No. 825,713. PATENTED JULY 10, 1906.

J. FERRACIOLI.

GRATE AND FIXTURES THEREFOR.

APPLICATION FILED OCT. 6, 1905.

2 SHEETS—SHEET 1.

Fig. 2.

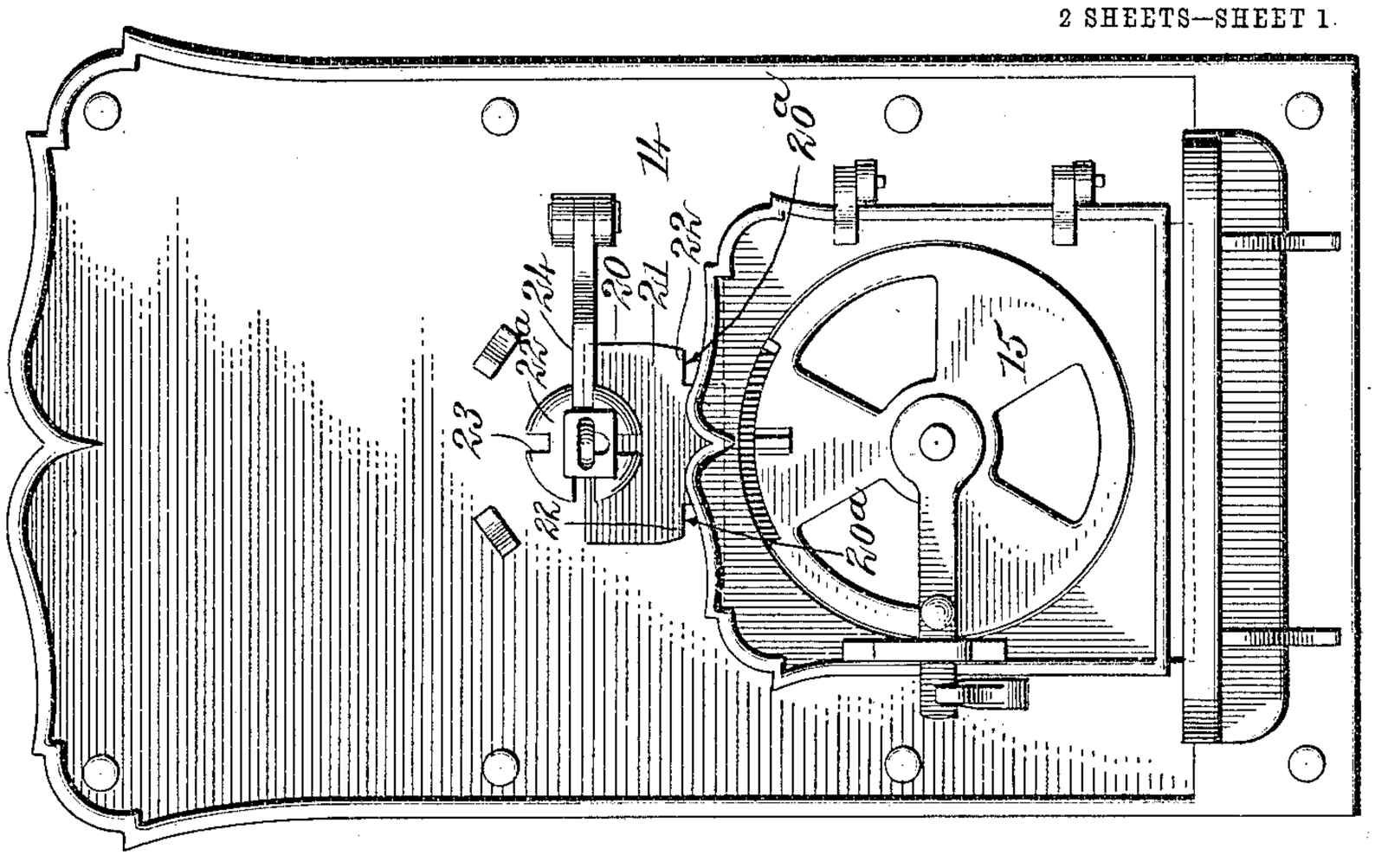
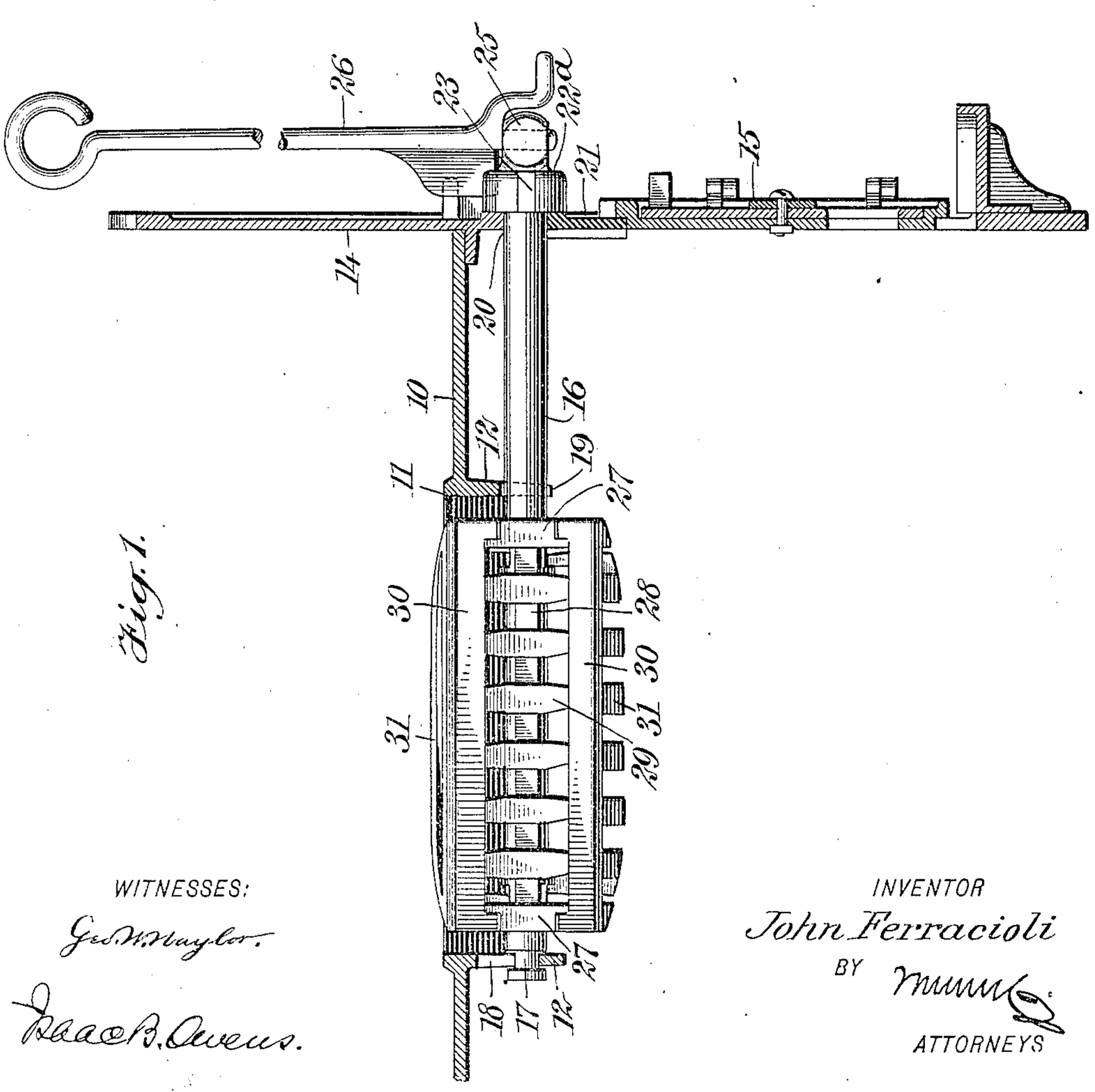


Fig. 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 3.

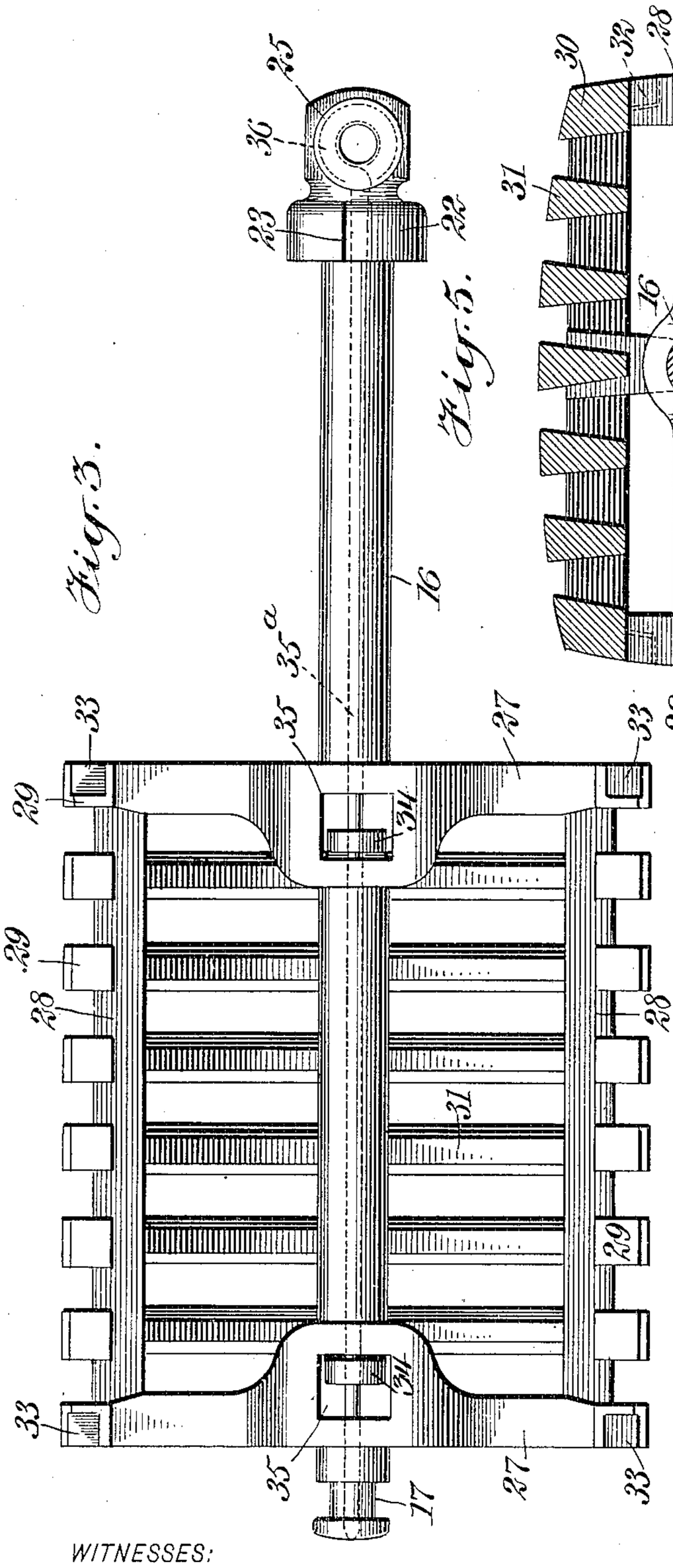


Fig. 5.

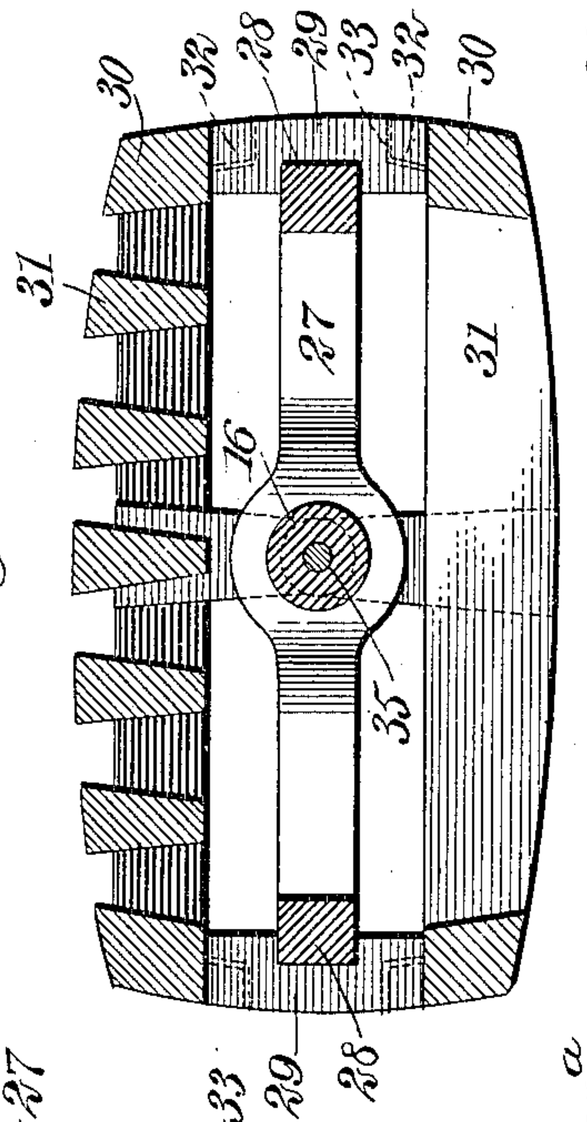
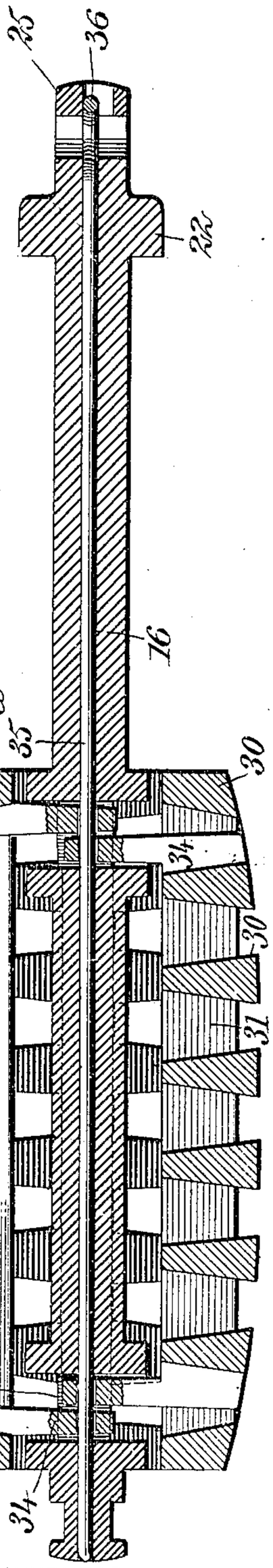


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN FERRACIOLI, OF NEW YORK, N. Y.

GRATE AND FIXTURES THEREFOR.

No. 825,713. Specification of Letters Patent. Patented July 10, 1906.

Application filed October 6, 1905. Serial No. 281,618.

To all whom it may concern:

Be it known that I, JOHN FERRACIOLI, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Grate and Fixtures Therefor, of which the following is a full, clear, and exact description.

The invention relates to improvements in grates intended especially for use in cooking stoves or ranges and to certain improvements in the means for mounting the grate.

The object of the invention is to provide a grate which may be heavily constructed, so as to render it as durable as possible, but which may be made in sections, so that one or more of the sections may be removed when injured and replaced by new sections, thus permitting ready repair.

It is also an object of my invention to mount the grate in the stove or range so that it may be conveniently removed for adjustment as aforesaid.

Reference is to be had to the accompanying drawings, which illustrate, as an example, the preferred embodiment of my invention, in which—

Figure 1 is a view showing the bottom of the fire-box and the front of the range or cook-stove in section and illustrating the grate in position. Fig. 2 is a front view of the stove, showing the shaft of the grate and the lock-plate and devices immediately coacting therewith. Fig. 3 is an enlarged plan view of the grate with one of its sections removed. Fig. 4 is a longitudinal section through the grate, and Fig. 5 is a cross-section.

10 indicates the metal bottom of the fire-box, which has the grate-opening 11 therein, as shown. Said opening is surrounded by flanges 12, which project downward therefrom.

14 indicates the front of the stove, which has a draft and ash door 15 of the usual or any desired construction.

The shaft 16 of the grate has at one end an annular groove 17, and this end of the shaft is rockably mounted in a keyhole-slot 18, formed in the flange 12, the grate lying in the opening 11, surrounded by the flange, as shown in Fig. 1. Opposite the opening 18 the flange 12 has a slot 19, through which the shaft passes loosely. The front end of the grate-shaft 16 projects beyond the front of the stove and is loosely arranged in an opening 20 in the front wall. The opening 20 also receives a lock-plate 21, which is placed in the lower part of the opening and bears under the shaft 16, so as to sustain the shaft in operative position. Said lock-plate has shoulders 22, which bear against corresponding shoulders 20^a, formed in the walls of the opening 20, preventing the displacement of the lock-plate. The lock-plate is further held in position by the door 15, engaging the lower part of the plate, as indicated by the full and broken lines in Fig. 2. The end of the grate-shaft 16, which projects outside of the front wall 14, has a head or enlargement 22^a with slots 23 therein, adapted to receive a lock-dog 24, which is hinged to the outer side of the front wall 14, thus holding the grate in any desired position. The shaft is also provided with an eye 25, adapted, together with the slots 23, to coact with the shaker-bar 26. (See Fig. 1.) By this arrangement the grate is mounted securely in place, and yet it may be readily removed from the stove by withdrawing the lock-plate 21. This allows the front end of the shaft to drop into the openings commanded by the door 15, the door being in open position. After the grate takes this inclined position the grooved end 17 of the shaft may be lifted out of the slot 18 and the entire grate withdrawn through the ash-door opening. To facilitate this operation, the opening 20, receiving the lock-plate 21 and shaft 16, runs into and forms an extension of the ash-door opening. It will thus be seen that my invention provides for the easy removal of the grate through the ash-opening at the front of the stove or range.

Formed integral with or securely fastened to the shaft 16 are the end sections 27 of the grate. These project transversely from the shaft and connect at their ends with side bars 28. These parts 27 and 28 are rigid with the shaft 16 and form the frame of the grate. The side bars 28 are provided with vertically-extending bars 29, which project above and below said bars 28. The grate is provided with removable top and bottom sections which are composed of a rectangular frame or body 30 with the grate-bars 31 extending between them, the grate-bars 31 of one of such sections extending across the grate-bars

of the other section, though this is not essential. The frame or body 30 of the grate-sections has lugs 32 projecting inward and seated in cavities 33, formed in the bars 29, which are at the ends of the grate, as shown in Figs. 3 and 5. Projecting inward from the grate-sections are lugs 34, and these extend into openings 35, formed in the end bars 27 of the body of the grate. Said lugs 34 are orificed at their inner ends and loosely receive in these orifices a lock-rod 35ª. This rod is slidably fitted in the shaft 16 of the grate and extends from end to end thereof. The eye 25 at the outer end of said shaft has a cavity which receives a ring or eye 36, formed on the end of the lock-rod and by means of which said rod may be withdrawn. It will be seen, therefore, that either or both of the sections of the grate may be removed and replaced, it being only necessary to withdraw the grate from the stove, as before explained, and then withdraw the rod 35ª, this rod releasing the top and bottom sections of the grate. The grate is mounted in the stove so that it can be reversed without removal. In this way when one side of the grate has become injured the grate may be reversed and the other side used. Then if both sides are injured the grate may be removed from the stove, the lock-rod 35ª withdrawn, and new sections 30 applied, these sections being secured by the lock-rod and the grate again returned to its place.

Having thus described the preferred form of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stove the combination with the stove-front and fire-box bottom, the front having an ash-door opening and an extension-opening above the same, and the fire-box bottom having an opening therein, of a grate arranged in the opening in said fire-box bottom, a grate-shaft, means for mounting the inner end of the grate-shaft, the outer end of the grate-shaft extending into the extension-opening in the front wall of the stove, a removable lock member secured in the extension-opening below the grate-shaft to hold the same in place, and an ash-door mounted on the front of the stove and adapted to close in front of said lock member to hold the same in place.

2. In a stove, the combination with the stove-front and fire-box bottom, the front having an ash-door opening and an extension-opening above the same, and the fire-box bottom having an opening therein, of a grate arranged in the opening in said fire-box bottom, a grate-shaft, means for mounting the inner end of the grate-shaft, the outer end of the grate-shaft extending into the extension-opening in the front wall of the stove, a removable lock-plate secured in the extension-opening below the grate-shaft to hold the same in place, and an ash-door mounted on the front of the stove and adapted to close in front of the lock-plate to hold the same in position.

3. A stove having a front wall with an ash-opening, and an extension-opening above and communicating with the ash-opening, a grate, a grate-shaft located in the extension-opening, and a removable lock member engaged in the lower part of the extension-opening and bearing against the grate-shaft to hold the same in position, whereby upon the removal of said lock member the shaft and grate may be withdrawn through the ash-opening and an ash-door mounted on the front of the stove and adapted to close against said lock member to hold it in place.

4. A grate having a body with an opening therein, a lock-rod removably arranged to move in the grate and extending across the opening, and grate-sections adapted to engage opposite sides of the body and having lugs adapted to enter the opening and to be engaged by said rod.

5. A grate having a body, a grate-shaft engaged therewith, said shaft having a longitudinal opening, and the body having an opening intersected by the opening of the shaft, removable grate-sections engaged with opposite sides of the body and having lugs projected into the opening thereof, and a lock-rod movable through the opening in the shaft and engaging the lugs.

6. A grate having a rectangular body, vertically-extending bars secured to the sides thereof, top and bottom grate-sections adapted to engage said bars, and means for removably holding said bars in place.

7. A grate having a rectangular body, vertically-extending bars secured to the sides thereof, top and bottom grate-sections adapted to engage said bars, and means for removably holding said bars in place, said means comprising orificed lugs on the grate-sections, and a lock-rod slidably arranged in the grate and engaged in the openings in said lugs.

8. In a stove, the combination with the front thereof, having an ash-door opening and an extension-opening above the same, of a grate, means for mounting the inner end thereof, a grate-shaft projecting from the front of the grate through said extension-opening, a lock member setting in the opening under the grate-shaft to sustain the same, and an ash-door mounted on the front of the stove and adapted to close against said lock member to hold it in place.

9. A grate comprising a body, flat top and bottom sections adapted to bear against the body and having inwardly-projecting portions, and a sliding lock-rod fitting in the grate and engaging said projecting portions.

10. A grate having a body, comprising an essentially rectangular frame with vertically-extending bars at the sides thereof, essen-

tially flat top and bottom grate-sections engaging respectively the ends of said bars and having inwardly-projecting portions, and a sliding lock-rod fitting in the grate and engaging said projecting portions.

11. A grate having a body, top and bottom sections engaging the same and having inwardly-projecting parts, a grate-shaft with a longitudinal passage therein, and a sliding lock-rod fitting in the passage and in the body of the grate, and engaging said inwardly-projecting parts of the top and bottom grate-sections.

12. A grate having a body, top and bottom sections engaging the same and having inwardly-projecting parts, a grate-shaft with a longitudinal passage therein, and a sliding lock-rod fitting in the passage and in the body of the grate, and engaging said inwardly-projecting parts of the top and bottom grate-sections, said grate-shaft having an enlarged end with an eye therein, and the lock-rod having an eye fitting in a cavity in the said end of the grate-shaft and registering with the eye thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN FERRACIOLI.

Witnesses:
ISAAC B. OWENS,
JNO. M. RITTER.