A. VERSCHUREN.

ELEVATING AND DUMPING APPARATUS.

APPLICATION FILED FEB. 1, 1906.

919,795. **Patented Apr. 27, 1909.**

2 SHEETS—SHEET 1.

Fig. 1.

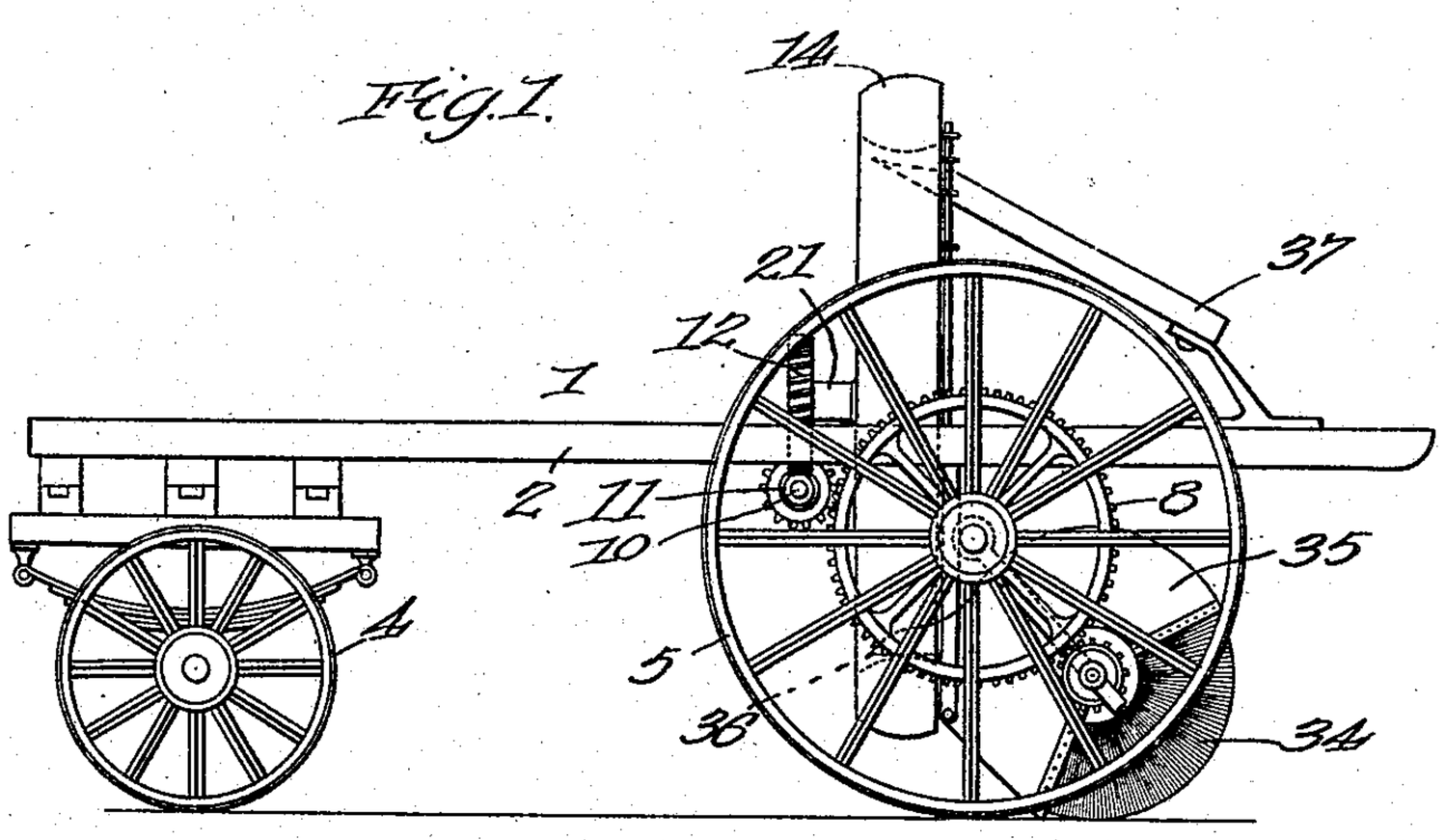
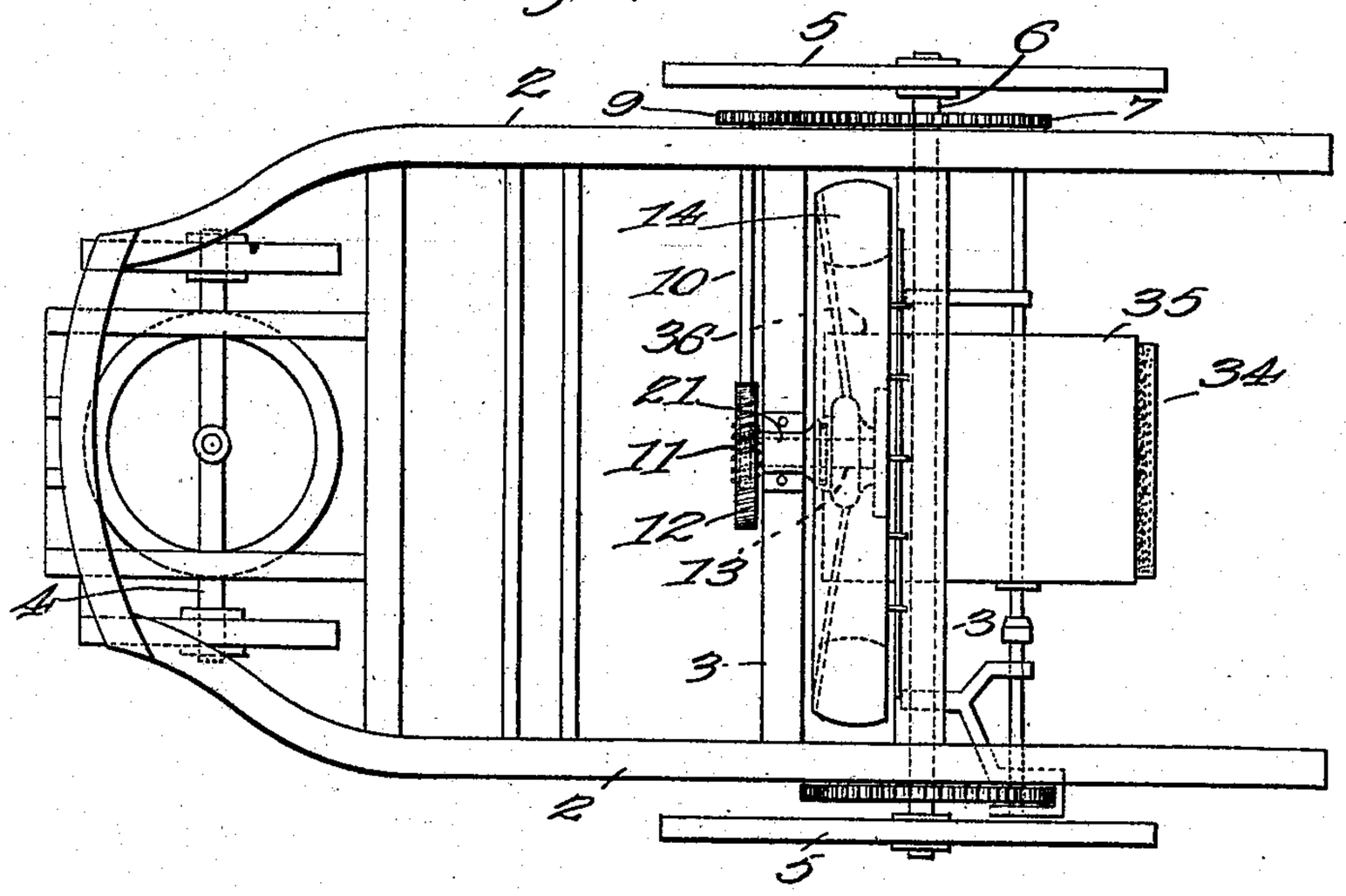


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

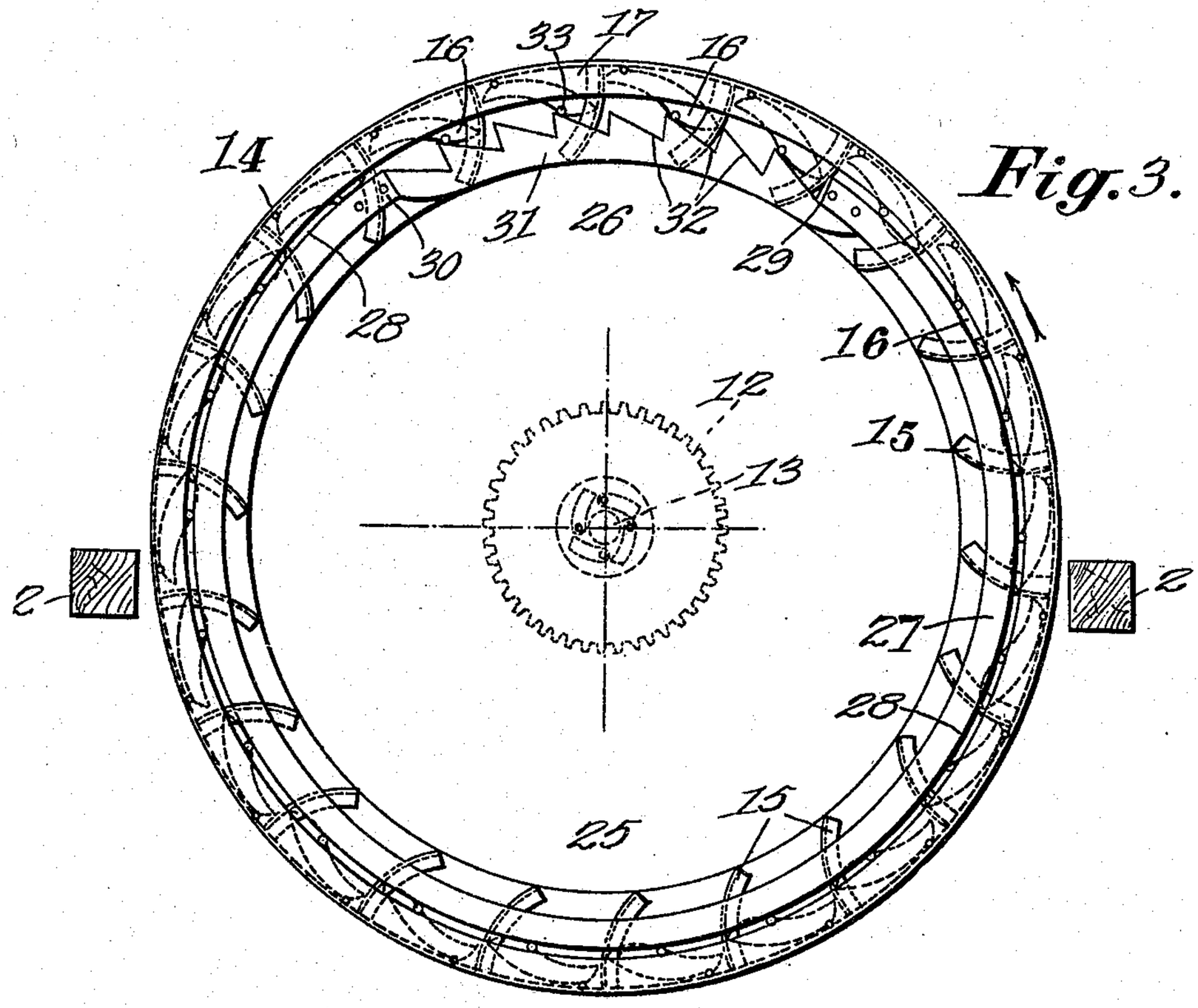
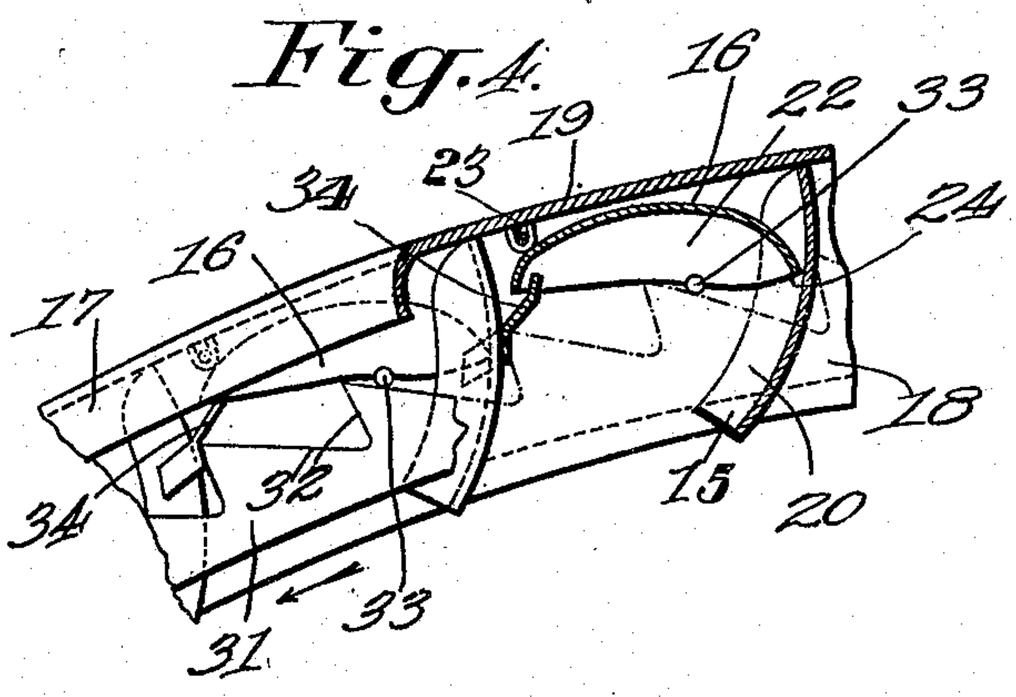


Fig. 4.



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UNITED STATES PATENT OFFICE.

AUGUSTE VERSCHUREN, OF ANTWERP, BELGIUM.

ELEVATING AND DUMPING APPARATUS.

No. 919,795. Specification of Letters Patent. Patented April 27, 1909.

Application filed February 1, 1906. Serial No. 299,052.

To all whom it may concern:

Be it known that I, AUGUSTE VERSCHUREN, a subject of the King of Belgium, and resident of 37 Rue Léopold de Wael, Antwerp, Belgium, have invented certain new or Improved Elevating and Dumping Apparatus, of which the following is a specification.

This invention relates to improvements in combined elevating and dumping apparatus and has to do more particularly with apparatus of this character designed for use in connection with street sweepers although the invention is not limited to this particular use.

The invention is primarily designed to receive material at a lowermost point and raise it to an elevated position at which point the material is discharged and in a preferred construction a plurality of co-acting buckets are employed and are embodied in a circular casing, which if used in connection with a street sweeper, is rotatably mounted thereon and geared to suitable driving mechanism.

The invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawings: Figure 1, is a side elevation of a street sweeper showing the application of my invention thereto. Fig. 2, is a plan view thereof. Fig. 3, is a rear view of the device of my invention detached from the sweeper. Fig. 4, is an enlarged fragmentary side elevation, with parts in section, of the upper portion of the device of my invention.

Like numerals of reference designate similar parts throughout the different figures of the drawings.

A conventional showing of my invention is made in connection with a street sweeper comprising a supporting frame 1, including longitudinal members 2 and transverse members 3, mounted upon a forward truck 4 and rear wheels 5. On the axle 6 of said rear wheels is mounted gears 7 and 8. Gear 7 meshes with a pinion 9 mounted on a worm shaft 10 on one end of which a worm 11 is provided. Said worm 11 drives a worm wheel 12 mounted on a shaft 13 which latter is supported in a bearing 14 on the transverse member 3.

A member, preferably in the form of a circular casing 21, is rigidly secured on shaft 13 so as to be rotated by means of the gear connection hereinbefore described when the sweeper is advanced or in operation. Said casing is provided with a series of receivers or buckets 15, which are preferably rigidly secured thereto, and is also provided with a plurality of buckets 16 which are preferably movably mounted therein, said buckets being shown alternately disposed with respect to each other and extending throughout the circumference of said casing. Said buckets or receivers 15 consist of transversely arranged partitions extending throughout the depth of the casing 14 and engaging the front and rear walls 17 and 18 thereof, at their sides, and the peripheral wall 19 at their outer ends. As shown in Fig. 4, said buckets 15 are dished longitudinally and laterally and are disposed so that their receiving portions or sides 20 face in the direction of rotation indicated by the arrow in Fig. 3. The movable buckets 16 are also dished to provide receiving portions 22 and as shown said buckets are pivotally mounted at 23 to the outer peripheral wall 19 and are supported thereon when said buckets are in a lowermost position with respect to the axis of rotation of said casing. The buckets 15 are so disposed that the center of curvature thereof will coincide with the pivotal mountings 22 of the buckets 16 and the latter are so proportioned that their outer ends 24 will fit in and freely move abreast of the receiving portions 20 of the buckets 15.

The point at which material is received is indicated at 25 and the point at which the material is dumped or discharged is indicated at 26. It is desirable to maintain the buckets 16 in a receiving or radially outermost position from the time that said buckets leave the dumping position 26 until they again reach such position and means is provided for this purpose which means is preferably stationary.

In order to effectively discharge the contents of the buckets means are provided for actuating certain of the same when in a dumping position. As shown the means for retaining and means for actuating the buckets 16 are embodied in a single part or member indicated as a whole at 27. Said member 27 is provided with a continuously smooth and uniform retaining portion 28 which as shown extends from points 29 to 30. The actuating portion 31 extends between said points 29 and 30 at the dumping points 26. Said actuating portion 31 is provided with means preferably in the form of

teeth 32 for oscillating the buckets 16. Each bucket 16 is provided with a stud 33 adapted to be engaged by the retaining portion 28 and the actuating portion 31 to effect the operations hereinbefore set forth.

Guards 34, may be secured to the buckets 15 in a manner to overhang the buckets 16 and prevent the sweepings from descending to the wall 19 between the walls 17 and 18 when the buckets are in a lowermost position.

Any suitable means may be provided for delivering the sweepings or other material to point 25 and as shown a brush 34 is disposed in a manner to engage the sweepings on the street surface and thrust the same into a housing 35 having a discharging outlet 36 projecting into the casing 14 at a point above the buckets as shown.

A suitable receiver or chute such as indicated at 27 may be provided to receive the material discharged at the point 26.

I claim:—

1. An elevator for street sweepers comprising a rotating body provided with an imperforate, peripheral wall, a plurality of radially disposed stationary buckets, and a plurality of pivotally mounted movable buckets, said movable buckets being arranged to deliver and coöperate in discharging to and from the stationary buckets, and means for effecting vibration of the movable buckets at delivering points.

2. An elevator for street sweepers comprising in combination a circular rotating body provided with an imperforate, peripheral wall, a series of alternately disposed stationary and movable buckets, said movable buckets being arranged to deliver to and coöperate with the stationary buckets, means for retaining said movable buckets in a given position throughout a portion of rotation of said body, and means for vibrating said movable buckets at delivering points in the rotation of said body.

3. An elevator comprising in combination, a rotating casing, coöperating stationary and movable buckets mounted therein, and means for vibrating or oscillating the movable buckets at delivery points.

4. An elevator comprising in combination, a rotating casing, coöperating stationary and movable buckets mounted therein, and stationary means for vibrating or oscillating the movable buckets at delivery points.

5. An elevator comprising in combination, a rotatable member provided with a peripheral wall, a plurality of coöperating stationary and movable buckets adjacent said wall and rotating therewith, and means for retaining and vibrating the movable buckets at receiving and discharging points respectively.

6. An elevator comprising in combination, a movable member provided with stationary buckets, movable buckets for said member coöperating with said stationary buckets and provided with studs, and stationary means engaging the studs of said movable buckets at delivery points to effect vibration of said movable buckets and cause the same to coöperate with said stationary buckets to discharge the latter.

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

AUGUSTE VERSCHUREN.

Witnesses:
G. De Lersy,
Loue Donke.