W. D. Titus.

Vault Cover.

No. 14,680. Patented Apr. 15, 1856.

Fig. 2.

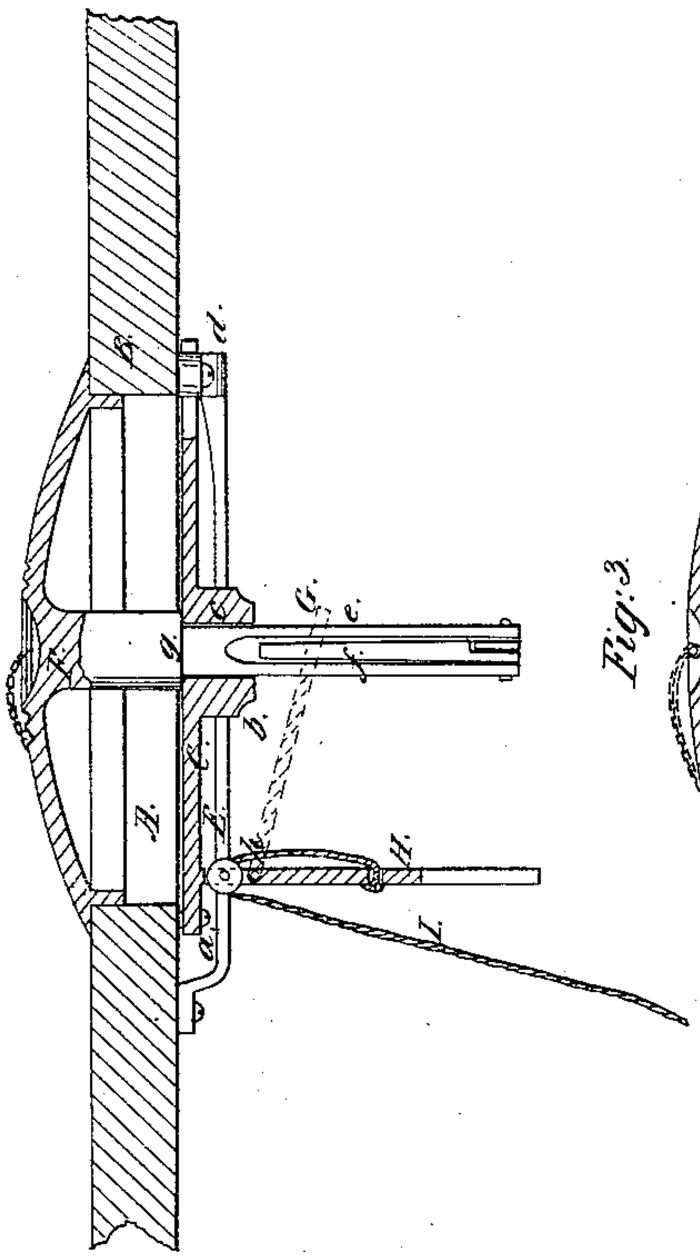

Fig. 3.

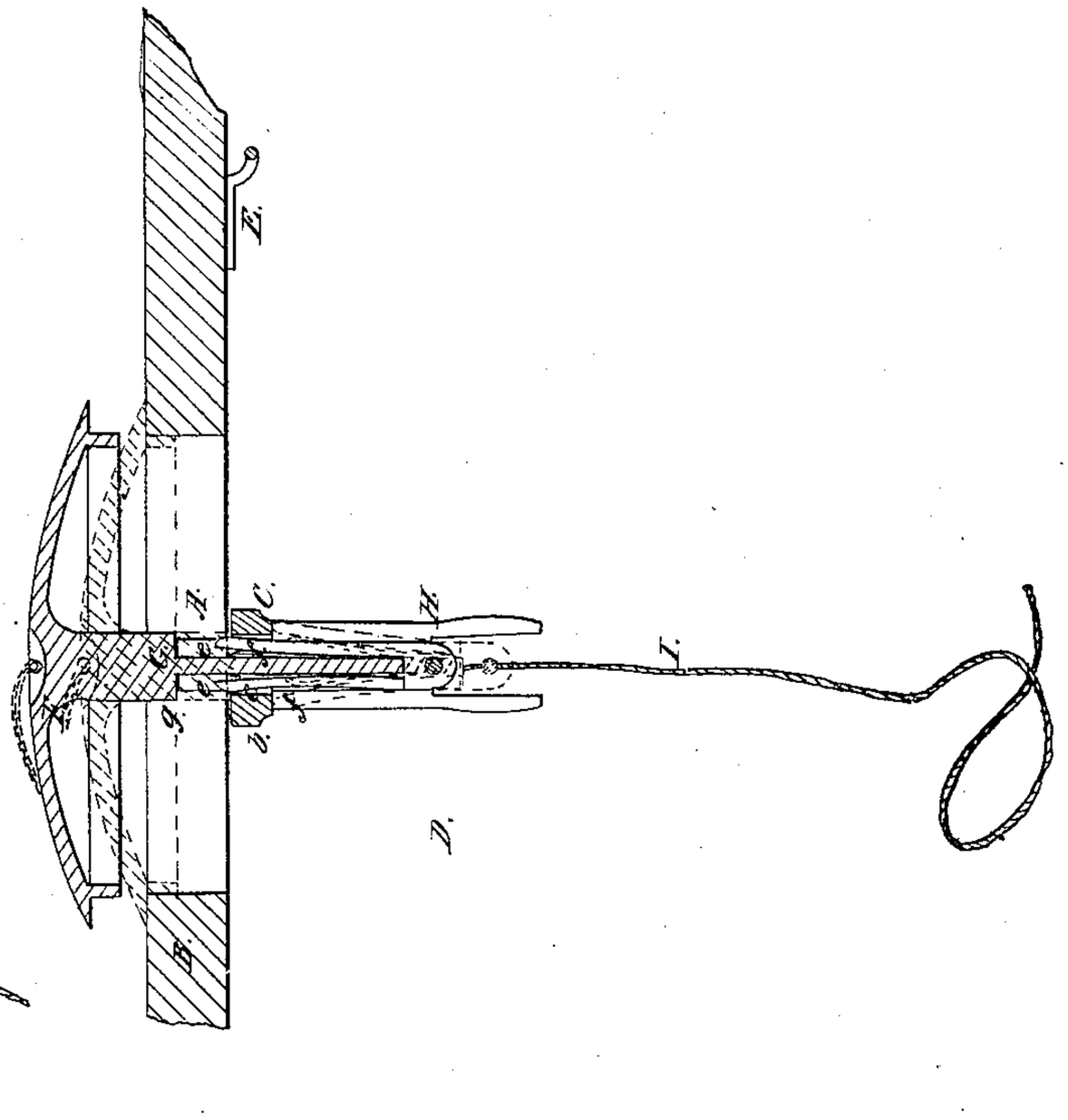

Fig. 5.

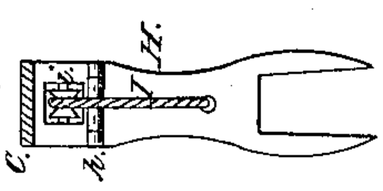

Fig. 4.

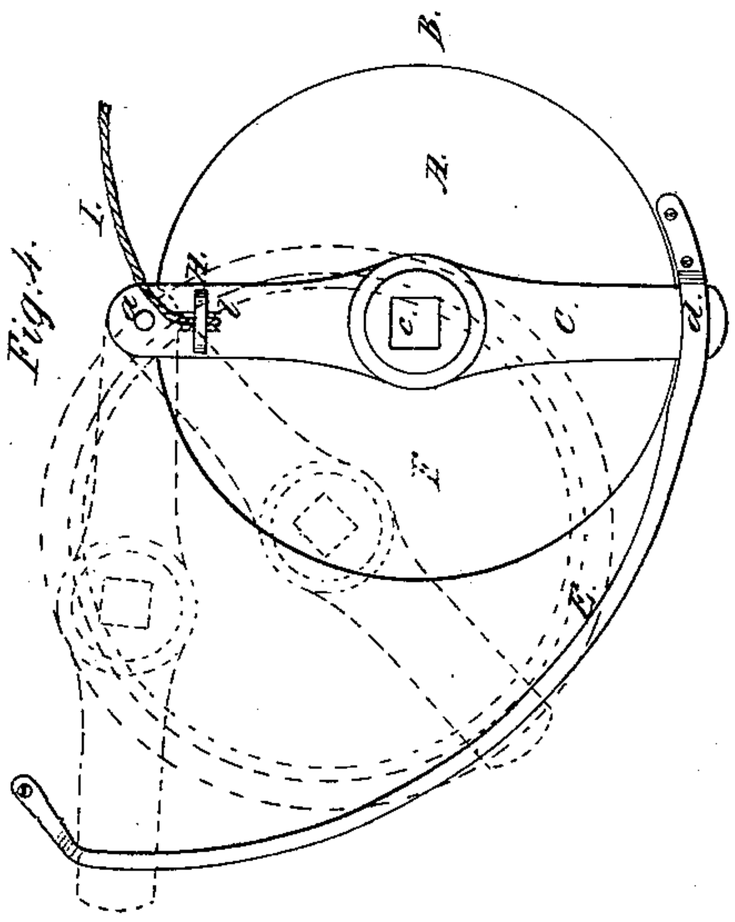

Fig. 1.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

WILLIAM D. TITUS, OF BROOKLYN, NEW YORK.

VAULT-COVER.

Specification of Letters Patent No. 14,680, dated April 15, 1856.

To all whom it may concern:

Be it known that I, WILLIAM D. TITUS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Vault-Covers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is an external side elevation of my improvement as applied for closing a coal hole of a vault. Fig. 2, is a vertical central section of the same. Fig. 3, is a similar section in a line at right angles to Fig. 2. Fig. 4, is an inverted plan the cover being removed. Fig. 5, is a detached front view of a hinged forked lever.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention consists, 1st, in providing a pivoted bar having a hole in it on the underside of a coal or other hole of a vault, and a vertical stem, having two spring catches fitted to it, on the underside of the cover, whereby the cover by simply being brought over said hole, with its stem in line with the hole in the bar, and forced down vertically can be fastened in a manner to render impossible the opening of the same from the outside unless first released by a person on the inside of the vault.

My invention consists, 2nd, in the employment of a hinged forked drop lever, arranged in proper relation to the spring catches, and operated as hereinafter described, for the purpose of releasing said catches from connection with the bar, when desirable from the inside of the vault.

To enable others skilled in the art to make and use my invention, I will proceed to describe it.

A, is the vault hole formed in the usual manner in the sidewalk B, or other place.

C, is the horizontal cross bar; it is pivoted at *a*, so that it may be moved out of the way, as illustrated by red lines in Fig. 4, while the coal or other article is being introduced into the vault D, through the hole A. This bar has a hub *b*, at the center of its length, through which a square hole *c*, is formed for a purpose presently described.

E, is a curved way secured permanently to the underside of the sidewalk B; it serves for supporting the unpivoted end of the bar C, and as a guide for the bar as it is being moved in and out of place.

d, is a depression formed in the curved way for the unpivoted end of the cross bar to drop into when moved to the position shown in black in Figs. 1, and 4.

F, is the vault hole cover, made and fitted to the vault hole, in the usual manner.

G, is the vertical stem, projecting from its underside; it has two recesses *e*, *e*, formed in it, in which two pivoted spring catches *f*, *f*, are fitted, in the manner shown or otherwise. This stem is made square and has a shoulder at *g*, in order that it may fit and pass through the square hole *c*, of the bar, and the shoulder rest upon the top of the bar, as represented in black lines in Fig. 2, and red lines in Fig. 3, and when thus in position shall not turn.

H, is the forked drop lever, it is hinged at *h*, to the bar C, B, and arranged in the relation to the spring catches *f*, *f*, shown, in order that it may be swung up to a horizontal position, and when thus swung up its prongs shall operate laterally upon the catches, and force them into the recesses *e*, *e*, as shown in black in Fig. 3, and thus allow the stem, when it is desired to raise the cover, to pass up freely through the hole *c*, of the cross bar.

I, is a cord by which the forked lever is operated; it is attached to the front side of the drop lever and carried up over a pulley *i*, and let fall behind said lever as shown, so as to be conveniently laid hold of by a person standing on the vault floor.

In order to fasten down a vault cover provided with the invention just described, the cross bar is brought to the position shown in red in Fig. 4, to the position shown in black in same figure and held so by reason of falling into the depression *d*, of the curved way E. The cover is now brought over the vault hole A, with its stem in line with the hole *c*, of the cross bar C, and forced down vertically until the upper ends of the spring catches escape below the hub *b*, of the cross bar, and catch under the same in a manner to prevent the cover being raised or as shown in Figs. 1, and 2, by black lines, and in Fig. 3, by red lines. It is owing to the spring catches being pressed into the recesses *e*, *e*, of the stem (G) as they pass through the hole *c*, of the cross bar, that they fly out and catch under the

hub of said bar, as soon as their upper ends escape below said hub. And in order to remove the vault cover thus fastened down, a person must go into the vault and draw upon the cord I, sufficiently hard to force the spring catches into the recesses *e*, *e*, as shown in black on Fig. 3, this being done and the drop lever still confining the spring catches in a manner that they shall but barely touch the sides of the hole *c*, of the cross bar as the cover is raised, the person passes out to the sidewalk and lifts the cover until the stem escapes the top of the cross bar, the cover being now removed the cross bar B, is moved around out of the way to the position shown in red in Fig. 4. In case it should be desired to open the vault hole but partially and thus avoid the danger of persons falling into the vault, this can be done by simply raising it about as high as shown in black in Fig. 3, and then turning the cross bar and cover to the position shown in dotted lines in Fig. 4.

A permanent opening and free from danger of persons falling into it, may be formed by simply raising the cover some twelve or eighteen inches, and having the lateral tension of the spring catches against the cross bar keep it elevated.

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

1. The combination of the pivoted cross bar C, attached to the underside of the top of the vault, and the spring catches *f*, *f*, fitted to the stern projecting from the under side of the cover F, substantially as, and for the purpose set forth.

2. I also claim the employment of the hinged forked drop lever, arranged and operated substantially as described, for the purpose of releasing the spring catches as set forth.

WM. D. TITUS.

Witnesses:

WM. H. WRIGHT,

JOHN V. LOTT.