

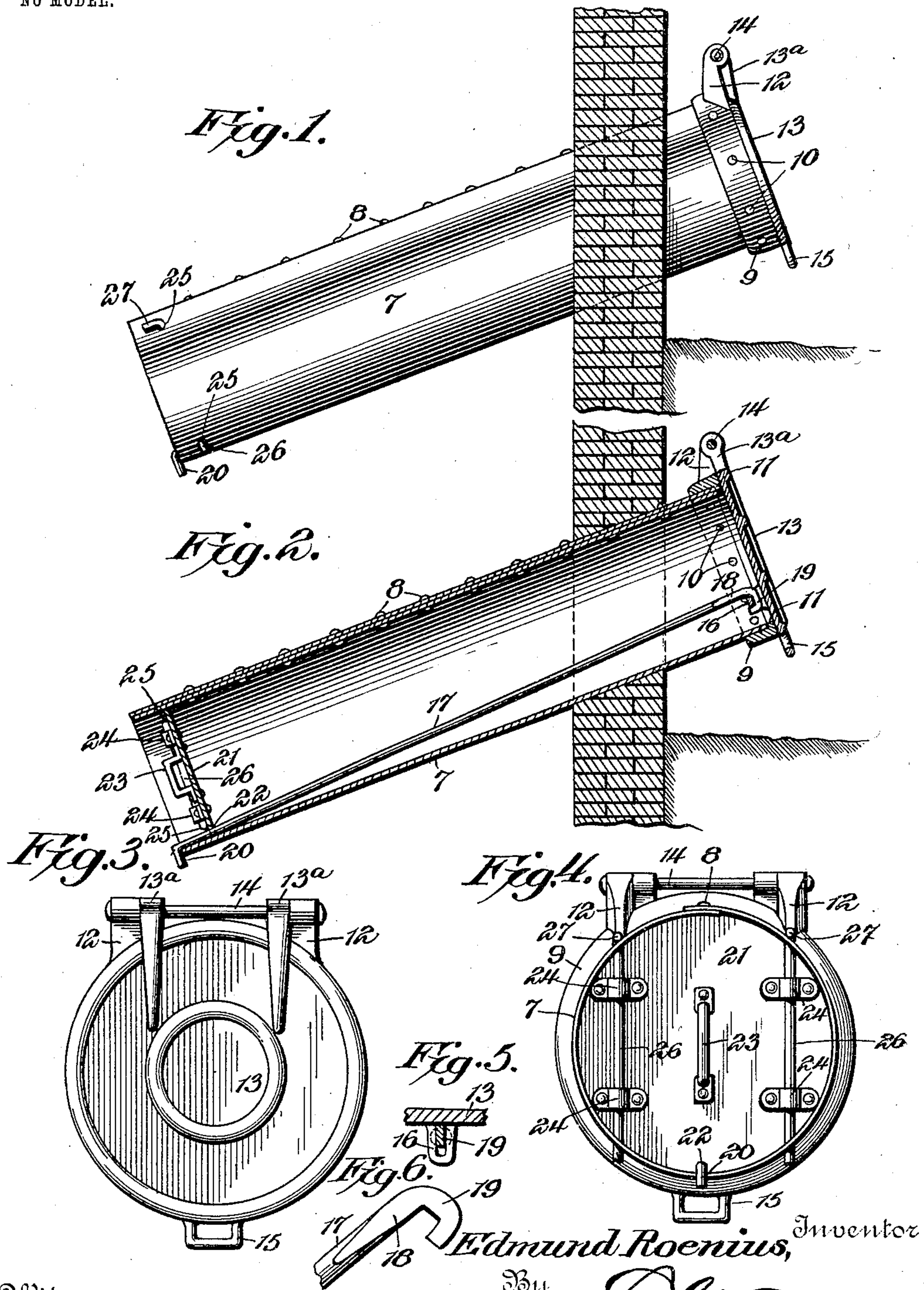
No. 773,596.

PATENTED NOV. 1, 1904.

E. ROENIUS.
CHUTE.

APPLICATION FILED FEB. 10, 1904.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

EDMUND ROENIUS, OF GRAND RAPIDS, WISCONSIN.

CHUTE.

SPECIFICATION forming part of Letters Patent No. 773,596, dated November 1, 1904.

Application filed February 10, 1904. Serial No. 192,991. (No model.)

To all whom it may concern:

Be it known that I, EDMUND ROENIUS, a citizen of the United States, residing at Grand Rapids, in the county of Wood and State of Wisconsin, have invented a new and useful Chute, of which the following is a specification.

The invention relates more particularly to chutes for household purposes to be employed in storing coal and wood, though it is also useful in many analogous ways—for instance, in directing grain, vegetables, and the like to storage bins and receptacles.

The object is to provide a simple structure which can be readily placed in position by an inexperienced person, is cheap in construction and very durable to withstand hard usage, and is provided with secure locking means which will prevent unwarranted ingress there-through.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of a chute, showing the same in place in a wall. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is an end elevation of the outer end of the chute, showing the same on a slightly-enlarged scale. Fig. 4 is a similar view of the inner end of the chute. Fig. 5 is a detail sectional view through the locking-eye of the cover. Fig. 6 is a detail perspective view of the upper end of the locking-rod.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a tubular chute-body 7 is employed, preferably constructed of sheet metal having overlapped longitudinal margins riveted together, as shown at 8. To the outer end of this sheet-metal body is secured a reinforcing-ring 9, that surrounds the same and is secured thereto, as by rivets 10. This reinforcing-ring is provided with an inturned flange 11, covering the adjacent edge of the sheet metal, and thereby protecting the same. Said ring also is provided with outstanding hinge-ears 12, and a cover

13, adapted to abut against the outer end of the ring and close the chute, is provided with hinge-ears 13^a, coacting with the ears 12 and secured thereto by a pivot-pin 14. The edge of the cover diametrically opposite to the ears 13^a carries a suitable handle 15, and the inner side of said cover is provided with an inwardly - extending intermediately - disposed eye 16.

A locking device, preferably in the form of a rod 17, is arranged to be placed longitudinally within the chute-body and has its outer end flattened, as shown at 18, which end is formed into a terminal hook 19, that detachably engages in the eye 16, the longitudinal movement of said eye through the rod being limited by the lower terminal of the flattened portion, constituting oppositely - disposed shoulders which will not pass through the eye. The inner end of the rod is also formed into a hook 20, that engages over the inner edge of the chute. Thus it will be apparent that when the hook 19 is engaged in the eye 16 and the hook 20 is engaged over the inner edge of the chute the cover will be locked in its closed position.

In order to retain the locking device or rod 17 in operative position, means are employed which in the present instance constitute a closure for the inner end of the chute. A disk plate 21 is employed, which is arranged to fit snugly within said inner end and has in one edge a seat 22, that receives the inner portion of the rod. This closure is provided on its outer side with a suitable handle 23 and alined sets of ears 24, located on opposite sides of the handle. The alined ears 24 are arranged to aline with openings 25, formed in the inner end of the chute-body, and through the alined openings and ears are passed detachable locking-bolts 26, each having an offset terminal 27 at one end. When the closure is in place and locked, not only is the inner end of the chute tightly closed, but the inner end of the locking-rod is fastened against detachment from the inner end of the chute, thereby making said locking-rod doubly secure.

It will be apparent that the device can be

easily and cheaply constructed, but at the same time is well adapted to withstand the hard usage to which a device of this kind is necessarily subjected. For instance, the outer end
 5 of the sheet-metal tube, against which the material is bound to come into forcible contact, is reinforced by the ring 9, and this ring covering the outer edge of the sheet metal, furthermore, protects the same against being
 10 bent or becoming misshapen. The chute may be readily placed in position in a wall or supported by suitable means by an inexperienced person. When open, an unobstructed passage-way is formed therethrough. When
 15 closed, the locking means is only accessible from the inner end, and said locking means is entirely efficient and secure. It will be apparent that the chute may be constructed in various sizes, both as to diameter and length,
 20 to suit the varying conditions of work to be done and that the cross-sectional contour thereof may also be changed. Furthermore, the claims hereto appended will indicate that other changes may be made in the various
 25 details of construction without departing from the spirit or scope of the invention.

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

30 1. The combination with a tubular chute, of a cover for the outer end of the chute, and locking means movably connected to the cover and extending to the inner portion of the chute, said means having a detachable engagement
 35 with said inner portion for securing the cover.

2. The combination with a tubular chute, of a cover hinged to the outer end of the chute, and locking means connected to the cover and
 40 having a detachable engagement with the inner portion of the chute for securing the said cover in closed position upon the chute.

3. The combination with a tubular sheet-metal chute-body, of a reinforcing-ring secured to the outer end of the body, a cover
 45 hinged to the ring, and fastening means for the cover.

4. The combination with a tubular sheet-metal chute-body, of a reinforcing-ring surrounding and secured to the outer end of the
 50 body, said ring having an inturned flange that covers the edge of the body, a cover hinged to the ring, and fastening means for the cover.

5. The combination with a chute-body, of a cover therefor, a locking device having a movable connection with the cover, and a hook at
 55 its end that detachably engages the inner portion of the body for securing the cover in closed position.

6. The combination with a tubular chute,
 60 of a cover for the same, and a locking device having offset hook portions at its ends that respectively engage with the cover and with the

inner portion of the chute for holding said cover in closed position upon the chute.

7. The combination with a tubular chute, 65 of a cover hinged to the same and having an eye, and a fastening-rod having offset hook portions at its ends, one of said hook portions engaging the eye of the cover and the other engaging over the inner edge of the chute. 70

8. The combination with a chute-body, of a cover for the same, a fastening device having engagement with the inner portion of the body, and means detachably mounted on the body for retaining the fastening device in such 75 engagement.

9. The combination with a chute-body, of a cover for the same, a fastening device having an engagement with the inner portion of the body, and a closure for the inner end of the 80 chute, said closure constituting means for retaining the fastening device in engagement with the chute.

10. The combination with a chute-body, of a cover for the same, a fastening device hav- 85 ing an offset hook portion that engages with the inner portion of the body, and a closure for the inner end of the chute, said closure having a portion located in the path of movement of the fastening device to constitute retaining 90 means for the same.

11. The combination with a chute-body, of a cover for the same, a fastening device having an engagement with the cover and provided with an offset hook portion that engages 95 the inner end of the chute, a closure for said inner end of the chute, said closure fitting within the said inner end and engaging with the inner end of the rod, and means for fastening the closure in place within the chute. 100

12. The combination with a tubular chute, of a closure fitting within the inner end of the chute, and a fastening-bolt engaging the chute and closure to hold the latter in place.

13. The combination with a tubular chute, 105 of a disk closure arranged to fit snugly within the chute, said chute having aligned openings, ears carried by the closure and arranged to align with the openings, and fastening-bolts detachably passing through the openings and 110 ears for holding the closure in place.

14. The combination with a tubular sheet-metal chute-body, of a reinforcing-ring surrounding and secured to the outer end of the body, a cover hinged to the ring and having 115 an eye on its inner side, a fastening-rod having hooked ends that respectively engage in the eye and over the inner edge of the chute-body, a disk closure arranged to fit within the inner end of the body and having a seat that 120 receives the rod, said body being provided with openings, and bolts detachably passing through the openings and engaging the closure.

15. The combination with a chute-body, of
a cover hinged thereto and having an eye on
its inner side, a swinging fastening-rod hav-
ing a hook at its outer end that detachably en-
gages in the eye, the inner end of said rod en-
gaging the inner portion of the chute-body.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in
the presence of two witnesses.

EDMUND ROENIUS.

Witnesses:

JOHN A. GAYNOR,
OTTO R. ROENIUS.