

No. 711,067.

Patented Oct. 14, 1902.

W. McLAUGHLIN.  
GLASS GRINDING MACHINE.

(Application filed June 18, 1902.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

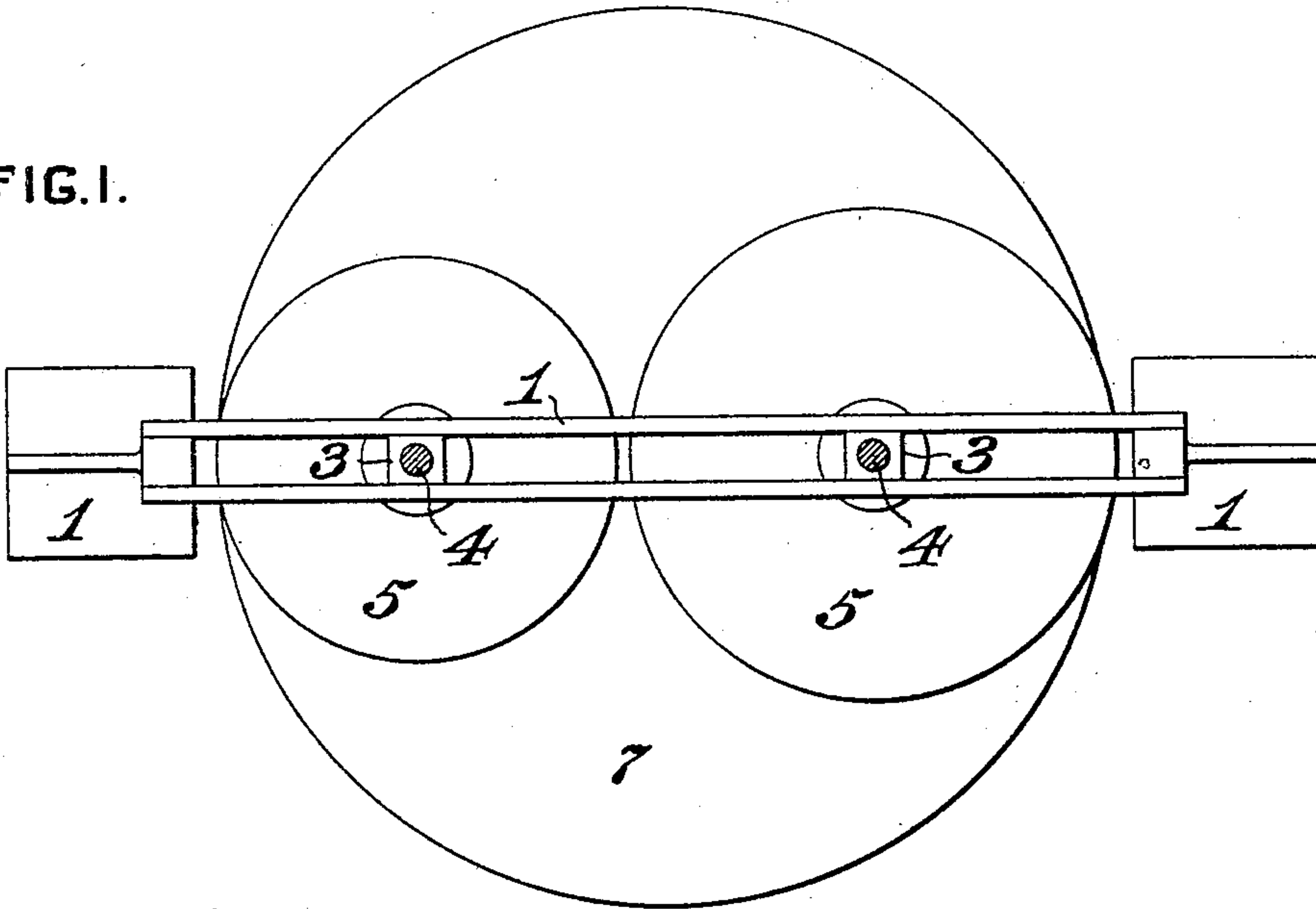
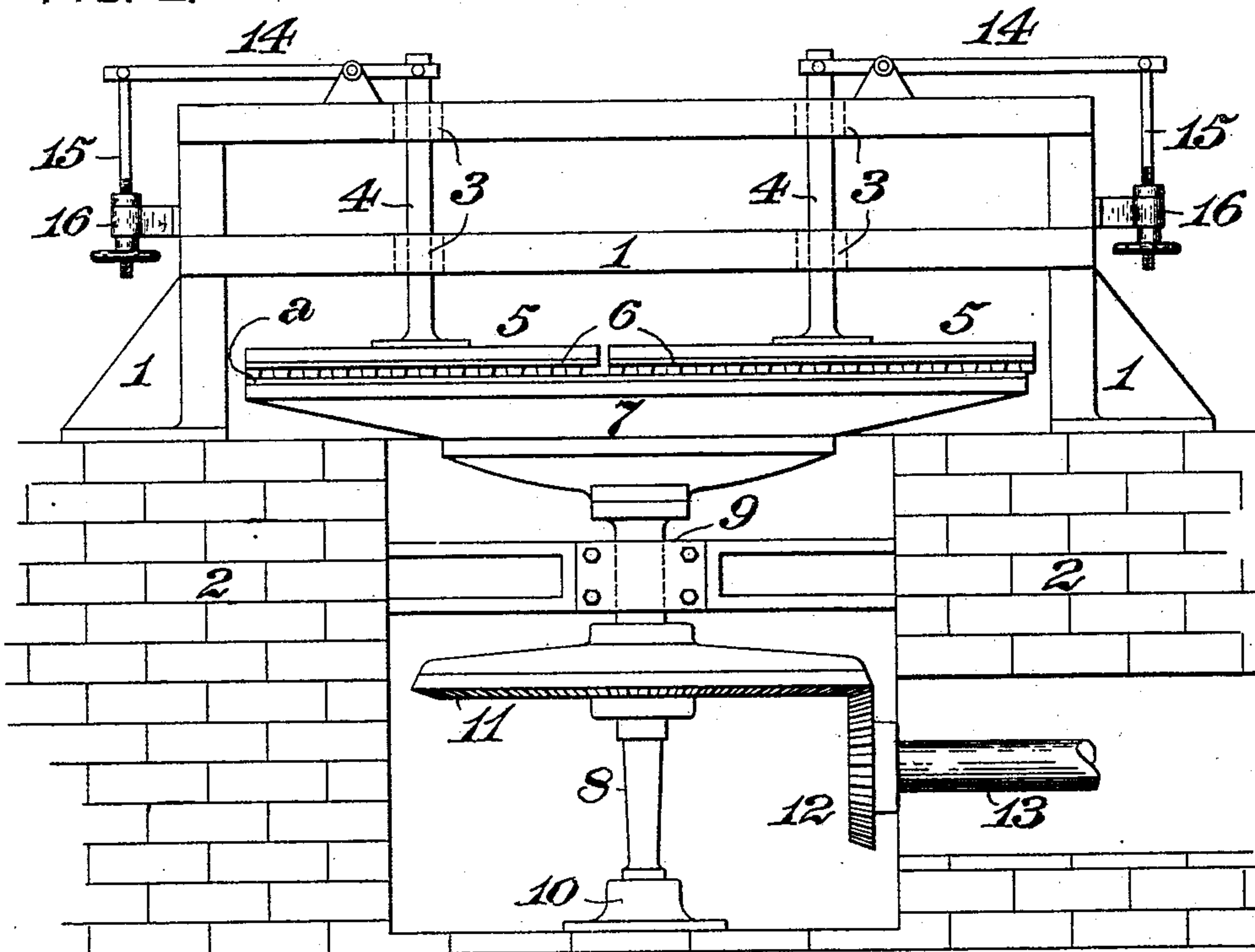


FIG. 2.



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FIG. 3.

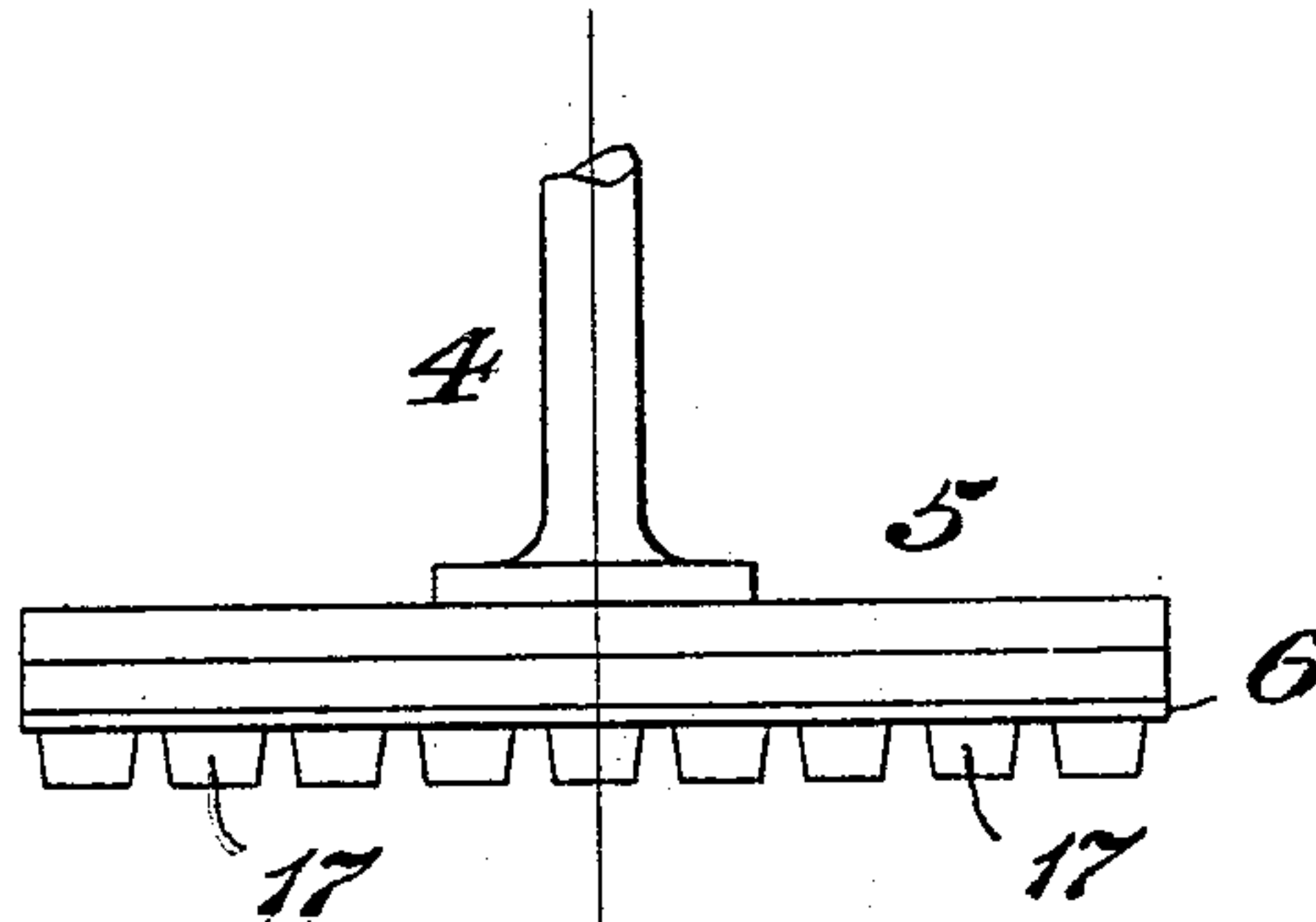


FIG. 4.

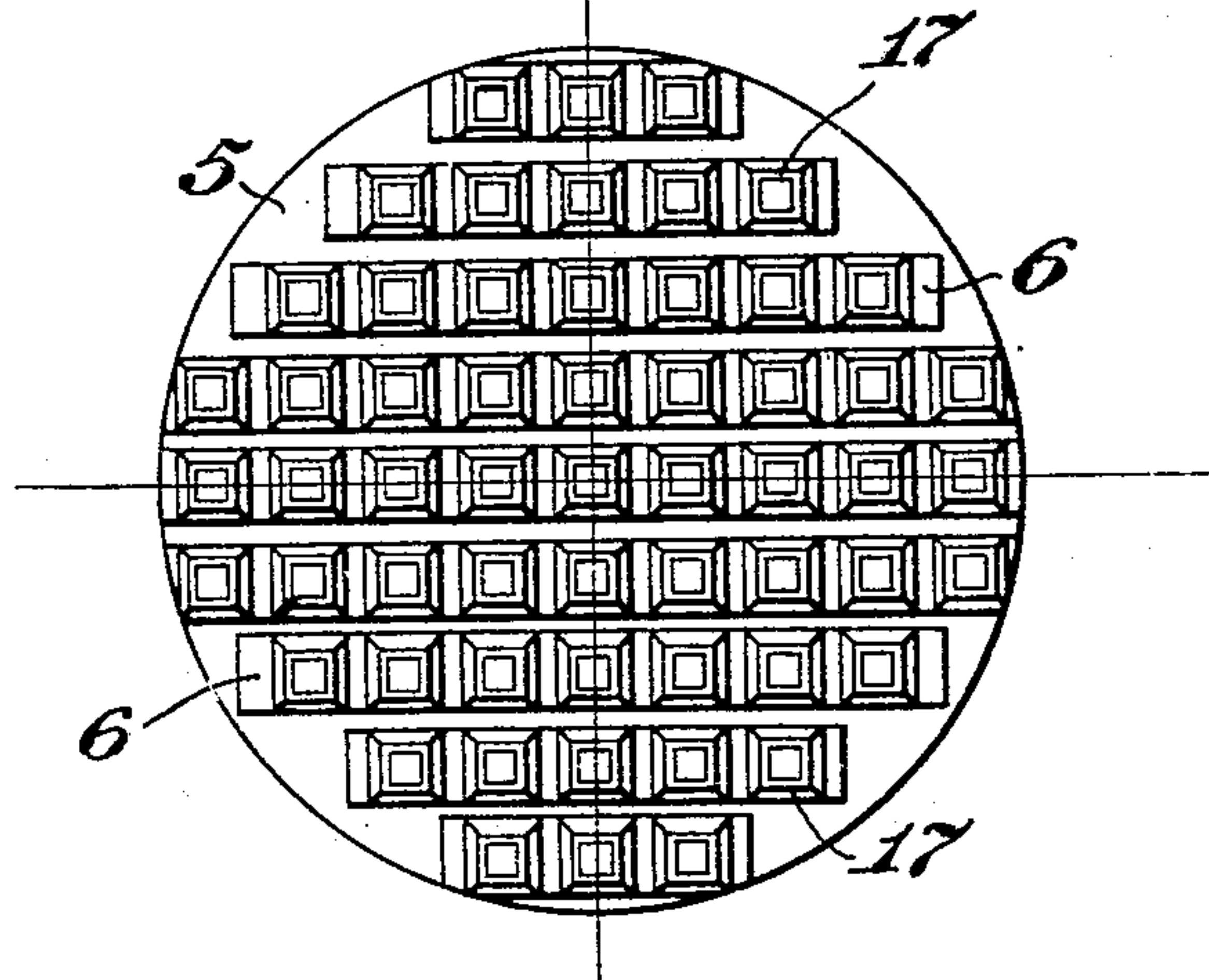


FIG. 5.

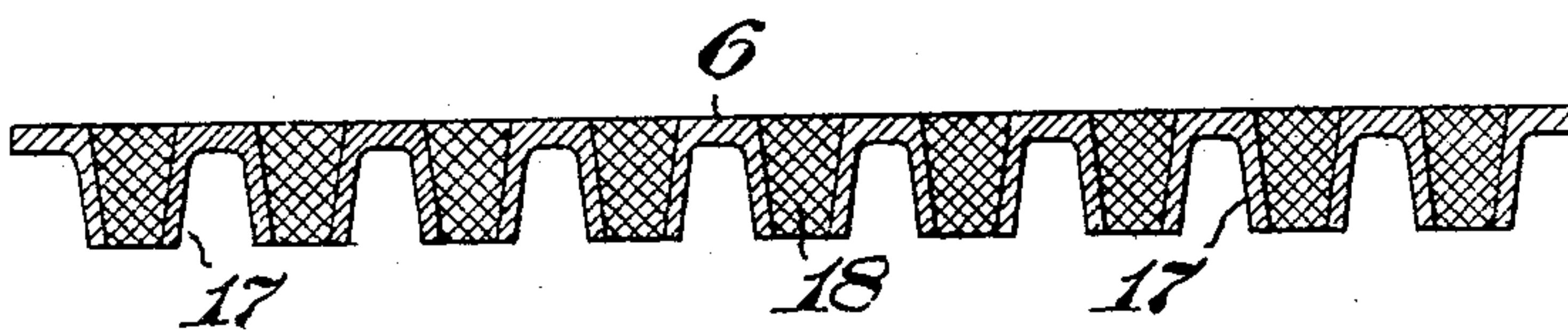
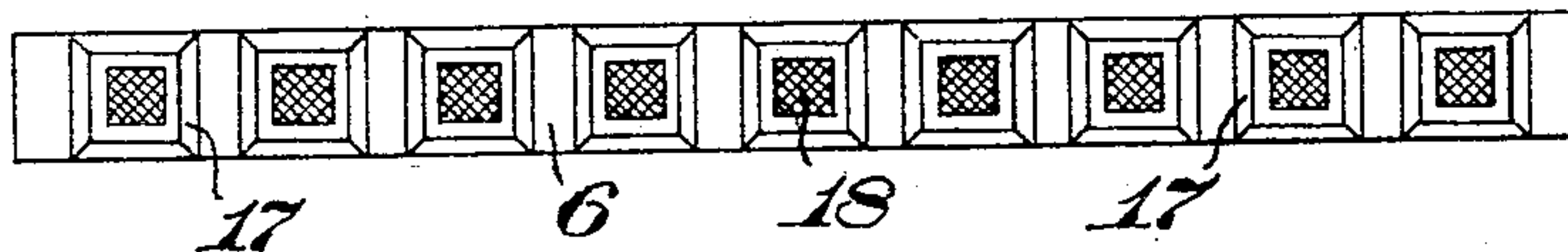


FIG. 6.



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# UNITED STATES PATENT OFFICE.

WILLIAM McLAUGHLIN, OF PHILADELPHIA, PENNSYLVANIA.

## GLASS-GRINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 711,067, dated October 14, 1902.

Application filed June 18, 1902. Serial No. 112,130. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM McLAUGHLIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Glass-Grinding Machines, of which improvement the following is a specification.

The object of my invention is to enable the action of the abradant employed in glass grinding and polishing machines to be efficiently and expeditiously exerted upon the glass, as well as to enable the expenditure of abradant and labor in operation to be economically effected by the provision of means which shall be simple and inexpensive in construction and of ready application in glass grinding and polishing machines of the constructions ordinarily employed.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a plan or top view of a glass grinding and polishing machine in which my invention is applied; Fig. 2, a side view in elevation of the same; Fig. 3, a similar view of a runner and a portion of its spindle detached; Fig. 4, a face view of the same; Fig. 5, a longitudinal section, on an enlarged scale, of a shoe detached; and Fig. 6, a face view of the same.

My invention is herein illustrated as applied in a glass grinding and polishing machine which accords in its general and leading features of construction and manner of operation with those heretofore known in practice. The frame 1 of the machine is supported upon a suitable foundation or base 2 and is provided with bearings 3 for the vertical spindles 4 of a pair of runners 5, the faces of which are provided with shoes 6, which rest on the surface of the plate of glass  $\alpha$  which is to be operated on. The plate of glass is supported on a table 7, which is fixed upon the upper end of a spindle 8, journaled in an upper bearing 9 and a lower step 10 on the foundation and carrying a spur-gear 11, which meshes with a corresponding pinion 12 on a counter-shaft 13, rotated by any suitable prime mover. The upper surface of the plate of glass  $\alpha$  is supplied with sand or other suitable abradant, the action of which

is exerted upon all portions of the surface of the glass by the rotation of the runners resultant upon the frictional contact of their shoes with the plate of glass, which rotates with the table 7. The runners are raised and lowered as from time to time required by levers 14, which are journaled on the frame and are coupled at one end to the spindles 4 of the runners and at the other to adjusting-screws 15, engaging nuts 16, rotating in brackets fixed to the frame.

In the operation of machines of the type above described it is found in practice that the shoes are very rapidly worn away and that they fail to be fully efficient by reason of their inability to hold the abradant effectively to its work. Further, the necessity for the continued replacement of abradant involves more or less waste of it, as well as undue labor. My invention is designed to obviate the objections above stated without involving any change in the general features of the machine above specified and without any substantial increase of cost of construction.

In the practice of my invention the shoes 6, which may be formed of cast-iron or other metal of proper strength and hardness, are each provided with a plurality of chambers or boxes 17, which are open at their lower ends and may also be open at their upper ends and are preferably, as shown, gradually outwardly inclined, and thereby increased in transverse section from their lower ends, which in operation bear on the plate of glass to their upper ends. The chambers 17 are separated by intervening spaces, and a filling 18, of lead or other soft metal or material, is inserted in each of the chambers, the outer faces of said fillings bearing on the plate of glass and the fillings being held in the chambers by the inward taper of the walls thereof toward their lower ends. The soft-metal surfaces of the fillings of the shoes take up the abradant and hold it effectively against the surface of the glass, thereby insuring a more thorough and rapid grinding action and materially reducing the displacement of abradant from the glass, which takes place when the ordinary cast-iron shoes are employed.

I claim as my invention and desire to secure by Letters Patent—

1. A shoe for a glass grinding or polishing machine runner, having a chamber or box which is open at its lower end, and a soft-metal filling inserted in said chamber.
- 5 2. A shoe for a glass grinding or polishing machine runner, having a chamber or box which is open at its lower end and of increased

transverse section above said end, and a soft-metal filling inserted in said chamber.

WILLIAM McLAUGHLIN.

Witnesses:

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