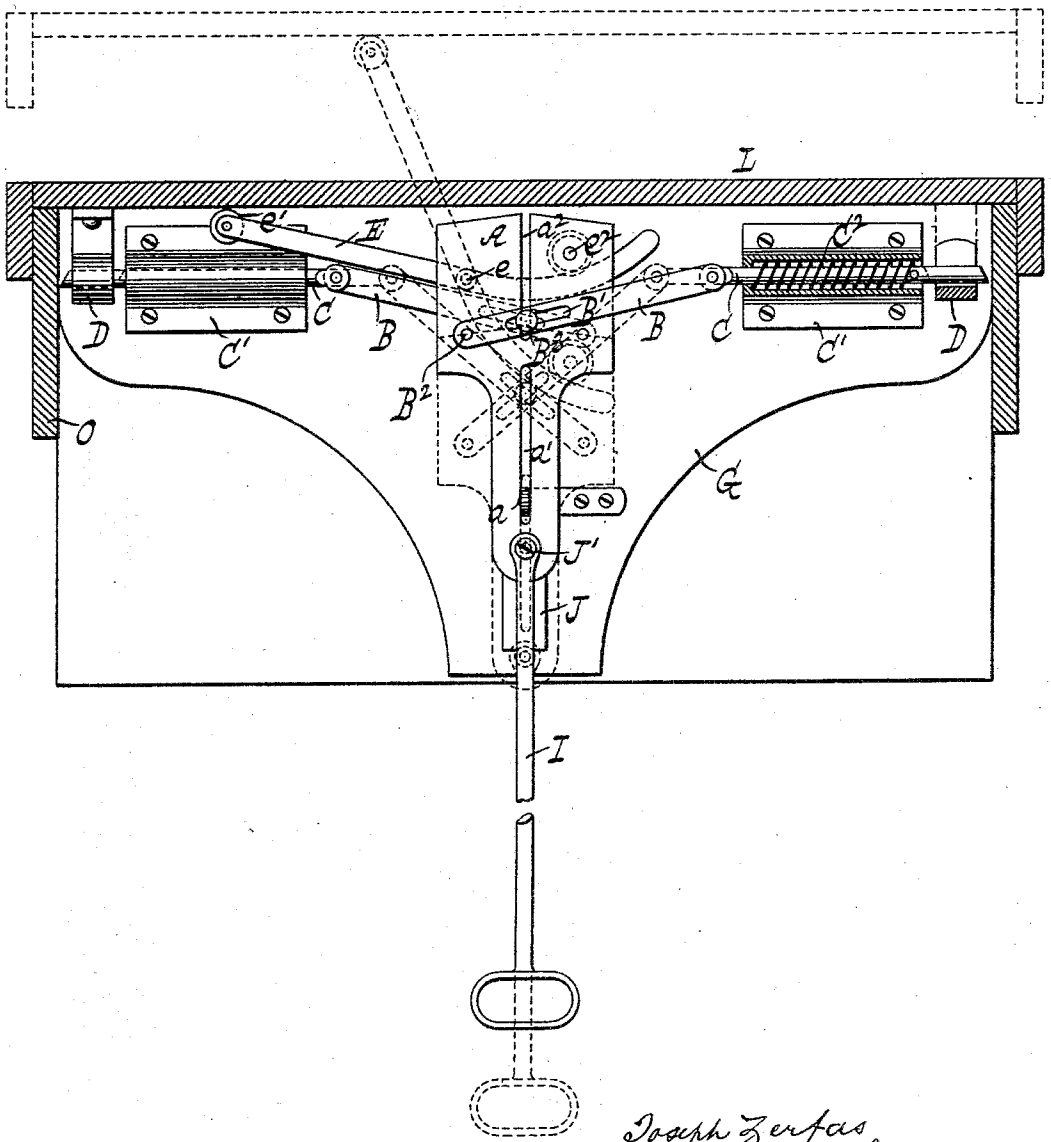
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J. ZERFAS & W. E. STEIN.

SCUTTLE LOCK.

No. 412,356. Patented Oct. 8. 1889.

Fig. 1.



Joseph Zerfas
William E. Stein
INVENTORS.

WITNESSES:
Richard Lips.
Thomas Seamy.

BY Adam E. Schatz
ATTORNEY

N. PETERS, Photo-Lithographer, Washington, D. C.

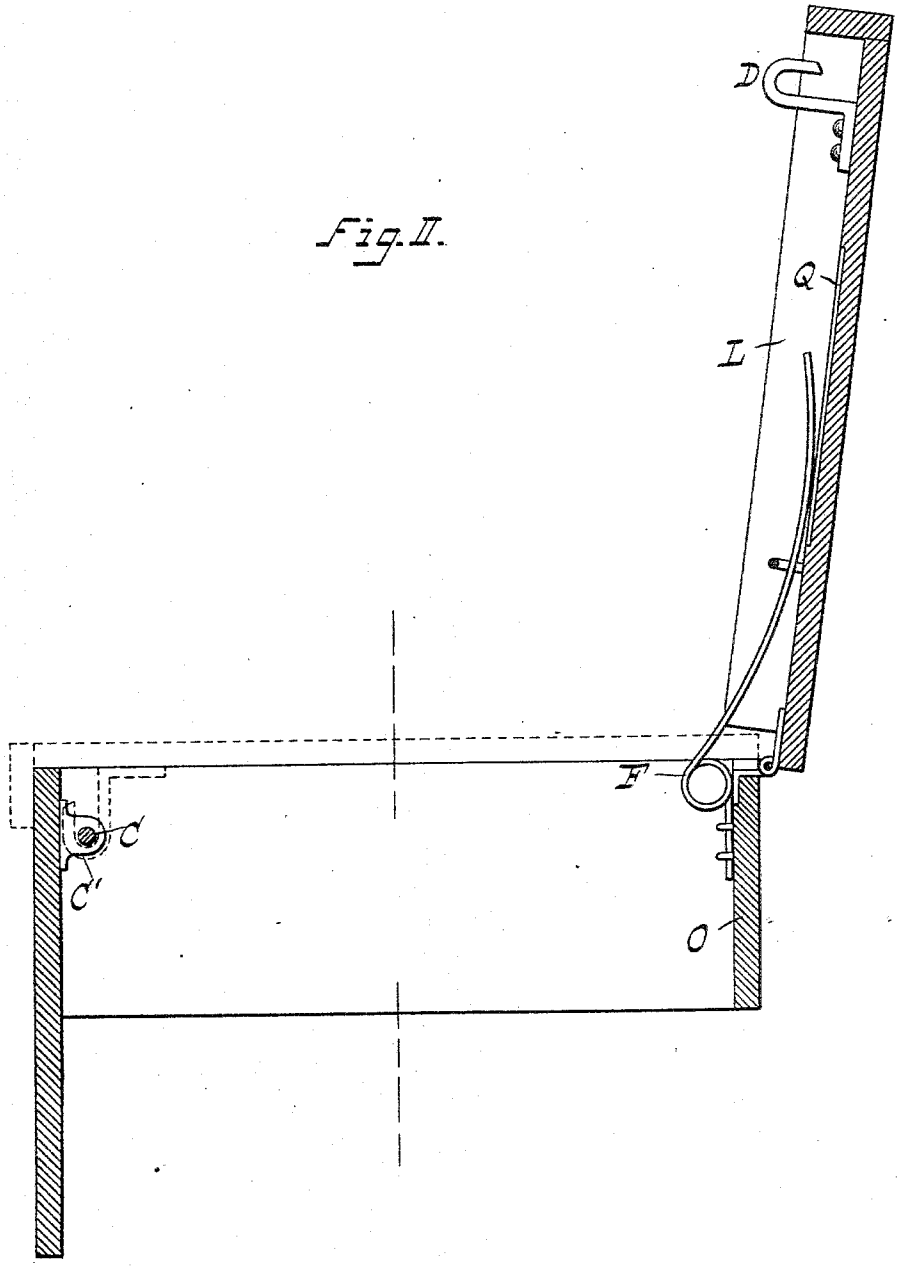
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Fig. II.



WITNESSES:

Nicholas Bryeman Jr
Richard Fips

INVENTORS

Joseph Zerfas & William E. Stein

BY Adam E Schatz

ATTORNEY

N. PETERS, Photo-Lithographer, Washington, D. C.

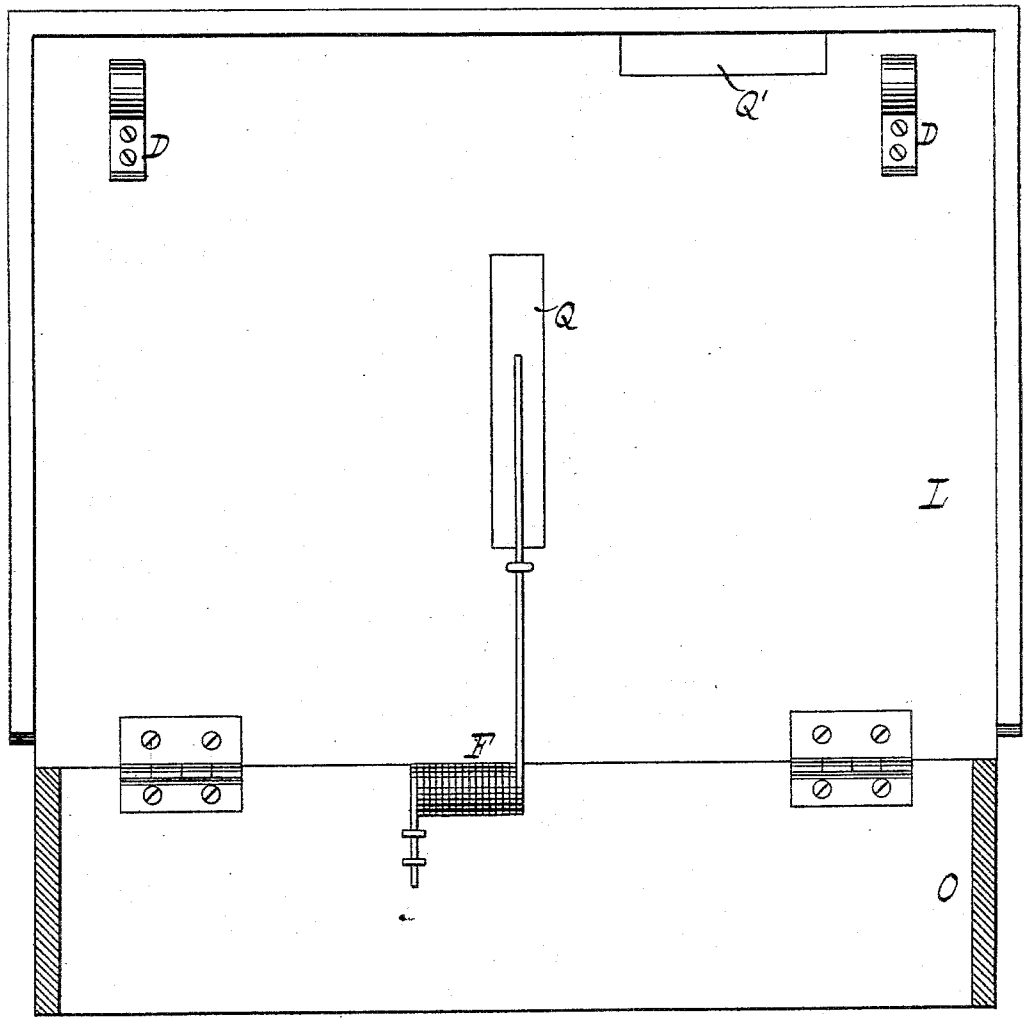
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SCUTTLE LOCK.

No. 412,356. Patented Oct. 8, 1889.

Fig. III.



WITNESSES:

Nicholas Batzeman Jr.

Richard Sipe

Joseph Zerfas
William E Stein
INVENTORS

BY Adam E Schatz

ATTORNEY

N. PETERS. Photo-Lithographer. Washington, D. C.

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J. ZERFAS & W. E. STEIN.

SCUTTLE LOCK.

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Fig. IV.

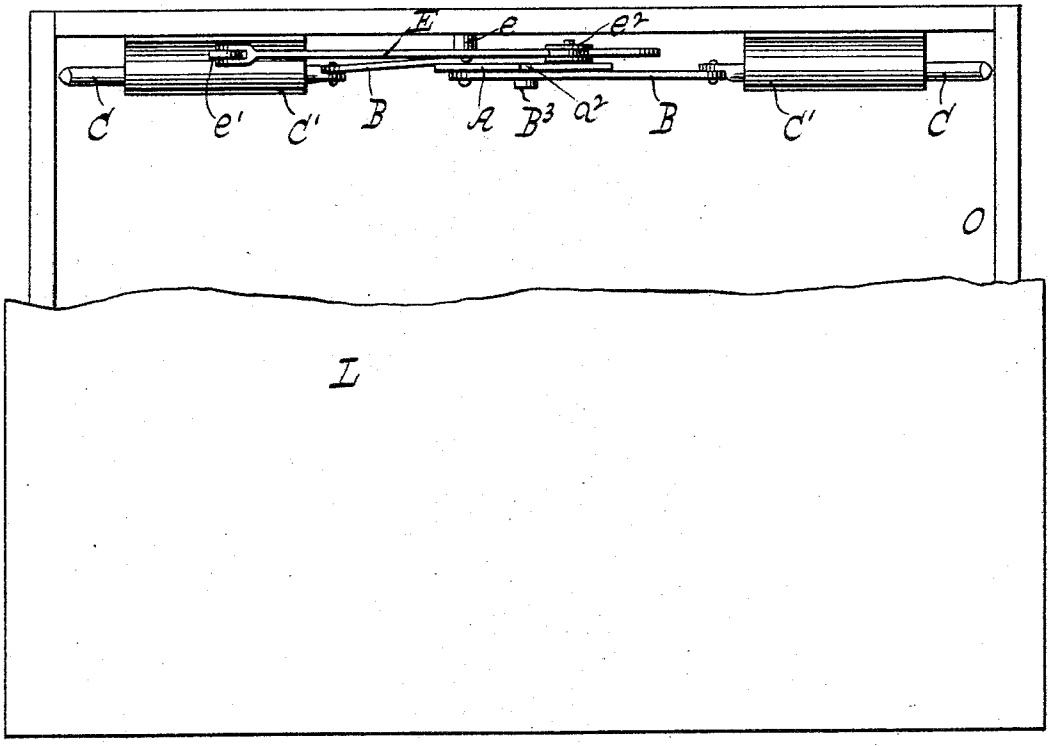
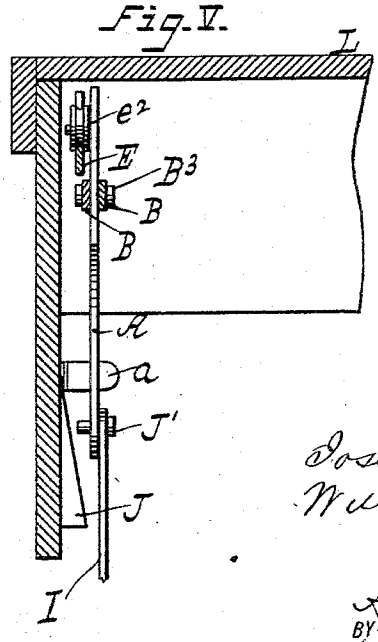


Fig. V.



WITNESSES:
Richard Lips
Thomas Seamy

Joseph Zerfas
William E. Stein
INVENTORS
BY Adam E Schatz
ATTORNEY

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH ZERFAS AND WILLIAM E. STEIN, OF NEW YORK, N. Y.

SCUTTLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 412,356, dated October 8, 1889.

Application filed March 21, 1889. Serial No. 304,109. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH ZERFAS and WILLIAM E. STEIN, citizens of the United States, and residents of New York, in the county of New York and State of New York, have invented a certain new and useful Improved Scuttle Safety-Lock, of which the following is a specification.

Our invention relates to a device which is intended to be affixed to a scuttle, and is intended to enable the automatic fixing and releasing of the cover or lid of a scuttle instantaneously.

Heretofore, as is well known, the lid of a scuttle in a house has been usually fastened by an ordinary staple and hook or by means of an ordinary bolt. In case of a fire the smoke ascending lodged in the gangway to the scuttle, thus preventing easy access to the lid and often causing suffocation or other accident. To obviate this and to enable the easy opening of the scuttle-lid, we have constructed the mechanism shown in the drawings and specification, which will enable, by merely lengthening the handle-rod, the opening of the scuttle from the basement or any floor of the house. At the same time the mechanism is so arranged that the lid may be held partly open for the purpose of ventilation.

In the drawings, Figure I is a plan view showing the device attached to the side of a scuttle and a cross-section of the lid L. Fig. II is a cross-section on the lines X X, showing the lid open when released from the locking device, in which letter F is a spring attached to the rear side of a scuttle to throw open the lid L. Fig. III represents a sectional view with the lid L thrown open, showing the iron bearing-plates Q and Q′, the staples D D, and the spring F. Fig. IV is a top view of the mechanism as affixed to the scuttle and shows the operation of the lid-lifting lever E and the manner of attaching the bolt-levers B B. Fig. V is a cross-section showing the manner of guiding the draw-plate A and of fastening the same when it is drawn up to hold the lid open for ventilation or to prevent the lid from closing after the draw-plate A has been drawn down.

The dotted lines show the mechanism in position when open.

Like letters represent like parts.

S represents an ordinary house-scuttle with a lid L and a portion cut away to show the manner of attachment of our mechanism.

A represents a plate, that we will call the "draw-plate," having the guide-slots a' and the slot a^2 and the fixed roller e^2 and the handle or rod I. To this draw-plate A are attached the bolt-bars B B, being provided with the slots B′ B^2, and which are attached at the one end to the spring-bolts C. The spring-bolts C are incased preferably, as shown, in the casing C′, and the spring C^2 is used in preference to any other style of a spring, and in this manner are protected from interference. The roller e^2 is provided in preference to a simple stud, since it facilitates the operation of the lever E. The lever E is affixed in any suitable manner to the scuttle from back of the draw-plate A and in such a manner that the curved end engages and rests under the roller e^2. The upper end of the lifting-lever F is preferably provided with the roller e', which prevents that end of the lever from sticking in the lid L. The rod I at J′ is pivoted to the draw-plate A, the pivot or stud protruding on the back of the plate A, and is provided to engage with the wedge-shaped stud or stop J, and is intended to hold the mechanism open and at the same time raise the lifting-lever E and hold up the lid L. The guide-stud a is provided as a guide for the plate A, and regulates the action of the same when it is drawn down, and prevents the fulcrum-stud B^3 from binding in the slots of the bolt-bars B B.

G is an iron plate, to which the mechanism may be attached, and facilitates the attachment of the same to a scuttle; but it is obvious that this plate may be dispensed with and the mechanism attached directly against the wood-work.

The lifting-lever E is provided at one end with the roller e', and at the other end is curved in the manner shown. This lever E is affixed to the plate G in such position that the curved line sets under and engages with the roller e^2. When the draw-plate A is drawn down, the curved end coming in contact with the roller e^2, the other end is raised and bearing against the lid throws the same open, and the stud J′, engaging with the wedge

J, holds the same open. It must be observed that the curved end of the lever E is so arranged that it does not come in contact with the roller e^2 until the plate A is drawn down far enough to disengage the nose of the bolts C C from the staples D. The staples D are provided for the purpose of engaging with the spring-bolts C C and may be of any suitable shape. The moment the spring-bolts are withdrawn from the staples D the lever E begins to operate and throws up the lid L. The spring F now comes into operation and throws the lid L wide open. When this is not desired, the lid L, being provided with a rope or chain (not shown) to pull it down, may be fastened in any desirable position. The bolt-bars B B are fixed to the draw-plate A at reverse and opposite sides at an end, and to the bolts C C at the other, so that they cross each other, and the bolt fixed to the plate on the right side operates the spring-bolt on the left side. The loose bolt B^3 is provided as a guide for the bolt-bars B and sits in the slots B′ B′ of the bolt-bars B B and runs in the slot a' of the draw-plate A.

When it is desired to operate the mechanism for the purpose of ventilation, the rod is drawn down, and, the bolts C C, being withdrawn, the lid is raised and may be held in any suitable position by means of the chain or rope attached to the lid L, and which is not shown in the drawings. When, however, it is necessary to open the lid entirely, as in the case of fire, the rod is drawn down, and the lid being forced up by the lifting-lever E it is thrown entirely open by the spring F. The spring is affixed at the scuttle on the side opposite the mechanism to give it free operation. This spring F may, however, be dispensed with. It is obvious that by this means scuttles may be provided in the roofs of factories, drying-rooms, &c., at any desirable point, and may be easily opened and shut.

While the rod I may be substituted by a chain and may be of sufficient length to operate the mechanism from any floor, it is also of great utility in connection with skylights, &c.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a scuttle safety-lock consisting of the combination of the metal plate G, having attached thereto the draw-plate A, said draw-plate being provided with the slots a' a^2 and the roller e^2, of the bolt-bars B B, having slots B′ and connecting the draw-plate A with the spring-bolts C, said spring-bolts having the spring C^2 and casing c', the lever E, having the roller e' at an end and the pivot e near the curved end, the guide-stud a, the wedge-stop, and the rod I, all substantially arranged as shown and described.

2. The combination, in a scuttle safety-lock consisting of the combination of the metal plate G, having attached thereto the draw-plate A, said draw-plate being provided with the slots a' a^2 and the roller e^2, of the bolt-bars B B, having the slots B′ and connecting the draw-plate A with the spring-bolts C, said spring-bolts having the spring C^2 and casing c', the lever E, having the roller e' at an end and the pivot e near the curved end, the guide-stud a, the wedge-stop, and the rod I, with the scuttle-lid L, having the staples D D, and the spring F, substantially as described and set forth.

3. In a scuttle safety-lock, the combination of the draw-plate A, having the slots a' a^2, the bolt-bars B B, spring-bolts C C, the stud a, the rod I, the roller e^2, and pivoted lever E, having curved end, with the hinged lid L, provided with the staples D, all arranged substantially as described, and for the purpose set forth.

4. In a scuttle safety-lock, the combination of the draw-plate A, having pivoted thereto the slotted bars B B, said bars operating spring-bolts C C, guide-stud a, operating in the slot a', and the pin B^3 connecting the bars B B and operating in the slots a^2 and B′ B′, with the rod I, with the hinged lid L, having the staples D D, and spring F, substantially as described and set forth.

Signed at New York, in the county of New York and State of New York, this 18th day of March, A. D. 1889.

JOSEPH ZERFAS.
WM. E. STEIN.

Witnesses:
RICHARD LIPS,
THOMAS LEAMY.