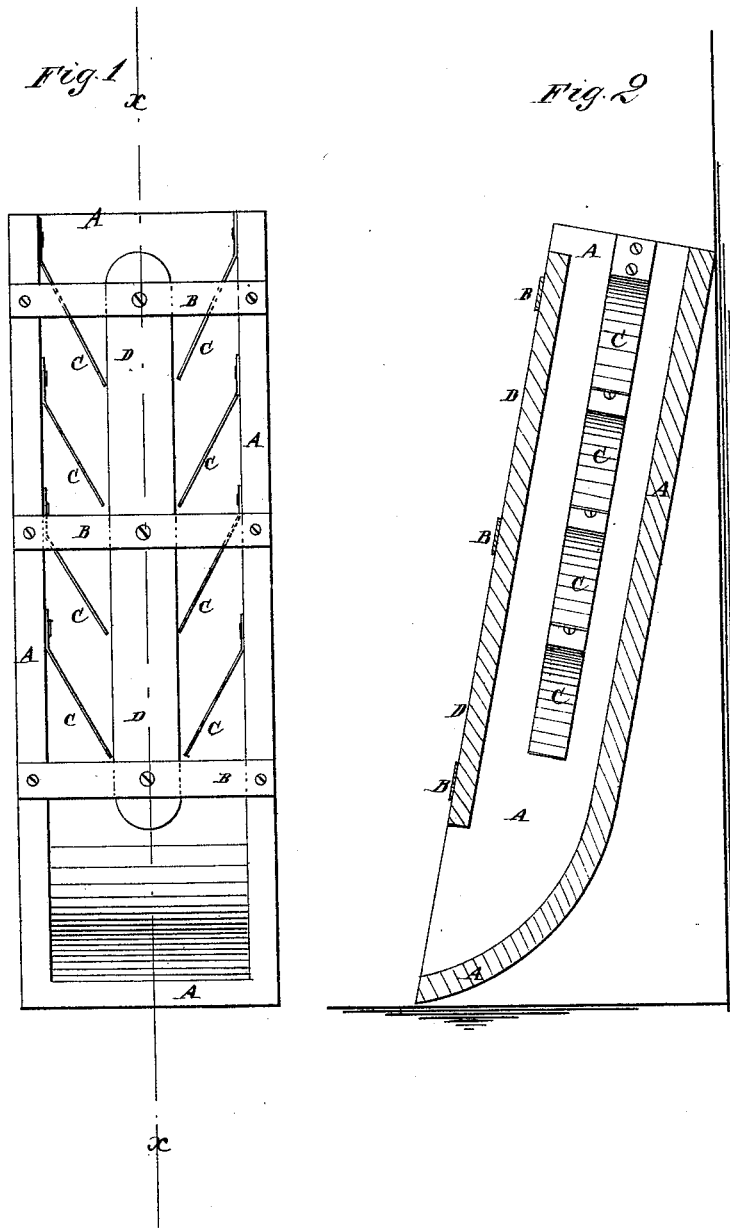


W. C. CROMPTON, J. NICOL & R. HAWLEY, Jr.
FREIGHT-CHUTES.

No. 195,489.

Patented Sept. 25. 1877.



WITNESSES:

A. W. Munroish
J. N. Scarborough.

INVENTORS

W. C. Crompton.
J. Nicol.
R. Hawley Jr.

BY

Munroe

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. CROMPTON, OF NEW YORK, N. Y., JAMES NICOL, OF NEWARK,
AND RICHARD HAWLEY, JR., OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN FREIGHT-CHUTES.

Specification forming part of Letters Patent No. **195,489**, dated September 25, 1877; application filed August 24, 1877.

To all whom it may concern:

Be it known that we, WILLIAM C. CROMPTON, of the city, county, and State of New York, JAMES NICOL, of Newark, county of Essex and State of New Jersey, and RICHARD HAWLEY, Jr., of Jersey City, county of Hudson and State of New Jersey, have invented a new and useful Improvement in Freight-Chutes, of which the following is a specification:

Figure 1 is a front view of our improved freight-chute; and Fig. 2 a longitudinal section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish a chute for lowering cheese and other freight in loading vessels, in warehouses, and in other places, in such a way that it will not be injured, and which shall be simple in construction and convenient and reliable in use.

The invention consists in an improved freight-chute formed of the trough made with a curved lower end, the cross-bars, the inclined spring, guide-bars, and the front guard-bar, as hereinafter fully described.

In the drawing, A represents the trough of the chute, which is made with a close, smooth bottom, and with close sides, and is strengthened with cross-strips B attached to the upper edges of its sides. At the lower end of the chute its bottom is curved forward, so as to guide the articles passing down through it into proper position to pass out upon the deck, floor, or other surface, upon which the lower end of the said chute rests. To the sides of the chute A are attached guide-bars C, which project inward and incline downward, as shown in Figs. 1 and 2. The guide-bars C are made elastic, or have spiral or

other springs placed between them and the sides of the chute A, so that they may yield to allow the articles to pass, while at the same time they offer sufficient resistance to said articles to check or retard their descent, and prevent their acquiring too great a velocity and momentum.

The chute may be set for use in a vertical position, or at any desired inclination, as circumstances may require, and the articles may be kept from canting forward, and thus falling, by a guard-bar, D, attached to the inner sides of the centers of the cross-bars B. The guard D should not extend quite to the bottom of the chute, but space should be left for the articles to pass out beneath its lower end. The sides and bottom of the chute may be made of slats or bars, and the cross-bars B and guard-bar D may be omitted in some cases; therefore, we do not confine ourselves to the exact construction herein shown and described.

Having thus fully described our improvement, we claim as new and desire to secure by Letters Patent—

An improved freight-chute formed of the trough A, made with a curved lower end, the cross-bars B, the inclined spring guide-bars C, and the front guard-bar D, substantially as herein shown and described.

WILLIAM C. CROMPTON.

JAMES NICOL.

RICHARD HAWLEY, JR.

Witnesses to signature of Wm. C. Crompton:

ALFRED LURCOTT,

ALEX. F. ROBERTS.

Witnesses to the signatures of James Nicol and Richard Hawley, Jr.:

JAMES T. GRAHAM,

FRANK BLOCKLEY.