

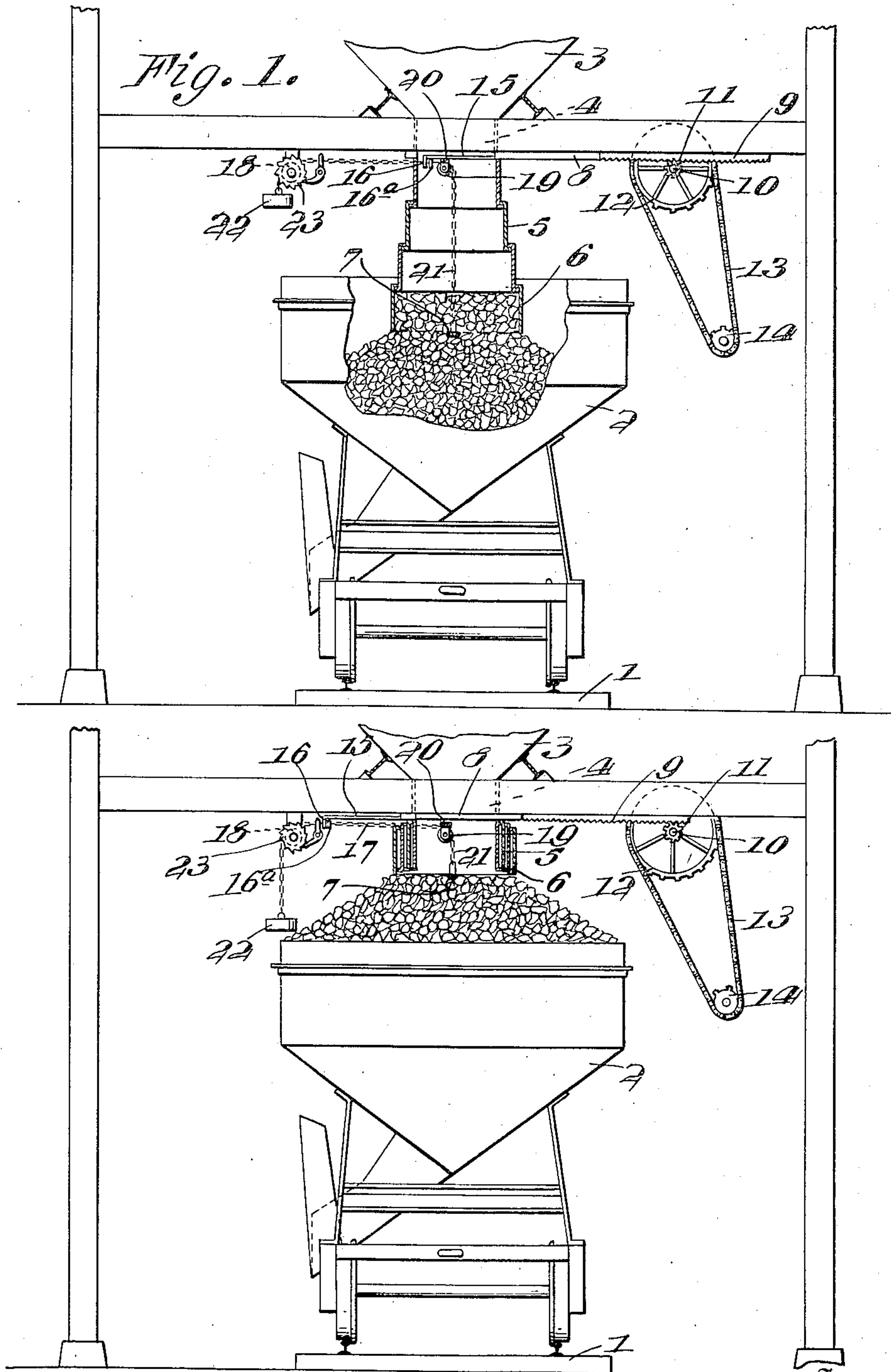
G. V. HUGHES.

LOADING DEVICE.

APPLICATION FILED FEB. 13, 1909.

954,632.

Patented Apr. 12, 1910.



Witnesses *Fig. 2.*  
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# UNITED STATES PATENT OFFICE.

GEORGE V. HUGHES, OF DORCHESTER, VIRGINIA.

## LOADING DEVICE.

954,632.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed February 13, 1909. Serial No. 477,707.

*To all whom it may concern:*

Be it known that I, GEORGE V. HUGHES, a citizen of the United States, residing at Dorchester, in the county of Wise and State of Virginia, have invented certain new and useful Improvements in Loading Devices; 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.

This invention relates to loading devices and particularly to that type used in connection with the charging of coke ovens, although it will be understood by those versed in the art that the device may be used for many purposes. Heretofore it has been difficult to obtain the exact amount of coal to be fed to the ovens and considerable trouble and loss has been entailed by manufacturers on this account, first by not giving enough coal in the oven, and second, by giving too much, the latter being more serious as the charge would not be burned off in time and the use of the oven would be lost for from between forty-eight to seventy-two hours, as the case might be.

The object of the invention is to avoid this difficulty and to insure the same amount of coal being fed to the lorry each time the charge is drawn.

The further object of the invention is the provision of means for permitting the telescoping receptacle to remain in normal position until the coal has stopped running by reason of its having filled the receptacle, at which time the gate is closed and automatically held in this position until again operated.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation partly in section of the measuring device in open position; Fig. 2 is a similar view in closed position.

Referring more especially to the drawing, 1 represents the track which leads from beneath the coal bins to the top of the coke ovens and which is adapted to support the lorry 2 from one point to the other. The coal bin is represented at 3 having a chute 4 leading to the spout 5. This spout com-

prises a series of telescoping sections and a bottom open section 6 which is provided with a cross bar 7 to be hereinafter described.

The upper section of the spout is connected to the bottom of the trough and has sliding therethrough a gate 8 which is provided on its outer end with a rack bar 9 adapted to be engaged by a pinion 10 on the operating shaft 11. A suitable pulley 12 driven by a chain 13 from the driven pinion 14 is connected to the shaft 11 so as to drive the gate 8 in either direction. The opposite end of the gate has connected to it a rod 15 having upon its outer end a ring 16 which surrounds a chain 17, passing over the pulleys 18 and 19, the latter being located upon a cross bar 20 bridged across the chute below the gate.

The chain 17 is provided with an adjustable clamp 16<sup>a</sup> which is adapted to be engaged by the ring 16 so as to lower the inner end of the chain 21 which engages with the cross bar 7 of the bottom section 6 and the opposite end of the chain is connected to a counter-balance weight 22 for a purpose to be hereinafter described.

A suitable pawl 23 is pivoted upon a suitable support and has its end engaging teeth formed upon the wheel 18 and its opposite end formed in a ring 18<sup>a</sup> surrounding the chain 17.

In operation, when it is desired to fill the telescoping spout, the pinion 14 is turned in any suitable manner as by crank or power and the gate 8 drawn to the position shown in Fig. 1, when the coal will start to flow from the chute into the spout. Simultaneously with this action, the ring 16 engages the clamp 16<sup>a</sup>, draws up the weight 22 and permits the lowering of the sections of the spout. The weight holding the clamp against the ring 16 prevents further movement of the spout and after the coal has filled the same, it stops running and the gate is now closed across the opening.

When the ring 16 contacts with the ring of the pawl 23, its engaging end is released from the ratchet, the weight drops and the telescoping sections 5 are pulled up to normal position when the operation may be repeated. By adjusting the clamps the sections may be lowered in the lorry to any determined degree.

From the foregoing description taken in connection with the accompanying drawings,



the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

10 I claim as my invention:—

1. In a device of the class described, a hopper, a chute leading therefrom, a telescopic spout, means for controlling the opening thereto, means for collapsing said spout, 15 means to positively hold said collapsing means inoperative, and means to trip said holding means when opening is closed.

2. In a device of the class described, the combination with a hopper, of a chute leading therefrom, a telescopic spout adapted to receive material from said chute, a sliding gate closing the opening from the chute to the spout, means for supporting the sec-

tions of said spout, means for returning said sections to normal, means for holding said 25 returning means inactive, and means carried by the gate for tripping said holding means when the gate is fully closed.

3. In a device of the class described, the combination with a hopper, of a chute leading therefrom, a telescopic spout supported by the hopper, a manually operated gate for closing the connection between said chute and spout, adjustable means for supporting the sections of said spout, means for raising 30 the sections of said spout, means for holding said raising means inactive, and means carried by the gate for tripping said holding means when the gate is fully closed.

In testimony whereof I have hereunto set 40 my hand in presence of two subscribing witnesses.

GEORGE V. HUGHES.

Witnesses:

R. H. LEDFORD,  
JNO. R. BAILEY.