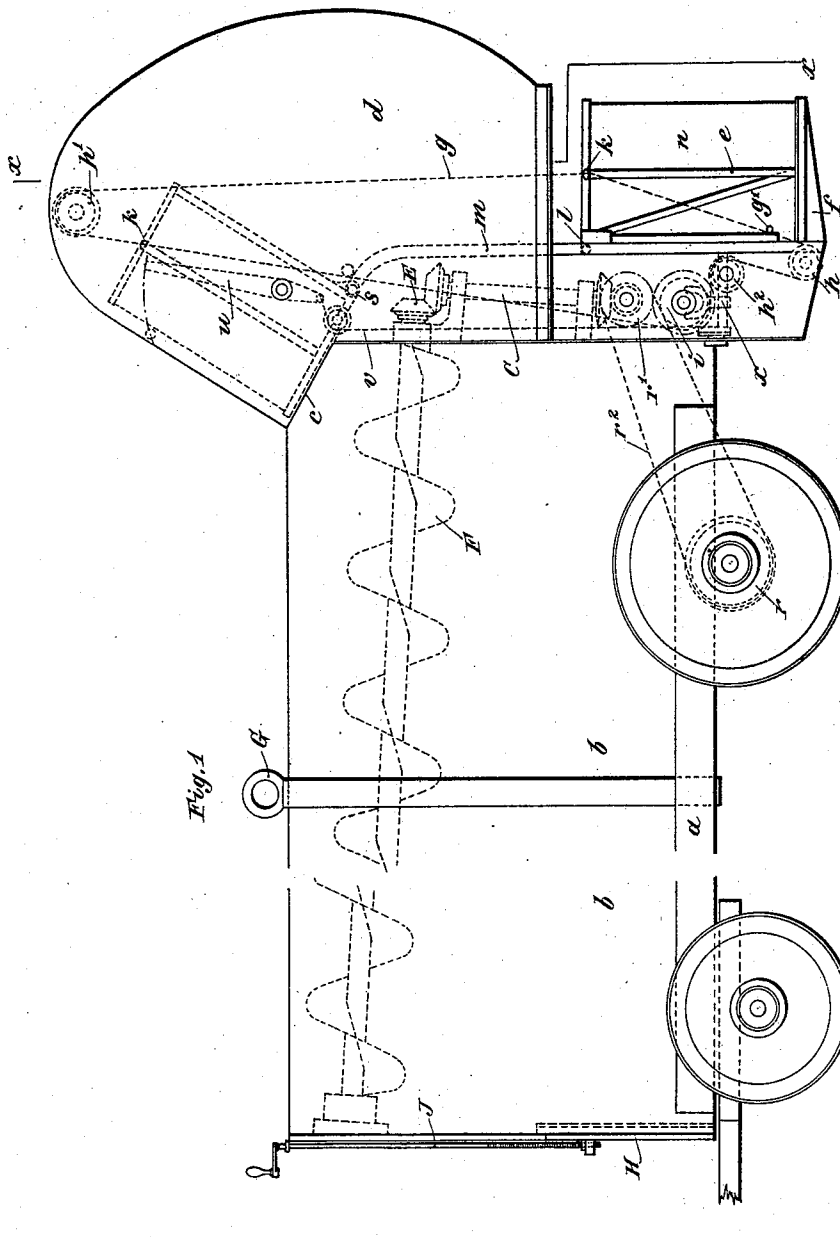


4 Sheets—Sheet 1.

APPARATUS FOR REMOVAL AND TRANSPORTATION OF REFUSE.

Patented Oct. 27, 1896.



In witness:
Carl August Ernst de la Sance
by James R. Baskerville
his Attorney

(No Model.)

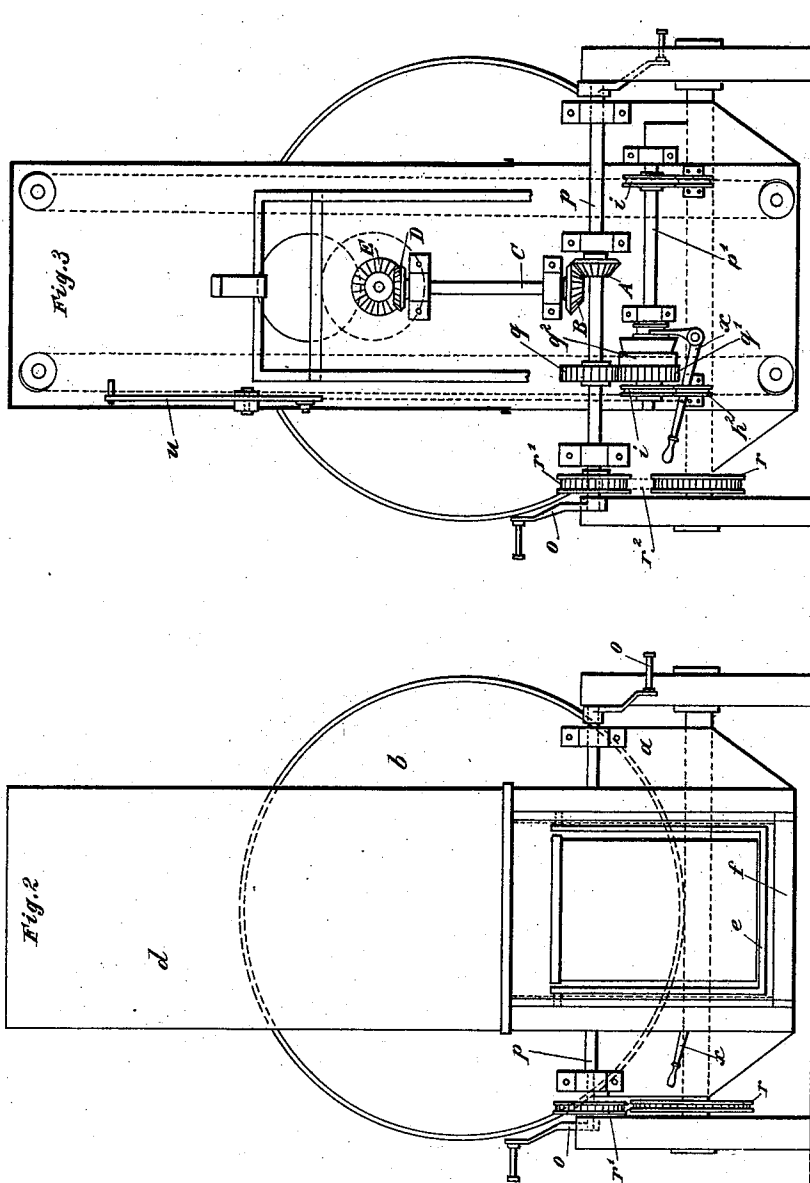
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C. A. E. DE LA SAUCE.

APPARATUS FOR REMOVAL AND TRANSPORTATION OF REFUSE.

No. 570,060.

Patented Oct. 27, 1896.



Witnesses

F. E. Harpell

M. P. Fish

Inventor

Carl August Ernst de la Sauce

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his Attorney

(No Model.)

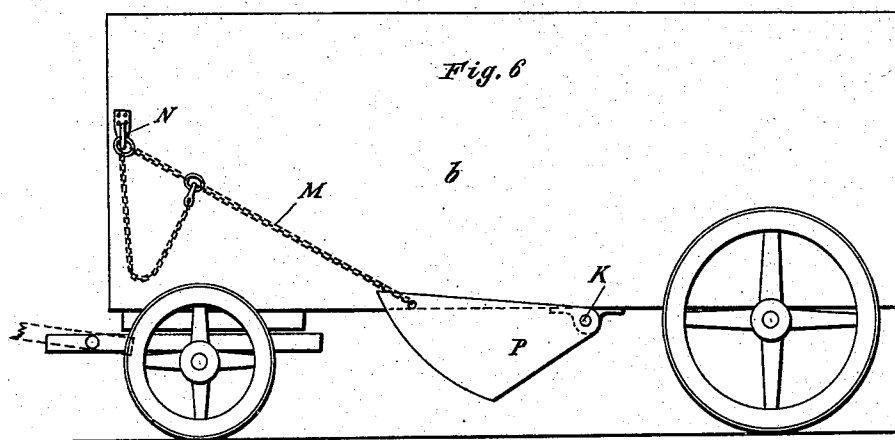
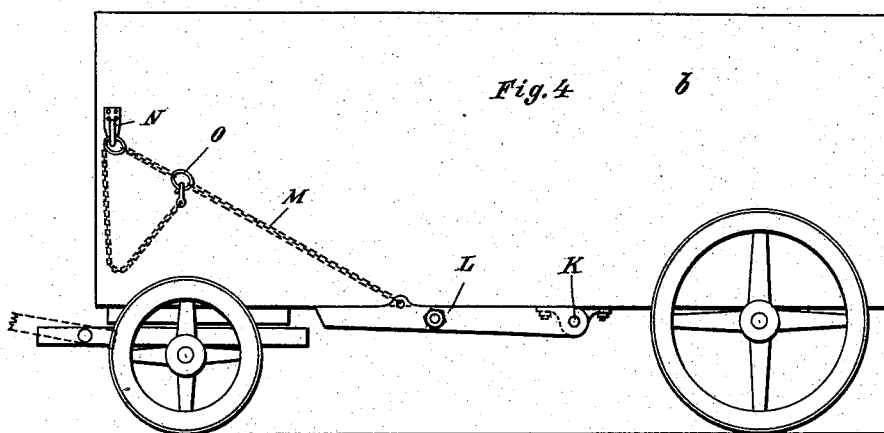
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C. A. E. DE LA SAUCE.

APPARATUS FOR REMOVAL AND TRANSPORTATION OF REFUSE.

No. 570,060.

Patented Oct. 27, 1896.



Witnesses
F. C. Hespell
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(No Model.)

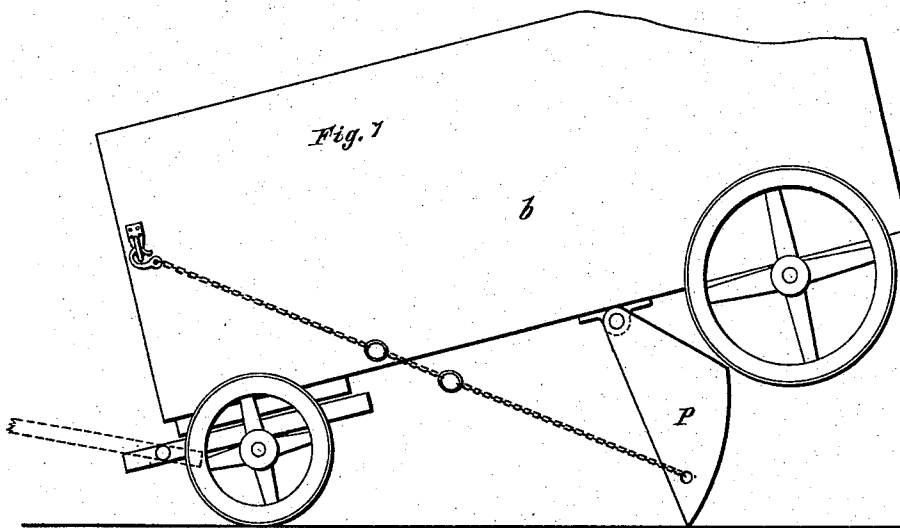
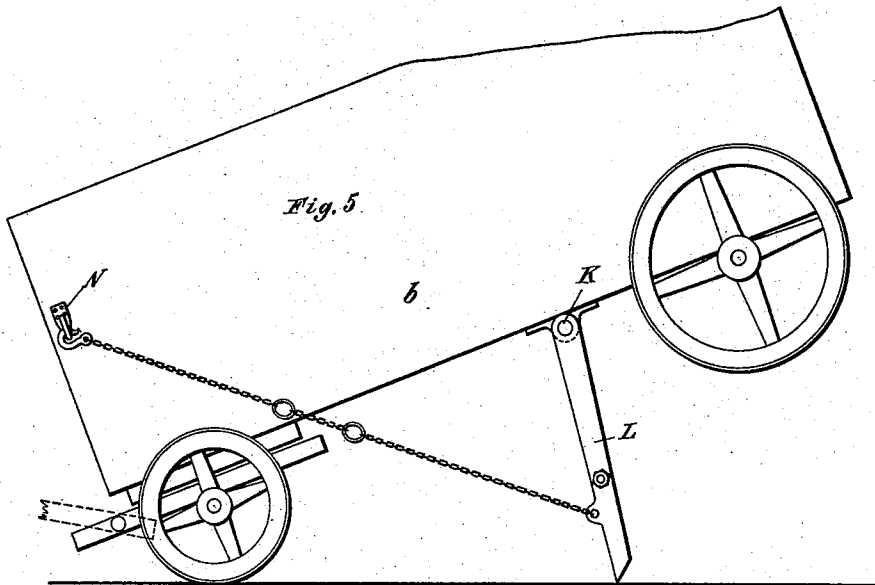
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C. A. E. DE LA SAUCE.

APPARATUS FOR REMOVAL AND TRANSPORTATION OF REFUSE.

No. 570,060.

Patented Oct. 27, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

CARL AUGUST ERNST DE LA SAUCE, OF BERLIN, GERMANY.

APPARATUS FOR REMOVAL AND TRANSPORTATION OF REFUSE.

SPECIFICATION forming part of Letters Patent No. 570,060, dated October 27, 1896.

Application filed August 1, 1895. Serial No. 557,928. (No model.)

To all whom it may concern:

Be it known that I, CARL AUGUST ERNST DE LA SAUCE, engineer, residing at Berlin, in the Kingdom of Prussia and German Empire, have invented a new and useful Improvement in Apparatus for Dustless Filth Removal, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for the dustless removal of domestic refuse; and it consists in an arrangement of a wagon and tanks whereby the tank containing the refuse is placed on the wagon and is discharged thereinto during transit, and when emptied the empty tank is exchanged for a full one at the next stopping-point, as is hereinafter described. In this manner the dustless removal of refuse is materially facilitated, in that the conveying-wagon is not burdened with unnecessary empty and full tanks.

The invention is represented on the accompanying drawings as follows:

Figure 1 is a side elevation showing my improvement. Fig. 2 is a rear view of the conveying-wagon. Fig. 3 is a sectional view on the line *xx* of Fig. 1. Figs. 4 and 5 are elevations of a tank-wagon in different position having a jack for dumping the tank, and Figs. 6 and 7 are similar views of a tank-wagon having a slightly-different form of jack.

Resting on a wagon-truck frame *a* is a cylindrical iron tank *b* for the purpose of receiving the domestic refuse. The charging-opening *c* is located at the upper part of the rear end of the tank and is covered with a hood *d* in order to facilitate the dustless emptying of filled tanks, preventing the escape of dust in emptying the tank.

The tanks which are to be emptied are placed on an elevator *e* beneath the hood *d*, resting on a truss *f*. The elevator *e* hangs in two endless chains *g*, fastened side by side in the points *g'*, which are passed over the guide-rollers *h h' h''*, chain-pulleys *i*, and also the rolls *K* on the elevator.

For guiding the elevator the grooves *m* are used, into which the pins *l*, that are fastened to the elevator, are caught. The lifting of the elevator with the refuse-tanks *n* is done by hand by means of the two cranks *o* on the shaft *p*. On the latter is fastened a cog-wheel *q*, which is geared to the cog-wheel *q'*

on the shaft *p'* by means of pulleys *i*. The lifting of the elevator can also be accomplished by connecting the chain-pulley *r'* on the shaft *p* with the chain-pulley *r* of the rear wagon-axle by means of a chain.

As soon as the wagon is put into motion or the cranks *o* are turned in the proper direction the elevator *e* is lifted into the hood *d* until it reaches the point *s* at the end of the guide-grooves. Then the elevator, with the refuse-box *n*, swings around the pivots *l* until it reaches the dotted place marked on Fig. 1. Now the opening of the refuse-box is covered by the opening *c* of the tank *b*, whereby the automatic emptying of the same takes place.

In order that the mouth of the garbage-box may fit closely over the charging-opening *c* in dumping, the frame or portion of the tank wherein said opening *c* is formed is arranged in a plane parallel with that in which the mouth of the garbage-box finds itself in the act of dumping, as shown in Fig. 1.

The wheel *q'* is mounted loosely on the shaft *p'*, and is connected therewith by means of a clutch *q''*, which is engaged and disengaged by the elbow-lever *x*. The long arm of this lever is connected by the chain *v* with the lower end of the lever *u*, fulcrumed on the frame of the machine and provided at its upper end (see Fig. 3) with a pin projecting inwardly in the path of the elevator *e*. When, therefore, this is raised and upset, it strikes said pin and shifts the levers *u* and *x* and disengages the clutch, so that as long as the clutch *q''* is disengaged the further rotation of the shaft *p* has no effect on the elevator.

In order to lower the elevator, the cranks *o* may be turned backward, the lever *x* being turned by hand to engage the clutch *q''*, or the chains *g*, which hang below the hood *d*, may be pulled down.

In order to prevent the accumulation of the refuse in the rear of the tank *b*, into which it has been emptied, a creeper or spiral *F* is arranged inside the tank, which, by means of the conical-shaped wheels *B D E*, of which the first two are supported by a shaft *C*, are caused to revolve by the motion of the wagon, thereby pushing the refuse to the front. If it is desired to empty the tank *b*, it is hooked to a crane with a staple, lifted off the truss, and inclined toward the front. To remove

the refuse from the tank *b*, you now open a slide *H* by properly turning a spindle *J*.

It is understood that the arrangement heretofore described may be altered and the construction differently arranged without changing the character or purpose of the invention or apparatus, the purpose of which consists in securing the dustless removal of filth or refuse by emptying the full receiving-tanks without the escape of dust into the conveying-wagon and by taking along an empty tank to be used in place of the full tank, the latter in the meantime being enveloped in a hood and emptied into the conveying-wagon, and is returned empty, toward the bottom, out of the hood inclosing the charging-opening and refuse-tank. In this way the creeper or spiral *F* could be dispensed with, in which case the bottom of the tank *b* is arranged in a slanting position, which effects a proportional division, so that the refuse entering at *c* is naturally thrown toward the front by the moving of the wagon.

In the modification shown in Figs. 4 and 5 a lifting-jack *L* is suspended under the refuse-tank *b* on the bearing *K*. This lifting-jack *L* is generally held in the position indicated in Fig. 4 by a chain *M*. If the refuse-tank *b* is to be emptied, you lower the lifting-jack *L*, so that the disconnected end of the same rests on the ground or floor. Now the wagon is moved forward, thereby raising the rear end, as shown on Fig. 5, and the refuse-tank can be conveniently emptied. The chain *M* is generally held by the hook *N*, and has rings on it, by means of which it can be shortened or lengthened, causing the motion of the lifting-jack and incidentally the height to which the refuse-tank is lifted is limited.

Figs. 6 and 7 show a further modification, which differs from the aforesaid one in that instead of the lifting-jack *L* two eccentrically-suspended wheel-segments *P* are fastened on the sides of the tank *b*, the action of which produce the same results as the lifting-jack *L*.

The advantages of my invention will be apparent to those skilled in the art.

What I claim, and desire to secure by Letters Patent, is—

1. In apparatus for the removal of garbage, and in combination with a tank having a charging-opening, an elevator composed of a support for a removable garbage-box, and means for lifting, tilting and returning the said elevator, said elevator and tank being arranged for the retention of the garbage-box in the elevator in the lifting tilting and returning operations, substantially as described.

2. In apparatus for the removal of garbage, and in combination with a tank provided with a charging-opening, a hood covering said opening and open below, and an elevator arranged to descend below the hood and pro-

vided with a truss *f* or garbage-box support so that a removable garbage-box may be slid onto the same and also provided with means for dumping the contents of the box into said tank and for returning the box with said elevator, substantially as described.

3. In apparatus for the removal of garbage, and in combination with a tank provided with a charging-opening, an elevator arranged to receive a removable garbage-box and to dump the contents into said tank, the path of said elevator extending to and terminating at the charging-opening, which is arranged in a plane parallel with that occupied by the mouth of the garbage-box in dumping, so that the said box in emptying may fit against the mouth of said opening and thus be so retained in the elevator as to return therewith under the action of gravity without necessitating the fastening of the said box to said elevator, substantially as described.

4. In apparatus for the removal of garbage, the combination of a conveying-wagon and a lifting-jack pivotally secured to the bottom of the wagon, the portion of the wagon to which the said jack is secured being fastened also to an axle at the front end of the wagon so as to be lifted at the rear and turned about said front axle; substantially as and for the purpose specified.

5. In apparatus for the removal of garbage, the combination of a conveying-wagon, an elongated tank mounted thereon and provided with a charging-opening at one end and a discharging-opening at the other, a hooded elevator at the charging end for emptying the garbage-box into said tank, and means whereby the said elongated tank may be lifted to discharge its contents; substantially as described.

6. In apparatus for the removal of garbage, the combination of a conveying-wagon, an elongated tank mounted thereon and provided with a charging-opening at one end and a discharging-opening at the other, a conveying-screw arranged longitudinally in said tank, a hooded elevator at the charging end for emptying the garbage-box into said tank, and means whereby the said elongated tank may be lifted to discharge its contents; substantially as described.

7. In apparatus for the removal of garbage, the combination of the elevator, the grooves in which pins on the elevator travel, the chains for raising the elevator, and the rollers on the elevator which bear against the chains; substantially as described.

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

CARL AUGUST ERNST DE LA SAUCE.

Witnesses:

WILLIAM PATAKY,
CHAS. H. DAY.