A. Q. ROSS.

Gas-Retort Charger.

No. 212,572. Patented Feb. 25, 1879.

Fig 1.

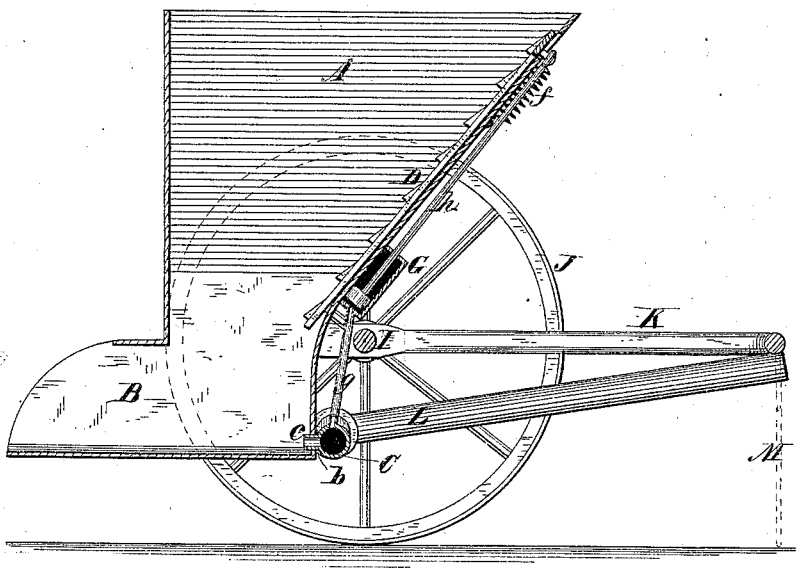
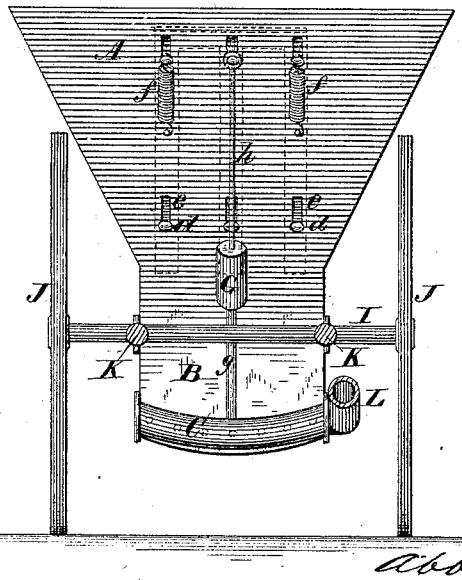


Fig 2.



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ABBOTT Q. ROSS, OF CINCINNATI, OHIO.

IMPROVEMENT IN GAS-RETORT CHARGERS.

Specification forming part of Letters Patent No. **212,572**, dated February 25, 1879; application filed September 20, 1878.

To all whom it may concern:

Be it known that I, ABBOTT Q. ROSS, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and Improved Gas-Retort Charger; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, and Fig. 2 an end elevation, of my invention.

Similar letters of reference in the several figures denote the same parts.

The object of this invention is to provide, for the use of small gas-manufactories, a simple and convenient hand-truck charger, whereby a full charge of coal can be wheeled to the retort, brought to the proper position, and discharged into the retort by a blast of steam or compressed air; and the invention consists, first, in a combined charger and two-wheel truck provided with blast-jets and a connection for a flexible telescopic or jointed pipe for introducing the steam or compressed air; and, secondly, in an agitator, operated in part or in whole by the compressed air or steam, for the purpose of feeding the coal down properly in the charger, substantially as I will now proceed to describe.

In the drawings, A is the charger, constructed with inclined lateral and rear walls, and a vertical, or nearly vertical, front wall, and opening at the lower end into a horizontal box or conduit, B, the front end of which projects about fourteen inches, (more or less;) and is open for the discharge of the coal into the retort. An opening, *b*, at the rear end of the conduit accommodates the jets *c*, which project from a transverse fixed pipe, C, and serve to deliver the blast against the rear side of the coal lying on the floor of the conduit or falling from the charger A above. The rear wall of the charger is also provided with a slide, D, working in any suitable guides—as, for example, by means of pins *d*, extending through slots *e* in the wall of the charger, and headed upon the rear side thereof. A spring or springs, *f f*, serve to draw the slide D down, and it is forced up, whenever desired, by steam or compressed air, fed to a cylinder, G, through a pipe, *g*, from the steam-pipes C or L, and operating upon a piston, which is connected to the slide by a piston-rod, *h*.

The whole apparatus, thus constructed, is mounted and pivoted upon the axle I of a pair of transporting-wheels, J, so as to enable the conduit to be inclined and adjusted properly to its work, and is provided with a rear draft-frame, K, of any suitable construction.

A pipe, L, supported by the draft-frame and wheels, and communicating with the transverse pipe C, conveys the steam or compressed air to the transverse pipe from a supply-pipe. (Not shown in the drawings.) A standard, M, serves to support the rear end of the draft-frame when required, and, when not in use, may be folded under the frame out of the way.

The device is intended for small gas-works where only a few retorts are used, and where the large machine shown and described in my application for Letters Patent filed May 27, 1878, is not desirable on account of its size.

Its operation is as follows: The workman wheels the charger to the coal receptacle or chute, and fills the charging-vessel A with the requisite quantity of coal for a full charge for one retort. He then runs the machine back to the retort, connects the steam or air supply pipe to the pipe L, which is provided with a suitable collar or coupling for the purpose, opens the retort-door, and projects the mouth of the conduit B into the retort. Everything being now ready for action, he turns a cock in the supply-pipe or at the reservoir of steam or air, and allows the steam or air to pass through the pipes, and, entering behind the coal in the conduit B, to force the charge out through the conduit into the hopper. The entrance of the steam or air into the transverse pipe C fills the lower end of the cylinder G and raises the slide D. If the coal sticks or does not fall freely from the vessel A to the floor of the conduit B, he reverses the cock for an instant, shutting off the steam or air, and allowing the springs to force the slide down again, when the movement of the latter agitates the coal and feeds it down.

The slide may be provided with projections or spurs on its inner surface to insure its movement of the coal downward.

Instead of springs or weights to operate the slide in one direction, a double-acting steam

or air piston may be employed in the cylinder G.

The form of the charger and conduit, and the mode of operating it by a blast of air or steam, forcing the whole charge into the retort at one operation, are substantially the same as shown and described in my former application above referred to, and are not herein claimed; but

What I do here claim as my invention is—

1. The combination of the charger A, conduit B, pipes C L, two-wheel truck I J, and draft-frame K, substantially as described.

2. The combination of the charger A, agitator D, steam or air cylinder G and its piston, and the connecting pipes and rods, substantially as described.

3. The combination of the charger A, agitator D, steam or air cylinder G and its piston, springs *f f*, and the connecting pipes and rods, substantially as described.

ABBOTT Q. ROSS.

Witnesses:
L. HILL,
M. CHURCH.