(No Model.)

J. KOPCSAY.

CARRIAGE DOOR LATCH.

No. 304,940. Patented Sept. 9, 1884.

Fig. 1.

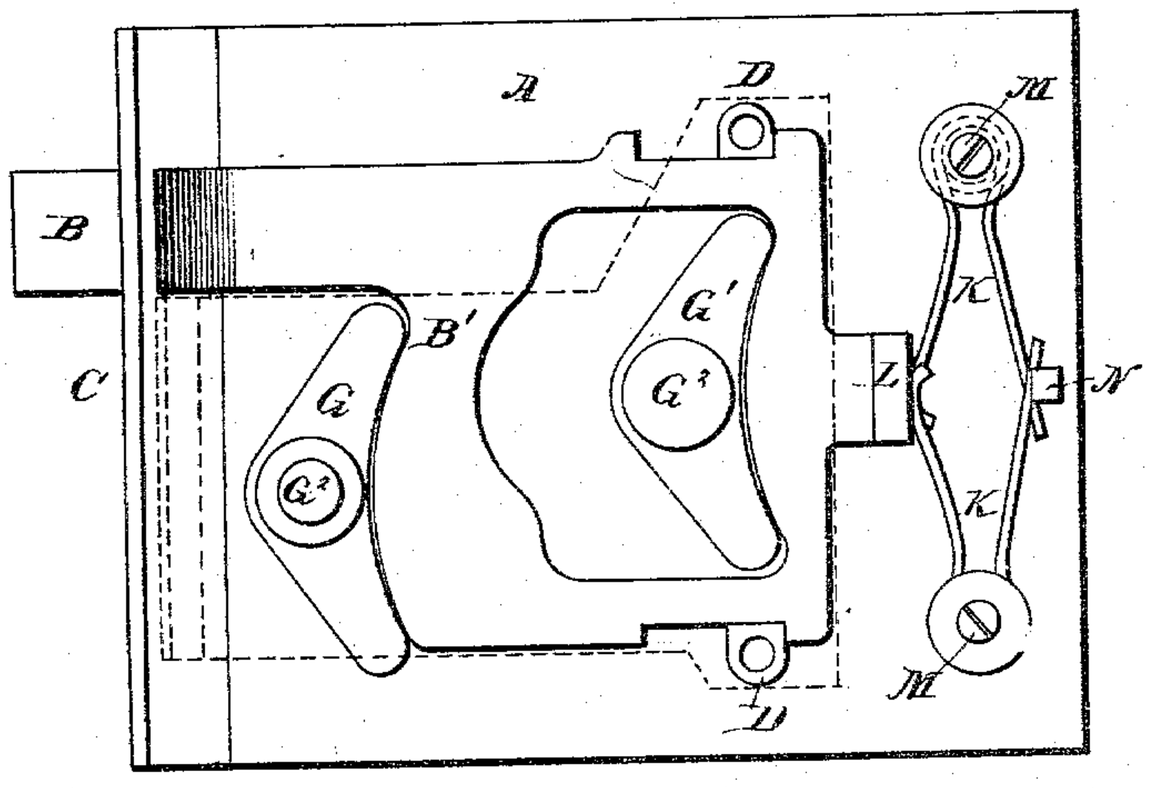


Fig. 3.

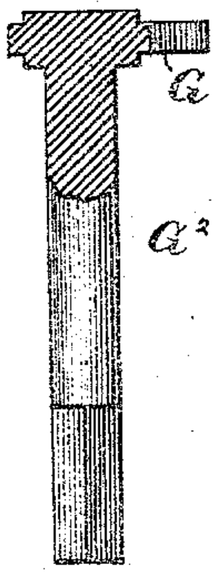
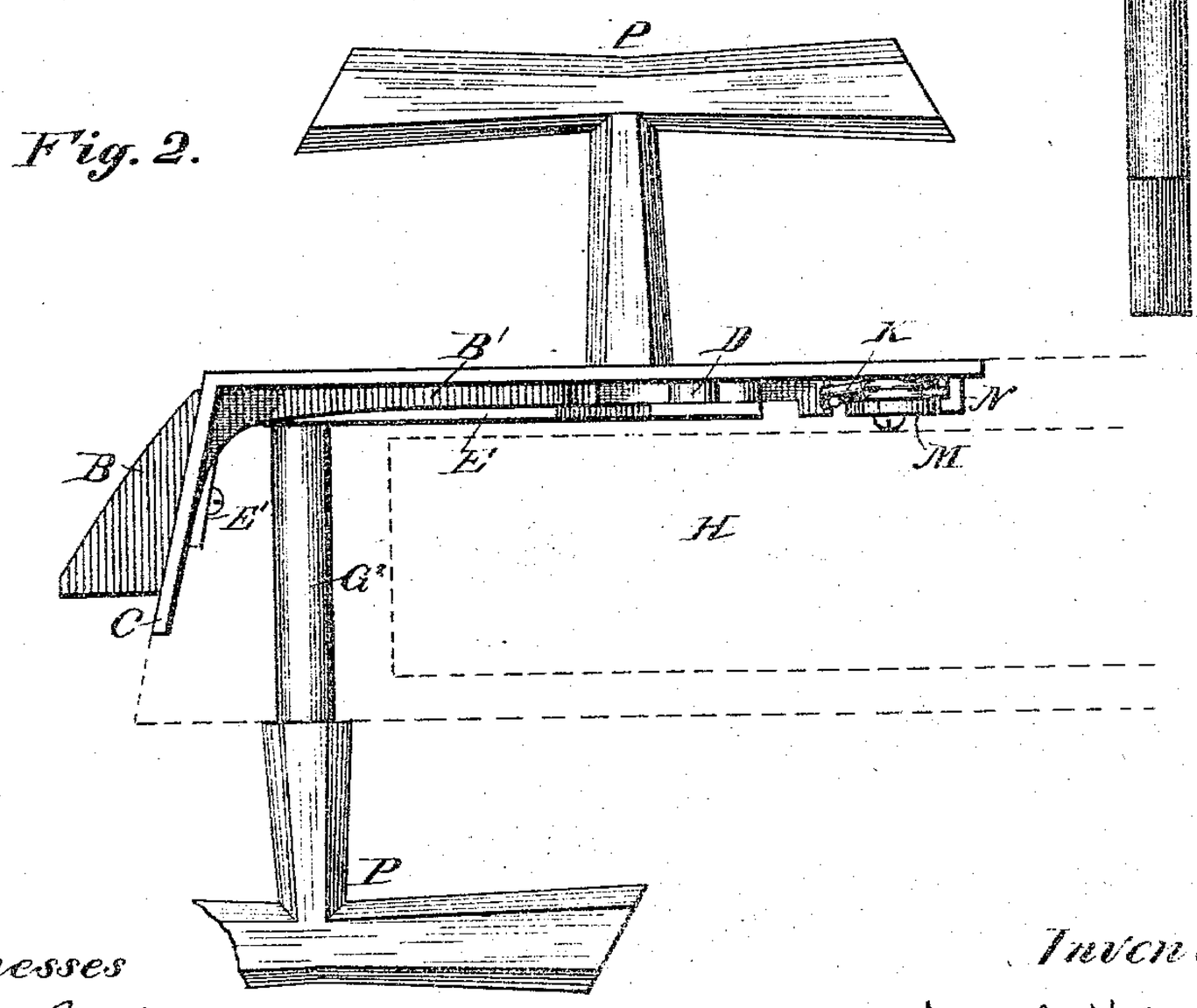


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH KOPCSAY, OF NEW YORK, N. Y.

CARRIAGE-DOOR LATCH.

SPECIFICATION forming part of Letters Patent No. 304,940, dated September 9, 1884.

Application filed January 9, 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-Locks; 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 locks which are specially adapted for carriage-doors.

It has for its object the production of a simple, inexpensive, durable lock which shall be noiseless in operation, and may be so fitted to the door of a coupé, or other style of carriage having windows arranged to drop down inside of the doors, as that the spindle for the outer knob may be carried through the narrow front bar of the door-frame without interfering with the movement of the window therein, while the inner knob shall be in position to operate the lock without interfering with the movement of the door.

It consists in combining with the lock-bolt an offset projecting laterally therefrom on one side thereof far enough to permit of its engagement by the two arms of a crescent-shaped cam placed wholly at one side of the bolt, and in forming said cam integral with or firmly uniting the same to the spindle of the outer knob.

In the accompanying drawings, Figure 1 is an elevation of the interior of the lock with the face-plate and knob on that side removed; Fig. 2, a top edge view of the lock complete, the door to which it is attached being indicated by dotted lines. Fig. 3 is an elevation, partly in section, illustrating the formation of the knob-spindle and cam-plate in one piece.

A is the bed-plate of the lock, and B its latch-bolt, projecting through the front rim or face-plate, C. The bolt B is formed in one, with a frame-plate, B′, which is made to project wholly upon one side thereof, so that its front edge, constituting an offset from the bolt, shall serve as a bearing to receive the thrust of a double cam, G, located wholly at one side of said bolt, as shown in Fig. 1, and which is secured upon the end of a spindle, G^2, adapted to project outwardly from the lock. The frame-plate B′ is fitted upon the bed-plate A to reciprocate thereon between two lugs, D D, engaging its edges, and it works under a suitable covering-plate, E, Fig. 2, and see dotted lines, Fig. 1, which, resting upon the lugs, is confined at one end by screws entering these lugs, and at the other by screws passing through a flange, E, formed on its front edge to engage the face-plate C. (See Fig. 2.) By preference an opening is formed in the sliding frame B′, within which a second cam, G′, fitted upon a spindle made to project inwardly from the lock, is located to actuate the plate. Both cams G and G′ are preferably formed with an inwardly curved or concaved edge, adapted to engage a counterpart curved convexed edge in the frame, as illustrated in Fig. 1 of the drawings. The outer cam, G, is fitted very close to the front rim of the lock, so that its spindle G^2, projecting from said cam through the covering-plate E and out from the inner face of the lock, may pass outwardly through the narrow front bar of the door to which the lock is fitted without encroaching upon the space H (see dotted lines Fig. 2) within the door-frame, wherein the window of the door is made to drop. This location of the front or outer cam very close to the outer front edge of the door, so that its spindle may be carried through the narrow bar of the window-frame, is made possible by placing the cam upon one side of the bolt, in combination with the lateral offset projecting from the bolt as part of the frame B′. The second cam, G′, is so far removed from the first as that its spindle projecting through the bed-plate A, and from the outer face of the lock, will carry the inner handle fitted thereon near enough to the center of the door to be entirely clear of the casing when the door is opened, and be within easy and ready reach of a person sitting on either the back or front seat of the carriage. The bearing in the sliding frame engaged by this second cam is produced near to the rear of the frame upon the edge of the opening formed therein, as illustrated in Fig. 1. Each cam and the spindle by which it is actuated, together with the hub on either side of the cam forming its journals, are preferably forged or cast all in one piece of malleable iron or brass, as illustrated in Fig. 3.

The sliding frame B′, with its bolt B, is preferably actuated by means of wire springs K

K engaging an offset, L, in the center of the rear edge of the frame. These springs, each formed of a piece of spring-wire doubled upon itself with a single coil at its bend, are confined to the bed-plate A by slipping the coil over a lug projecting from the plate and fastening it in place by a washer and screw, M, in the customary manner. These lugs are placed on each side of the offset L, so that the free ends or arms of the springs shall project toward the same and toward each other, one of the arms of each spring being brought to bear against the offset L, and the other against a fixed lug or stop, N, projecting from the face-plate in line with said offset, as illustrated in Fig. 1.

In operation the two spindles work entirely independent of each other without any interference whatever, each in that position on the door which is best adapted to meet most appropriately the requirements of the case, the inner knob being removed from the edge of the door far enough to be readily and easily reached, and the outer knob being brought so close to the edge of the door as not to interfere with the movement of the window therein. The movement of either knob to the right or to the left will operate to withdraw the bolt, and the leverage of the cams is such as to render the movement of the bolt very easy. By casting the spindle, cams, and hubs all in one piece the rattling attendant upon the use of separate parts is avoided, and the lock is rendered practically noiseless, while its parts are completely protected from dust or dirt or the access thereto of foreign matter.

I am aware that the use in a door-lock of two spindles and knobs, in combination with two cams and one spring-bolt, is shown in the Letters Patent to M. McGonnigle of June 20, 1865; but a lock constructed as therein described is wholly inapplicable to the door of a carriage in which a window is so fitted to slide down within the door-frame, as that it becomes necessary to pass the spindle for the outer knob very close to the front edge of the door to avoid the window. My improvement furnishes a lock which is adapted to such a carriage-door, by affording a bearing for the cam of the front or outer spindle under the front end of the bolt, so that the bolt may slide, if necessary, entirely back over the axis of the cam, permitting said axis to be placed as close to the edge of the door as may be required.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a carriage-lock constructed with a single sliding bolt actuated independently from opposite sides by two independent knobs and spindles, the combination, with the bolt, and with a cam secured to the outer spindle and placed wholly on one side of the bolt close to the front edge of the lock, of an offset or frame formed wholly upon one side of the bolt to afford a lateral bearing for said cam, and permit the front end of the bolt to be drawn in over the axis of the cam, 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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