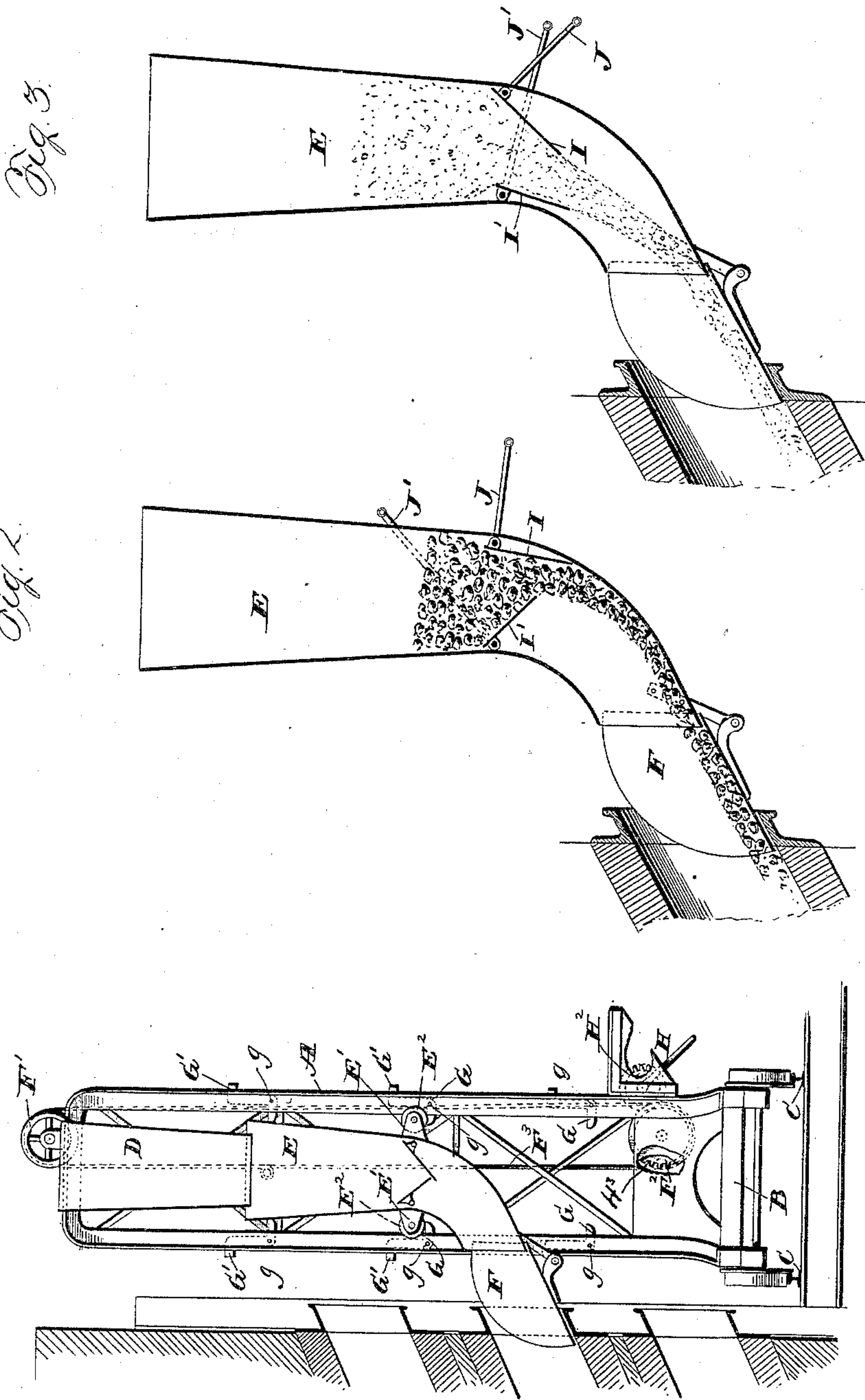


(No Model.)

F. BREDEL.
APPARATUS FOR CHARGING RETORTS.

No. 440,617.

Patented Nov. 18, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK BREDEL, OF NEW YORK, N. Y.

APPARATUS FOR CHARGING RETORTS.

SPECIFICATION forming part of Letters Patent No. 440,617, dated November 18, 1890.

Application filed August 18, 1890. Serial No. 362,337. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK BREDEL, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Charging Inclined Retorts; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in apparatus for charging retorts, and it has more especial reference to that class of charging devices which are adapted for use in charging inclined retorts, and this invention has for its object to generally improve upon the construction and render more efficient in operation this class of machines.

To these ends, and to such others as the invention may pertain, the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of parts, all as morefully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which—

Figure 1 is a sectional view of a retort-charging machine embodying my improvements, the same being shown as it appears when in actual use. Fig. 2 is an enlarged vertical section of the chute with the feed-doors opened in such a manner as to permit the charging material to enter the front side of the chute. Fig. 3 is a similar view in which the feed-doors are shown in another position.

Reference now being had to the details of the drawings by letter, A represents the main frame of the charging-machine, which is suitably mounted upon a car or carriage B, which is designed to travel upon the tracks C, which

are placed immediately in front of the retort-bench. The funnel D, which is open at its ends, is attached at its upper end to the upper part of the frame A. The charger E is placed directly beneath the lower end of the funnel D, and is provided upon opposite sides with short arms or projections E', said arms having journaled in their outer ends the wheels E², adapted to move within suitable guide-tracks provided for the purpose in the vertical timbers or bars of the frame A. The charger E is attached to the endless rope or chain F³, which rope or chain is passed around the pulleys F' and F² at the top and bottom of the frame. It will thus be seen that the charger may be raised or lowered, as desired, so as to adapt the same for use in filling either the upper or lower retort.

At proper intervals along the vertical tracks upon which the wheels E² travel, stops G, having operating-handles G', are provided, so as to stop the vertical movement of the charger at the proper point. These stops are pivoted at g to the frame, and have portions which extend within the path of the wheels E². By moving these stops on their pivots by means of the handles G', the inwardly-projecting portions may be moved out of the path of the wheels and then allowed to swing back to support the said wheels, as shown in Fig. 1 or the drawings.

The lower end of the charger E has hinged or pivoted thereto the chute F, the said chute being so hinged or pivoted as to permit of its being thrown out of the way when it is proposed to raise or lower the charger.

Motion is imparted to the endless rope F³ from the operating-crank H by means of the gear-wheel H², which meshes with a corresponding gear-wheel H³ upon the shaft which carries the pulley F².

In the lower portion of the charger E front and rear hinged gates or doors I and I' are provided, said gates being operated by the operating-levers J and J', respectively.

A prominent and essential feature of the present invention resides in the novel construction and arrangement of the movable or hinged discharge-gates I and I', which permit of the charging of material of different degrees of fineness.

Heretofore great difficulty has been encountered in charging with materials of different angles of repose in inclined retorts, such naturally being the case where lump and fine coal have been charged alternately. Lump coal would more readily roll off than would coal in a pulverized state, resulting in the heaping up of the lump coal in the lower part of the inclined retort, while the fine or moist coal, not moving as freely, would heap up at the charging end of the retort. By my arrangement of gates this result is entirely obviated, as by proper manipulation of the gates different moments of inertia may be imparted to the different grades of charging material. If fine material is to be charged, as shown in Fig. 3 of the drawings, the gate I' is opened by means of the operating-lever J', thus giving the material a free entrance and a high velocity upon its leaving the charger. In case lump coal is to be charged the gate I is opened, thus causing the material to be charged to change its direction and allowing it to slide down the lower face of the charger and chute, entering the retort at a much lower rate of speed. The same results can be obtained with mixed material by open-

ing partly both gates or either one alone at intervals, as may be necessary.

It will be understood that the charging-machine may be filled from the upper end of the funnel D, and that the same may be raised or lowered by the mechanism described when it may be necessary to fill either the upper retorts or the retorts upon a lower plane.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. The combination of the charger provided with independently-movable gates, a funnel, and a pivoted chute, a frame A, elevating devices, and catches G', substantially as and for the purpose specified.

2. The combination, with the frame A and the stops G, pivoted thereon, of the vertically-adjustable charger, the projections E' thereon, and the rollers E², journaled in said projections, substantially as shown and described.

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

FREDERICK BREDEL.

Witnesses:

JULIUS BUSS,

THEODORE KRAUSE.