

(Model.)

W. GATES.

LATCH FOR CARRIAGE DOORS.

No. 258,291.

Patented May 23, 1882.

Fig. 1.

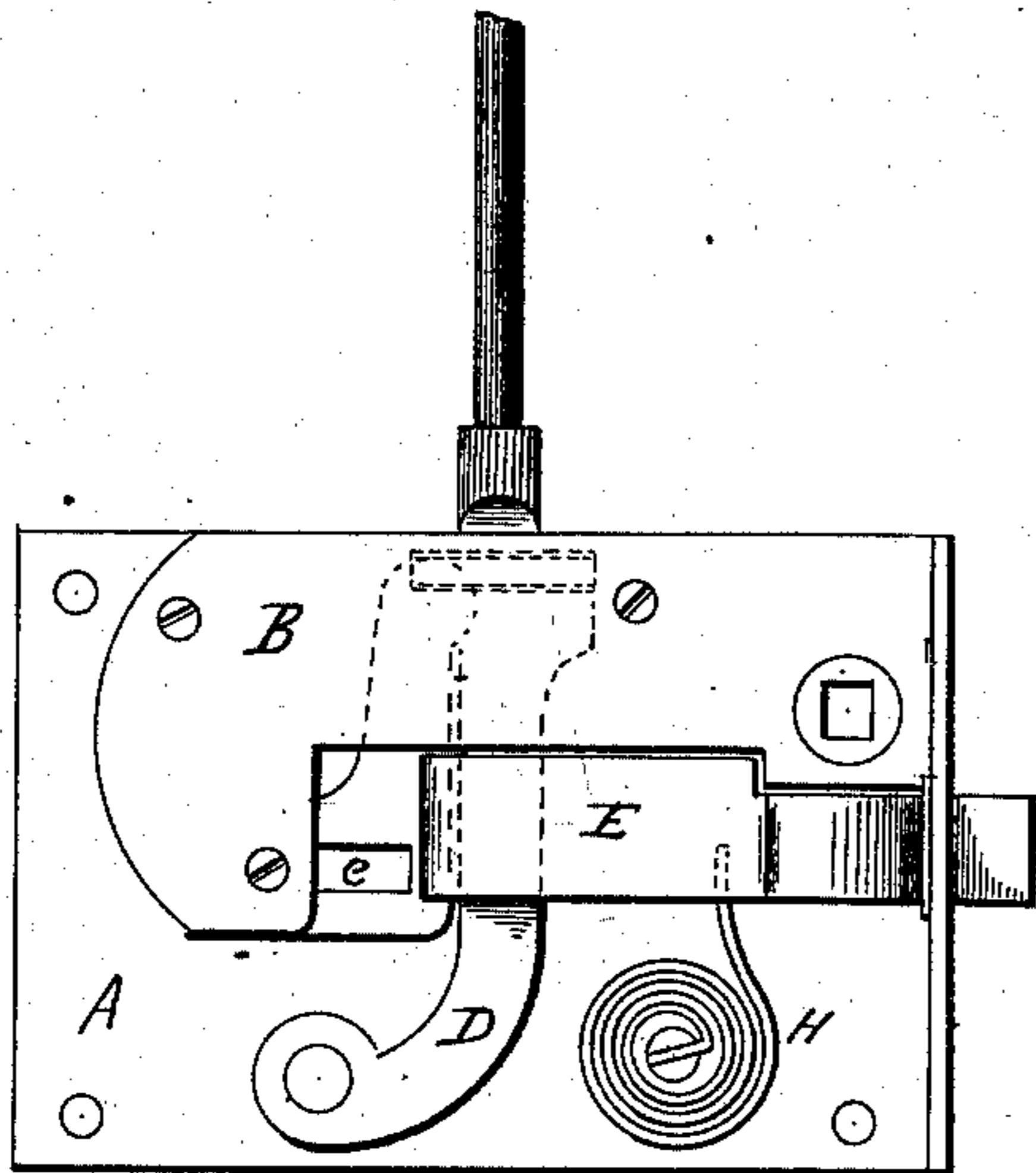


Fig. 2.

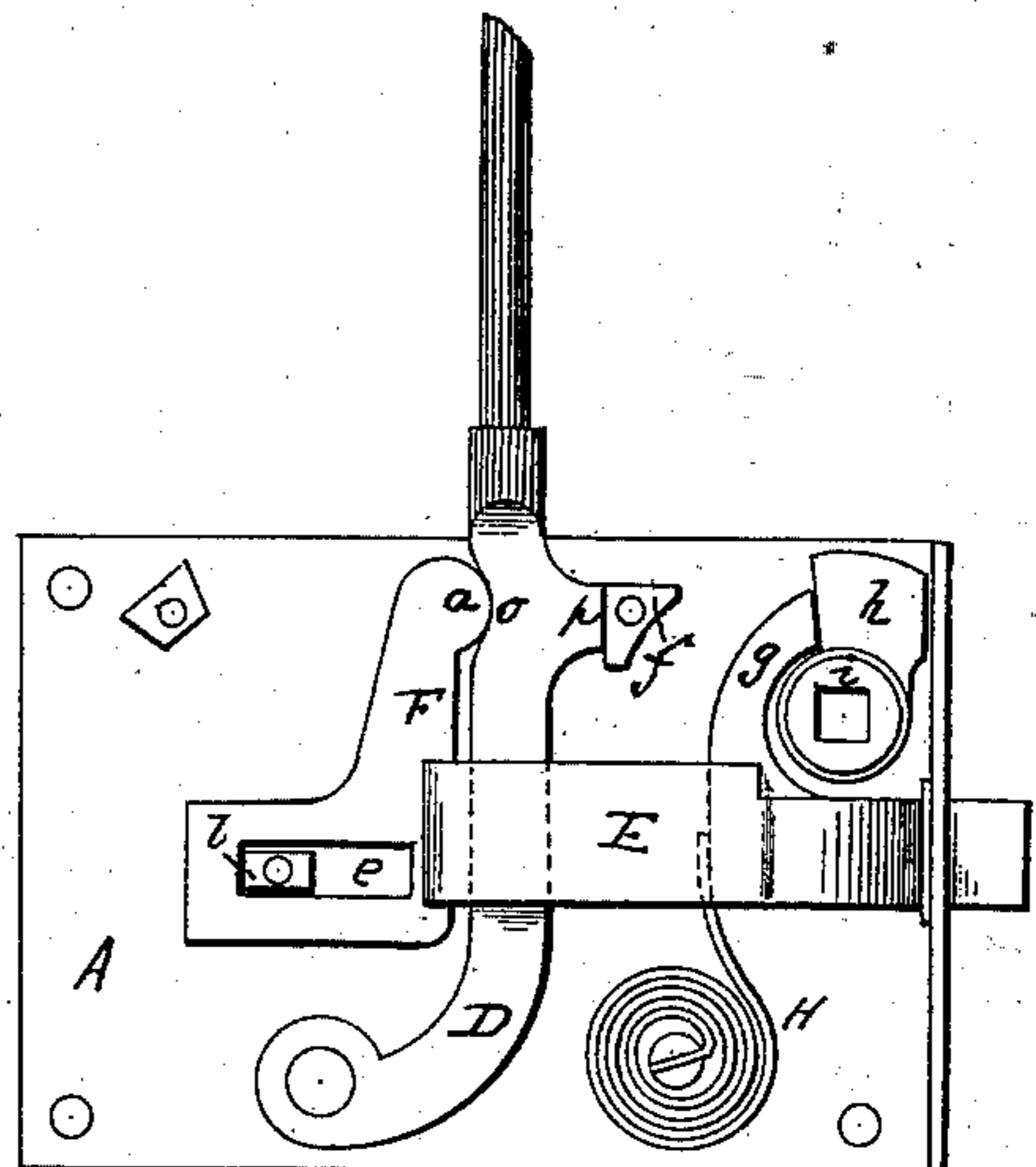


Fig. 3.

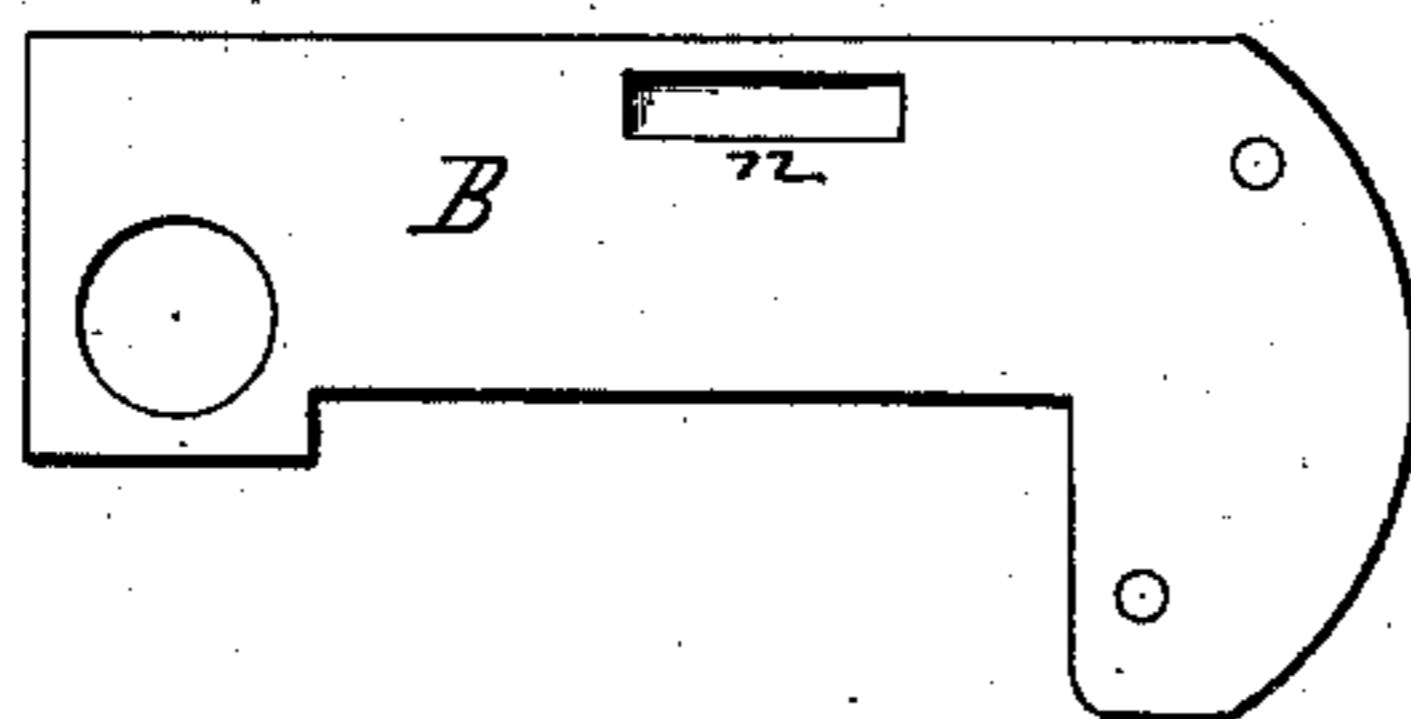
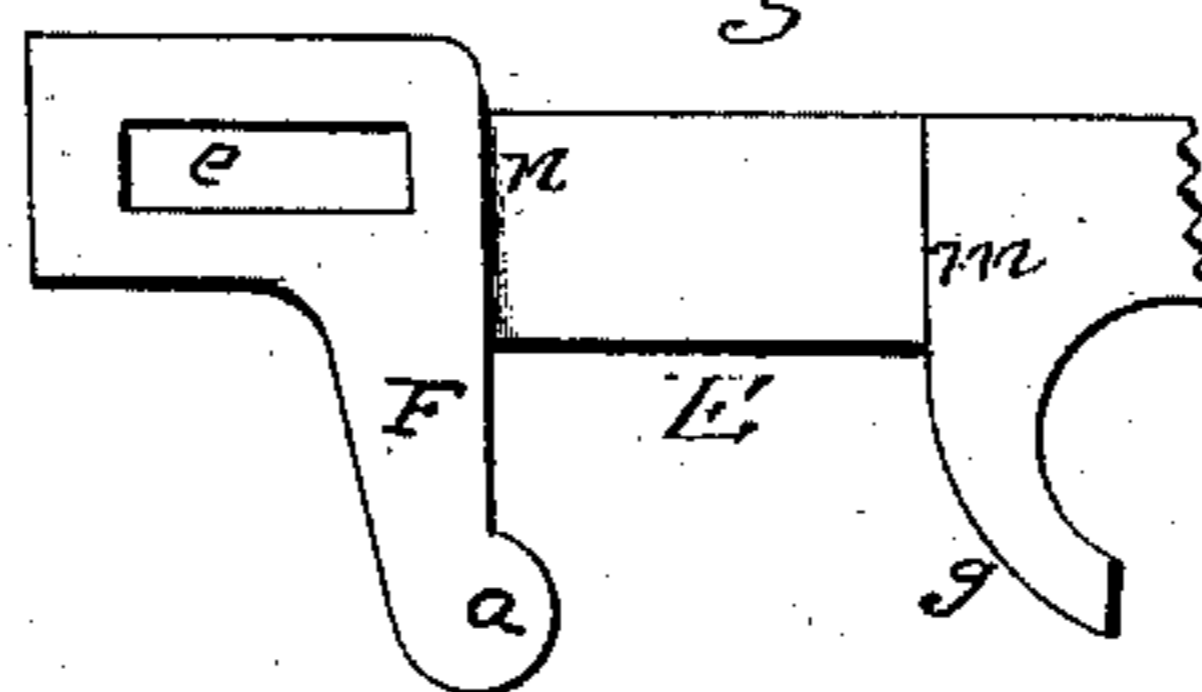


Fig. 4.



Fig. 5.



Witnesses.

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WILLIAM GATES, OF NEW HAVEN, CONNECTICUT, ASSIGNOR OF ONE-HALF
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LATCH FOR CARRIAGE-DOORS.

SPECIFICATION forming part of Letters Patent No. 258,291, dated May 23, 1882.

Application filed August 24, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM GATES, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Latches for Carriage-Doors; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my invention; Fig. 2, a similar view, showing the interior construction; Fig. 3, a detail view of the back plate; Fig. 4, a detail view of the spring, and Fig. 5 a similar view of a portion of the latch-bolt.

The present invention has relation to certain new and useful improvements in that class of lever-latches for carriages in which the latch-bolt is operated by an upright lever, pivoted at its lower end to the latch-plate, and connected to the bolt by an extension or arm located between two projections on the rear end of the bolt, whereby the bolt is moved outward by the lever and inward by the usual mainspring and other attachments usually employed.

To the above class of latches my improvements are designed to apply; and the object thereof is to improve the construction of the operating parts, especially the lever which operates the latch-bolt, said objects being attained by the construction substantially as shown in the drawings and hereinafter described.

In the accompanying drawings, A represents the latch-plate, having suitably connected thereto a back plate, B, to retain the latch-bolt and operating-lever in position. The plate B, upon its inner surface, has a recess, *n*, for receiving a flat bow-spring, *w*, as shown in Figs. 3 and 4, said spring bearing against the lever D to prevent its rattling against the plates A B.

The latch-bolt E, with elongated slot *e*, projection *g*, spindle-hub *i*, having follower *h*, stop *f*, and mainspring H, are all of the ordinary construction, and commonly in use in the class of latches to which my invention relates, and therefore a description of their functions and operation is considered unnecessary. The construction of the lever D, however, is different from those in ordinary use, having a bend near its lower end, and extending this

bent lower end toward the back or rear of the latch-case to that extent that the upper end of the lever will rise in its movement to operate the latch-bolt E. In pivoting the lower end of the lever D to one side or away from a vertical line described by the lever and its handle increased power is obtained and a more perfect operation of the latch-bolt.

To the rear end of the latch-bolt E is an upright extension, F, having a round-faced bearing, *a*, for a curved recess, *o*, on the rear edge of the lever D, the latter also having a shoulder, *p*, which comes against a stop, *f*.

The coiled spring H, or the "mainspring," as it is termed, has its end bearing against a shoulder, *m*, on the inner face of the latch-bolt, and between said shoulder and a shoulder, *n*, the lever D is located. As the upper end of the lever D rises as it is moved, the handle thereof may be placed so as to come against or even with the frame in the carriage-door in which the sash is placed, thereby making a great improvement in appearance.

By pivoting the lever D at its lower end and curving it, as shown, also providing the latch-bolt E with the extension F, having the curved bearing *a* for the recess *o* of the lever, the latter operates the latch-bolt with the least possible movement of its upper end, besides being more effective in its operation.

The stop *f*, together with the shoulder *p* on the lever, removes the strain from off the bolt and lever when stationary.

The projection *g*, instead of extending down from the under side of the latch-bolt, as has usually been the custom, projects or extends above it, the spindle-hub being also located above the latch-bolt instead of below.

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

In a lever-latch for carriages or other vehicles, the combination, with the latch-bolt E, having the upward extension *g*, and extension F, with curved bearing *a*, of the operating-lever D, curved at its lower end, as shown, and pivoted to the plate A, and having the curved recess *o*, constructed and arranged to operate substantially as and for the purpose set forth.

WILLIAM GATES.

Witnesses:

GEORGE TERRY,
ARTHUR E. HOTCHKISS.