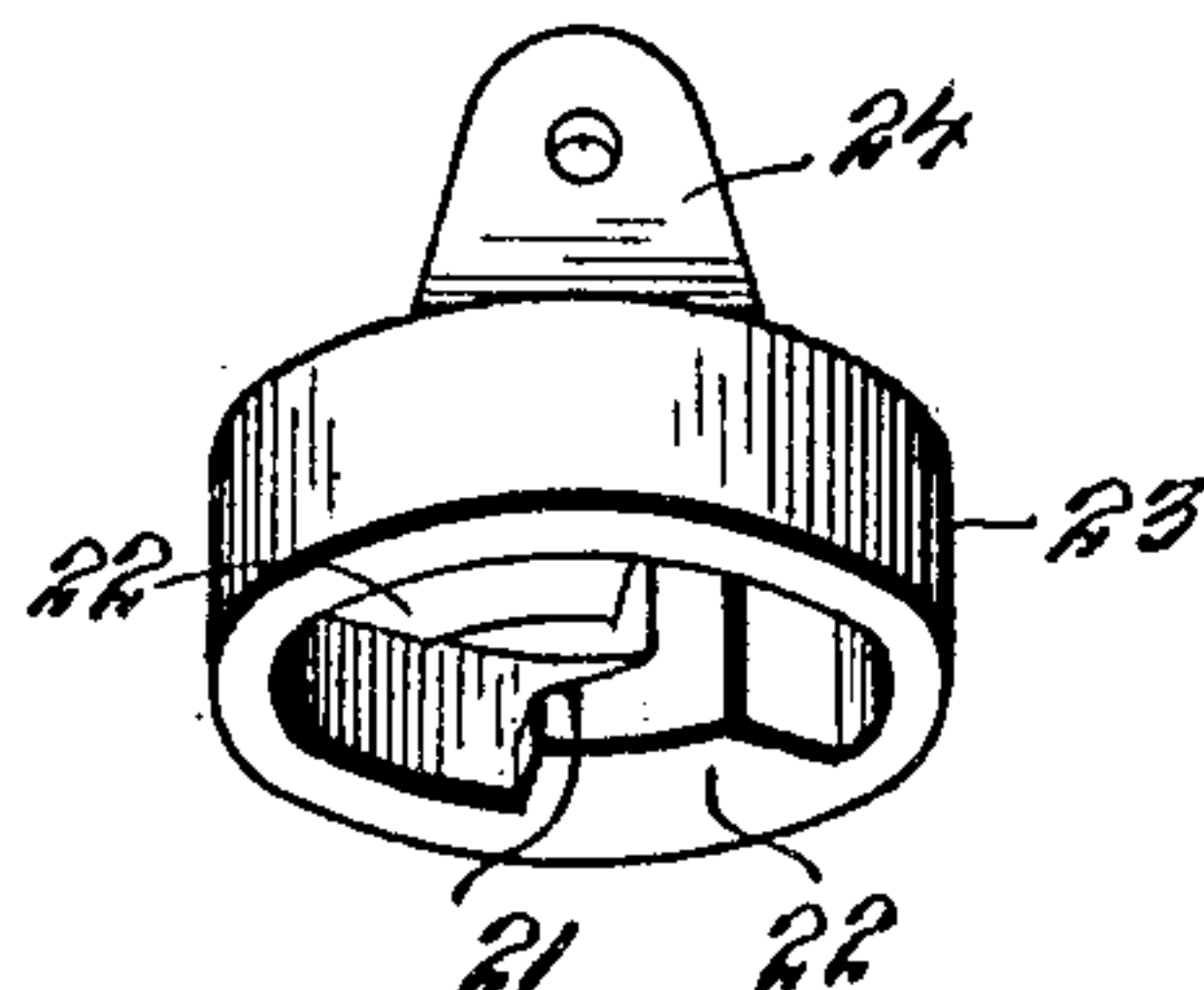


Fig. 5.

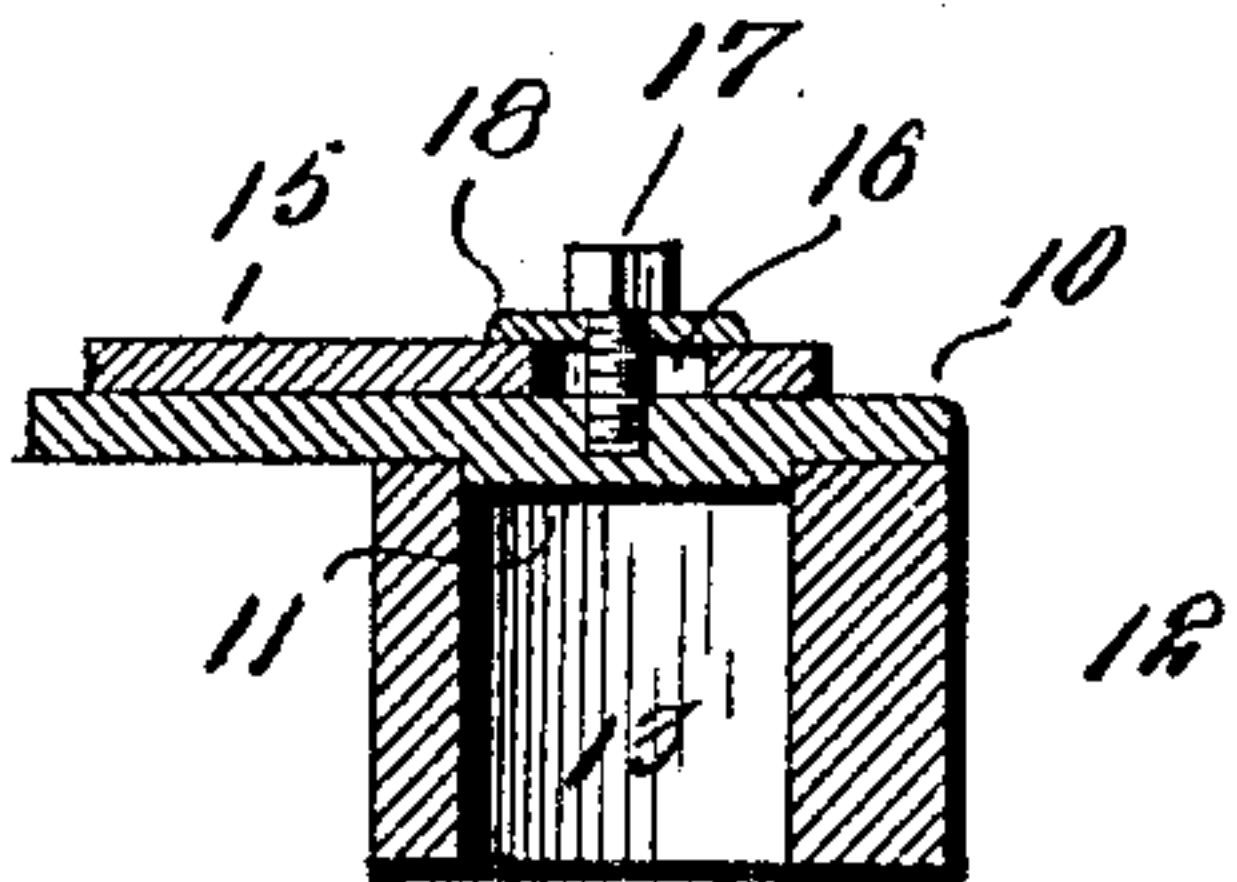
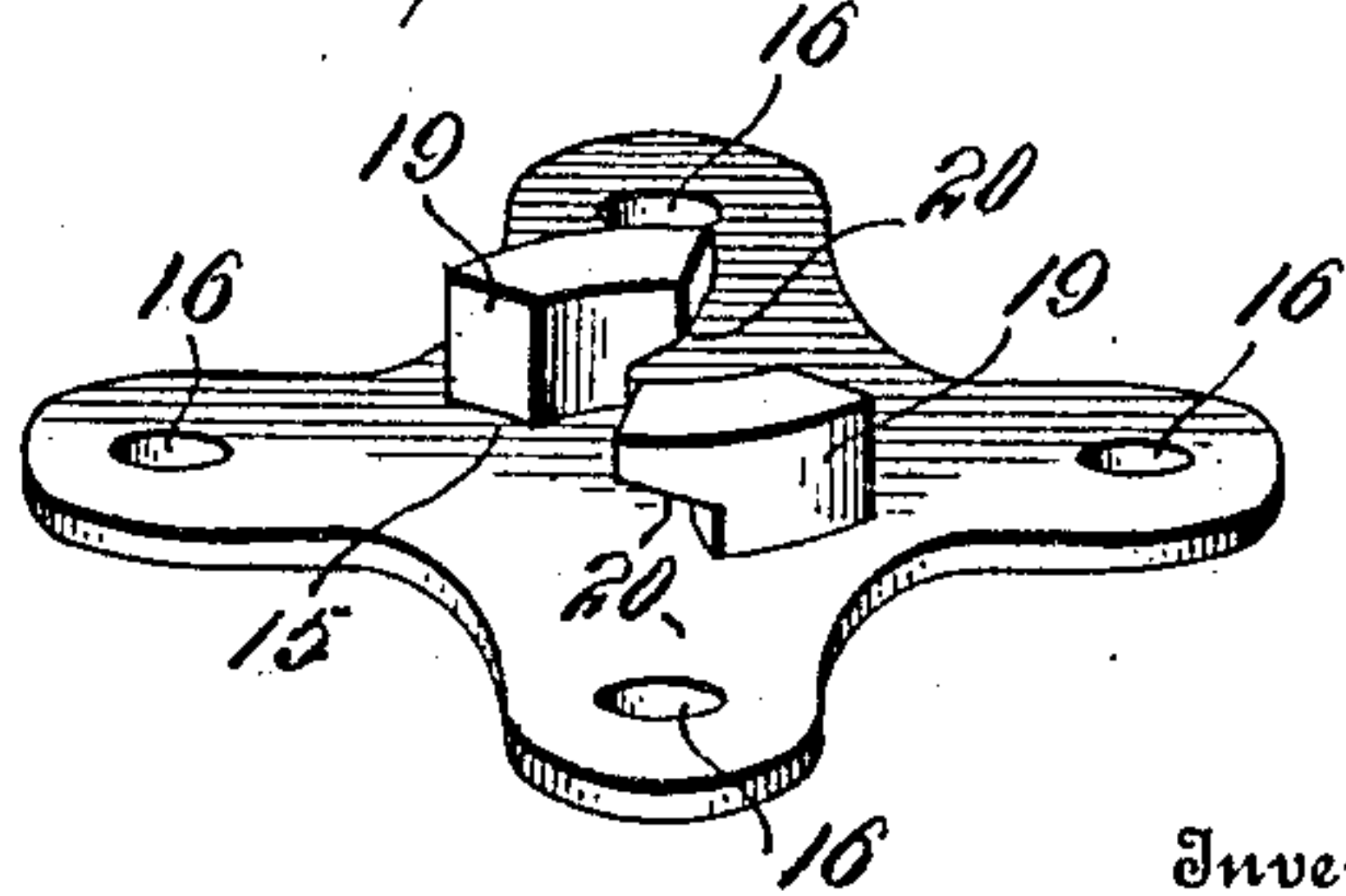


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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POLISHING-HEAD.

No. 904,805.

Specification of Letters Patent.

Patented Nov. 24, 1908.

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To all whom it may concern:

Be it known that I, FRANK PIERCE, a citizen of the United States, residing at Rutland, county of Rutland and State of Vermont, have invented certain new and useful Improvements in Polishing-Heads, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to a polishing head, and particularly to a structure adapted for use upon stone and similar surfaces.

15 The invention has for an object to provide a novel and improved construction of head provided with projections adapted to enter a space within an abrasive block secured to said head.

20 Another object of the invention is to provide means for balancing the head when it becomes worn more upon one side than the other and comprises an adjustable plate mounted upon the block carrying plate.

25 A further object of the invention is to provide a clutch connection between the adjustable plate and head whereby these parts may be separated as desired or when connected will engage and drive the block plate drawing the same into tightly locked position.

30 Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

35 In the drawing:—Figure 1 is a top plan; Fig. 2 is a side elevation thereof; Fig. 3 is a bottom plan; Fig. 4 is a vertical section on the line 4—4, Fig. 1; Fig. 5 is a detail perspective of the head, and Fig. 6 is a similar view of the adjustable plate.

40 Like numerals refer to like parts in the several views of the drawing.

45 The numeral 10 designates the supporting plate for the abrading blocks which is provided upon its under face with a series of projections 11 disposed concentric to the center or axis of the plate, and preferably formed of angular outline, for instance, hexagonal. These projections are adapted to fit an interior opening in the abrading or grinding blocks 12, and these blocks may be 50 formed of carborundum, alundum, emery or other suitable abrasive material and are cemented to the plate 10 by the use of cement of any preferred character. The plate 10 55 is here shown as circular in configuration,

but may be of any desired form or material.

The central opening 13 in the blocks 12 has angularly disposed walls corresponding with those of the projections 11 and also preferably extended for greater length so as to provide pockets 14 disposed adjacent the outer periphery of the plate 10 and adapted to hold liquid and allow a clearance space for the action of the grinding blocks. 60

The upper face of the plate 10 is without projections and slidingly mounted thereon is 65 the balancing plate 15 which is provided with a series of securing apertures 16 through which a holding bolt 17 extends and is of less diameter than the diameter of the aperture to permit a free adjustment of the 70 balancing plate. The bolt 17 passes through the washer 18 and is threaded into the plate 10 so as to clamp the balancing plate in adjusted position. This balancing plate is also 75 provided with a plurality of clutch jaws 19 upon its upper face each having inclined contact faces 20 adapted to cooperate with similar faces 21 carried by the lugs 22 disposed within the head 23 which is suitably recessed 80 for that purpose so as to produce in effect a bayonet joint connection. This head is also provided with the usual pivoting lugs 24 by which it is supported from the polishing machine. 85

From the foregoing description it will be seen that the abrading blocks are supported by the projections from the under face of the plate and are mounted thereon so as to firmly hold them in position concentric to 90 the axis of the head and permit their use without danger or possibility of a metallic part coming in contact with the surface to be polished and thus injuring the same. The angular form of this projection fitting into 95 the abrading blocks also resists any rotary movement of the blocks and holds them firmly against displacement in such position as to provide the usual channels leading 100 radially from the axis of the head between adjacent blocks. While the balancing plate and detachable head have been herein shown and described in connection with abrading blocks they are adapted for application to any desired character of surfacing head or 105 plate for either polishing, grinding, or buffing action upon the material treated and are not confined to any particular character of work. The balancing plate permits the head to be adjusted when it becomes more worn 110

on one side than the other and consequently out of balance as the plates may be readily shifted and secured so that the relation of the head to the center of the surfacing plate may be varied. The connection with this head by means of the clutch jaws permits the ready removal and replacement of the surfacing plate so that different grades or characters of surfacing material may be applied and used without delay as found desirable in finishing to different degrees the stone or other material being treated. The inclined faces upon these jaws ride upon each other and drive the lower plate also permitting the lifting of the same by raising the machine spindle as it forms a positive locked connection between these parts.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. A surfacing head comprising a plate having a series of angular projections upon its under face disposed concentric of its axis, and abrading blocks having interior recesses with angular faces to engage and embrace the walls of said projections.

2. A surfacing head comprising a plate having a series of projections upon its under face disposed concentric of its axis, and abrading blocks having interior recesses adapted to fit the walls of said projections and provide a pocket adjacent to some of the walls of the projections.

3. A surfacing head comprising a plate, a series of angular projections upon the under face thereof, and abrading blocks having interior recesses of different angular form from the projections but adapted to engage a plurality of the walls thereof.

4. In a surfacing head, a plate having surfacing means upon the under face thereof, a balancing plate mounted upon the upper surface, an operating head connected to said balancing plate, and means for adjusting the balancing plate upon the surfacing plate.

5. In a surfacing head, a plate having surfacing means upon the under face thereof, a

balancing plate mounted upon the upper surface, a head connected to said balancing plate, and a screw extended through an enlarged aperture in the balancing plate and into said surfacing plate.

6. In a surfacing head, a plate having surfacing means upon the under face thereof, a balancing plate mounted upon the upper surface, a head connected to said balancing plate, a screw extended through an enlarged aperture in the balancing plate and into said surfacing plate, clutch jaws provided upon the upper face of the balancing plate, and co-operating clutch jaws disposed within the head.

7. A surfacing plate provided with clutch jaws having inclined faces and mounted upon the upper surface thereof, and a recessed head inclosing said jaws and having therein oppositely disposed clutch jaws, with inclined faces to engage those upon said plate.

8. A surfacing plate provided with oppositely disposed hook shaped clutch members carried by the upper face thereof, and a head provided with oppositely disposed hook shaped clutch members cooperating with and engaging beneath the members carried by said plate.

9. In a surfacing head, a plate provided with surfacing means upon its under face, a head for supporting and rotating said plate, and means for adjusting said head laterally of said plate.

10. In a surfacing head, a plate provided with surfacing means upon its under face, a head for supporting and rotating said plate, means for adjusting said head laterally of said plate, and means for detachably connecting said head and plate.

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

FRANK PIERCE.

Witnesses:

P. W. ADAMS,
HOWARD F. WOODFIN.