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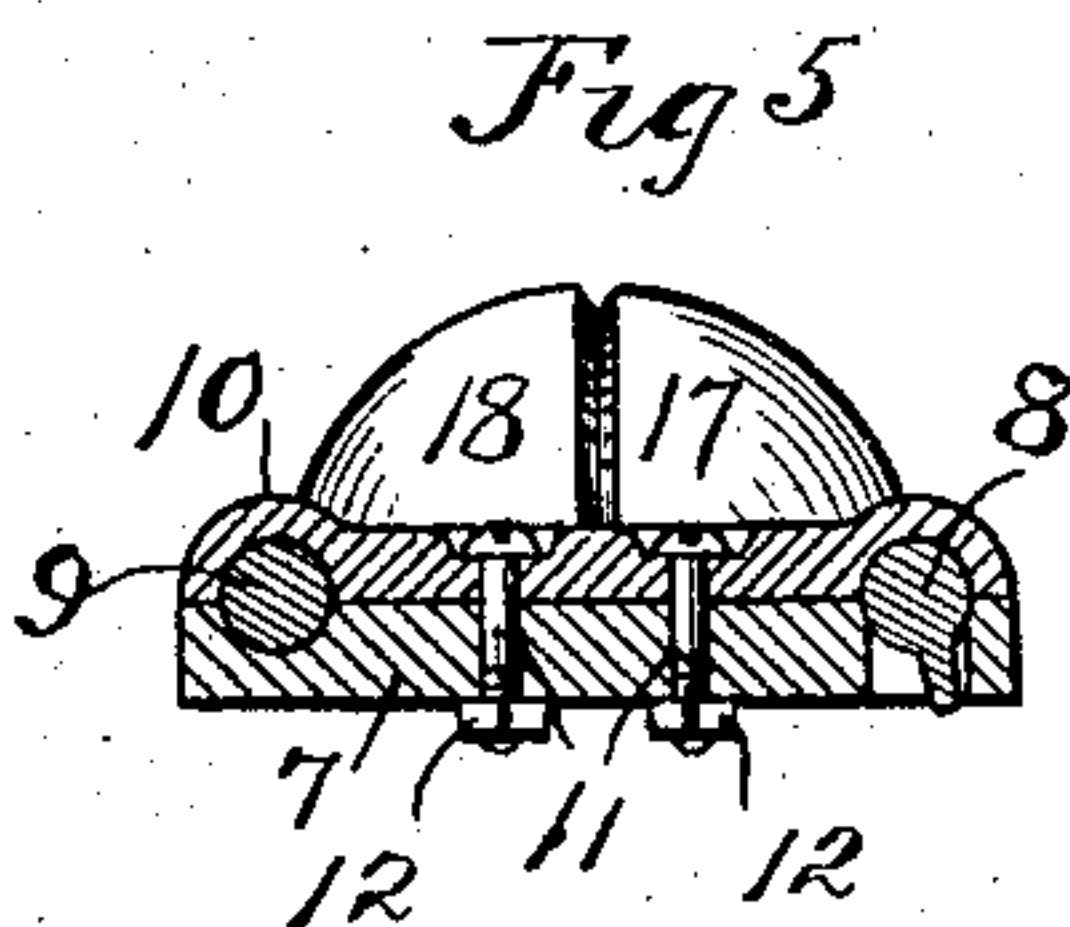
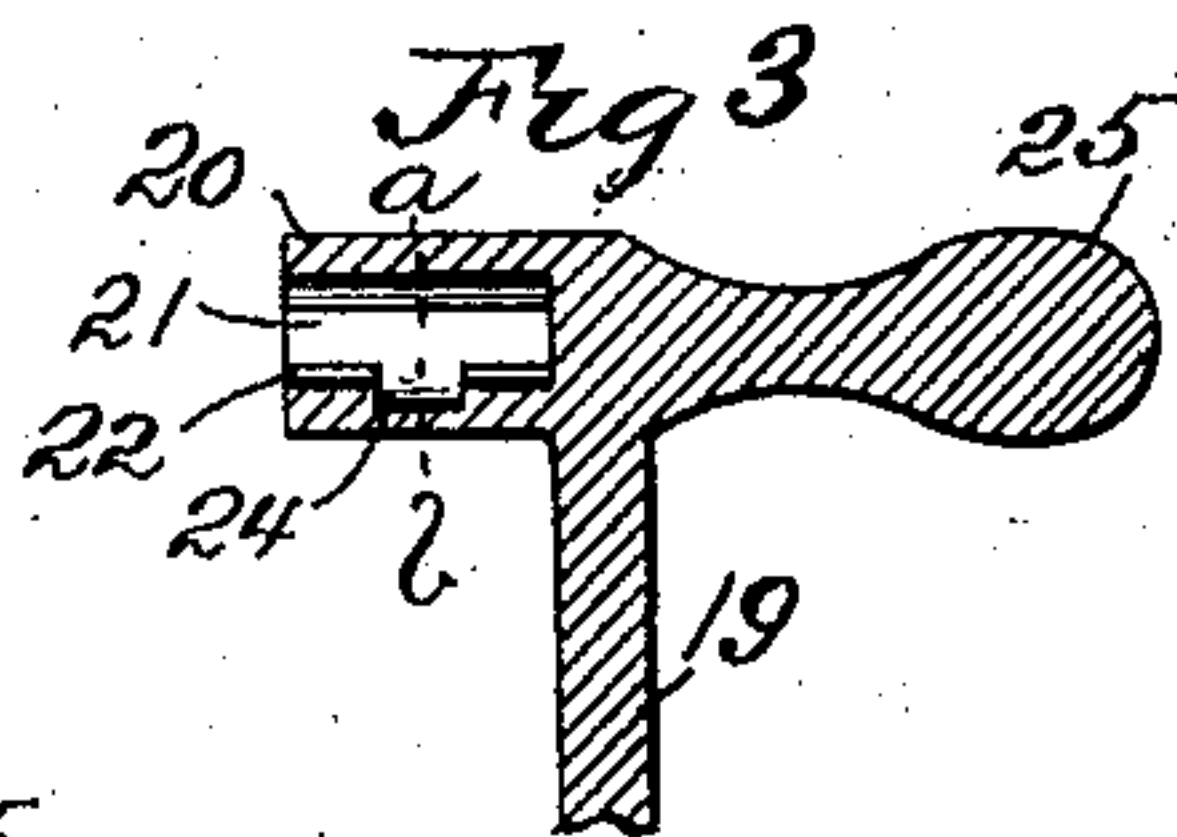
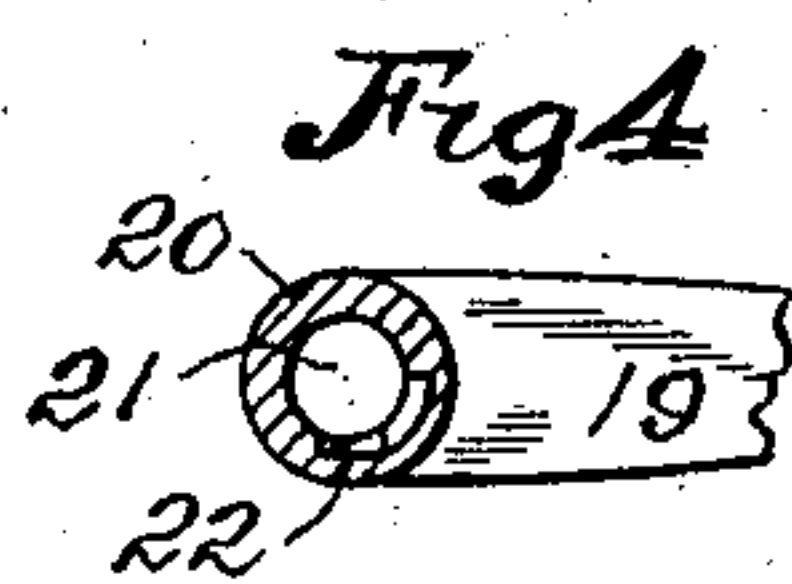
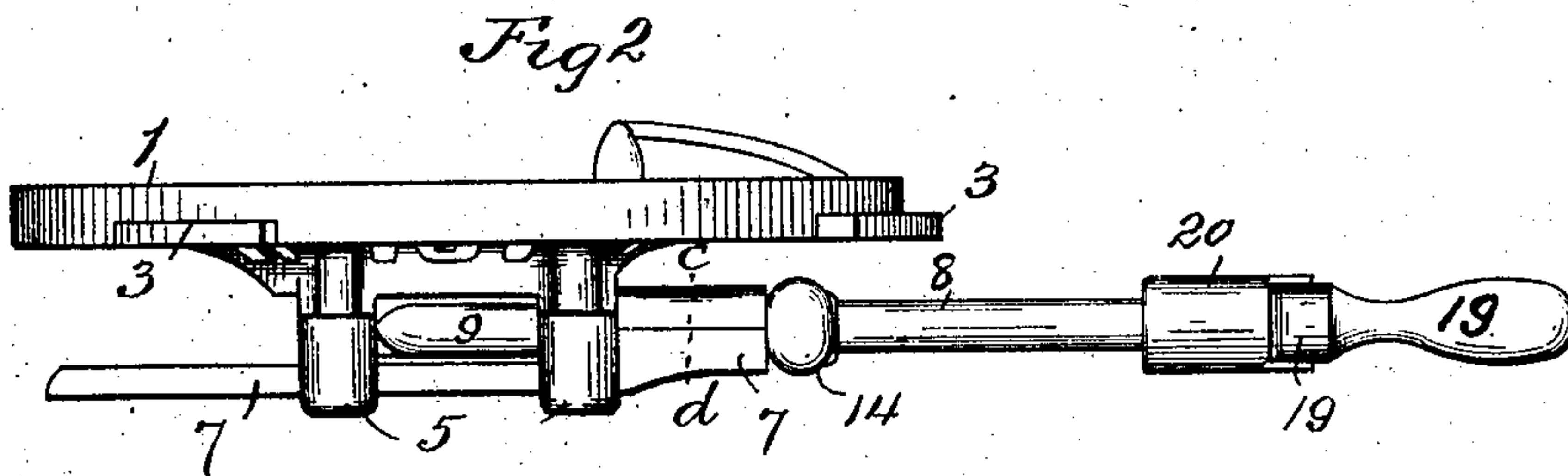
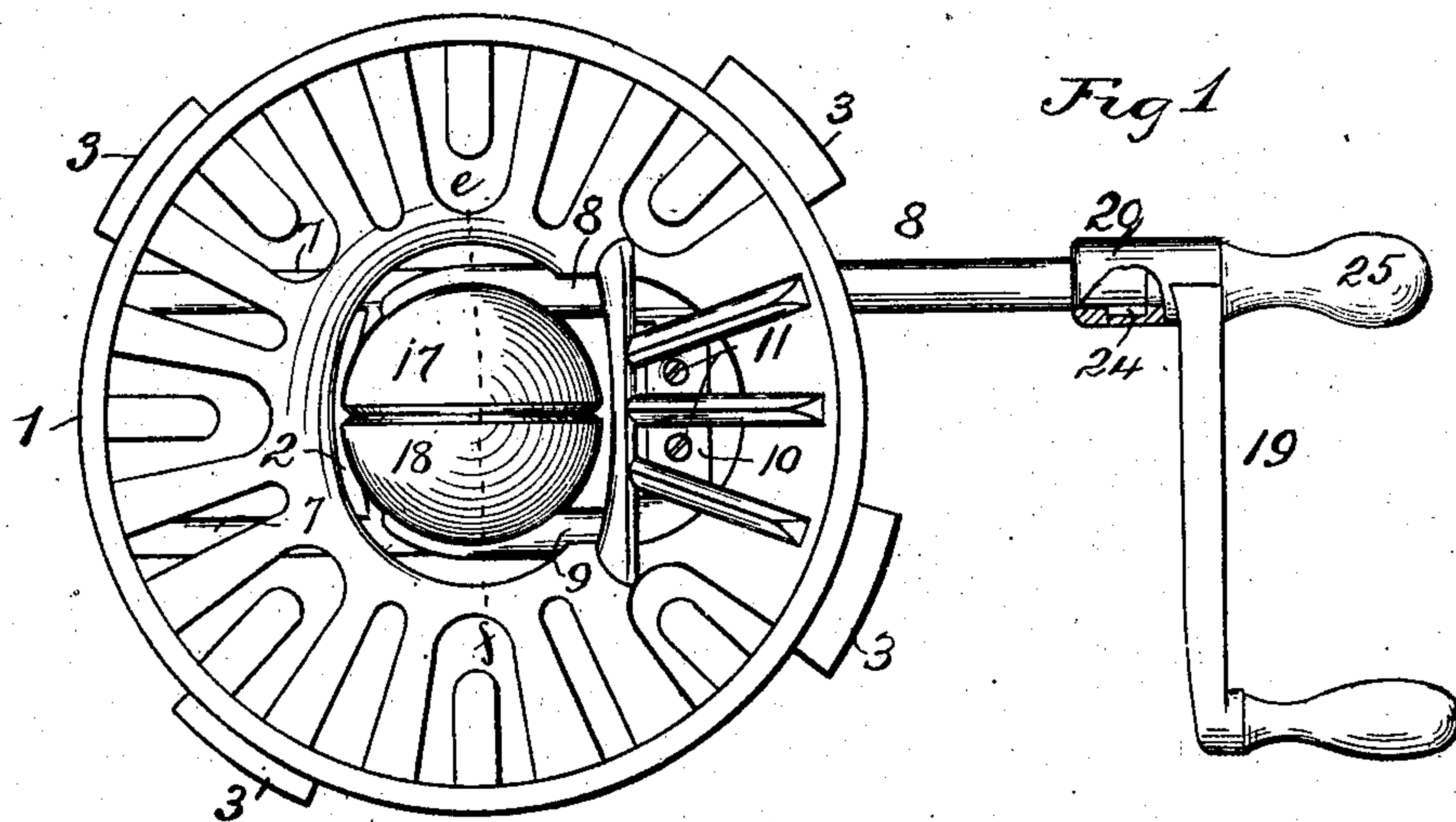
PATENTED JULY 31, 1906.

B. B. & F. R. CUTLER & J. D. JOHNSTON.

STOVE GRATE.

APPLICATION FILED APR. 4, 1905.

2 SHEETS—SHEET 1.



Witnesses:

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*W. A. Single.*

*B. B. Cutler*

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Inventors

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No. 827,425.

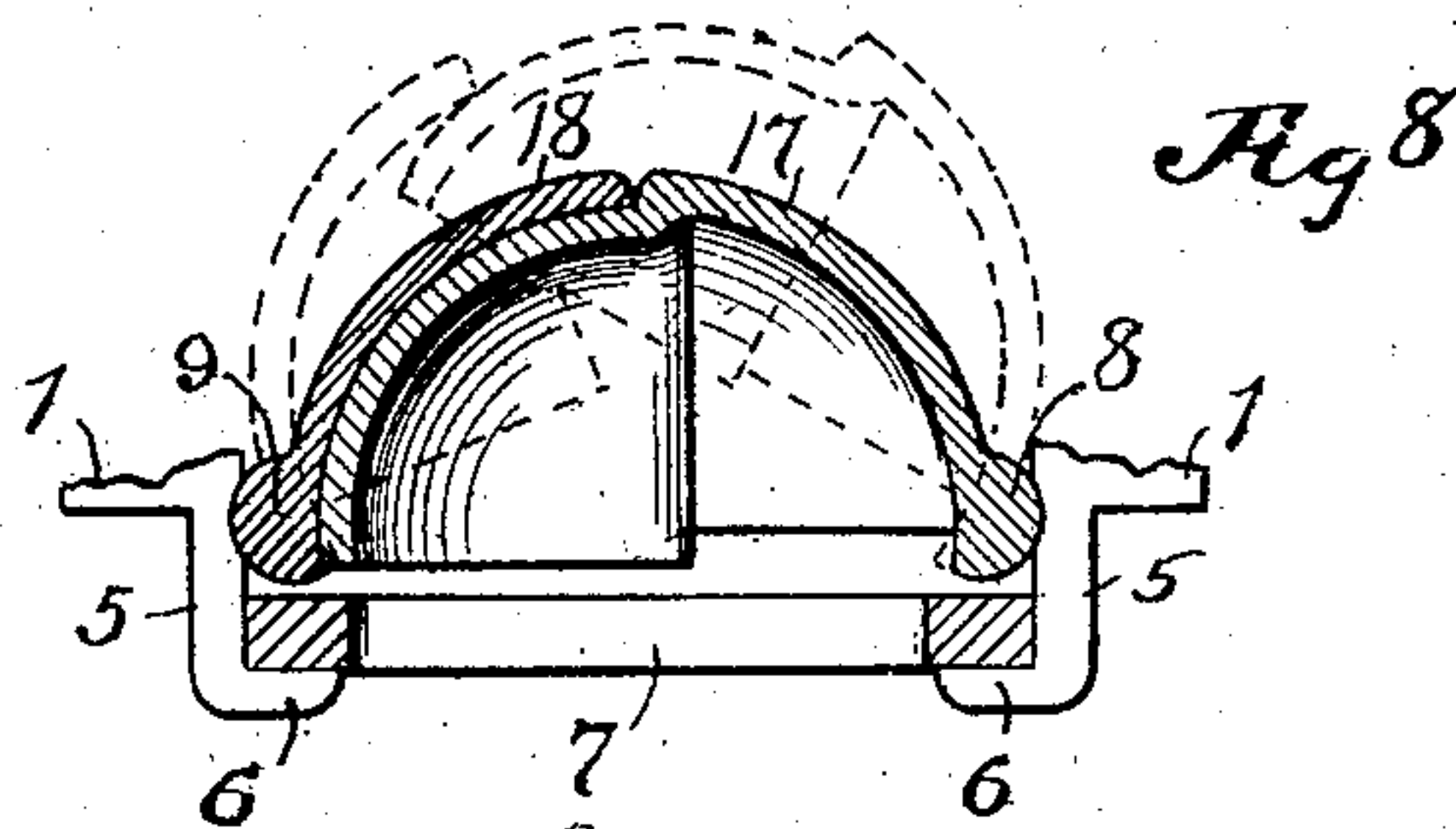
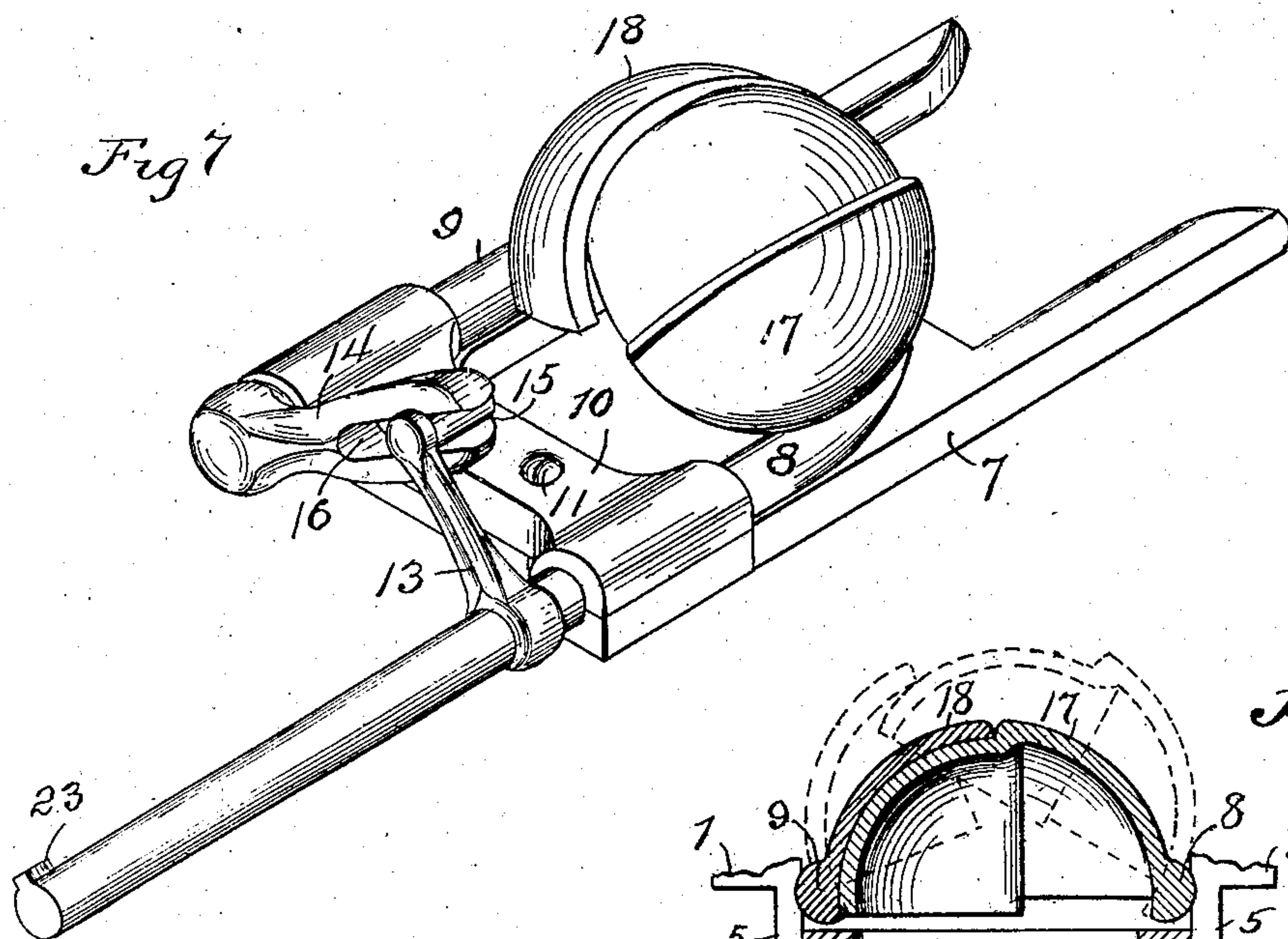
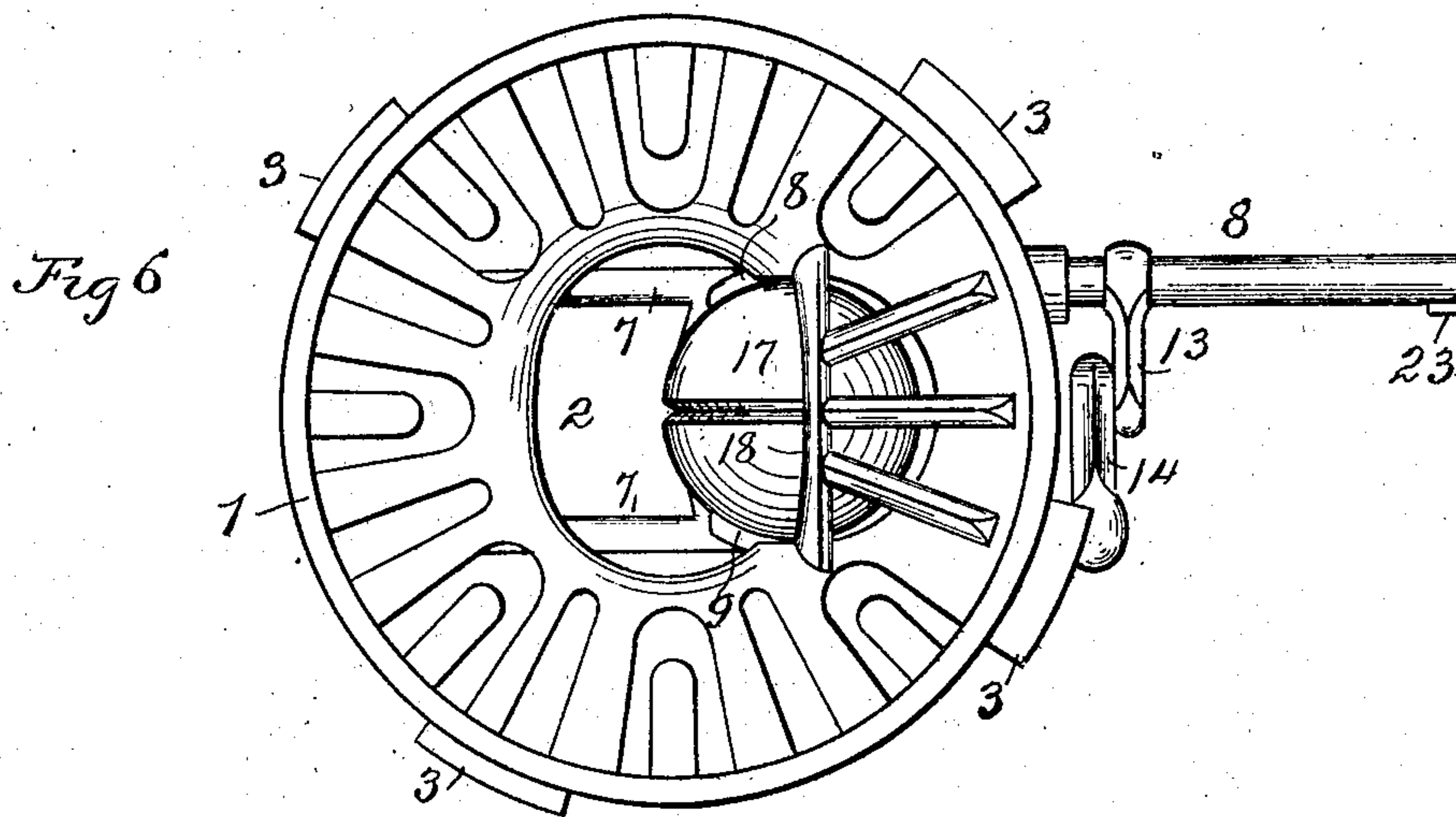
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2 SHEETS—SHEET 2.



Witnesses  
R. C. Hamilton.  
W. A. Single.

B. B. Cutler  
F. R. Cutler  
J. D. Johnston  
By Warren D. Howe, Their Attorney



# UNITED STATES PATENT OFFICE.

BURNAM B. CUTLER, FRED R. CUTLER, AND JAMES D. JOHNSTON, OF  
KANSAS CITY, MISSOURI.

## STOVE-GRATE.

No. 827,425.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed April 4, 1905. Serial No. 253,837.

*To all whom it may concern:*

Be it known that we, BURNAM B. CUTLER, FRED R. CUTLER, and JAMES D. JOHNSTON, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Stove-Grates, of which the following is a specification.

Our invention relates to improvements in stove-grates.

The object of our invention is to provide a grate having means by which the clinkers formed thereupon may be raised and broken.

Our invention provides, further, novel mechanism by the manipulation of which the operator may obtain ready access to the fuel for the removal of clinkers which may lie upon the grate.

The novel features of our invention are hereinafter fully described and claimed.

In the accompanying drawings, illustrative of our invention, Figure 1 is a top view showing the fuel-supporting jaws positioned to obstruct the opening in the grate-body through which the clinkers are withdrawn. In this view a portion of the socket of the operating-crank is broken away. Fig. 2 is a side elevation view of what is shown in Fig. 1. Fig. 3 is a longitudinal sectional view of the socket end of the operating-crank. Fig. 4 is a cross-section taken on the dotted line *a b* of Fig. 3. Fig. 5 is a vertical sectional view of the slidable member and some of the parts connected therewith, taken on the vertical plane indicated by the dotted lines *c d* of Fig. 2. Fig. 6 is a top view of the grate and parts connected therewith, the operating-crank being moved and the slidable member partially withdrawn. Fig. 7 is a perspective view of the slidable member and the rocking bars mounted thereon and shown rocked to a position in which the fuel-supporting jaws are elevated. Fig. 8 is a vertical sectional view taken on the dotted line *e f* of Fig. 1. In this view the fuel-supporting jaws are represented by dotted lines in the elevated position.

1 denotes the horizontal grate-body, provided with a central opening 2, through which the clinkers may be withdrawn. The grate-body 1 is provided with a plurality of peripheral lugs 3, adapted to rest upon any suitable support, upon which the grate-body

1 may be horizontally oscillated. Four downwardly-extending projections 5, each having an inwardly-extending horizontal portion 6, as shown in Fig. 8, are provided upon the under side of the grate-body 1 and are disposed two upon each side of the opening 2. The projections 5 serve as guides for a horizontal forward and backward slidable member 7, which rests upon the portions 6 of the projections 5. Two parallel horizontal rocking bars 8 and 9 are pivotally mounted upon the upper side of the member 7, to which they are secured by means of a clamping-plate 10, secured to the member 7 by means of the vertical bolts 11, which bolts are provided at their upper ends with heads and extend through openings provided therefor in the clamping-plate 10 and the member 7. The screw-threaded lower end of the bolts 11 have nuts 12 mounted thereon, which bear upon the under side of the member 7. The rocking bars 8 and 9 are provided, respectively, with radial arms 13 and 14. The outer end of the arm 13 is provided with a horizontal projection 15, which is mounted in the radial slot 16 in the outer end of the arm 14. When the bar 8 is rocked, a rocking movement is imparted to the bar 9 by means of the arm 13, projection 15, and arm 14.

On the inner end of the bar 8 is provided an eccentrically-mounted partially-spherical fuel-supporting jaw 17, the convex periphery of which is partially enveloped by an overlapping partially-spherical fuel-supporting jaw 18, eccentrically mounted upon the bar 9. The part of the jaw 17 which is overlapped by the jaw 18 is fitted to the inner spherical periphery of the jaw 18. The two jaws when positioned as shown in Fig. 8 have substantially the form of a hollow hemisphere. The disposition of the jaws 17 and 18 is such that when the bars 8 and 9 are properly rocked the jaws will be elevated to the positions shown in solid lines in Fig. 7 and in dotted lines in Fig. 8. Such elevation of the jaws will raise the fuel and cause cinders lying upon said jaws to be broken, in which condition they may be more readily removed through the opening 2 after the slidable member 7 has been removed to a position in which the jaws 17 and 18 do not obstruct said opening 2. The bar 8 extends



forwardly to a point preferably outside the stove in which the apparatus may be mounted. In operating the crank 19 is provided at one end with a socket portion 20. The  
 5 socket portion 20 is provided with a hole in which is fitted the outer end of the bar 8. In said socket portion is provided a longitudinal groove 22, adapted to receive therein a peripheral projection 23, provided on the outer  
 10 end of the bar 8. A lateral peripheral recess 24, connecting with the groove 22 and adapted to receive therein the projection 23, is provided in the socket portion 20. When it is desired to rock the bars 8 and 9 to and  
 15 from the positions shown in solid and in dotted lines in Fig. 8, the operating-crank 19 is slipped upon the outer end of the bar 8 to a position in which the projection 23 is either forward or to the rear of the recess 24. By  
 20 then rocking the operating-crank 19 the two bars 8 and 9, with their jaws 17 and 18, may be rocked or oscillated to and fro. The outer side of the crank opposite the socket portion 20 is provided with a handle 25, by  
 25 which the bar 8, member 7, and grate-body 1 may be oscillated to and fro.

When it is desired to withdraw the member 7, so that cinders may be withdrawn through the opening 2, the crank 19 is moved  
 30 to a position in which the projection 23 is in register with the recess 24, after which the crank 19 is turned upon the bar 8, thus causing the projection 23 to enter the recess 24. The crank 19 is then drawn forward, thus  
 35 drawing forward the bar 8, the bar 9, and member 7 to a position in which the jaws 17 and 18 are forward of the opening 2, at which time the cinders and ashes may be removed through the opening 2.

40 Our invention may be modified in many ways without departing from its spirit.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

45 1. The combination with the body of the grate having an opening therethrough for the passage of clinkers, of a member slidably mounted on the body, and two rock-bars pivotally mounted on and movable with the  
 50 slidable member and provided respectively with two jaws which overlap each other and which, when the slidable member is properly positioned, obstruct the opening in the body.

2. The combination with the body of the  
 55 grate having an opening therethrough for the passage of clinkers, of a member slidably mounted on the body, two rock-bars pivotally mounted on and movable with the slidable member, and provided respectively with  
 60 jaws which overlap each other and which, when the slidable member is properly positioned, obstruct the opening in the body, and means by which rocking movement of one bar is transmitted to the other.

65 3. The combination with the body of the

grate having an opening therethrough for the passage of clinkers, of a member slidably mounted on the body, and two rock-bars pivotally mounted on and movable with the  
 70 slidable member and provided with two jaws which overlap each other and cooperate when the slide is properly positioned, to obstruct said opening in the grate-body, the jaws being formed so that when the bars are rocked in the proper direction, the jaws will elevate  
 75 the fuel resting thereupon.

4. The combination with the body of the grate having an opening therethrough for the passage of clinkers, of a member slidably  
 80 mounted on the body, two rock-bars pivotally mounted on and movable with the slidable member and having two jaws one on each of said bars, said jaws overlapping each other, one serving to partially envelop the other jaw, and means by which rocking  
 85 movement imparted to one bar is transmitted to the other bar.

5. The combination with the body of the grate having an opening therethrough for the passage of clinkers and provided on its un-  
 90 der side with guides disposed on opposite sides respectively of said opening, of a member slidably mounted in said guides, two rocking bars pivotally mounted on said slidable member and provided one with an arm hav-  
 95 ing a slot and the other with an arm having a projection mounted in said slot by means of which rocking movement of one bar is transmitted to the other, said bars being provided with overlapping jaws which, when the slid-  
 100 able member is properly positioned, obstruct the opening in the grate-body, and a crank provided with means for engaging one of said rocking bars so as to impart thereto a sliding or a rocking movement when the crank-arm  
 105 is correspondingly moved.

6. The combination with an oscillatable grate-body provided with an opening there-  
 through, of a member slidably mounted on  
 110 said grate-body, two bars oscillatively mounted upon the slidable member and carrying two fuel-supporting devices comprising two partially-spherical jaws convex upon their upper sides and one serving as an envelop for  
 115 a portion of the other, means by which one of said bars may be oscillated, and means for transmitting oscillation to the other bar therefrom.

7. In a grate, the combination with two rocking bars provided respectively with  
 120 radial arms which engage each other and which transmit movement from one to the other, said bars having two partially-spherically-shaped jaws mounted eccentrically one upon each of said bars, one jaw partially  
 125 enveloping the other, of a member upon which said bars are mounted.

8. In a grate, the combination with a slid-  
 able member, of a rocking bar mounted there-  
 on and movable therewith and provided with  
 130



a peripheral projection, and an operating-crank provided with a socket fitted to said bar and having an inner longitudinal groove for receiving said projection, and a recess  
5 connecting with and at one side of said groove, adapted when the crank is properly positioned on the bar to receive said projection.

In testimony whereof we affix our signatures in presence of two witnesses.

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