

(No Model.)

J. KOPCSAY.

LATCH FOR CARRIAGE DOORS.

No. 304,941.

Patented Sept. 9, 1884.

Fig. 1.

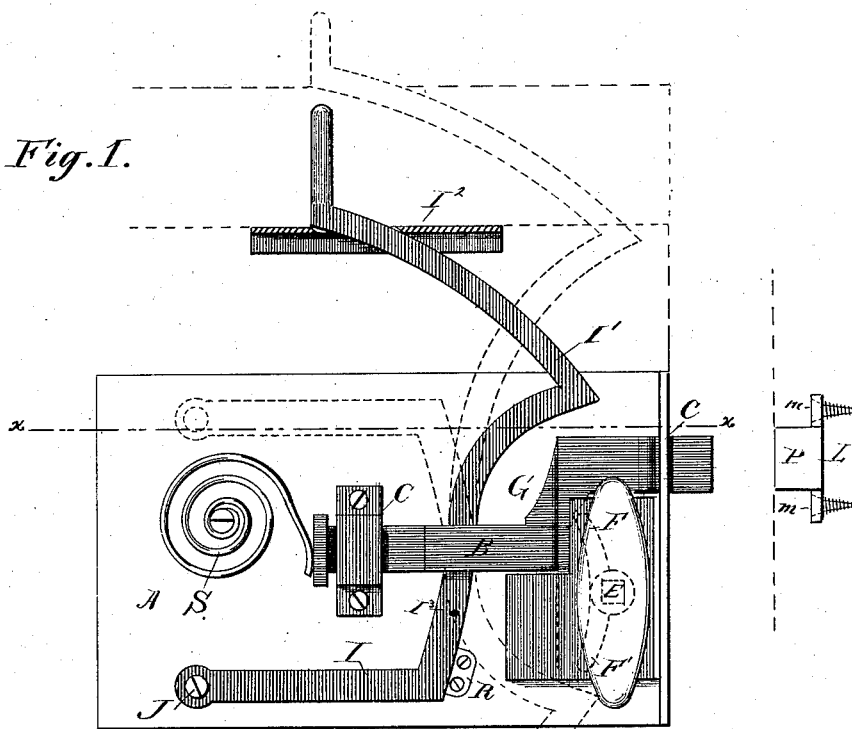
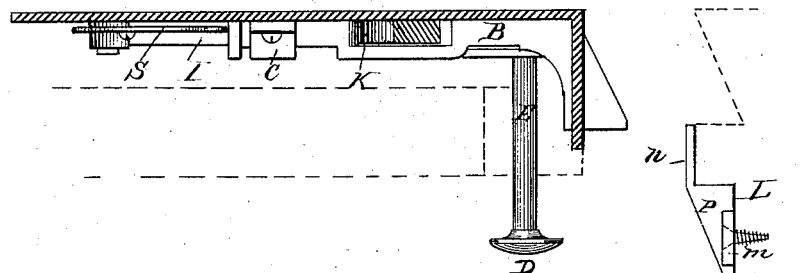


Fig. 2.



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UNITED STATES PATENT OFFICE.

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LATCH FOR CARRIAGE-DOORS.

SPECIFICATION forming part of Letters Patent No. 304,941, dated September 9, 1884.

Application filed September 25, 1883. Renewed July 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH KOPCSAY, of the city, county, and State of New York, have invented a new and useful Improvement in Carriage-Latches; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of latches for carriage-doors which are opened from the outside by means of an ordinary T-handle, and from the inside by means of a lever projecting up through the top plate or sill of the door-frame.

The object of my invention is to supply a latch which may be readily fitted to the narrow frames of the doors of coupés without interfering with the recess therein, within which the window drops, and whose inner latch or lever for operating the bolt will work through a close-fitting opening in the top edge of the door, so that its joint will be comparatively dust-proof and the lock be more fully protected than in the ordinary form; and it consists in the improved mechanism, hereinafter described, by which these ends are secured.

In the accompanying drawings, Figure 1 is an interior view of my improved latch, showing modifications in dotted lines of the position and dimensions of the operating-lever. Fig. 2 is a horizontal section in line *xx* of Fig. 1, and Fig. 3 is a detached view of a portion of the sliding bolt and the operating-arm.

A is the bed plate or case of the lock; B, its sliding bolt, mounted to slide in the customary manner through suitable guides, C C, and actuated by a spring, S, bearing against its rear end to force it outward; and D, its outer handle, mounted upon a spindle, E, to rotate in the customary manner.

In order to permit the knob or handle to be turned in either direction, and yet operate to retract the bolt when so turned, and at the same time be enabled to insert such a double-acting handle D, with its spindle and its operative arms F F', within the narrow width of the bar or strip which constitutes the front edge of the door-frame without interfering with the dropping of the window-glass from

above into the recess in the door inside of said strip, I so bend or fashion the bolt B as to form an offset, G, in its length, and thereby provide a contact point or bearing for the upper arm, F, of the knob-spindle above the main body of the bolt, a similar contact point or bearing for its lower arm, F', being obtained by means of an arm, H, projecting from the bolt in line with said offset G. The front edges of the arm H and of the offset G are produced in the form of a continuous curve, as fully illustrated in the drawings, Fig. 3, and the arms F F' are curved or concaved to correspond therewith, so that the contact of either arm F or F' of the spindle therewith shall be effective in producing the greatest possible longitudinal movement of the bolt with the least movement of the arms. The rotation of the outer handle, D, and its spindle in one direction will retract the bolt by the pressure thereon of the arms F and in the other by the pressure of the arm F'. The bolt B is retracted from inside the carriage by means of a lever, I, projecting up through the upper edge of the door inside of the window. Ordinarily, this lever works through an extended slot or opening in this edge, which admits dust, dirt, and moisture freely to the lock, oftentimes impairing or impeding its movement, and necessitating its removal for repair and a consequent serious disfigurement of the carriage because of the necessary removal of the trimmings, &c., in order to reach the lock. To avoid these objections I bend or extend the lower end of the lever I at an angle with its length in an L form, as illustrated in Fig. 1, so as to permit its pivot-pin J at this end to be located in the rear of as well as below its point of contact with the bolt. I also bend or curve its upper end to form the segment of an arc, I', having the pivot J as its center, and which extends through the aperture in the top edge of the door, or in a face-plate, I'', secured thereon, so that this aperture need not be enlarged to admit of the movement of the lever back and forth therein. The central portion, I'', of the lever passes under a recess, K, formed by an offset in the bolt B, (see Fig. 2,) and bears against the rear face of said offset, so that as the lever, by a pull upon its outer end, is swung upward upon its pivot J it will slide and bear against the offset suffi-

ciently to retract the bolt B, which, when the lever drops, is automatically forced outward again by the spring S.

The latch thus constructed admits of being readily fitted to a carriage-door of any height by simply changing the length of the lever and the radius of its segmental arc, as is illustrated in dotted lines, Fig. 1. It admits also of being readily fitted either as a right-hand or a left-hand lock by simply reversing the lever, as illustrated in dotted lines, so that its pivot shall be upon the opposite side of the bolt, the relative position of the pivot-pin and bolt being, however, the same.

L (see Figs. 1 and 2) illustrates a keeper to be used with my improved latch, and which is fitted with retaining ears or flanges *m m*, Fig. 1, on either side of its beveled portion P, by means whereof it may be secured to the door-post. This construction of the keeper permits an adjustment and adaptation thereof to door-posts of different thickness by simply cutting away the front edge, *n*, of the keeper, to cause it to properly engage the bolt of the lock, this cutting away being impracticable to any extent in keepers of the ordinary form, which are secured to the post by means of screws led through the flat face *n*, Fig. 2, thereof, because of consequent interference with said screws.

To obtain greater stability in my latch, and to guard against unnecessary strain upon its parts, I fix to the plate A of the latch a stop, R, adapted to arrest the movement of the lever I when thrust forward by the spring and bolt. This stop is detachable to admit of be-

ing shifted to a corresponding point of the opposite side of the bolt when the lever is reversed.

I claim as my invention—

1. The improved carriage-latch adapted to be opened either from within or without, and composed of a sliding spring-actuated bolt, B, provided with offsets G H in its length, a spindle, E, carrying a crescent-shaped double cam, F F, to work close to the front edge of the latch-case and engage the offsets G H, and a bent lever, I, pivoted below the bolt, to intersect and engage the same at a point in front of the pivot, and whose outer free end is curved in an arc having the pivot as its center, to enable it to work through a close-fitting aperture in the upper edge of the latch-case, substantially as and for the purpose herein described.

2. In a carriage-latch, the combination, with its sliding bolt, of a bent lever intersecting and engaging said bolt and pivoted below and to the rear thereof, and whose outer free end is curved in the form of an arc having the pivot as its center, whereby it is adapted to work through a close-fitting aperture formed in the door-frame above the latch, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH KOPCSAY.

Witnesses:

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A. B. MOORE.