

G. H. GRAY.

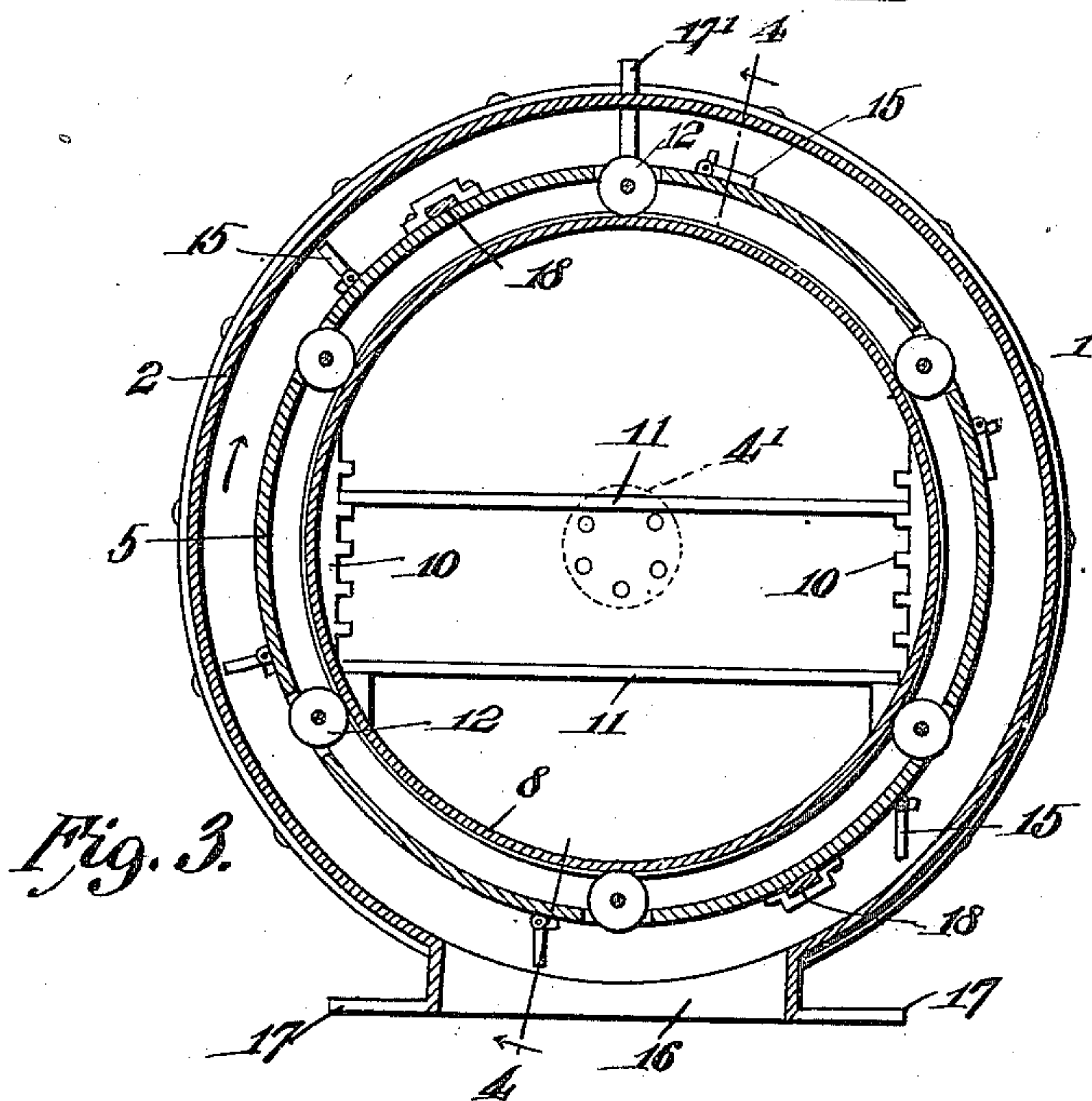
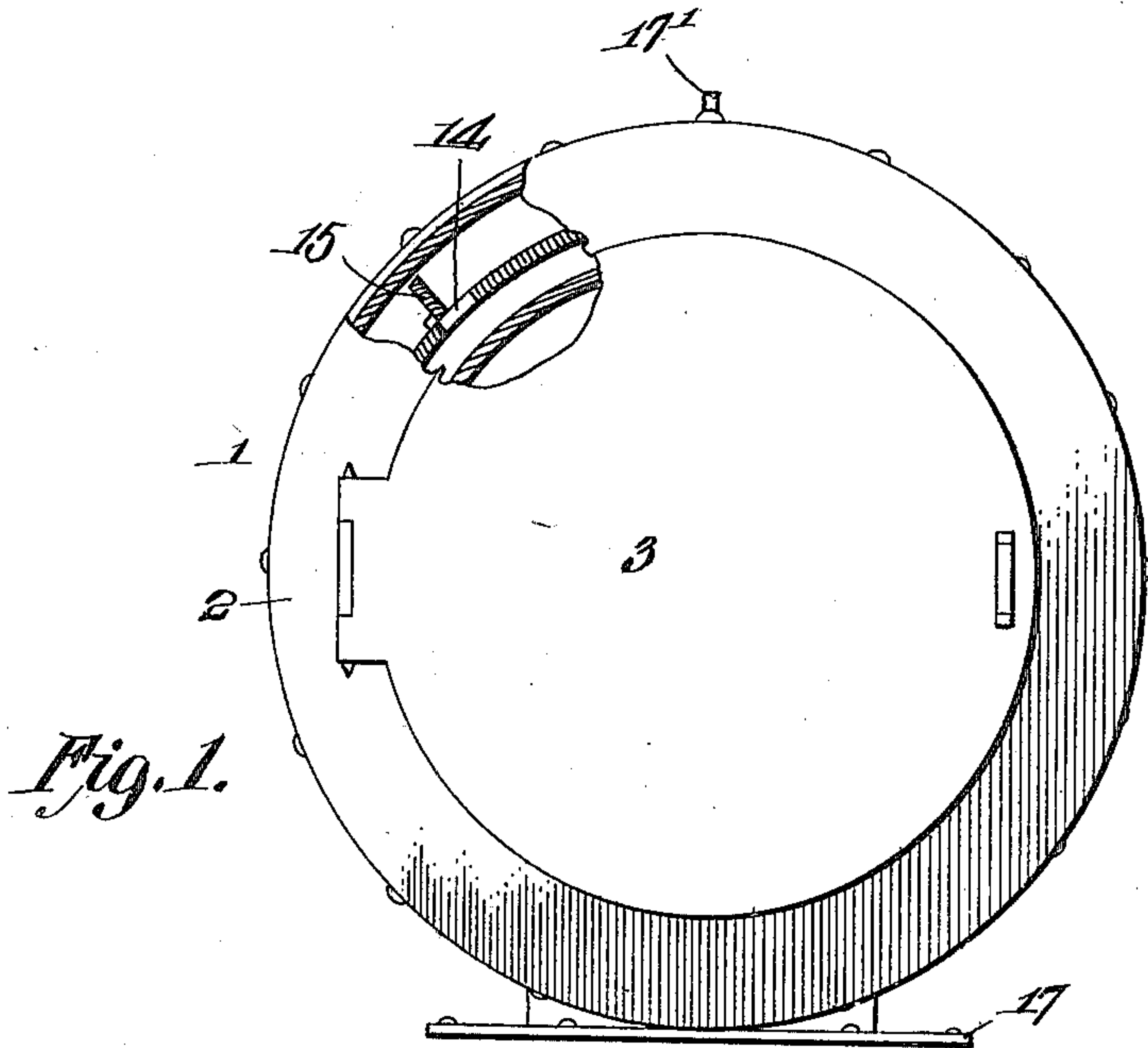
OVEN.

APPLICATION FILED AUG. 17, 1909.

964,241.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



Witnesses
W. B. Felt
Wm. North

George H. Gray,
Inventor

By *Victor J. Evans*
Attorney

G. H. GRAY.

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2 SHEETS—SHEET 2.

Fig. 4.

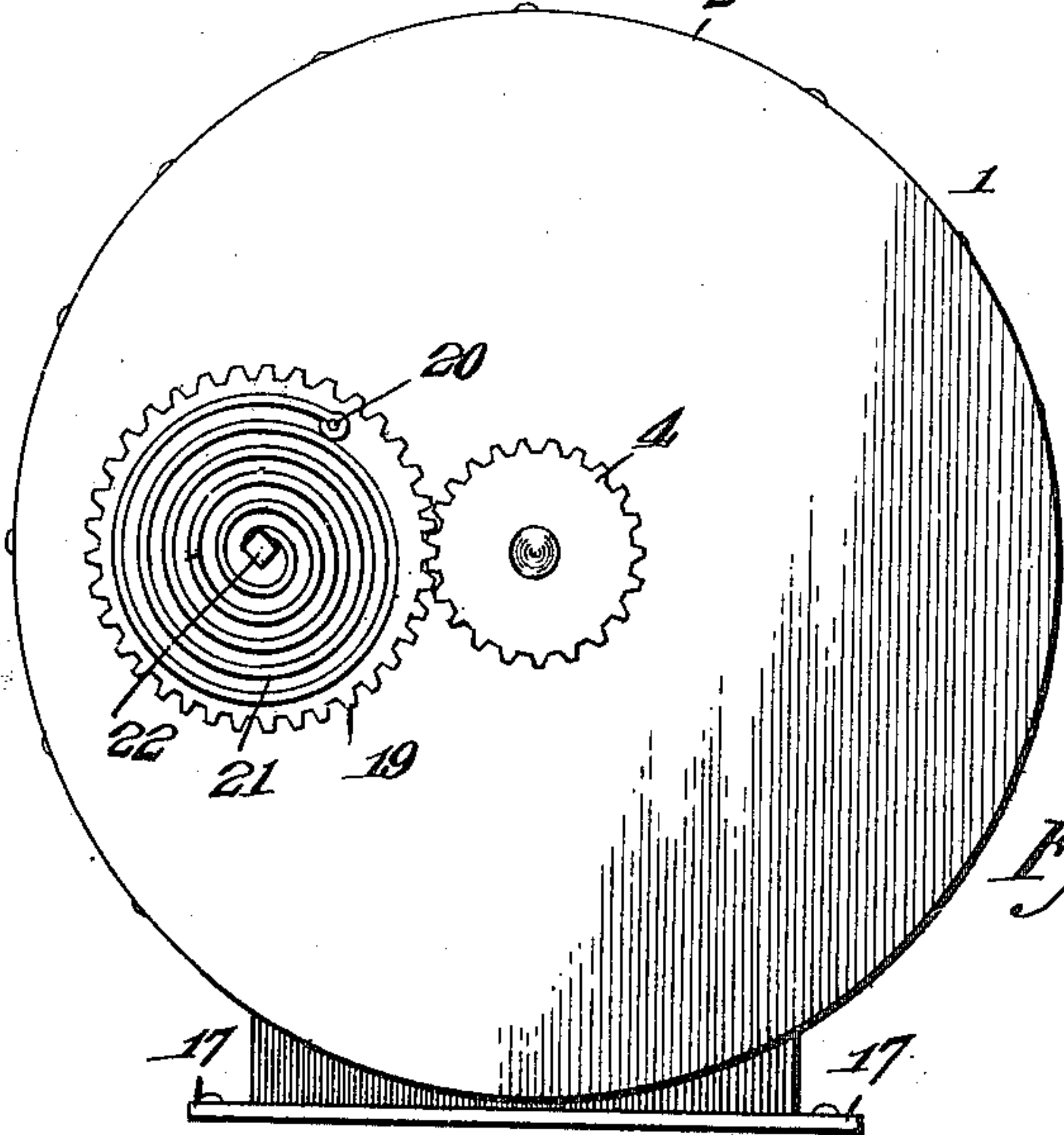
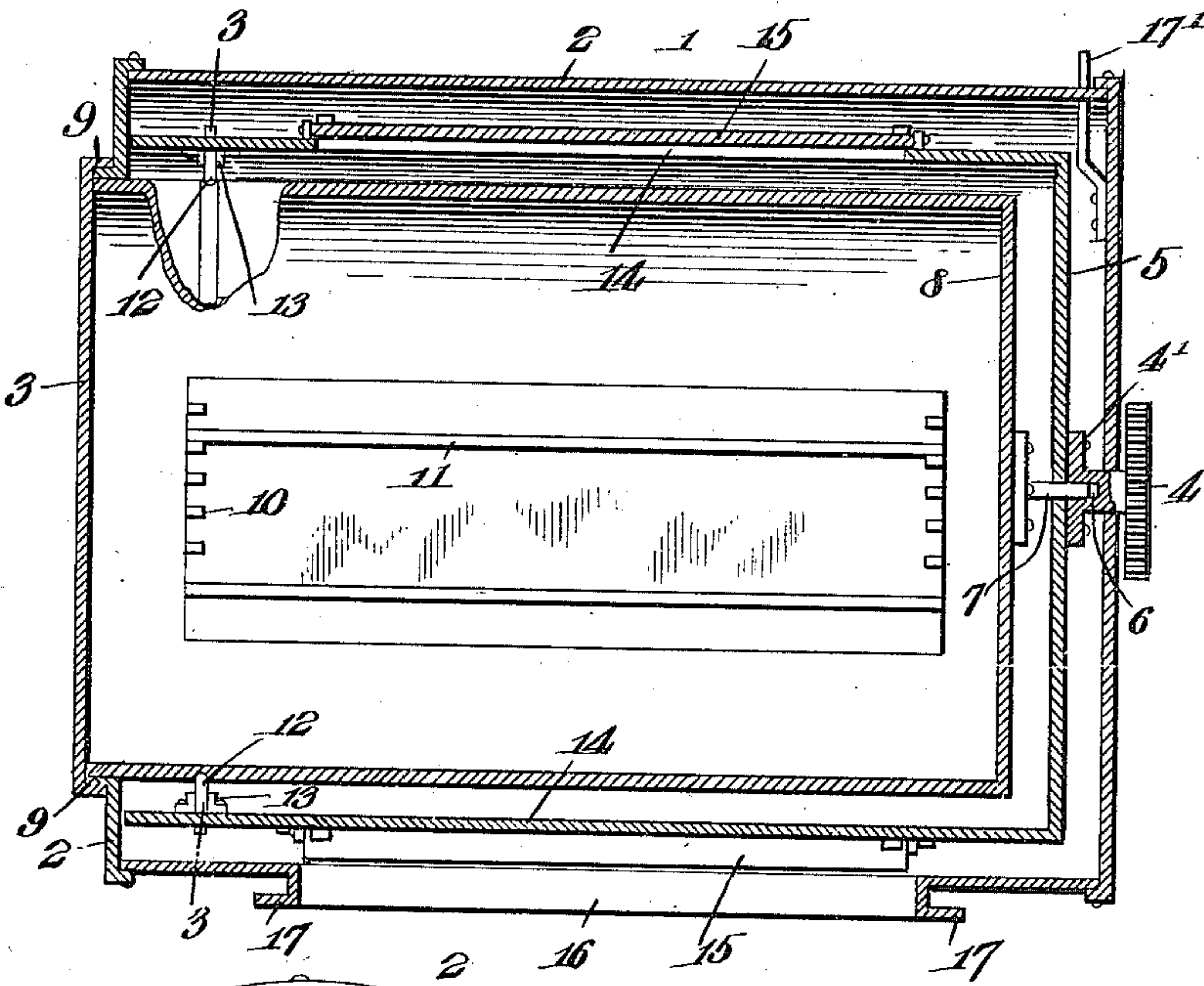
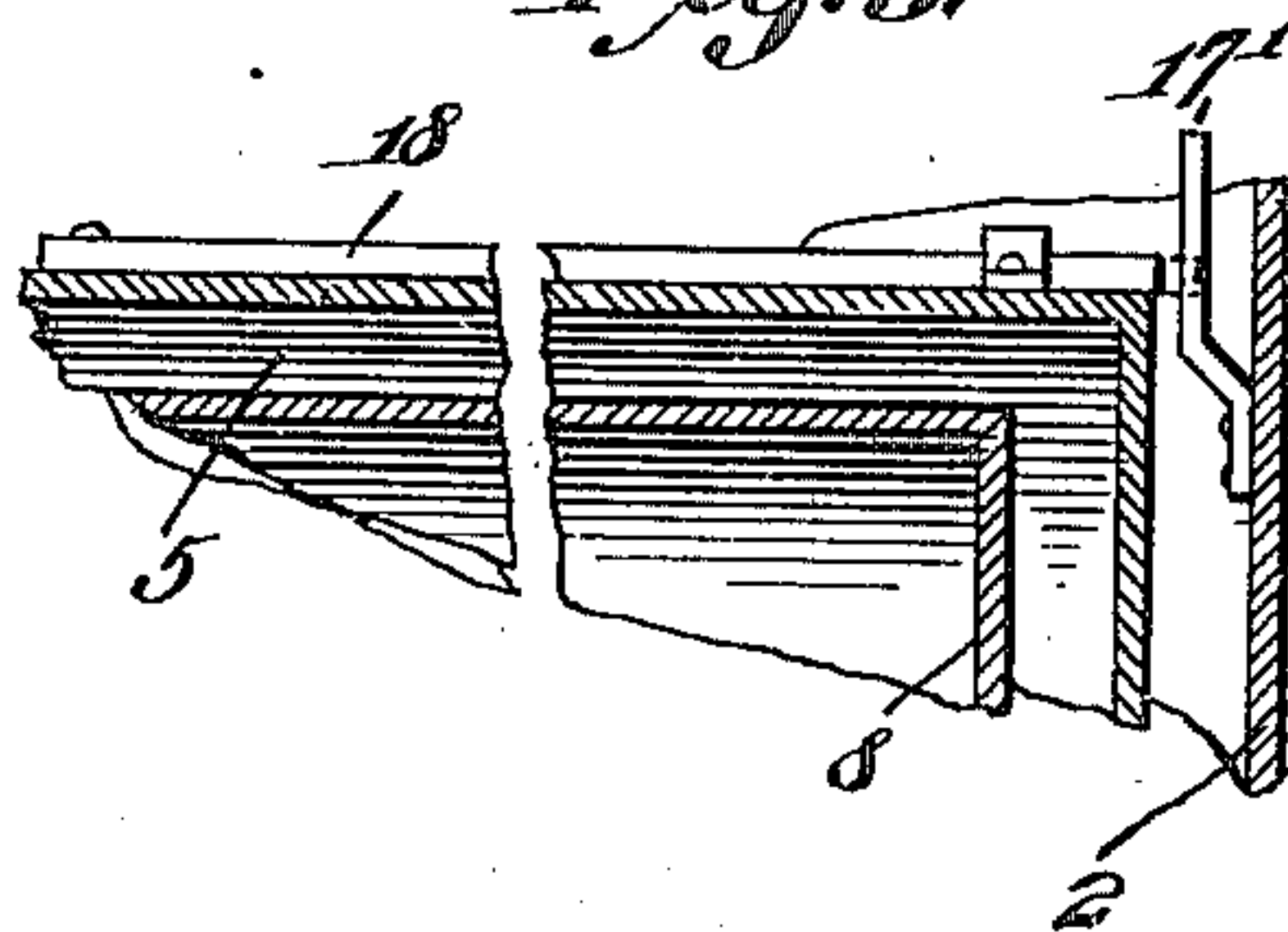


Fig. 2.

Fig. 5.



Witnesses

W. J. Evans
W. J. Evans

George H. Gray, Inventor

By *Victor J. Evans*, Attorney

Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. GRAY, OF SAN FRANCISCO, CALIFORNIA.

OVEN.

964,241.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE H. GRAY, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Ovens, of which the following is a specification.

This invention relates to ovens, and the object of the invention is to provide an oven of a peculiar formation, the construction of which allows a uniform temperature upon all sides of the oven.

With the above and other objects in view, which will appear as the description progresses the invention resides in the novel construction and combination of elements hereinafter fully described and claimed.

In the accompanying drawing there has been illustrated a simple and preferred embodiment of the invention and in which,

Figure 1 is a front elevation of the device, portions being broken away and other portions being shown in section to more clearly illustrate the details of the device. Fig. 2 is a rear elevation of the device. Fig. 3 is a vertical sectional view taken upon the line 3—3 of Fig. 4. Fig. 4 is a longitudinal sectional view upon the line 4—4 of Fig. 3 and looking in the direction of the arrows. Fig. 5 is a fragmental section of apparatus showing in detail the automatic stop.

In the accompanying drawings the numeral 1 designates an oven. This oven comprises an outer cylindrical casing 2 having one of its faces provided with a hinged door 3, and its opposite face provided with a toothed pinion 4, the purpose of which will hereinafter be set forth.

The trunnion of the pinion 4 is adapted to project a suitable distance within the casing 1 and this projecting portion has its extremity provided with an annular offset 4' whereby it is securely connected with a rotary drum 5. The trunnion of the pinion 4 is also provided with a central opening or bore 6 which is adapted for the reception of a pin or projection 7 carried upon the oven proper designated by the numeral 8. The oven 8 is stationary and has its outer open end positioned within the offset portion 9. The oven 8 is provided upon its opposite sides with longitudinally extending racks 10 which are adapted for the reception of removable shelves 11. The cylindrical oven 8 is also provided with a peripheral groove

adjacent its point of connection with the outlet mouth of the casing 2 which is adapted to serve as a race-way for a plurality of wheels 12 mounted in suitable bearings 13 provided upon the inner face of the drum 5. The drum 5 is provided with a plurality of longitudinally extending openings or cut away portions 14 arranged in spaced relation with each other and these openings 14 are each provided with hinged doors 15 of a length corresponding with the mouth 16 of the casing 2. This mouth 16 is provided with a peripheral offset or flange 17 whereby the device may be secured upon the fire box of a stove or the like.

By reference to Fig. 3 of the drawings it will be noted that the doors 15 are only free to swing through an arc of a predetermined length and these doors are also adapted to serve as suitable blades which are adapted to force the heat upwardly in a manner hereinafter to be set forth.

Secured upon the casing 2 adjacent one of its ends is a stop member 17' and mounted upon the drum 5 in suitable bearings are flat metallic plates 18 which are readily expandible to the heat and which act as a thermostat to contact the member 17' to stop the rotation of the drum 5 in a manner hereinafter to be fully set forth. Loosely secured upon the rear face of the casing 2 and adapted to mesh with the teeth of the pinion 4 is a larger toothed wheel 19. This toothed wheel is connected as at 20 with a spiral spring 21 and the said spiral spring has its inner convolution connected with a squared shaft 22. The said shaft 22 is adapted for the reception of a wrench or the like whereby the spring may be securely wound and it will be noted that as the spring is allowed to uncoil it will cause the wheel 19 to rotate which in turn rotates the pinion 4 and the said pinion 4 being connected with the drum 5 causes the revolution of the same. It will be noted by reference to Fig. 3 of the drawings that the doors 15 are free to swing when the drum 5 is rotated in the direction of the arrow shown in Fig. 3, and that the said doors will act as fans to direct the heat between the casing and the drum and to force the said heat within the openings provided for the doors and against the non-rotatable oven 8. When the heat becomes so intense as to expand the metallic plates 18 the said plates will contact with the offset member 17', thus stopping the

revolution of the drum and thereby allowing the heat to contact with the lower portions of the drum and oven until the outer portion of the drum and oven has become
 5 sufficiently cool to allow the retraction of the expanded plates 18 when the elements will operate as heretofore described. It is, of course, obvious that only one plate 18 contacts with the member 17' at any time,
 10 and while one plate is being heated and expanded the other is cooled and contracted.

From the above description taken in connection with the accompanying drawing it will be noted that I have provided a simple,
 15 effective and automatic apparatus for retaining all of the parts in the oven at an equal temperature and it is to be understood that while I have illustrated and described the preferred embodiment of the invention,
 20 minor details of construction within the scope of the following claims may be resorted to when desired.

Having thus fully described the invention what is claimed as new is:

25 1. The combination with a horizontally arranged casing having an open base to receive products of combustion, a horizontally arranged drum mounted for rotation within the casing, said drum being provided
 30 with openings also adapted to receive the products of combustion, hinged doors for the openings, a stationary oven within the drum, and means for revolving the drum.

35 2. The combination with a horizontally arranged cylindrical casing having an open base to receive products of combustion, said casing being further provided with an open front, a door for the front, a rotary drum
 40 arranged horizontally within the casing, a stationary oven within the drum, the drum being provided with spaced openings to receive the products of combustion from within the casing, hinged closures for the open-

ings adapted to open in one direction, and means for rotating the drum around the
 45 oven.

3. The combination with a horizontally arranged cylindrical casing having an open base and an open front, a door for the front, a horizontally arranged cylindrical oven
 50 within the casing, adjustable shelves for the oven, said oven having its outer face provided with a peripheral groove, a cylindrical drum within the casing and surrounding the oven, wheels upon the drum
 55 bearing within the groove of the oven, said drum being provided with a plurality of longitudinally extending openings, doors for the openings and means for rotating the drum around the oven to cause the doors
 60 to open by gravity in one direction.

4. The combination with a horizontally arranged casing having an open base and an open front, a hinged door for the front, a horizontally arranged stationary cylindrical
 65 oven within the casing, removable and adjustable shelves for the oven, a horizontally arranged drum surrounding the oven, said drum being provided with wheels contacting the oven, and said drum being also pro-
 70 vided with a plurality of longitudinally extending openings, doors for these openings adapted to open by gravity through an arc of a predetermined length, an offset member for the upper portion of the casing, a heat
 75 expansible bar carried by the drum which, when expanded, is adapted to contact the offset member to halt the drum, and means for rotating the drum around the oven, substantially as set forth.
 80

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

GEORGE H. GRAY.

Witnesses:

MILTON MEYER,
 SAMUEL MEYER.