

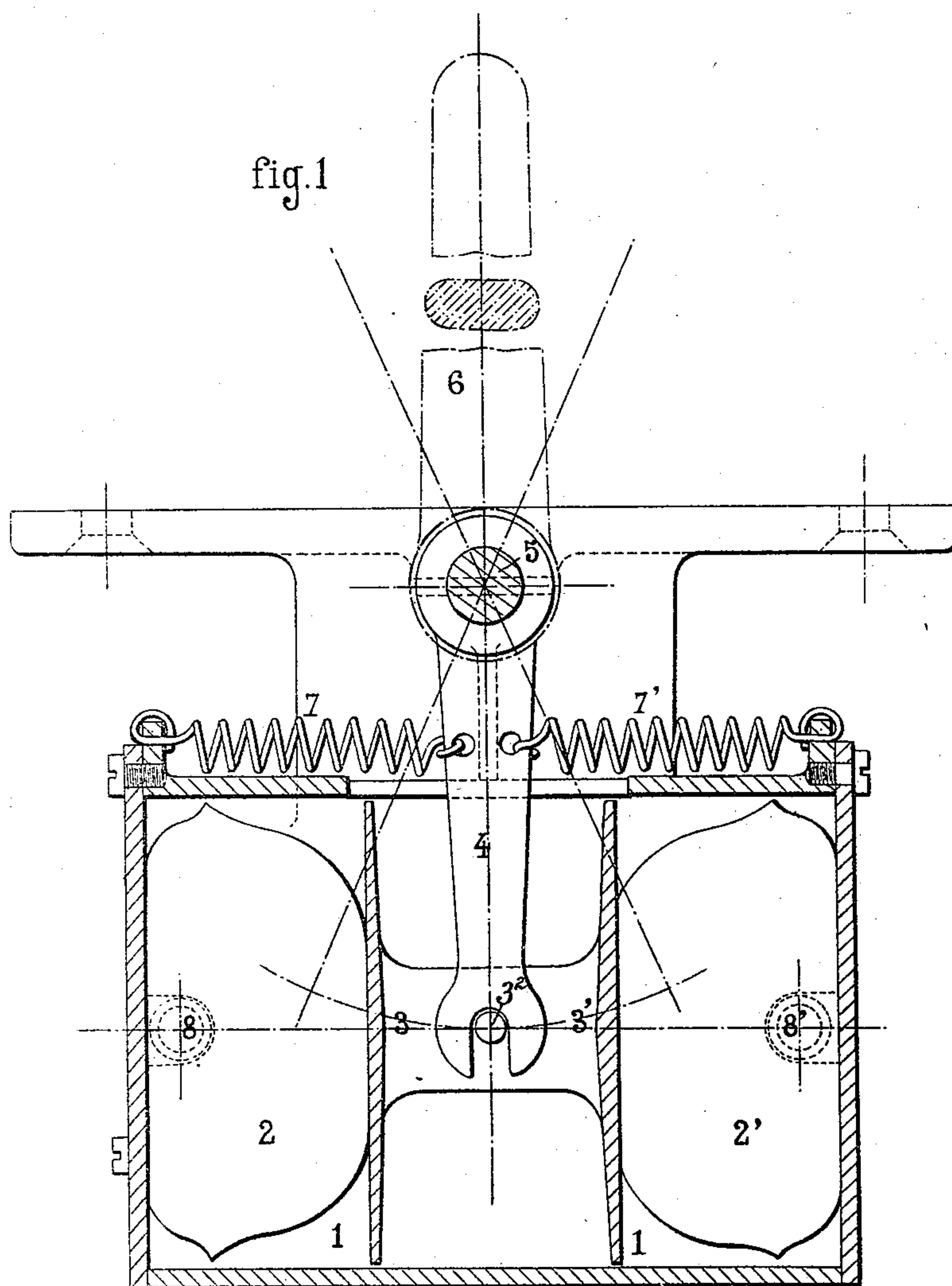
(No Model.)

2 Sheets—Sheet 1.

P. SOHÈGE.
LOCK FOR VEHICLE DOORS.

No. 451,296.

Patented Apr. 28, 1891.



Witnesses

Wm. H. H. H. H.
J. J. J. J.

Inventor

Paul Sohège

(No Model.)

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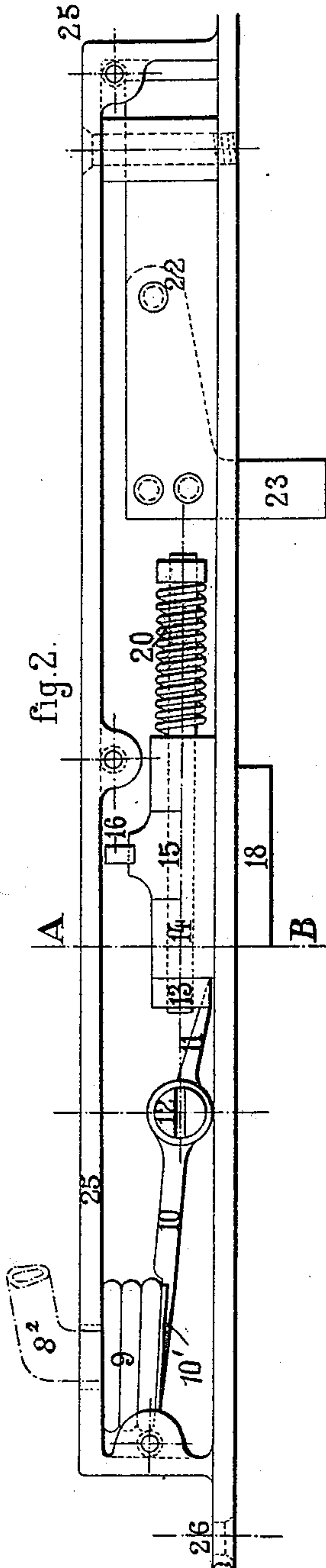


fig. 2.

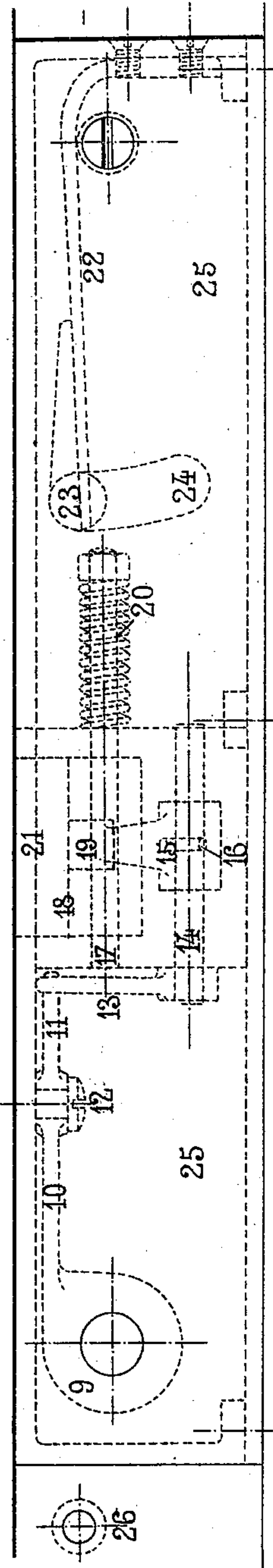


fig. 3.

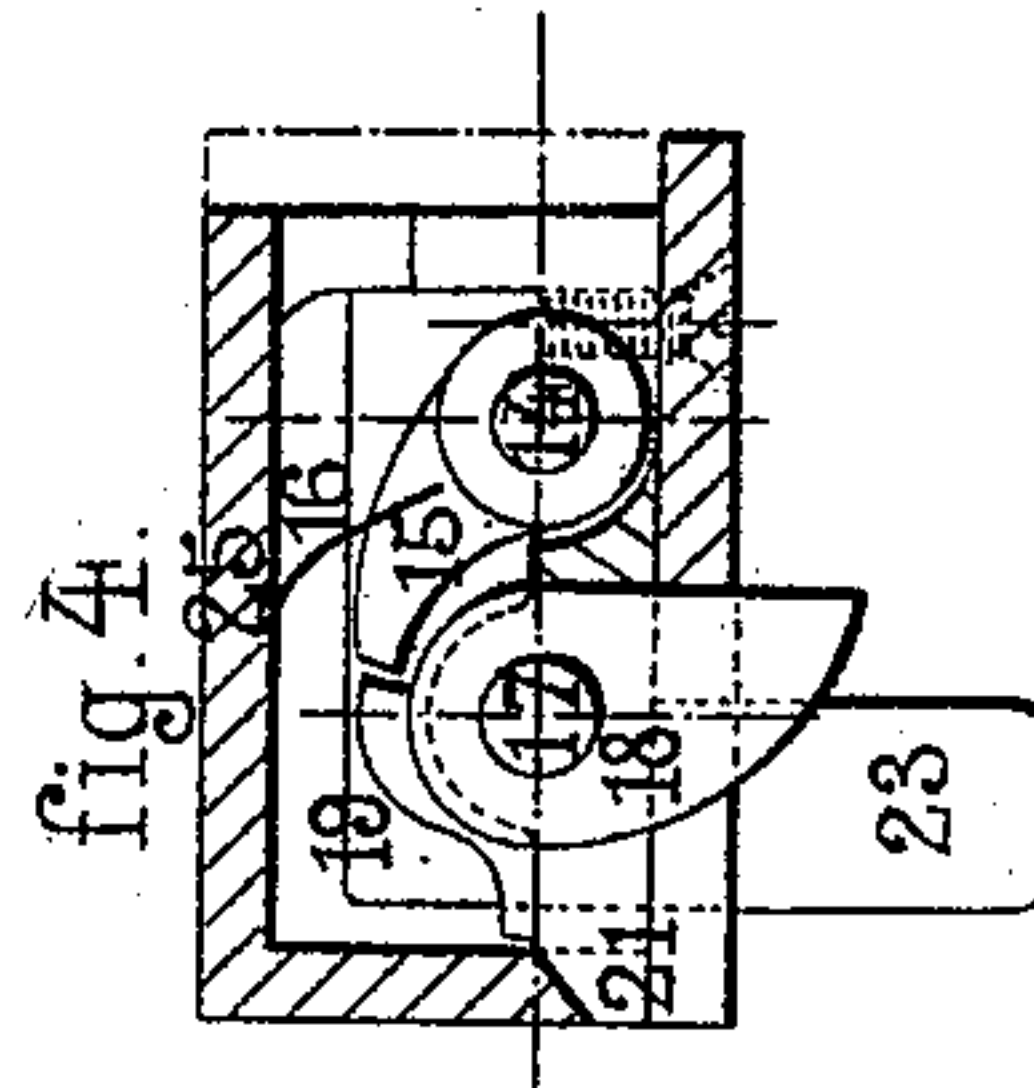


fig. 4.

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UNITED STATES PATENT OFFICE.

PAUL SOHÈGE, OF PARIS, FRANCE.

LOCK FOR VEHICLE-DOORS.

SPECIFICATION forming part of Letters Patent No. 451,296, dated April 28, 1891.

Application filed January 12, 1891. Serial No. 377,486. (No model.)

To all whom it may concern:

Be it known that I, PAUL SOHÈGE, a citizen of France, residing at Paris, in the Department of the Seine, have invented a new and useful Improvement in Apparatus Intended to Open Coach-Doors, of which the following is a specification.

My invention relates to locks for the doors of vehicles, and its object is to provide a lock for use upon the doors of coaches, coupés, and the like, and also to provide a device by means of which the coachman or driver may readily operate the lock to open the door of the vehicle without moving from his seat.

The invention consists in the construction, arrangement, and combinations of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference designate corresponding parts in the several views.

Figure 1 is a longitudinal section, with parts broken away, of the motor for operating the lock. Fig. 2 is a side elevation of the lock. Fig. 3 is a plan view of the same; and Fig. 4 is a transverse section of the same, taken on the line A B in Fig. 2.

The unlocking device, as shown in the drawings, is an air-compressor, and is adapted to operate on a vehicle having a door on each side—a coupé, for example. The air-compressor or motor of the unlocking device is secured in any proper place to the seat of the vehicle convenient to the hand of the coachman or driver. It consists of a cylinder 1, of metal or other suitable material and of any preferred dimensions, closed at its ends by covers which may be removable, and inclosed in the cylinder are two rubber bags 2 and 2', one of which communicates by a tube having its exhaust at 8 with the lock of the left-hand door, and the other by a tube having its exhaust at 8' with the lock of the right-hand door. One of said tubes is shown in dotted lines at the upper left hand in Fig. 2 of the drawings. Within said cylinder is held to oscillate a double piston 3 3', bearing normally against the bags 2 and 2', said piston carrying a pin 3², which is engaged by the lower forked extremity of a lever 4, mounted on a

shaft 5, journaled above the cylinder, and upon said shaft is also mounted an operating-lever 6, extending within reach of the coachman or driver, by manipulating which lever one or the other, or both successively, of the bags 2 2' may be compressed, as may be required. The levers 4 and 6 and the double piston 3 3' normally occupy the positions shown in Fig. 1, and the levers are so held by opposing springs 7 and 7' of equal strength attached at one end to either side of the lever 4 below the shaft 5, and at the other end to lugs on the top of the cylinder next its covers, so that jolting and rocking of the vehicle will not cause the levers to operate, and thus open the doors at improper times.

The locks for the vehicle-doors are let into proper recesses in the upper cross-piece or lintel of the doors and secured in place by screws.

The casing 25 of the lock is prolonged at its extremities at 26, and provided thereat with suitable openings for the passage of securing-screws. In one end of said casing is held a small dilatable fluid-reservoir 9, adapted to receive air or other fluid by the tube 8², leading from one of the bags in the cylinder 1. The reservoir is normally engaged by a circular plate 10' on the long arm 10 of a longitudinal lever fulcrumed on a stud 12 in the lock-casing, the short arm 11 of said lever extending beneath one end of a transverse lever 13, fixed on one end of a shaft 14, journaled in a small metal abutment held between the back and front of the casing. The shaft 14 carries a pawl 15, into which is fitted and presses a flat spring 16, attached at one end to the casing and normally acting on the shaft so as to hold the lever 13 in a horizontal plane. Parallel with the shaft 14 is journaled in the abutment above referred to a shaft 17, on which is held a locking-bolt 18 in the form of a cam, adapted to engage a corresponding socket formed in the upper cross-piece of the vehicle-door. Said bolt has formed at its upper part a shoulder or projection 19, which is adapted to engage with the pawl on the shaft 14. A spring 20 is coiled on the shaft 17, one end of said spring being attached to the shaft and the other to the abutment in which the

shaft is journaled, said spring acting to move the locking-bolt into the vertical position shown in Fig. 4, causing the shaft 17 to turn as the locking-bolt enters the opening 21 provided for it in the lock-casing.

A flat steel spring 22 is attached at one end to the opposite end of the lock-casing, extends nearly across said casing, and is then bent and extends inwardly and forwardly toward the shaft 17. At its free extremity the spring is provided with a tongue 23, which extends through an oblong aperture 24 in the lock-casing and is adapted to move freely therein. Said tongue also enters a socket formed for its reception in the upper cross-piece of the door of the vehicle, and the spring 22 is of such strength that it will push the door outward and open it when the door is released from engagement by the locking-bolt 18.

In Fig. 3 the spring 22 is shown in dotted lines in the position it occupies when the door is open—that is to say, it is stretched. When the door is closed, the spring returns to its normal position (shown in Fig. 2) and the tongue 23 returns to its normal position, as shown in said figure.

The operation is as follows: When the door is closed, the parts of the lock are in the position shown in Fig. 4—that is to say, the spring 22 is exerting its force to open the door, but is prevented from so doing by the engagement of the bolt 18 with its socket in the door, the bolt being held in place in a vertical position by the engagement of the pawl 15 with the projection 19 on the bolt. To open the door, the coachman or driver operates the lever 6 and compresses the bag 2 or 2' communicating with the lock, whereupon the fluid from the bag is forced into the reservoir 9 and dilates it. As the reservoir expands, it presses down upon the lever-arm 10, causing the lever-arm 11 to rise. Said arm as it rises lifts the lever 13, which causes the shaft 14 to turn and disengage the pawl 15 from the projection on the locking-bolt, and the door being released from the locking-bolt is thrown open by the action of the spring 22, notwithstanding the resistance of the spring 20. When the door passes the locking-bolt 18, the latter is moved back to its vertical position, as shown in Fig. 4, by the action of the spring 20, and the pawl 15 again engages the projection on the bolt.

The socket in the door to receive the locking-bolt is preferably fitted with a spring-plate adapted to yield when passing under the bolt, and to move up again to be held by the bolt when the door is closed.

While I have specified compressed air as the fluid agent employed to act on the lock, any other compressible or non-compressible fluid which is employed for transmitting force to a distance may be utilized—as, for instance, rarefied air, water, or other suitable liquid, or electricity—as it will be obvious that the mechanism of the lock will readily respond to the application of any fluid agent to the two-armed lever.

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

1. A lock for vehicle-doors, having a spring-actuated cam-locking bolt and a spring-pressed pawl engaging the locking-bolt, and an unlocking-lever actuated by fluid-pressure from the seat of the vehicle, substantially as shown and described.

2. A lock for vehicle-doors, consisting of a casing, a spring-actuated cam-locking bolt in the casing, a spring-pressed pawl engaging the locking-bolt, a transverse lever on the pivot of the pawl, a dilatable fluid-reservoir in the casing, a longitudinal lever engaging the fluid-reservoir and the transverse lever, and a plate-spring in the casing bearing against the vehicle-door, substantially as shown and described.

3. In a lock for vehicle-doors, the combination, with parallel shafts journaled in the lock-casing, one carrying a spring-actuated cam-locking bolt and the other a transverse lever and a spring-pressed pawl engaging the locking-bolt, of a dilatable fluid-reservoir in the casing, a longitudinal lever engaging the fluid-reservoir and the transverse lever, and a plate-spring in the casing bearing against the vehicle-door, substantially as shown and described.

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

PAUL SOHÈGE.

Witnesses:

ROBT. M. HOOPER,
J. JONES.