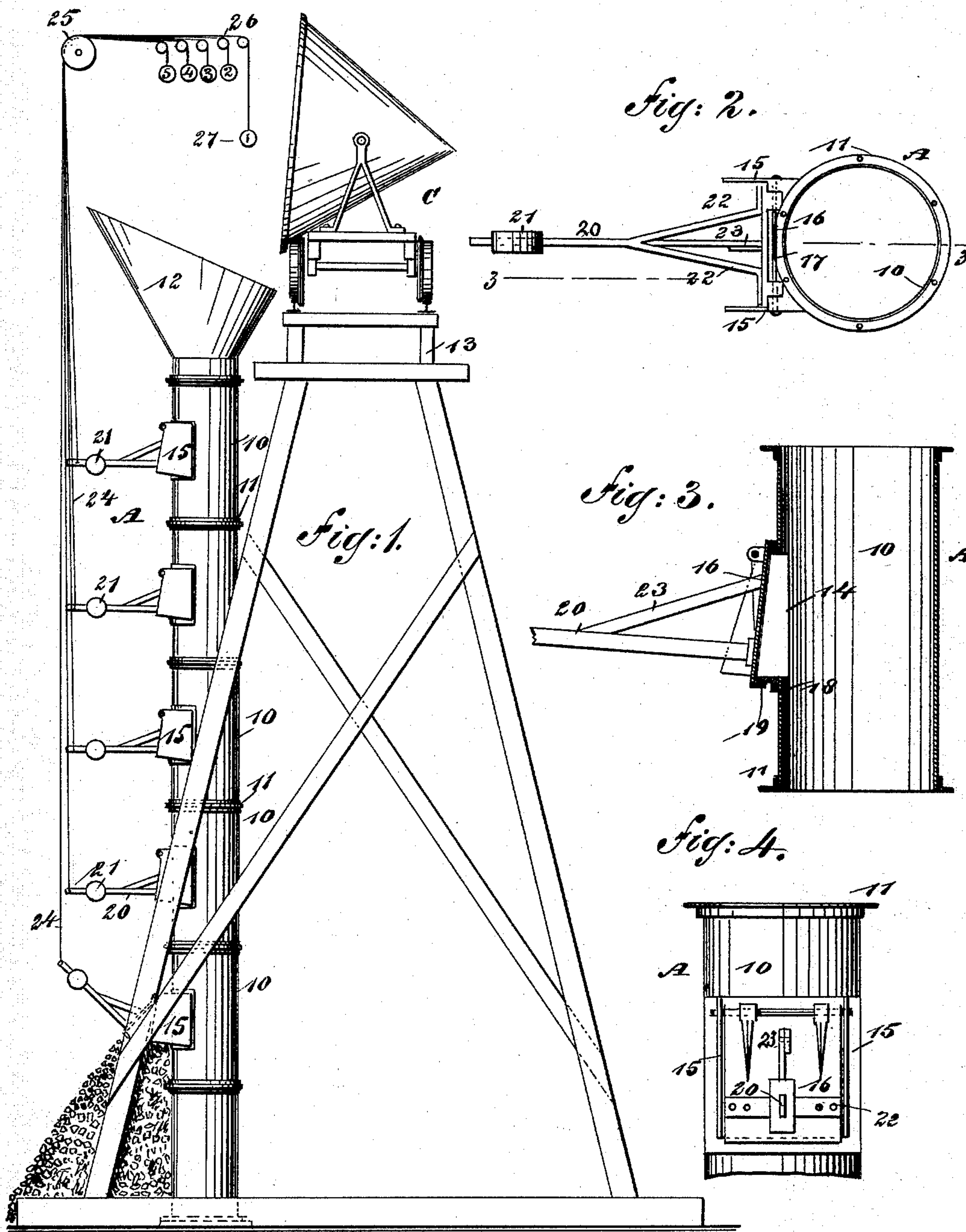


(No Model.)

G. L. STUEBNER.
COAL CHUTE.

No. 483,404.

Patented Sept. 27, 1892.



WITNESSES:

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GUSTAVUS L. STUEBNER, OF LONG ISLAND CITY, NEW YORK.

COAL-CHUTE.

SPECIFICATION forming part of Letters Patent No. 483,404, dated September 27, 1892.

Application filed June 7, 1892. Serial No. 435,824. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS L. STUEBNER, of Long Island City, in the county of Queens and State of New York, have invented a new and useful Improvement in Coal-Chutes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in coal-chutes, and has for its object to provide a chute so constructed that the coal delivered to it may be delivered from it at any point in the height or length of the chute.

A further object of the invention is to provide a chute which may be entirely filled with coal and the coal drawn out therefrom at any desired height from the ground in sufficient quantities to provide space above at the top of the chute to receive one load of coal, and by this means the coal when dumped into the chute falls but a slight distance, and therefore does not become broken, and consequently but little dust is generated.

A further object of the invention is to provide a means whereby from the dumping-platform any one of the doors contained in the chute may be readily opened at will.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improved chute and an end view of the dumping-platform and a car, the latter being shown in a dumping position. Fig. 2 is a plan view of one of the sections of the chute. Fig. 3 is a vertical section through the chute, taken, practically, on the line 3 3 of Fig. 2; and Fig. 4 is a partial front elevation of one of the chute-sections.

The chute A may be of any desired height and is constructed in sections 10, of which any desired number may be employed. These sections are tubular and are flanged at top and bottom, the flanges being designated as 11, and the sections are connected by clamping their opposing flanges together in any suit-

able or approved manner—through the medium of bolts, for instance.

The uppermost section of the chute is provided with an attached or integral hopper 12, adapted to receive the coal when delivered from the car C, the latter being of any approved construction. The upper portion of the chute extends upward flush with or beyond the platform 13, upon which the car bringing the material travels. As each section is constructed in like manner, I will confine myself at present to the description of a single section. Each section is provided in one side with an opening 14 of any desired shape, preferably rectangular, and this opening at each side is provided with an outwardly-extending plate 15, serving as a shield, the plates being preferably made somewhat angular and wider at their bottom than at their upper edge. The opening is covered by a swing-door 16. This door is hinged at its upper edge, the pivot-pin 17 being usually passed through knuckles formed thereon, as is best shown in Fig. 2. The door usually or normally assumes an outward and downward inclination with respect to the cylindrical section, and this is brought about by placing at the bottom of the opening 14 an angle-bar 18, against the horizontal member of which the door has bearing, the sides of the door having movement against the shields 15, and in order that the door may be partially opened without spilling the contents of the cylindrical section a horizontal flange 19 is formed upon the lower edge of the door, which engages with the under face of the horizontal member of the angle-bar 18, as is best shown in Fig. 3. Thus it will be observed that as the shields extend some distance beyond the front of the door when the latter is closed and as the flange 19 is of some width the door may be opened to quite an extent without any of the material it is intended to confine passing out from the section. The door is held normally closed by attaching to it an arm 20. The arm extends some distance from the door at an angle to its front face and has formed upon its outer end a weight 21, which may be adjustable, if desired. This arm is securely attached, preferably, to the front lower portion of the door, and at each side is provided with a member 22, the

said members flaring outwardly in opposite directions, they being carried inward from about the center of the arm to an engagement with the door at the opposite sides thereof, while
 5 a third member 23 emanates from the fork created by the junction of the two members with the arm, and this third member extends upward and engages with the door near its upper central portion, as shown in Figs. 2, 3,
 10 and 4.

Each section of the chute, as has heretofore been stated, is provided with a door constructed in the manner above described, and the arm 20 of each door has attached to it a
 15 cable or chain 24. These cables or chains are independent one of the other and are carried upward over a suitable drum 25 and individual guide-pulleys 26 to a point within convenient reach of a person standing upon the platform 13, and the upper ends of the chains or
 20 cables are preferably made to terminate in handles 27, and these handles are numbered, indicating with what section of the chute they are connected. Thus in operation the chute
 25 is first filled with coal, the lower door is opened whenever it is desired, and the coal is permitted to run therefrom in desired quantities, thus creating a space at the top to receive coal from the cars brought to deliver it. Further, in the operation, if, for instance, the
 30 chute is filled and a load is to be dumped therein, the handle connected with the first door is drawn downward and that door is opened and sufficient coal is permitted to escape from it to admit of the reception of another car-load at the top of the chute. This
 35 is repeated as each car-load is brought to the chute and delivered to it until the coal from the chute has formed a pile leading up to the first door. This door is then closed, and when the next load is brought to the chute the handle controlling the second door is manipulated in like manner as the handle of the first door, and this operation is repeated with reference to the
 45 remaining sections, each door from the bottom upward being permitted to close when the pile of coal around the chute has reached its level. The next door is then opened, and so on until the upper door has been reached, and
 50 after all the coal possible has been delivered from this door it is necessary that the pile should be reduced in height to further continue the operation of the chute.

It is obvious that this chute is exceedingly simple and that it is capable of being expeditiously and conveniently manipulated, and that the coal, after the chute has been once filled, when being delivered to the chute will have to fall but a slight distance, thus preserving the coal in the chosen size. 60

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

1. A coal-chute consisting of a tubular column provided with a series of openings at intervals in its length and having a hopper formed at its upper end, doors hinged to swing over and from the openings, shields located at the sides of the openings between which the doors move, sills formed at the bottom of the openings, flanges formed upon the lower edges of the doors and engaging with the sills, and hoisting devices, substantially as described, connected with the doors and operating independently, as and for the purpose set forth. 75

2. A coal-chute consisting of a column provided with a series of openings at intervals in its length, doors hinged to normally close and swing from the openings, weighted arms projected from the doors, and lift cables or chains connected with the arms and capable of independent action, as and for the purpose specified. 80

3. In a coal-chute, the combination, with a tubular column having a hopper formed at its upper end and provided with a series of openings arranged at intervals throughout its length, shields located at the sides of the openings, a sill formed at the bottom of the openings, doors hinged at their upper edges, normally covering the openings and having movement between the shields, flanges formed upon the lower edges of the doors and engaging with the sills, and weighted arms connected with the doors, of hoist cables or chains connected with the arms of the doors and guide devices over which the cables pass, each cable being capable of operation independently of the other, as and for the purpose specified. 95

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Witnesses:

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