

No. 705,679.

Patented July 29, 1902.

P. S. KNAPP & J. STEINBERG.

VAULT COVER.

(Application filed Oct. 8, 1901.)

(No Model.)

Fig. I.

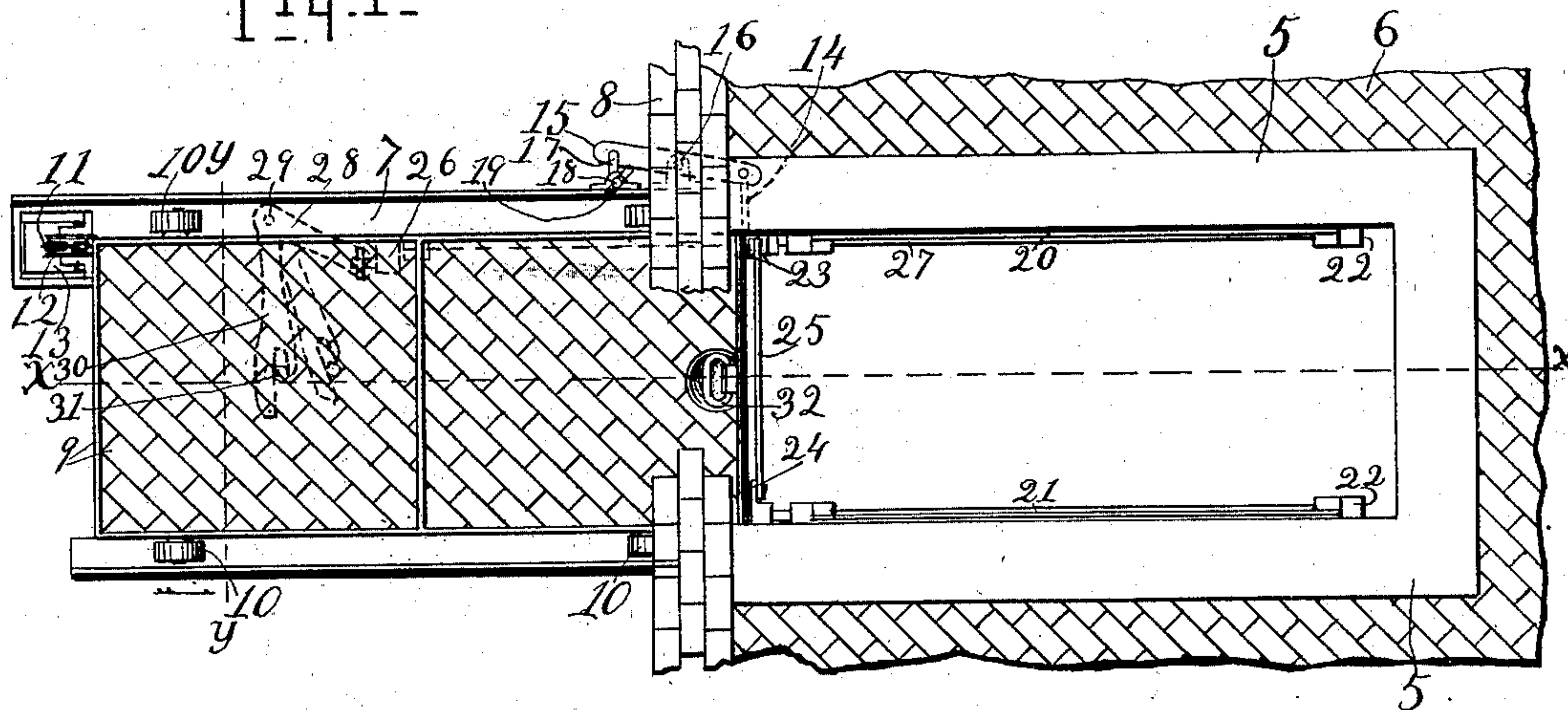


Fig. II.

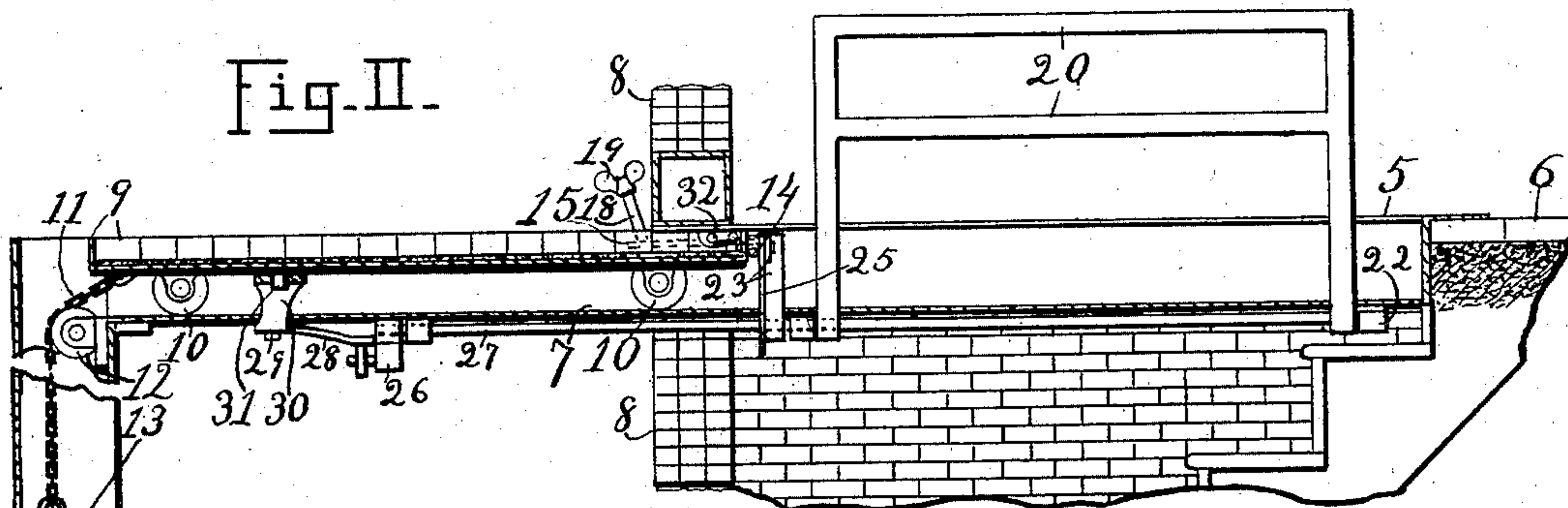
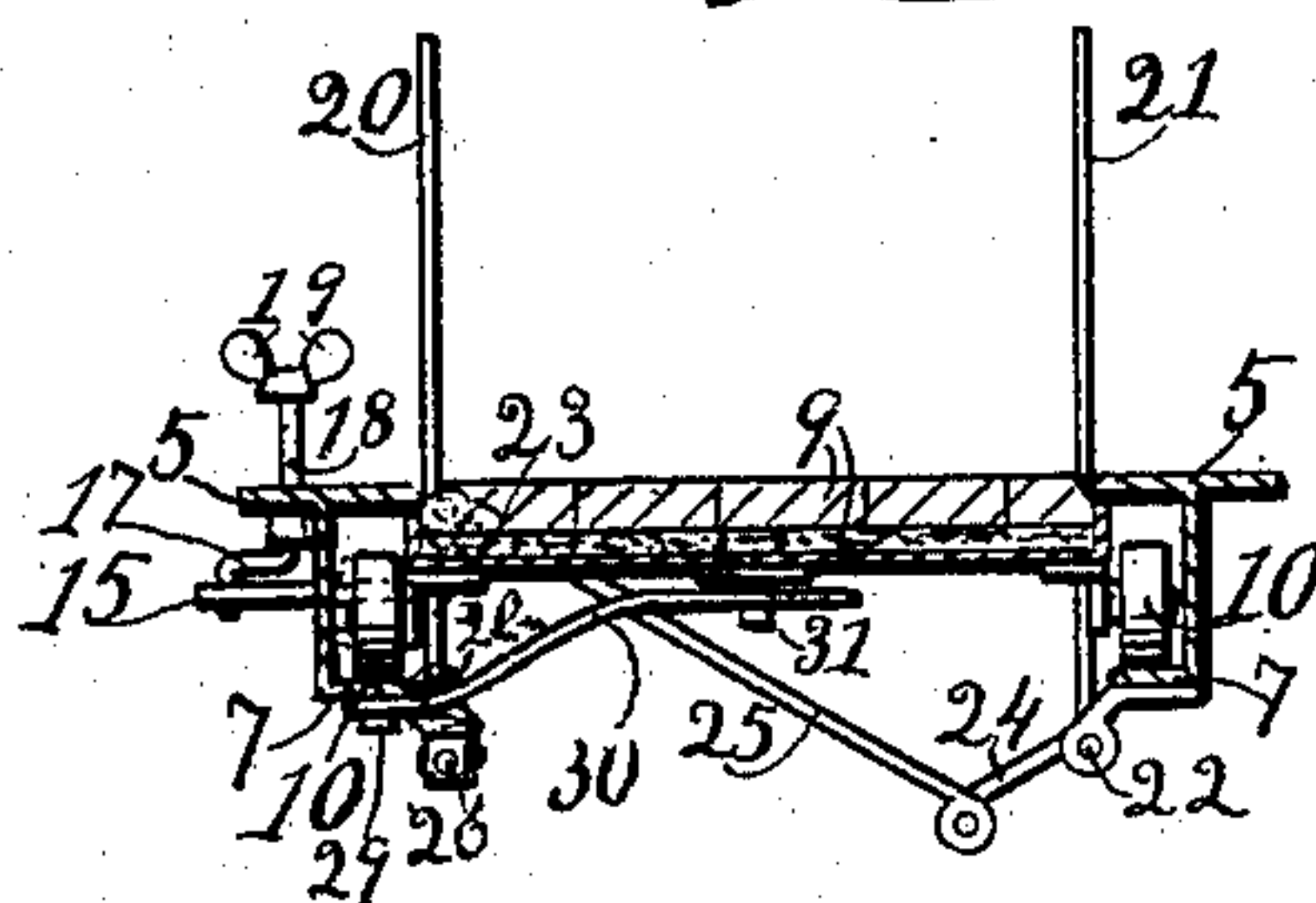


Fig. III.



Witnesses

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UNITED STATES PATENT OFFICE.

PAUL S. KNAPP AND JACOB STEINBERG, OF McKEESPORT, PENNSYLVANIA.

VAULT-COVER.

SPECIFICATION forming part of Letters Patent No. 705,679, dated July 29, 1902.

Application filed October 8, 1901. Serial No. 77,983. (No model.)

To all whom it may concern:

Be it known that we, PAUL S. KNAPP and JACOB STEINBERG, citizens of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Vault-Covers; and we do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to that class of devices which are used to close cellar or vault openings in sidewalks and to guard such openings against persons falling into them when left open; and its object is to adapt a cover to such openings comprising bricks or cement like the surrounding sidewalk, to be easily moved to and from the opening, to store it out of the way and in safety when not in service, to operate it and to lock it by means of appliances located within the adjacent house, and to provide means to be automatically operated for guarding the opening when the cover is removed.

To this end our invention consists in the construction and combination of parts forming a vault-cover hereinafter described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure I represents a portion of a sidewalk with a vault opening and cover according to our invention. Fig. II represents the same in longitudinal vertical section at the line x of Fig. I. Fig. III represents a transverse vertical section at the line y of Fig. I.

Numeral 5 represents the frame of a scuttle in the sidewalk 6 and having two side rails 7, which extend back under the walls 8 of the adjacent house a distance about equal to the length of the scuttle. Upon these rails the door or cover 9 of the scuttle is fitted to travel upon rollers 10, so as to close or open the scuttle, and when open the cover is at the rear end of the rails and under the house. This cover may be made of any suitable material, but for neatness of appearance and to render it less slippery in wet or icy weather we prefer to cover it with bricks, concrete, granolithic pavement, or whatever the surrounding sidewalk is made of. This necessarily makes it quite heavy and creates the demand for the rails 7 and rollers 10, and we

provide a chain or cord 11, running over a pulley 12 to a balance-weight 13, to pull the cover open as soon as it is set free by being unlocked.

14 is a bolt fitted to slide through the frame and project into the path of the cover.

15 is a lever pivoted at 16 to the frame and connected at one end with the bolt 14 and at the other end with the crank-arm 17 of the key 18, which is journaled in fixtures in the house, with its handle 19 projecting so that it may be operated like a gas-cock.

20 and 21 represent side guards journaled at 22 below the path of the cover 9 and provided with operating-arms 23 and 24, respectively, these arms being connected by a rod 25.

26 is another operating-arm fixed to the shaft 27 of the guard 20 and connected with one arm of an elbow-lever 28, which is pivoted at 29 to the frame. The other arm 30 of the elbow-lever has a slotted end located in the path of a stud 31, that is fixed to project from the under side of the cover 9.

The operation is as follows: First the key 18 is to be turned a half-revolution, operating its lever 15 to draw the bolt 14, whereby the cover is unlocked. Now the cover may be pushed back under the house by hand, taking hold of the handle 32, or, if the weight 13 be heavy enough, that may draw the cover open automatically. The passage of the cover brings the stud 31 into the slot in arm 30 of the elbow-lever, and swinging that lever acts upon the arm 26 to raise the guard 20, and that, by means of its arm 23, the connecting-rod 25, and the arm 24, also operates the other guard 21 to raise it. The guards 20 and 21 are thus raised by the cover at the time of its complete opening, and they stand at the sides of the opening as shields so long as the cover is open. By turning the key 18 the bolt 14 may be slid to lock the lid open as well as closed, and the key being permanently located inside the house cannot be lost and prevents the cover being operated by meddlers either when opened or closed. When at either end of its sweep, the crank 17 is on dead-centers, and it could not be operated by means of either the bolt 14 or the lever 15 to slide the bolt, though easily operated by its own handle, the key 18. The handle 32 is hung to be buried level with the sidewalk or

to be raised when needed for use. The weight 13 may be proportioned to the frictional resistance of the cover to being moved, so as to just balance that resistance in opening the 5 cover or so as to start and quickly open the cover as soon as it is unlocked. The cover rolling in under the house will be entirely protected and out of the way when not in use. By making the cover to receive bricks or concrete any style of finish may be given to conform to the surrounding sidewalk or to suit the owner's taste. 10

Having thus fully described our invention, what we believe to be new, and desire to secure by Letters Patent, is the following: 15

1. A cover fitted to slide over a vault-opening; a bolt for locking the cover; a key provided with a crank and journaled to rotate in fixed bearings, and a lever connecting the 20 said bolt and crank, substantially as described.

2. In vault-covers; a frame having ways extending along at the sides of the opening and

beyond the end thereof; a cover fitted to travel upon the said ways and having a stud 25 projecting from its lower face; guards journaled in bearings along the sides of the opening below the path of the said cover and adapted to be swung up above the face of the frame and having operating-arms; an elbow- 30 lever pivoted to the frame and having one arm slotted to be engaged by the aforesaid stud and connections between its other arm and the said guard-operating arms, substantially as described. 35

In testimony whereof we affix our signatures in presence of witnesses.

PAUL S. KNAPP.
JACOB STEINBERG.

Witnesses to signature of Paul S. Knapp:
EDWIN SOLES,
WM. NOWELL.

Witnesses to signature of Jacob Steinberg:
JOS. P. GILCHRIST,
JNO. SCHMIERMUND.