(No Model.)

2 Sheets—Sheet 1.

G. H. TENCH.

CONVEYER.

No. 488,460. Patented Dec. 20, 1892.

Fig. 1

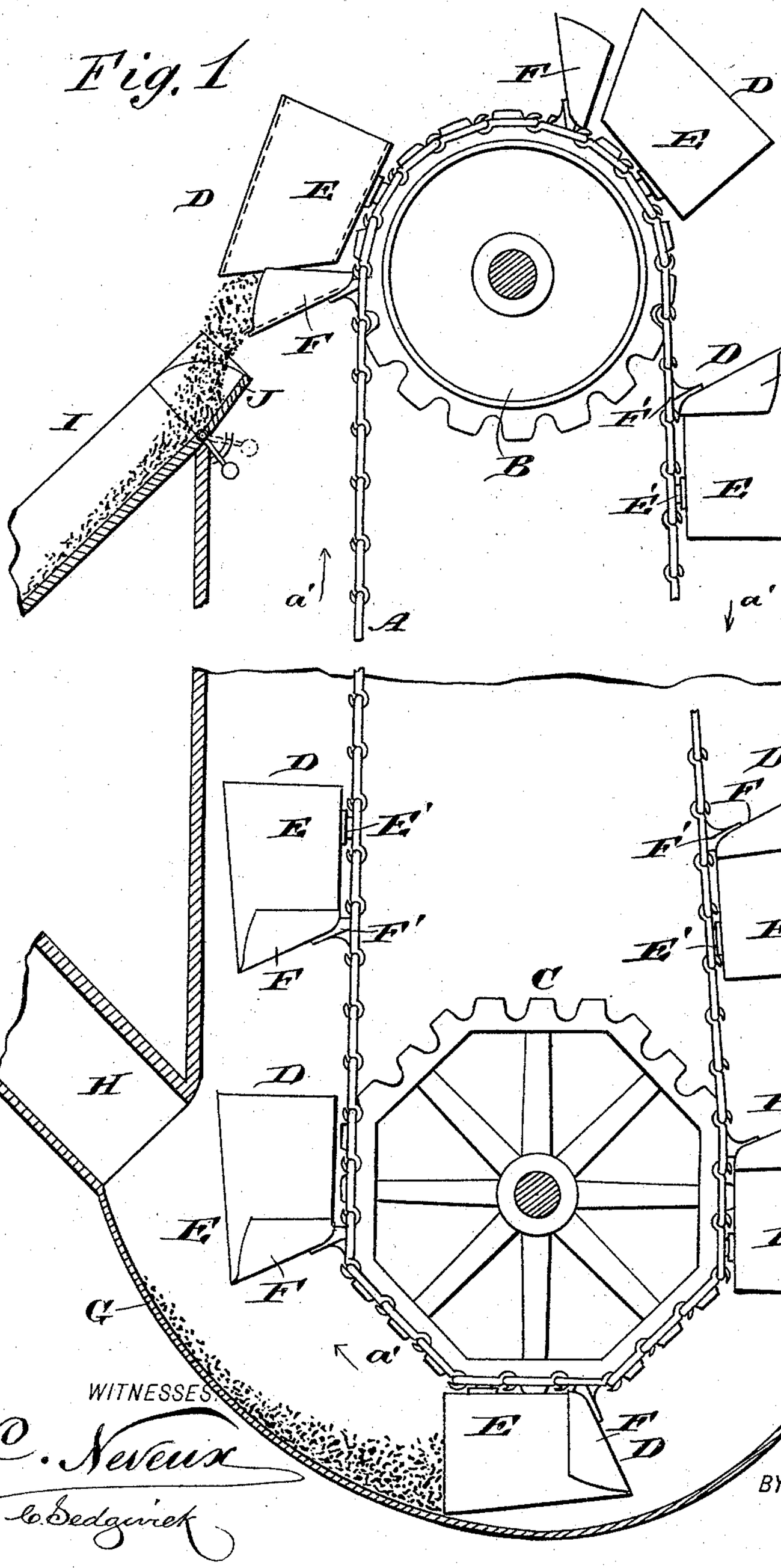
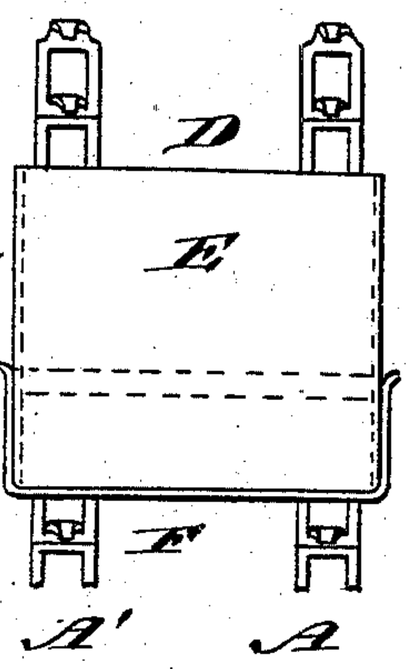


Fig. 2



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

G. H. TENCH.

CONVEYER.

No. 488,460. Patented Dec. 20, 1892.

Fig. 3

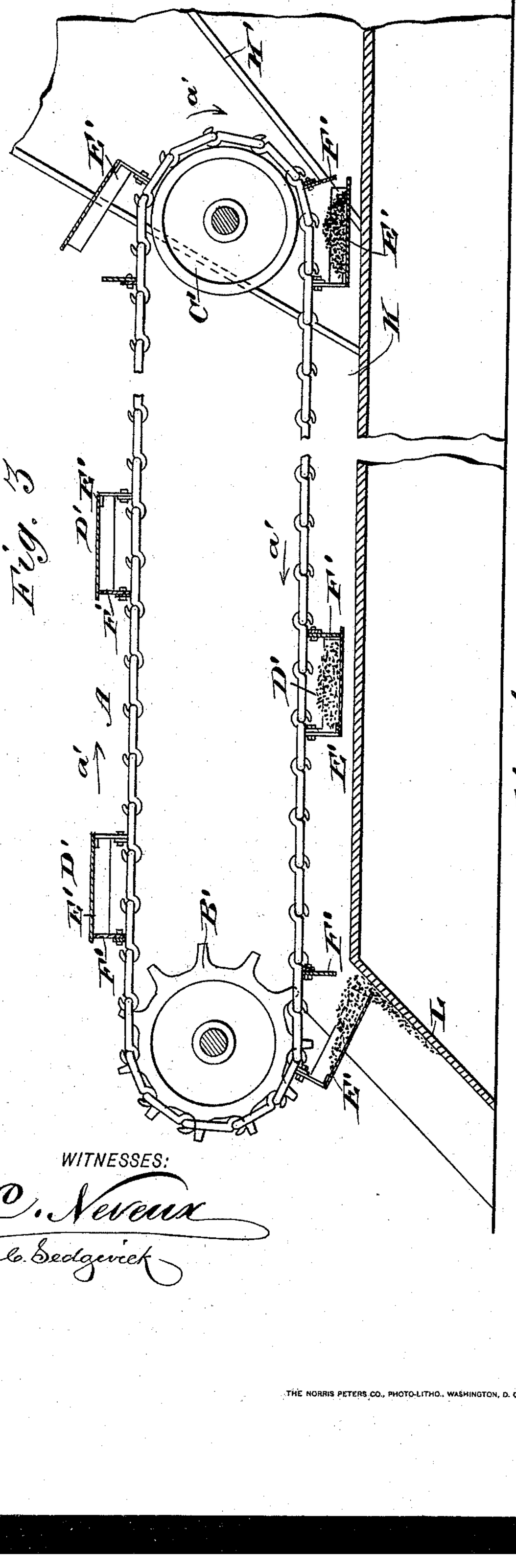
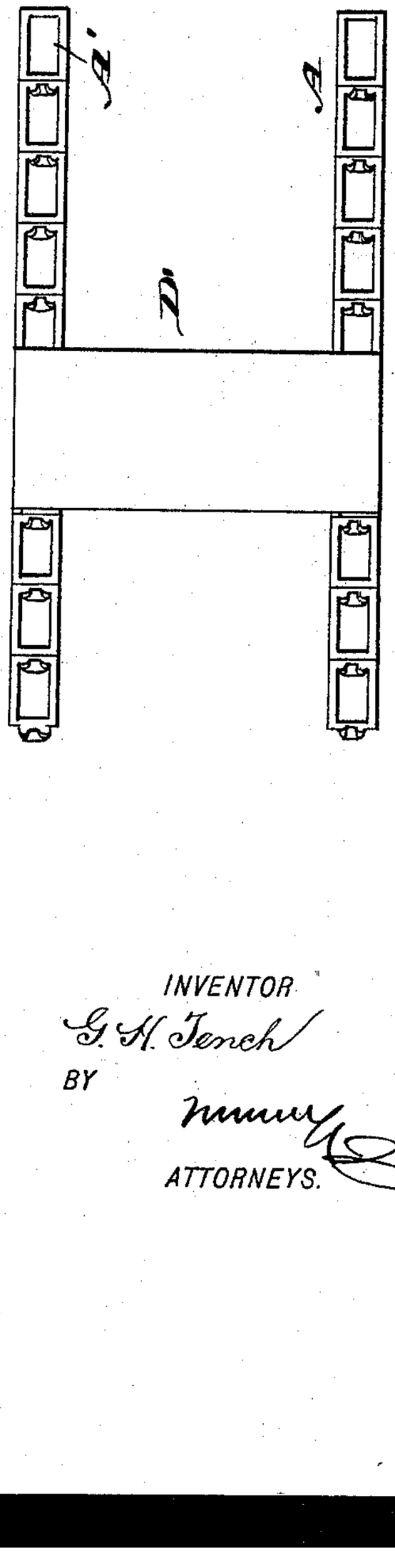


Fig. 5

Fig. 4



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UNITED STATES PATENT OFFICE.

GEORGE H. TENCH, OF POTTSVILLE, PENNSYLVANIA.

CONVEYER.

SPECIFICATION forming part of Letters Patent No. 488,460, dated December 20, 1892.

Application filed July 6, 1892. Serial No. 439,142. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. TENCH, of Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Conveyer or Elevator, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved conveyer or elevator, which is simple and durable in construction, very effective in operation, and provided with buckets arranged for self-loading and self-dumping without breaking the material, and adapted to safely carry the material to any desired distance.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

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

Figure 1 is a side elevation of the improvement as arranged for an elevator, parts being in section; Fig. 2 is a front view of one of the buckets; Fig. 3 is a sectional side elevation of the improvement as arranged for a conveyer; Fig. 4 is a plan view of one of the buckets and the chains; and Fig. 5 is a front and elevation of the body of the bucket.

The improved conveyer or elevator is provided with one or more chains A, A′, passing over sprocket wheels B and C, of which one is the driving wheel and receives a rotary motion from suitable machinery. The chains A, A′ carry buckets D, each made in two parts, of which one part E forms the body of the bucket while the other part F forms one end or gate for the body. The body E and gate F are rigidly secured at E′ and F′ respectively, to different links of the chains so that when the latter pass over the wheels B and C the gate or end F opens or closes as the case may be. The body E of each bucket is formed with a bottom, top and two sides, while the ends are open; one end however, being adapted to be closed by the other part or gate F, which latter is preferably made U-shaped in cross section, that is, having an end proper and two side flanges adapted to pass over the sides of the body E. As shown in Fig. 1, the device is arranged as an elevator and for this purpose the chains A, A′ are arranged vertically and the wheel B located directly over the wheel C. A casing G, incloses the wheel C and is connected at one side with a chute H, through which the material is fed to the casing G, the bottom of which is preferably semi-circular so that the buckets E fit snugly therein. Now, when the wheel C is rotated so that a traveling motion is imparted to the chains A, A′, and the buckets D, in the direction of the arrow *a*′, then the open end of each bucket in passing through the semi-circular bottom of the casing G, gathers the material introduced in the casing through the chute H, so that the bucket fills itself, the lower end being closed by the gate F. The material thus held in the buckets is carried upward and when the chain part carrying the body E passes onto the wheel B, then the curvature of the latter causes the link to assume an inclined position to that of the vertical part of the chain so that the body E is thrown outward and consequently disengaged from the gate F, whereby the material from the body passes out of the same over the gate F into the delivery chute I, preferably provided at its receiving end with an adjustable gate J. The body E and the gate F remain separated during the passage of the chain around the wheel B, as will be readily understood by reference to Fig. 1, the gate F again closing onto the upper end of the body as soon as the bucket D′ reaches the vertical part of the chain.

As illustrated in Fig. 3, the device is arranged as a conveyer and for this purpose, the top for each bucket may be left off as shown. The horizontally traveling chains bring the several buckets at the receiving end of the casing K, in contact with the material which passes down a chute K′, and through the open end of the body E′ into the latter, the rear end of which is closed, as soon as the body is filled, by the gate F′ at the time the bucket reaches its lowermost position. The bucket is then closed and remains so in traveling through the bottom of the casing K until the bucket finally comes with its body part E to the wheel B on which the

body swings into an annular position away from the gate F′, so that the material is dumped into the chute L, leading from the end of the casing K. The body and gate remain open or disconnected during their passage around the wheel B, the two parts again closing when reaching the horizontally extending part of the chains, the buckets however, then being in an upside down position.

When the buckets pass over the wheel C at the receiving end ef the casing, they separate as before described, the body is filled through its open end and closed at the rear end by the gate F′, as soon as the bucket passes to its lowermost position at the receiving end of the casing. Thus, it will be seen that the device is readily adapted for use as a conveyer or elevator. It will further be seen that the buckets are self-loading and self-dumping and carry the material either forward or upward, as described, without disturbing in the least the position of the material in the buckets while the latter travel, thus preventing breaking of the material. It will further be seen that by this construction the chains may be made any desired length, so as to carry the material from one point to another, without danger of the buckets opening and scattering the contents.

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

1. The combination with an endless chain, of a bucket rigidly connected with the chain, and an end gate forming a closure of one end of the bucket, the said gate being also rigidly secured to the chain independently of the bucket, said chain being capable of flexure between the connections of the bucket and gate, and all of said parts being adapted for conjoint operation, substantially as shown and described.

2. In a device of the character described, the combination, with an endless chain, of a bucket formed of a body and a gate separate and independent from each other and each rigidly secured to a different link of the chain, the body having an open top and one open end, substantially as herein shown and described.

GEORGE H. TENCH.

Witnesses:
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WM. A. COCHRAN.