H. M. RALSTON.
Lock-Hinge.

No. 206,897. Patented Aug. 13, 1878.

FIG.1.

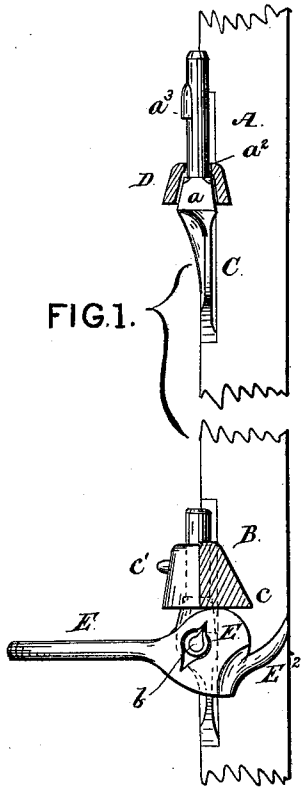


FIG.2.

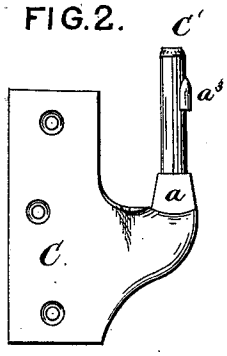


FIG.3.

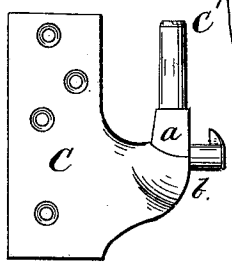


FIG.5.

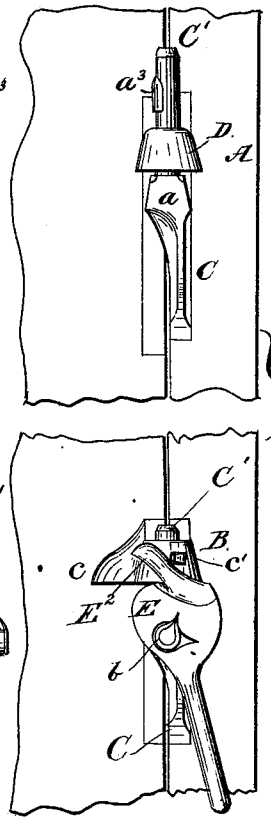


FIG.4.

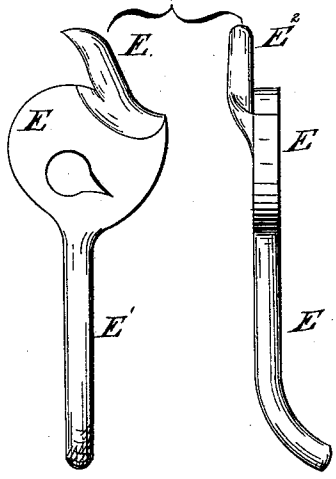


FIG.6.

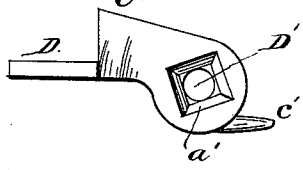


FIG.7.

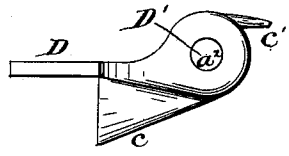
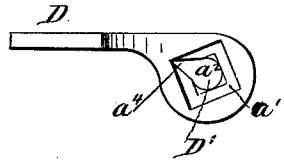


FIG.8.



WITNESSES

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UNITED STATES PATENT OFFICE.

HARPER M. RALSTON, OF FAIRVIEW, WEST VIRGINIA.

IMPROVEMENT IN LOCK-HINGES.

Specification forming part of Letters Patent No. **206,897**, dated August 13, 1878; application filed January 18, 1878.

To all whom it may concern:

Be it known that I, HARPER M. RALSTON, of Fairview, in the county of Hancock and State of West Virginia, have invented certain new and useful Improvements in Hinges for Window-Shutters; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a shutter-hinge which will make a firm lock and hold the shutter open, and which may be readily unlocked and the shutter closed when desired; and it consists in an angular base formed on the pin or axis, and an angular socket formed in the sleeve or knuckle of the hinge, and in a cam-lever pivoted to the stationary strap below the angular base of the pin or axis, and in other minor details of construction, all of which will be hereinafter more fully set forth and claimed.

In the drawings, Figure 1 is a view of the upper and lower hinges, partly in section, showing the straps in the positions they occupy when the shutter is open and locked. Figs. 2 and 3 show the construction of the stationary or fixed straps of both upper and lower hinges. Fig. 5 shows the hinges in position when the shutter is closed. Fig. 4 is the cam for unlocking the hinge; and Figs. 6, 7, and 8 are detail views.

A and B are the upper and lower hinges, composed of the straps C, which are affixed rigidly to the casing, and are provided with the pins or axes C′ C′, and straps D, provided with the sleeves or boxes D′ D′, which are affixed to and turn with the shutter on the pins or axes C′ of the straps C, as in ordinary shutter-hinges.

The pins or axes C′ are formed with angular (by preference rectangular) bases *a*, which are made slightly tapering upward, as shown, and the under portion, a^1, of the sleeves or boxes D′ are made angular and slightly flaring, to adapt them to fit snugly down over the bases *a*. The upper part, a^2, of the sleeves D′ is round, and fits snugly on the round part of the pins C′, as in hinges of ordinary construction.

The pin of the upper hinge is made longer than the pin of the lower hinge for the purpose of giving facilities for the formation thereon of a projection or stop, a^3, arranged so as to permit the necessary vertical movement of the shutter, as hereinafter described, and for preventing the shutter from being accidentally unhinged, and to facilitate the movement of placing the shutter on the hinges.

a^4 is the vertical side groove formed in the sleeve of the upper hinge, so that the latter may readily be slipped down over the projection a^3 and onto its pin C′.

When the straps of the hinges are coupled, the angular sockets a^1 will, if not obstructed, slip down onto the angular bases *a* and lock the shutter in its position.

b is a horizontal projecting pin formed just below the angular base of the pin C′ on the fixed strap of the lower hinge. It forms the axis of the unlocking-cam, hereinafter described.

The swinging or revolving strap of the lower hinge is formed with a cam-surface, *c*, on its side, and is provided with the point or pin *c*′, projecting from its outer end, as shown.

E is the cam by which the hinges are unlocked and the shutter closed. It turns on the pin *b*, where it is held by any suitable means. It is provided with a handle, E^1, and with a finger or projection, E^2, arranged as shown. It is so formed that when the shutter is closed it will hold the sockets a^1 up clear of the bases *a*, and when the shutters are open will let the sockets down on the bases.

The operation of the device will be readily understood by reference to the drawings. Fig. 1 represents the shutter open and locked by the angular sockets fitting snugly down on the angular bases. By pressing down the handle of the cam, the shutter is lifted vertically till the angular sockets a^1 clear the bases *a*. The finger E^2 then comes against the cam-surface *c*, and causes the shutter to swing to. Without the finger *c* the shutter would have to be taken hold of by the hand in order to close it.

When closed the weight of the shutter is supported on the top of the cam, which is made flat for the purpose. The pin a^3 comes behind the finger E^2, and holds the cam so that it cannot be turned by its handle.

The shutter is opened by pressure applied

to the outer edge, and as it swings open the weight thereof causes the cam to turn into the position shown in Fig. 1, and thereby let the sockets down onto the bases of the pins C'.

I am aware that shutter-hinges have been constructed and used which lock when open, and which are unlocked by a vertical movement of the socket or journal on the pin or axis, and I do not claim, broadly, such a movement as my invention; but,

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A shutter-hinge constructed with an angular base to its pin or axis, and with an angular socket part way through its sleeve, adapted to fit down over the angular base of the pin or axis, substantially as and for the purpose set forth.

2. The combination, with a shutter-hinge having an angular base to its pin and angular socket in its sleeve, of a cam pivoted to the stationary strap of the hinge, and arranged and adapted for the purpose set forth.

3. The combination, with the shutter-hinge having its swinging strap constructed with a cam-surface, *c*, of a cam or lever, E, having a finger, E^2, and pivoted or journaled on the stationary strap, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARPER M. RALSTON.

Witnesses:
R. H. BROWN,
J. W. PLATTENBURG.