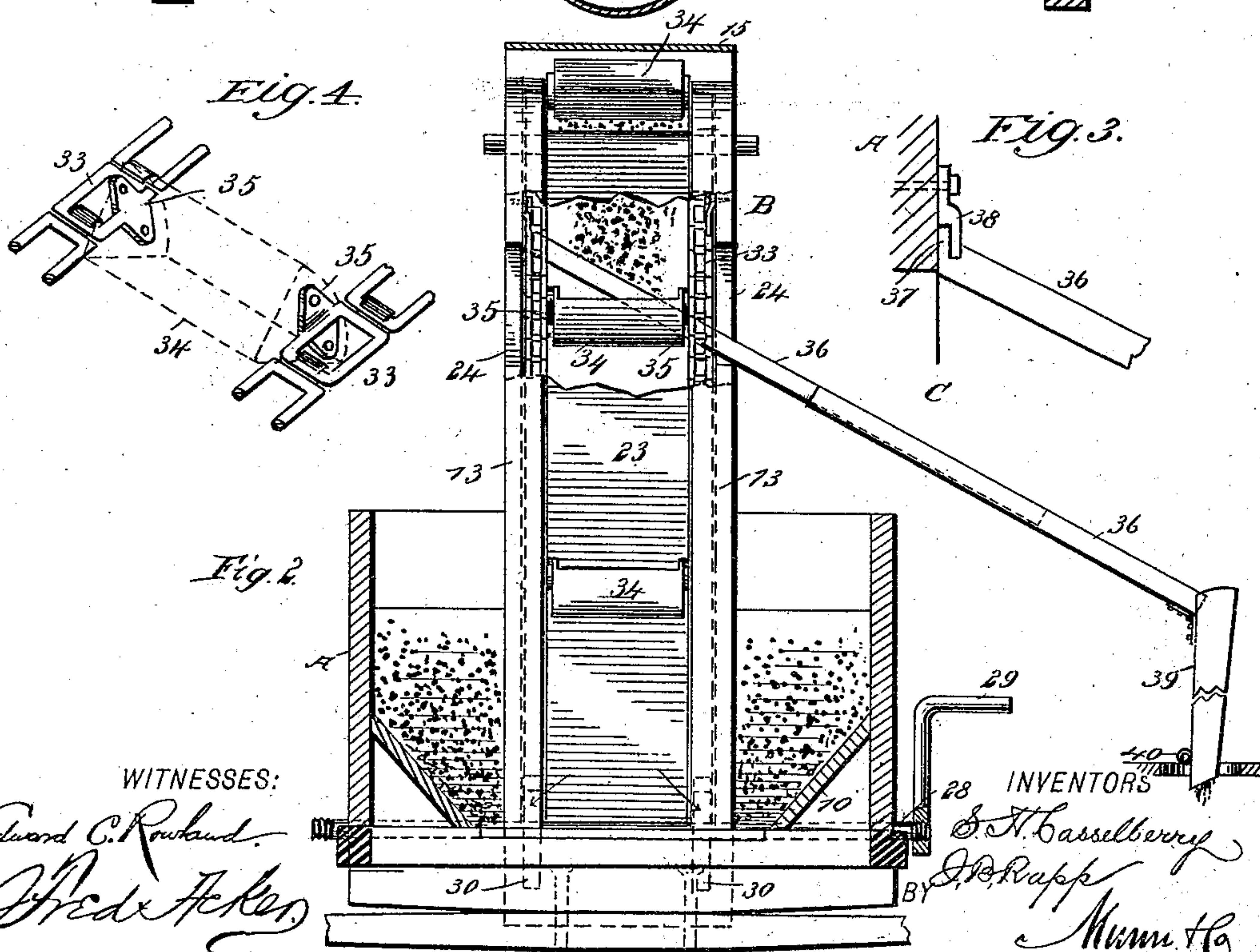
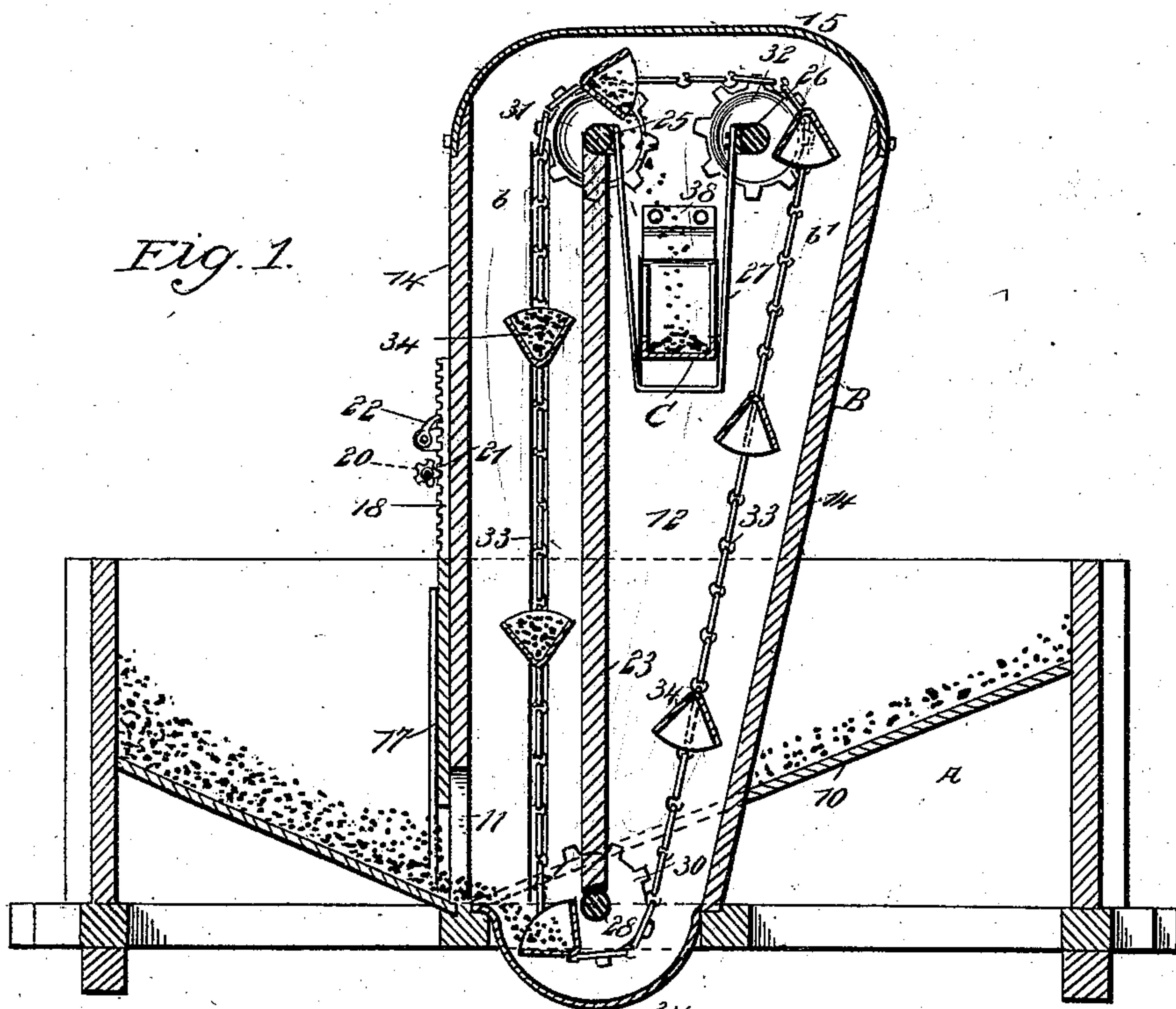


(No Model.)

S. H. CASSELBERRY & J. B. RAPP.
UNLOADING ATTACHMENT FOR COAL WAGONS.

No. 548,954.

Patented Oct. 29, 1895.



WITNESSES:

Edward C. Rowland.
Fred A. Allen.

INVENTORS

S. H. Casselberry
J. B. Rapp
Mum & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL H. CASSELBERRY AND JAMES B. RAPP, OF COLLEGEVILLE, PENNSYLVANIA.

UNLOADING ATTACHMENT FOR COAL-WAGONS.

SPECIFICATION forming part of Letters Patent No. 548,954, dated October 29, 1895.

Application filed April 17, 1895. Serial No. 546,042. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL H. CASSELBERRY and JAMES B. RAPP, of Collegeville, in the county of Montgomery and State of Pennsylvania, have invented a new and useful Improvement in Unloading Attachments for Coal-Wagons, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in coal-wagons or vehicles adapted for the transportation and delivery of coal; and it has for its object to provide a vehicle so constructed that it may be drawn up sidewise to the curb, thus taking up a minimum portion of the street, and whereby the coal may be discharged from the body of the vehicle in direction of either of its sides.

A further object of the invention is to provide an elevator for the vehicle-body and means for conducting coal to the inlet of the elevator, and likewise to provide simple and conveniently-operated mechanism for receiving the coal from the elevator-buckets and conducting it to the desired point.

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 longitudinal vertical section through the vehicle-body and the elevator attached thereto. Fig. 2 is a transverse section through the vehicle-body and an end view of the elevator, the casing at that point being removed and a portion of the side supports broken away to illustrate the inclination of the coal-conducting chute. Fig. 3 is a detail view illustrating the manner in which the chute is held at its upper end in the elevator; and Fig. 4 is a detail view of two opposing links of the elevator-chain, illustrating the manner in which the buckets are secured to the links.

The body A of the vehicle may be of any

desired shape or may be made from any suitable material. Its bottom 10, however, is made to incline from its four sides to a point at or near the center, and at or about the central portion of the vehicle-body an elevator B is erected and is passed through the bottom 10, the latter being close around and made to tightly hug the four sides of the elevator. At the lowest point in the bottom an opening 11 is made in the elevator-casing, and the pitch of the bottom of the vehicle is such as to convey all the coal to this opening. The elevator-casing is preferably made wider at the top than at the bottom, and the said casing comprises two side pieces 12, secured to the timbers of the vehicle-body in any approved manner, and having vertical sills 13 secured to their forward and rear edges, and upon these sills the front and rear end-boards 14 of the casing are secured, the top of the casing being usually closed by a curved cover 15, secured at its ends to the end-boards 14, and the bottom is closed by a second cover 16, which is preferably curved downward below the bottom of the vehicle-body and extends well up to the entrance-opening of the casing. This opening is controlled—that is to say, it may be opened or closed, as desired—through the medium of a door 17, which is held to slide in suitable ways made, for example, on the front end portion of the elevator-casing, and said door at its upper end is attached to a rack 18, which likewise moves in suitable guides on the casing, being manipulated through the medium of a pinion 20, fast upon a shaft 21, the said shaft being journaled at the front of the elevator-casing transversely thereof, and it is provided with a hand-wheel, or its equivalent, whereby it may be turned, and when the door is opened or closed it is held in the position required by means of a pawl 22, adapted for engagement with the rack.

A partition 23 is made to extend from side to side of the elevator-casing, starting from a point over the central portion of the lower end of the casing, as shown in Fig. 1, and terminating at a point at one side of the center at the top, whereby two compartments *b* and *b'*

are obtained, communicating at top and bottom, one of the compartments *b* being narrower than the other; and in each side wall of the elevator-casing an opening 24 is made, leading into the interior of the elevator, the said openings being preferably in transverse alignment; and above these openings, at each side thereof, a shaft is secured in the casing, one of the shafts 25 being located over the top of the partition 23, while the other shaft 26 is placed between the shaft 25 and the rear wall of the elevator. A stirrup 27, preferably of metal, is made to extend from these two shafts downward to a point about level with the lower walls of the openings 24, being adapted to catch any coal that may not have been emptied into the delivery-chute to be hereinafter described.

A single shaft 28 is journaled in the lower end of the elevator-casing, preferably below the partition 23, and the bearings of this shaft may be in the sills of the vehicle-body. The lower shaft extends beyond both sides of the body of the vehicle, and may receive a crank-arm 29 at either extremity, in order to revolve said shaft. The lower shaft is provided with two sprocket-wheels 30, the partition 23 being cut away to receive them, and the shaft 25 is provided with two similar wheels 31, the shaft 26 having two like wheels 32 mounted thereon. The lower wheels turn with the lower shaft 28, but the upper wheels turn loosely on the shafts carrying them. Endless chain belts 33 are carried over the upper and lower vertically-aligning sets of sprocket-wheels, and guides may be made in or upon the side walls to receive these chains.

At various intervals apart buckets 34 are secured between the two endless chains, and the links between which the buckets are located are provided with lugs 35, extending beyond both faces of the links at their inner edges; and the buckets 34, which are preferably somewhat triangular in cross-section, as illustrated, are riveted or otherwise secured to these lugs in such manner that when the chains are in horizontal position the mouth of the bucket will face one side of the elevator and the bottom the opposite side, and whereby, also, the mouths of the buckets will be uppermost on the upper stretches of the chains and inverted on the lower stretches, as shown, also, in Fig. 1. The buckets having this shape virtually serve as scoops, and the door 17 being open and the shaft 28 revolved, one bucket after the other will take up the coal from the bottom portion of the elevator and carry it upward to the top of the elevator, dumping it between the two upper shafts 25 and 26, where it is received by a chute C, the body whereof is preferably made in telescopic sections 36, and the upper end of the body of the chute is provided with an upwardly-extending lip 37, adapted to be thrust upward back of a binding-plate 38,

one of which plates is secured to the inner face of the sides of the elevator-casing immediately above each opening 24 therein, as shown in Fig. 3. The body of the chute having thus been fastened at its upper end is made to pass through one of the side openings 24, resting on the sill at the said opening, whereby it will have a downward inclination, and at the lower end of the main or telescopic sections of the chute a delivery-section 39 is hinged. This section is of tubular form, although it may be of any cross-sectional shape, and is adapted to be entered into a coal hole, as shown in Fig. 2, or into any opening through which the coal is to be delivered. This hinged section of the chute may be, and preferably is, provided with a pin 40, which by resting on the upper surface of the wall of the opening will prevent the section passing down too far into the aforesaid opening and also serve as a sole support for the outer end of the chute.

It is obvious that under the above construction a coal-cart may be made to deliver coal from either side and to any point within reasonable reach of the curb or other place where the vehicle is to stop; and, furthermore, that the wagon can be drawn up sidewise to the curb, and by the use of the overhead chute blocking of the street and sidewalk is prevented when delivering coal.

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

1. A coal wagon comprising a body portion, an elevator casing extended upward therein, and having aligned openings in the upper portion of opposite walls, a vertical partition in said casing forming two compartments in the casing communicating at top and bottom, the two shafts at opposite sides of the aforesaid openings in the casing, sprocket wheels loosely mounted on the shafts, the stirrup supported by the shafts and having its lower portion substantially level with the openings in the casing a single shaft in the lower portion of the casing and having sprocket wheels, the endless bucket chains carried by the sprocket wheels, and moving in the compartments of the casing and over the stirrup supported by the shafts, and the coal chute adapted to extend across the casing over the stirrup, substantially as specified.

2. In an elevator for coal wagons and other purposes, the combination, with an elevator casing having openings made therein, and plates secured to the inner walls adjacent to the upper ends of the said openings, of a chute adapted to be passed through the openings in the elevator casing, resting upon the bottom of one and substantially engaging with the top of the other opening, the upper end of the chute being provided with a lip engaged by one of the said plates, as and for the purpose specified.

3. A coal chute comprising a body portion
and a tubular section having hinged connec-
tion with the body portion, and a projection
rigidly attached to and extended laterally
5 from the tubular portion and adapted to rest
upon the upper surface of the wall of an open-
ing to limit the movement of the section
through the opening and also serving as a

support for the outer end of the chute, sub-
stantially as specified.

SAMUEL H. CASSELBERRY.
JAMES B. RAPP.

Witnesses:

SAMUEL S. WALT,
E. B. SCHWENK.