(No Model.)

T. H. LIDFORD.

COAL CHUTE.

No. 260,104. Patented June 27, 1882.

Fig. 1.

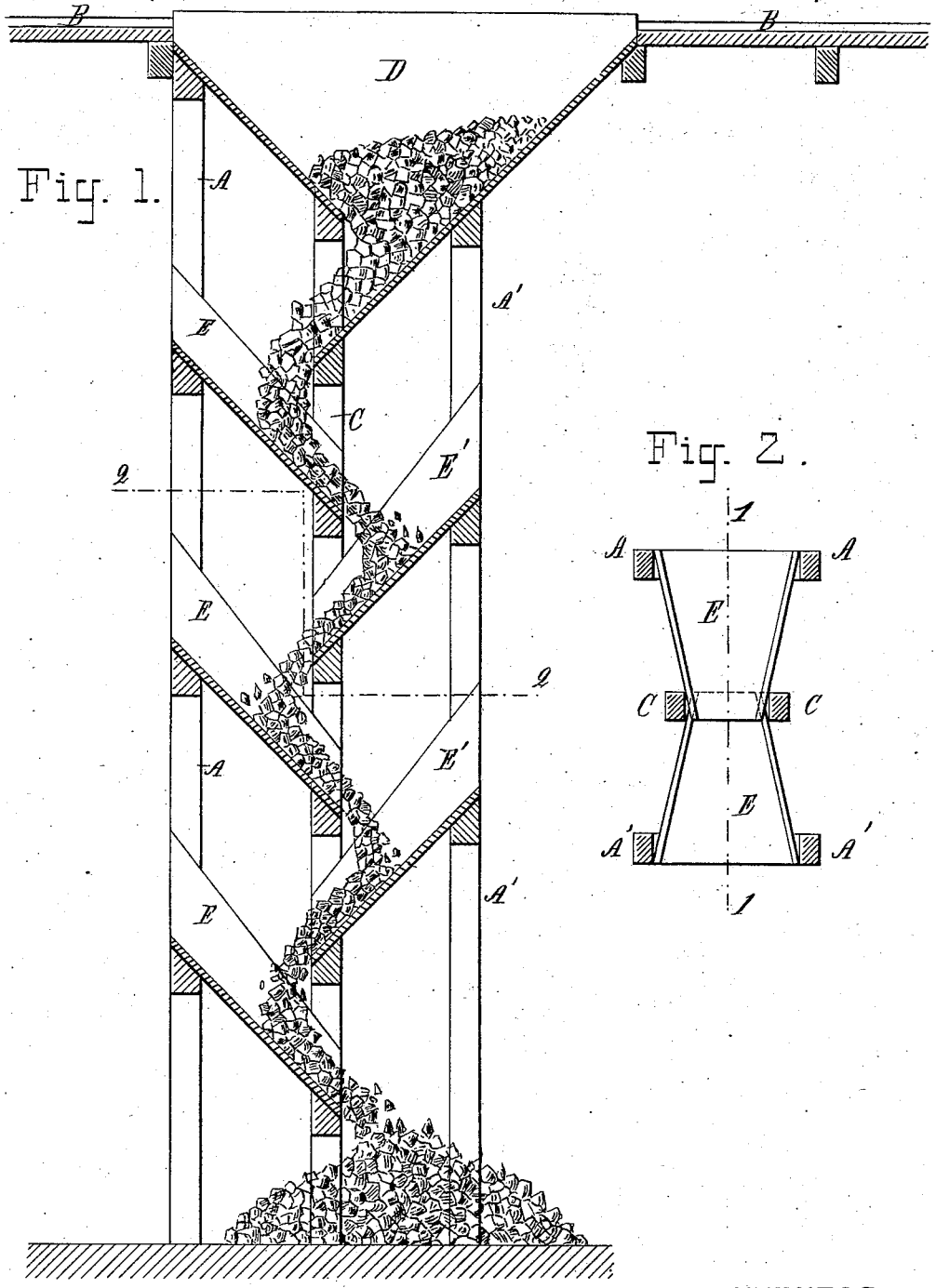

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS H. LIDFORD, OF BROOKLYN, NEW YORK.

COAL-CHUTE.

SPECIFICATION forming part of Letters Patent No. 260,104, dated June 27, 1882.

Application filed November 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. LIDFORD, a citizen of the United States, residing in Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Coal-Chutes, of which the following is a specification.

In storing coal in yards it is customary to erect an elevated car-track, and to run the cars laden with coal out on this track and dump the coal down upon the ground. The aim is to construct the track above the highest probable level of the coal-heap, and this will sometimes exceed twenty-five feet. When the coal is dumped from this or even a less height it is much injured by the fall, a large percentage being reduced to dust.

The object of my invention is to provide a simple, cheap, and easily constructed and compact chute, by which the coal may be conveyed from the dumping-hopper to the ground or the level of the pile, whatever may be the height, without appreciable injury.

In the drawings which serve to illustrate my invention, Figure 1 is a vertical mid-section of the chute in the plane of the line 1 1 in Fig. 2. Fig. 2 is a horizontal section of the chute in the plane of the line 2 2 in Fig. 1.

A A A′ A′ represent four corner-posts, which extend from the car-track B to the ground, and C C are two intermediate posts, which also extend from the track to the ground.

D is a hopper, by preference made large enough to receive a load or ton of coal from a car on the track.

E E are inclined troughs arranged between the posts A and C, inclining inward and downward, and arranged at about equal distances apart; and E′ E′ are similar troughs arranged between the posts A′ and C, and inclined inward and downward. The troughs E and E′ are arranged in alternate order vertically, and their inner ends overlap a little, so that the coal discharged from one falls into that next below on the opposite side. The troughs are preferably arranged at an angle of about forty-five degrees, and are tapered, so that end from which the coal is discharged may be somewhat narrower than that part of the trough next below into which it discharges, whereby the charge is prevented from passing over the sides of the receiving-trough. The coal is dumped from the cars into the hopper D, whence it is discharged into the first trough E, from whence it is discharged into the first trough E′, thence to the second trough E, and so on in zigzag course from trough to trough until it reaches the bottom. As the pile increases it simply surrounds or embeds the chute until it rises to the level of the track. One or more of these chutes may be employed along the line of the track, as desired. The height through which the coal falls from one trough E or E′ to the next below is not sufficient to fracture it, and may be from one to three feet for hard coals.

A chute constructed in this manner requires very little room. It need not occupy in plan more than a space of three by five feet. A single chute with an inclination of forty-five degrees and a fall of twenty-five feet would require a "run" of twenty-five feet and a length of over thirty-five feet, and this would be impracticable in most cases, and the coal would be injured more than by my chute.

My chute may be employed for delivering other substances than coal, and especially those likely to be injured by a fall.

I am aware that chutes for retarding the fall of objects have before been proposed, and that zigzag spouts have been employed in grain screens and driers, and I make no claim to these; but

What I do claim is—

1. The combination, with an elevated track for the coal-cars, of a coal-chute composed of a series of inclined troughs arranged in alternate order one above another, as shown, said chute extending from the track down into the yard, substantially as and for the purposes set forth.

2. The combination, with an elevated track, B, for the coal-cars, of the dumping-hopper D and the coal-chute composed of the supporting-posts and the inclined troughs E E′, arranged in alternate order one above an-

other and arranged to receive and deliver the coal from one into the other, substantially as and for the purposes set forth.

3. The combination, to form a chute, of the supporting-posts A, A′, and C and the troughs E and E′, said troughs being made tapering toward their discharging ends, and all arranged in the manner substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THOS. H. LIDFORD.

Witnesses:
HENRY CONNETT,
ARTHUR C. FRASER.