No. 793,040. PATENTED JUNE 27, 1905.

G. ATWELL.

AUTOMATIC STOKER.

APPLICATION FILED MAY 31, 1904.

2 SHEETS—SHEET 1.

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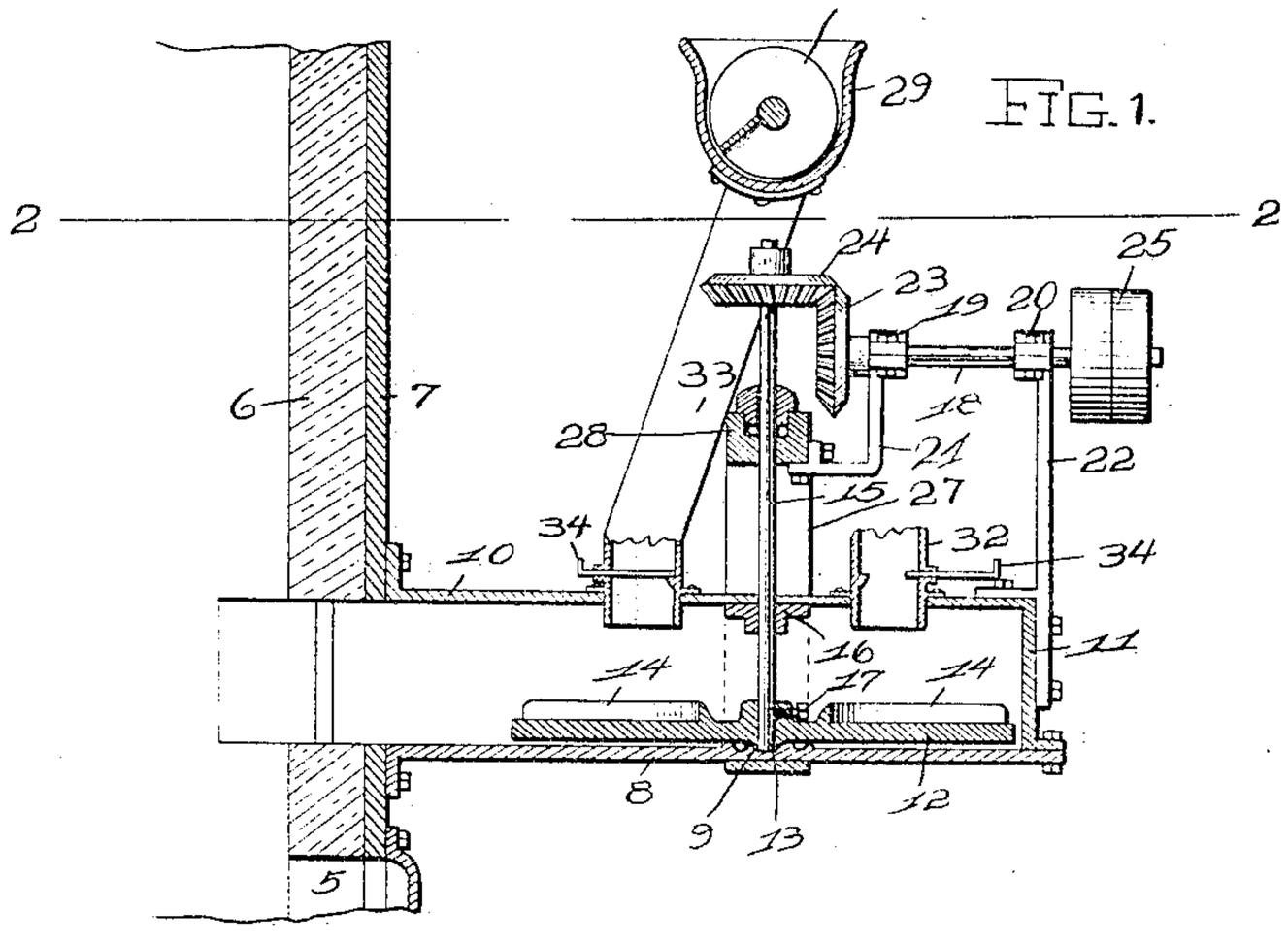
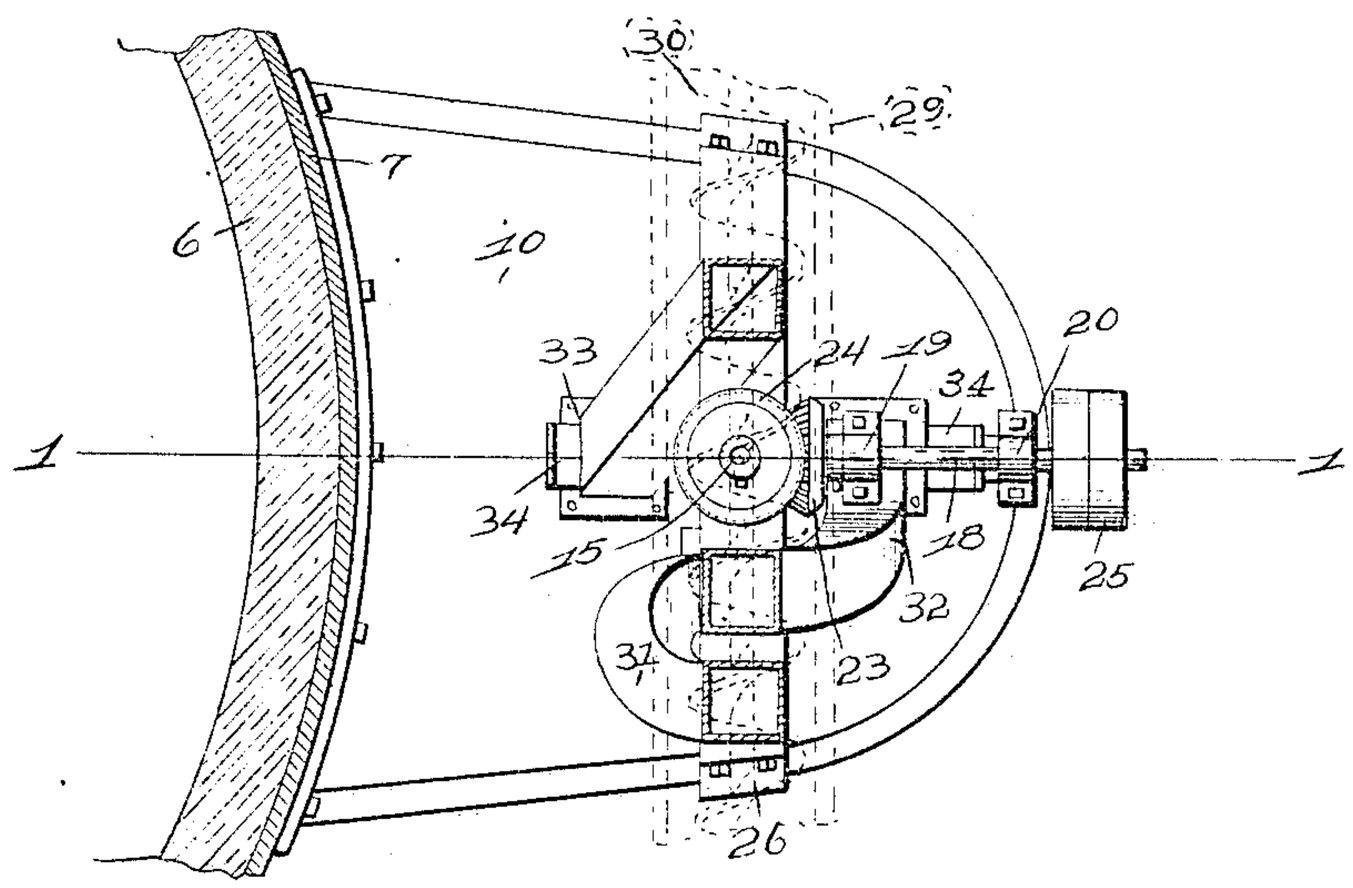


FIG. 1.

FIG. 2.



WITNESSES:
Edw M Harrington
Alfred C Fries

INVENTOR:
George Atwell.
by Higdon & Longan & Hopkins Attys

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2 SHEETS—SHEET 2.

FIG. 3.

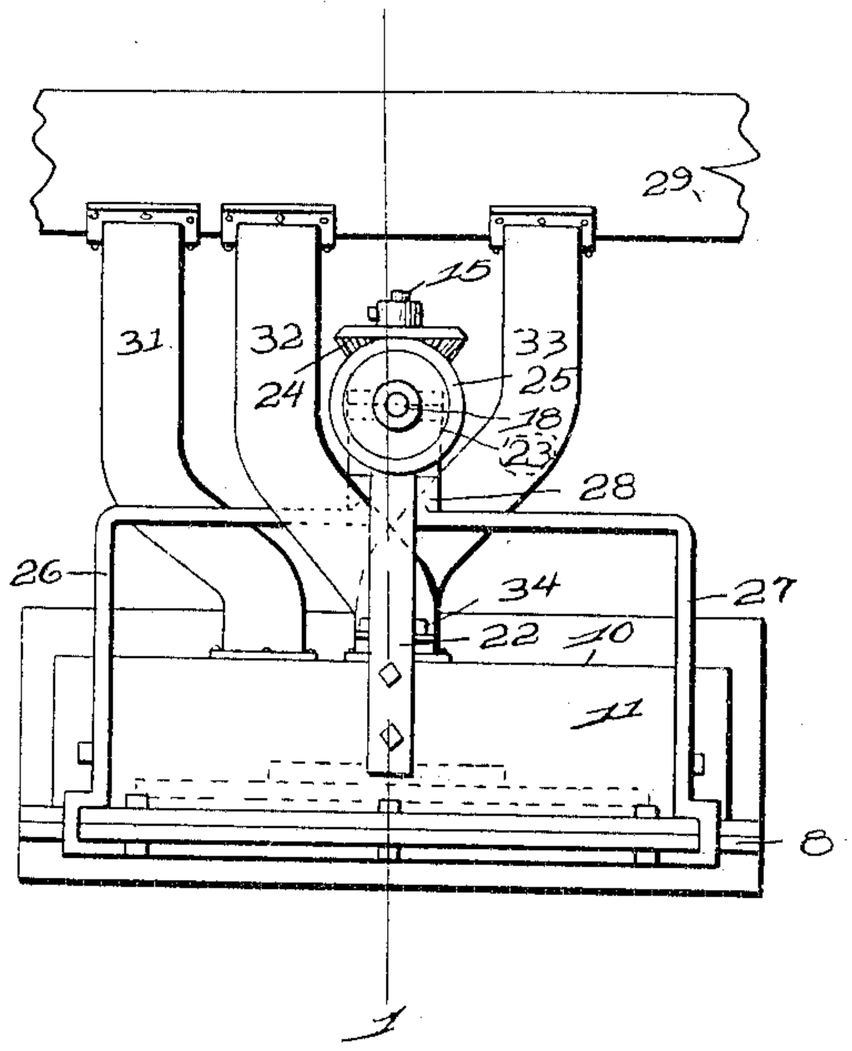
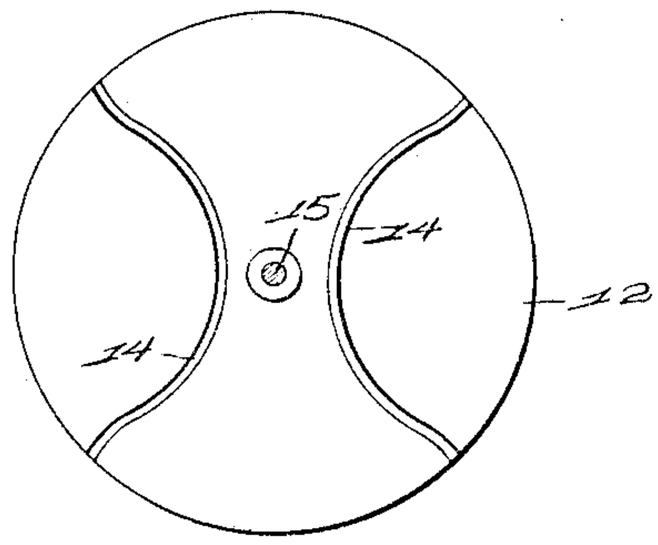


FIG. 4.



WITNESSES:
Edw M Harrington
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No. 793,040. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

GEORGE ATWELL, OF GLENCOE, MISSOURI, ASSIGNOR OF ONE-HALF TO CHARLES W. S. COBB, OF ST. LOUIS, MISSOURI.

AUTOMATIC STOKER.

SPECIFICATION forming part of Letters Patent No. 793,040, dated June 27, 1905.

Application filed May 31, 1904. Serial No. 210,371.

To all whom it may concern:

Be it known that I, GEORGE ATWELL, a citizen of the United States, residing at Glencoe, St. Louis county, State of Missouri, have invented certain new and useful Improvements in Automatic Stokers, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in automatic stokers; and it consists of the novel features herein shown, described, and claimed.

In the drawings, Figure 1 is a vertical central section on the lines 1 1 of Figs. 2 and 3. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1 and looking downwardly. Fig. 3 is a front elevation as seen looking in the direction indicated by the arrow 3 in Fig. 1. Fig. 4 is a plan of the stoking-wheel.

Referring to the drawings in detail, a rectangular horizontal opening is formed a short distance above the door-opening 5 in the furnace-wall 6, the outer face of the wall 6 being covered with a metal plate 7, and the stoking wheel casing is attached to this metal plate, and this casing comprises the bottom plate 8, having the central bearing 9 in its upper face, the top plate 10, and the wall 11, extending downwardly from the top plate and connected to the bottom plate. The stoking-wheel 12 has a stub-shaft 13 mounted in the bearing 9, and semicircular flanges 14 extend upwardly from the face of the wheel. A shaft 15 extends downwardly through the plate 10 and through the bearing 16 and is connected to the stoking-wheel 12 by the set-screw 17.

The driving-shaft 18 is mounted in bearings 19 and 20, said bearings being connected to the casing by brackets 21 and 22, and a bevel-gear 23 upon the shaft 18 meshes with the bevel-gear 24 upon the shaft 15, said shaft 18 being driven by the belt-pulleys 25. Brackets 26 and 27 extend upwardly from the casing and then inwardly to support the bearing 28, said bearing 28 supporting the upper end of the shaft 15. A conveyer-trough 29 is horizontally mounted above the casing, and a screw conveyer 30 operates in this trough. Spouts 31, 32, and 33 lead from the trough 29 through the plate 10 and discharge upon the stoking-wheel 12, the passages through said spouts being controlled by sliding valves 34.

Pulverized coal or similar fuel is fed to the trough 29 and fed to the spouts 31, 32, and 33 by the screw conveyer, and by these spouts the fuel is discharged upon the stoking-wheel 12. The flanges 14 upon the stoking-wheel are substantially in the form of semicircles, opening outwardly, as shown in Fig. 4, and when the fuel falls upon the wheel, which is rotated at a high rate of speed, it will be thrown through the wall 6 into the furnace. Assuming that the stoking-wheel is rotated with the sun and at a high rate of speed, if the fuel is passing through the spout 33 it will be thrown toward the right-hand side of the furnace, and if it is passing through the spout 31 it will be thrown into the center of the furnace, and if it is passing through the spout 32 it will be thrown to the left-hand side of the furnace, and by manipulating the valves 34 the fuel may be thrown to any desired part of the furnace.

I claim—

1. In an automatic stoker, the combination with a furnace-wall having an inlet-opening, of a casing secured to the furnace-wall over said opening; a stoking-wheel mounted to rotate in a horizontal plane within the casing; and a plurality of spouts so located as to discharge upon the stoking-wheel at different points in the path thereof; substantially as specified.

2. In an automatic stoker, the combination with a furnace-wall having an inlet-opening, of a casing secured to the furnace-wall over said opening; a stoking-wheel mounted to rotate in a horizontal plane within the casing; a plurality of spouts so located as to discharge upon the stoking-wheel at different points in the path thereof; and means whereby the passage of fuel through

the spouts is regulated; substantially as specified.

3. In an automatic stoker, the combination with a furnace-wall having an inlet-opening, of a casing secured to the furnace-wall over said opening; a stoking-wheel mounted to rotate in a horizontal plane within the casing; a plurality of spouts so located as to discharge upon the stoking-wheel at different points in the path thereof; and valves located adjacent the discharge ends of the spouts; substantially as specified.

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

GEORGE ATWELL.

Witnesses:
ALFRED A. EICKS,
M. M. BRAZILL.