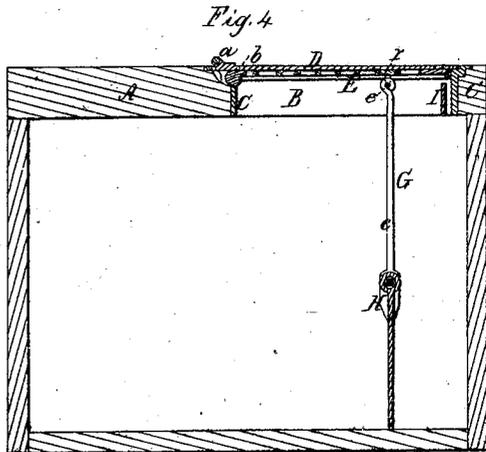
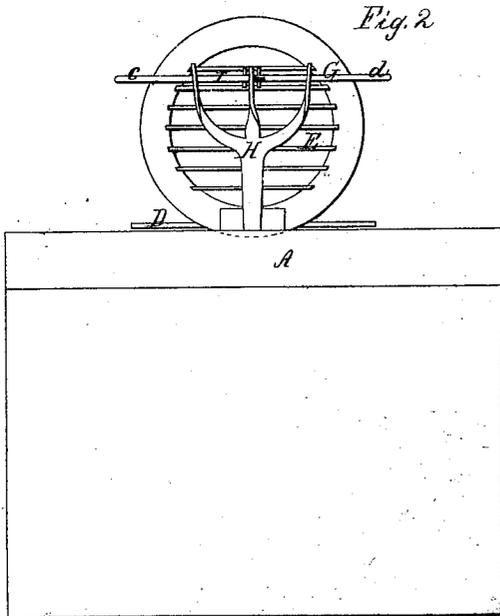
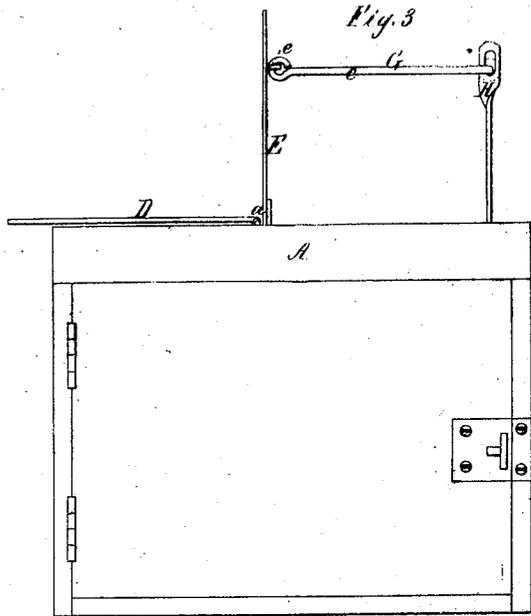
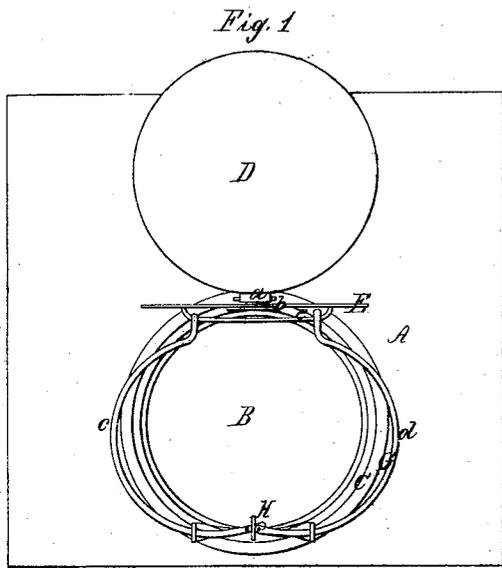


G. C. Jencks.

Hatchway.

No. 14,369.

Patented Mar. 4, 1856.



UNITED STATES PATENT OFFICE.

GEORGE C. JENKS, OF BOSTON, MASSACHUSETTS.

GUARD FOR COAL-HOLES.

Specification of Letters Patent No. 14,359, dated March 4, 1856.

To all whom it may concern:

Be it known that I, GEORGE C. JENKS, of Boston, in the county of Suffolk and State of Massachusetts, have made a new and useful invention of an Improved Safety-Guard for the Port or Filling Hole of a Coal-Vault; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1, exhibits a top view of my invention or improved guard as applied to the opening of a coal vault and as elevated into a position to prevent a person from falling or slipping into said hole. Fig. 2, is a front elevation of the same. Fig. 3, is a side view of it. Fig. 4, is a vertical central and longitudinal section of the guard the grated and solid covers as the whole appear when the said covers are closed down upon the filling hole.

In the said drawings A, may be supposed to represent the top stone or covering of a coal vault the same being provided with a filling opening, or port B, having an annular frame C, fixed into the same. To this frame either one or two covers D and E, may be fitted the one being arranged directly under the other and each being applied or hinged to the frame, as seen at *a*, and *b*. The inner of these covers is a grated one, that is to say it is to be made with openings through it, such as will permit air and light to pass into the filling opening of a coal vault whenever the grated cover is in a horizontal position, and the other cover or the solid one is removed from over it, the grated cover also being so formed as not to admit of the foot of a person passing through either of said openings. To the said grated cover when a solid and grated cover are employed an expansion guard G, is applied. This consists of two semicircular rods, *c*, *d*, hinged together at one end of each, and arranged so as to be capable of sliding on a rod *e*, affixed to the inner side of the grated cover as seen at Fig. 1. Each of the curved rods of the guard also freely turns up and down on the slide rod *e*, and at their ends which are hinged together, they extend through a tri-pronged standard H, formed and arranged as seen in the drawings. There is applied to the annular frame, a socket I, for the reception of the foot of the tri-furcated standard H. The two expanding

parts of the guard should each be curved to a semicircle whose radius should be a little less than the minimum radius of the opening of the metallic frame C. Under these circumstances, the guard when closed together will readily pass down into the filling opening of the coal vault during the act of closing down the grated cover. After said cover has been raised to its highest position, if we lay hold of the guard and raise that upward toward a horizontal position, the external arms of the trifurcated standard acting on the 2 parts of the guard will turn them or expand them apart from one another, and cause them to extend beyond or project by the filling opening as seen in Figs. 1 and 2. When the guard is so expanded its projection beyond the sides of the filling opening renders it far more efficient as a safety guard, than it would were it not expansive or made as a simple annulus or ring. In order to prevent water from trickling down upon the slide rod of the guard and freezing thereon in winter, one of the bars of the grated cover viz. that one which is directly over the slide and is marked *r*, is formed much wider than the slide rod as shown in Figs. 2 and 3.

I am aware that the cover of a coal vault opening has had a solid ring guard and standard so made and applied together and to it as not only to be capable of being raised out of the coal vault with the cover during the act of elevating the latter, but of being set up above and around the hole or opening so as to serve as a guard to prevent a person from accidentally slipping or falling into the same, I therefore disclaim such, but rest my claim on my improvement, viz:

A coal vault mouth guard made expansive and provided with means whereby it shall or may be expanded while being elevated into a horizontal position above the opening of the vault, the said guard by such means being caused when it is raised into a horizontal position to extend beyond the sides of the opening, so as to lessen the danger of accident to pedestrians as specified.

In testimony whereof I have hereunto set my signature this tenth day of November A. D. 1855.

GEORGE C. JENKS.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.