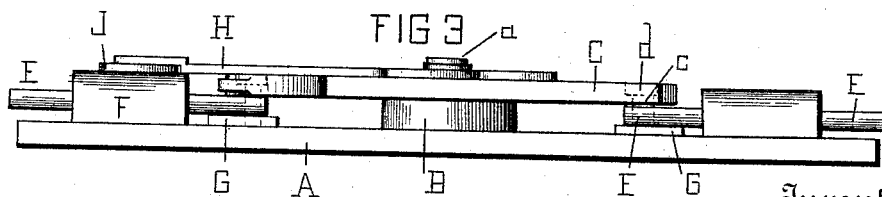
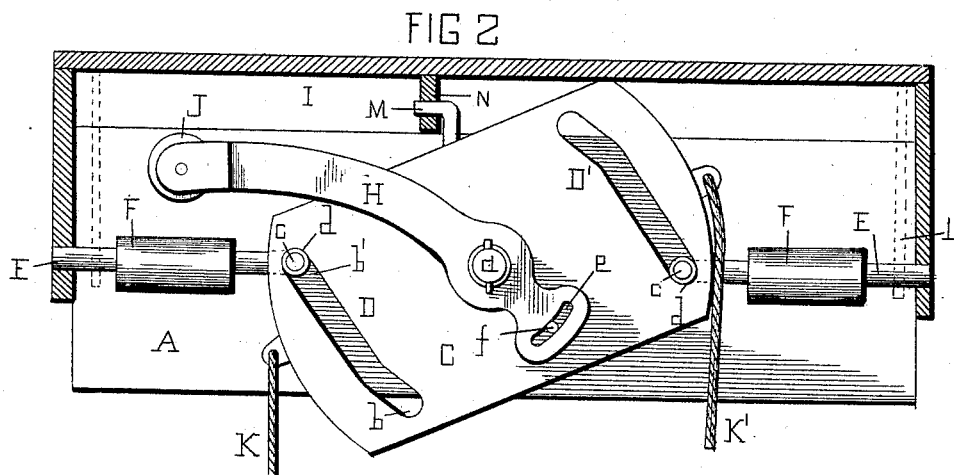
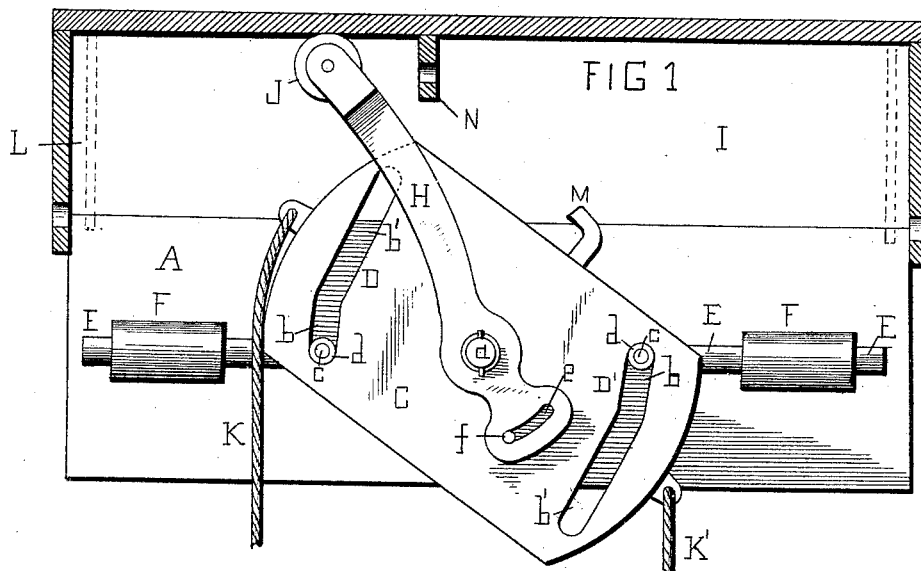


E. A. COLE.
SCUTTLE LOCK AND OPERATOR.

No. 458,730.

Patented Sept. 1, 1891.



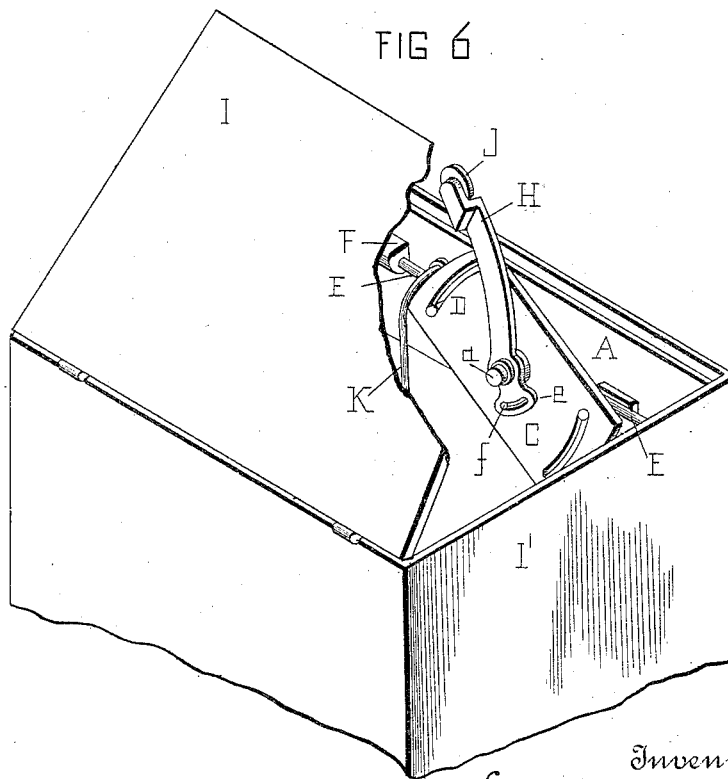
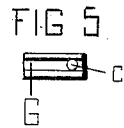
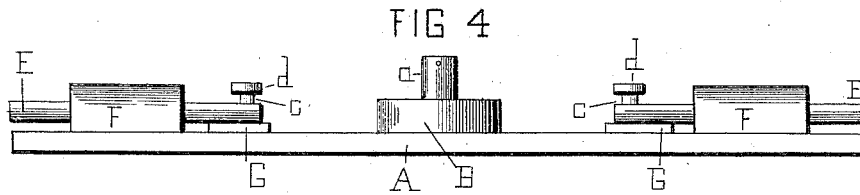
Witnesses
Fort W. Davis
J. J. Martin

Inventor
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UNITED STATES PATENT OFFICE.

ERSKINE A. COLE, OF CAMDEN, NEW JERSEY, ASSIGNOR OF TWO-THIRDS
TO MORRIS FEIGEL AND LEOPOLD ROSENBUSH, OF NEW YORK, N. Y.

SCUTTLE LOCK AND OPERATOR.

SPECIFICATION forming part of Letters Patent No. 458,730, dated September 1, 1891.

Application filed April 17, 1891. Serial No. 389,392. (No model.)

To all whom it may concern:

Be it known that I, ERSKINE A. COLE, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented a new and useful Device for Operating and Locking a Scuttle-Lid, of which the following is a specification.

A vibrating plate and lever, the base of which is fastened to the combing of a scuttle, are used for locking, unlocking, and operating the lid. A rope, bar, or other suitable device is attached to each end of the plate and as one side is depressed the other is raised and motion imparted through slots and a crank-pin to the locking-bolts and lid-elevating lever.

On reference to the accompanying sheets of drawings, making part of this specification, Figure 1 is a side view of the device, the front end of the lid being elevated and in section. Fig. 2 is the same view as Fig. 1, with the exception that the front end of the sectioned lid is shown closed and the mechanism reversed accordingly. Fig. 3 is a longitudinal side view of the device. Fig. 4 is a longitudinal side view, the vibrating plate and lid-lifting lever being omitted. Fig. 5 is a plan view of the inner guides of the locking-bolts; and Fig. 6 is a perspective view of the device in place against the scuttle-combing, the lid being elevated and partly sectioned.

Similar letters refer to similar parts in the several views.

Fixed to the combing or side of a scuttle is the base A, to which the several parts of the device are attached.

B, Figs. 3 and 4, is a projecting stub, on which moves a plate C around its reduction or stem *a*.

D D' are slots in the plate C, each of which is composed of two slides or curves, concentric *b*, and eccentric or inclined *b'* to the center of rotation of the stem *a*.

E are locking-bolts in guides F, fixed to the base A oppositely of the plate C, beneath which their inner ends extend, and are provided with upwardly-projecting stems *c* and anti-friction rollers *d* for working in the slots D D'. Other guides G, Figs. 3, 4, and 5, are fixed to the base-plate A, at the inner ends of the locking-bolts E, for preserving their right-line motion and preventing the twisting and

wabbling incident to the vibration of the plate C.

H is a lifting-lever which turns loosely around the stem *a* against the plate C. Its inner and short end has a curved slot *e* for a projecting crank-pin *f* of the plate C, and its outer end engages with the hinged scuttle-lid I for opening and closing it. To that end it is provided with an anti-friction roller J for reducing frictional contact.

A rope, bar, or other suitable operating device K K' is attached to each end of the plate C. As one end of it is depressed by either rope the other is raised and motion imparted through the compound slots D D' and the crank-pin *f* to the bolts E and lever H.

In Fig. 1 the scuttle-lid I is shown open, supported on the end or roller J of the raised lifting-lever H and the bolts E drawn in. The vertical position of the lever for raising the lid is sustained by the end of its slot *e*, bearing against the crank-pin *f*. To close down and lock the lid, the cord K is operated for depressing that side of the plate C and raising the other. Its vibration carries around the crank-pin *f* and relieves the lever of its support, which gradually lowers by its own and the weight of the lid until it closes on the top of the scuttle I'. Immediately thereafter the eccentric or inclined parts *b'* of the slots D D' engage with the stems *c* and slide the bolts E into engagement with the sides of the lid or downwardly-projecting staples L, fixed to it, dotted lines, Figs. 1 and 2. A contrary vibration of the plate C, by drawing on the rope K', reverses the mechanism for redrawing the bolts and again raising the lid. The combined concentric and eccentric or inclined slots D D' allow the bolts to remain at rest while the scuttle-lid is being opened or closed. Their construction and arrangement with respect to the lever-slot *e* is such that for opening the lid the eccentric curves *b'* operate first by withdrawing the bolts and unlocking the lid. Then the lever-slot *e*, in connection with the crank-pin *f*, vibrates the lever H and raises the lid. In closing the lid the concentric curves allow the bolts to remain idle until it is completed.

When it is desirable to employ an additional fastening in the center of the loose edge

of the lid, a hook M can be fixed to the upper side of the plate C and a staple N depended from the lid. It can be used alone and the bolts E dispensed with. The same ropes K
5 K' operate the plate C, and the hook M and staple N are locked and unlocked by its opposite vibrations. The slots D D' are used only with the bolts E, or when the bolts E and hook M are worked together.

10 I claim—

1. In a scuttle device, the combination, with a base and its projecting stem, of a vibrating plate on the stem, a lifting-lever on said stem, the inner end of which is slotted for engage-
15 ment with an actuating-pin of the vibrating plate and the outer end provided with an anti-friction roller, and means by which the vi-

brating plate is vibrated for operating the lifting-lever and opening and closing the scuttle-lid.

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2. In a scuttle device, the combination, with a base and its stem, of a vibrating plate, a hook fixed to the vibrating plate and moving with it, a staple depending from the scuttle-lid, and means by which the vibrating plate
25 is vibrated for operating the hook and locking and unlocking the scuttle-lid.

In testimony whereof I affix my signature in presence of two witnesses.

ERSKINE A. COLE.

Witnesses:

FRANCIS D. PASTORIUS,
MARTIN V. BERGEN.