July 13, 1954 H. LINDE 2,683,543

DEVICE FOR DUSTFREE EMPTYING OF DUSTBINS

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Fig. 1

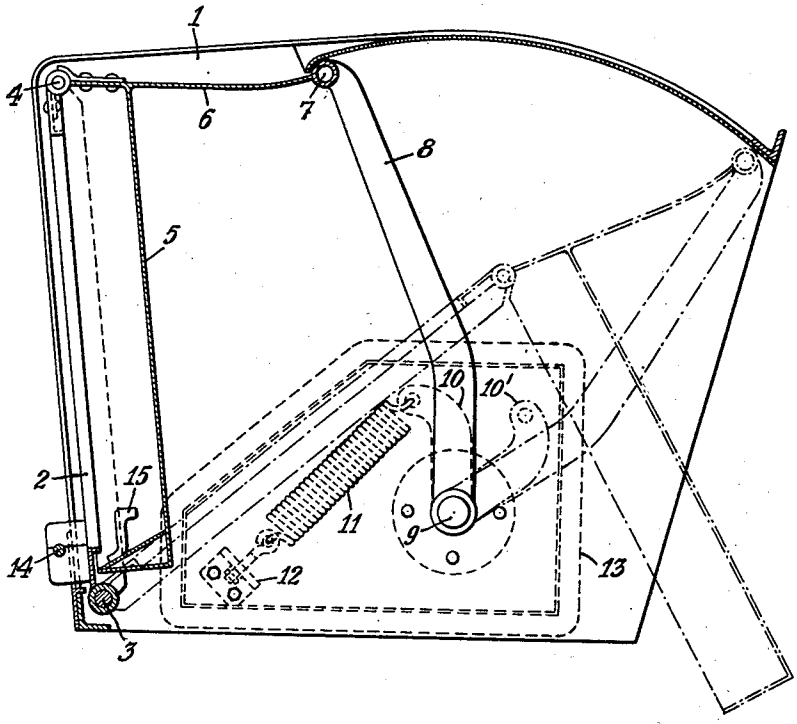
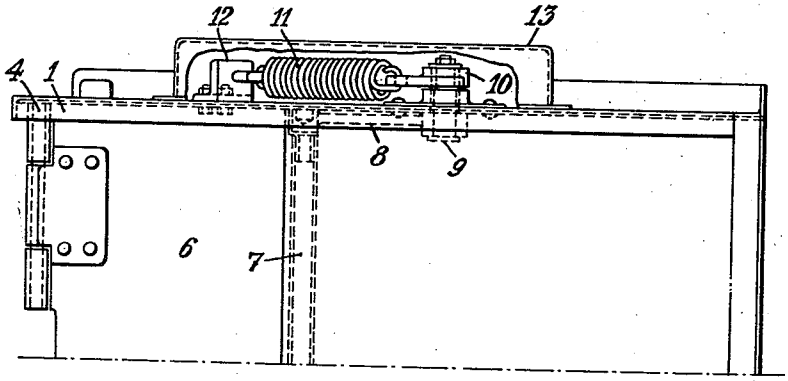


Fig. 2



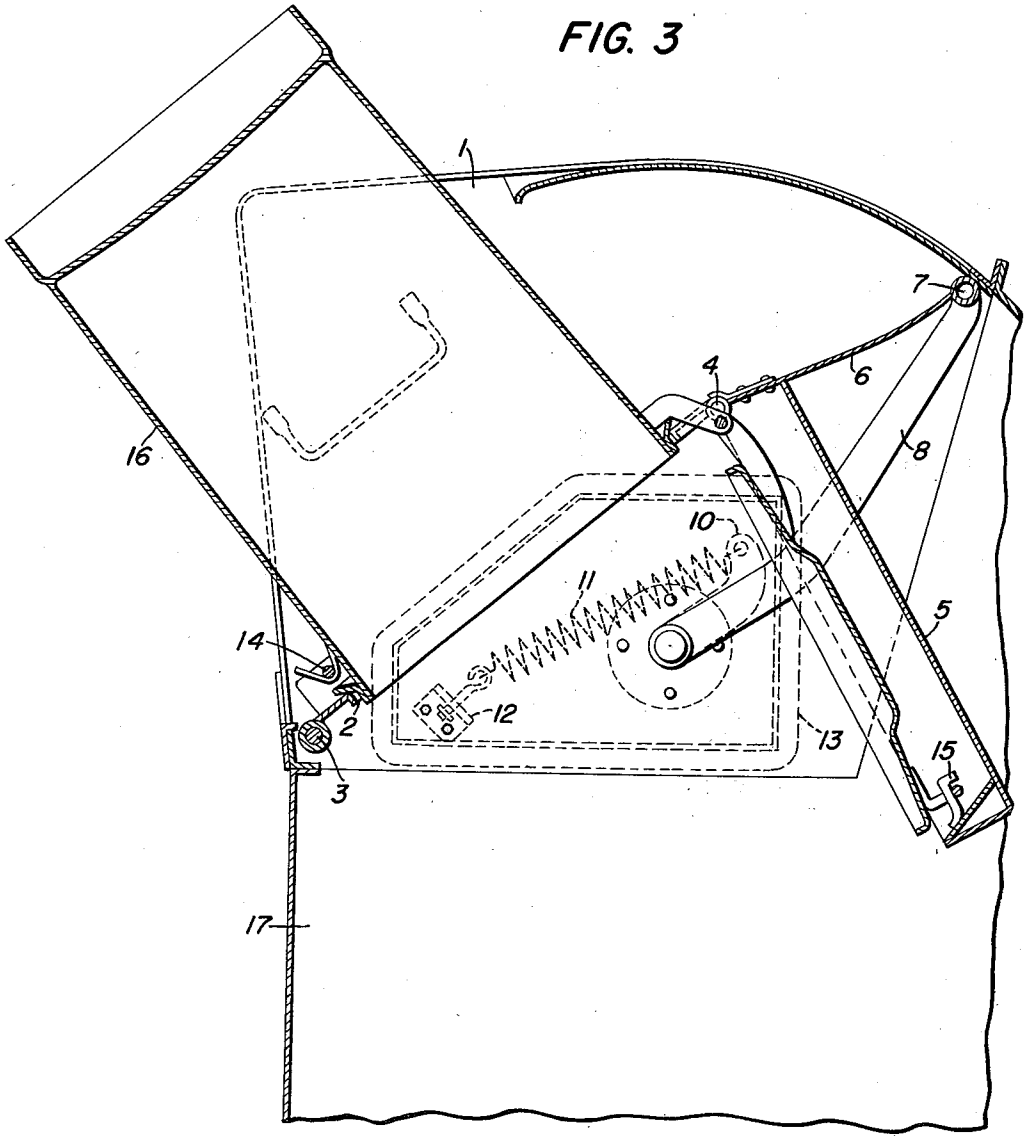
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FIG. 3



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DEVICE FOR DUSTFREE EMPTYING OF DUSTBINS

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Claims priority, application Sweden September 29, 1949

3 Claims. (Cl. 214—303)

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This invention relates to a device for dustfree emptying of dustbins into a refuse collecting container, and the emptying device is especially of the type comprising a pivoted emptying plate with an orifice for the dustbin and a cover plate for the orifice hingedly connected with the emptying plate at their upper edges. In such emptying devices a hook on the upper portion of the emptying plate has been adapted to engage an outstanding flange of an angle iron ring around the mouth of the dustbin when the other flange of the ring is introduced into the opening in the emptying plate. By this coupling device the dustbin, after having been emptied, can bring the emptying plate back to its normal position. If the bin is overloaded, however, the coupling members cannot be brought to engagement, and the emptying plate must be lifted up by hand.

It is an object of the invention to restore the emptying plate automatically without the need of such coupling members.

Another object of the invention is to enable the emptying plate to be automatically moved back again irrespectively of whether the dustbin is overloaded or not.

A further object of the invention is to provide a simple and effective device for restoring the cover plate and keep it close to the emptying plate after emptying of a dustbin to avoid rattling.

With this and other objects in view the invention will be hereinafter described and illustrated in the accompanying drawing in which:

Figure 1 is a vertical section view of an emptying hood to be mounted on a refuse collecting container; Figure 2 is a top view of one half of the emptying hood according to Figure 1 but with a portion broken.

Fig. 3 is a vertical sectional view similar to Fig. 1 showing the hood mounted on the upper portion of the collecting container and the mechanism in its inner end position.

The emptying device or emptying hood comprises two side walls 1 and between them an emptying plate 2 rotatably mounted at its lower edge on a shaft 3. At the upper edge the emptying plate is hingedly connected by means of two shafts 4 with a cover plate 5 adapted to close the opening for the bin in the plate 2. The cover plate 5 has an upper extension 6 substantially at a right angle, and this extension is hingedly connected by means of a shaft 7 with two rocking arms 8 located at a short distance from the inside of the two side walls 1. Each arm 8 is fastened to a stub shaft 9 pivotally mounted in and

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passing through the side wall 1, and outside the side wall a lever shaft 10 is fastened to the end of the shaft 9. One end of a spring 11 is connected with the arm 10, and the other end is connected with a bracket 12 on the side wall. The members 10, 11 and 12 are enclosed by a cover hood 13 attached to the outside of the side wall.

For the emptying of a dustbin the ordinarily used coupling hooks on the dustbin are placed on a coupling rod 14 carried by the emptying plate 2, and a hook 15 on the cover plate 5 is to be engaged by a corresponding coupling bow on the cover of the dustbin to raise this cover during the emptying operation. The movable system between the side walls 1 is thereby moved from the position shown with full lines in Figure 1 to the position with dotted lines in which position the dustbin is emptied into the collecting container.

From the drawing it is easily understood that the cover plate 5 is kept pressed against the emptying plate 2 by resilient means such as springs 11 and the lever arms 8. When the arms 10 are swung to the position 10' the tension of the springs is sufficient to move the emptying plate 2 and the cover plate 5 back to their ordinary closing position during the return movement of the dustbin in spite of the fact that during the emptying operation the mouth of the dustbin is not coupled together with the upper portion of the emptying bin.

In case a dustbin should be overloaded and its cover cannot be closed this fact involves no disadvantage, as the cover can push the cover plate and thereby the whole movable system inwards until the mouth of the dustbin is introduced in the opening of the emptying plate 2 and the outstanding flange of the dustbin is brought to rest against the edge of the opening, in which position the coupling between the coupling bow on the cover of the dustbin and the coupling hook 15 has already been performed. During the following emptying motion of the dustbin the necessary pressure against the emptying plate is obtained from the outstanding flange of the dustbin.

I claim:

1. In a device for dustfree emptying of dustbins into a refuse collecting container, a substantially vertical emptying plate having an orifice corresponding to the mouth of the dustbin and being pivoted at its lower edge between two side walls, a cover plate for said orifice hingedly connected with said emptying plate at their upper edges and having an extension at an angle to said cover plate, two upwardly directed arms

having their upper ends hingedly connected with said extension, a shaft rotatably mounted in each one of said side walls and each secured to the lower end of one of said arms, and resilient means acting on said shafts for pressing said emptying plate against the dustbin during the return motion of the emptying plate from its inner end position and simultaneously said cover plate towards said emptying plate.

2. In a device for dustfree emptying of dustbins into a refuse collecting container, a substantially vertical emptying plate having an orifice corresponding to the mouth of the dustbin and being pivoted at its lower edge between two side walls, a cover plate for said orifice being hingedly connected with said emptying plate at their upper edges and having an extension at an angle to said cover plate, two upwardly directed arms having their upper ends hingedly connected with said extension, a shaft rotatably mounted in each one of said side walls and secured to the lower end of one of said arms, a lever arm each secured to one end of said shaft outside said side wall, and resilient means acting on said shafts for keeping said lever arm pressed in such a direction that the emptying plate is pressed against the dustbin during the return motion of the emptying plate from its inner end position and simultaneously said cover plate is pressed towards said emptying plate.

3. In a device for dustfree emptying of dustbins into a refuse collecting container, a substantially vertical emptying plate having an orifice corresponding to the mouth of the dustbin and

being pivoted at its lower edge between two side walls, a cover plate for said orifice being hingedly connected with said emptying plate at their upper edges and having an extension at an angle to said cover plate, two upwardly directed arms having their upper ends hingedly connected with said extension, a stub shaft rotatably mounted in one of said side walls and each secured to the lower end of each one of said arms, a lever arm secured to one end of each one of said shafts outside said side wall, a spring connected at one end with each one of said lever shafts and at the other end with a bracket on said side wall so as to press said emptying plate against the dustbin during the return motion of the emptying plate from its inner end position and simultaneously said cover plate towards said emptying plate, and a cover hood fastened to said side wall and enclosing said lever arm and said spring.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,234,599	Johnston	Mar. 11, 1941
2,488,429	Ochsner	Nov. 15, 1949

FOREIGN PATENTS

Number	Country	Date
373,237	Great Britain	May 23, 1932
51,162	Norway	July 11, 1932
80,433	Sweden	May 15, 1934
91,249	Sweden	Jan. 12, 1938
186,773	Switzerland	Dec. 16, 1936
221,535	Switzerland	Aug. 17, 1942