CLAIMS

1. A device for locking and unlocking a plug (1) on a frame (2), using a key (3), comprising a lock (5) fastened to the plug (1) which has an emergent opening (4) for access to the lock (5) for the key (3) comprising an arm (6) of which one end (7) enables the lock (5) to be actuated when the key (3) is inserted into the opening (4) of the plug (1) from a locking position in which a bolt (11) of the lock (5) is held captive by a frame (2) strike (12) to lock the plug (1) in the frame to an unlocking position for which the bolt (11) is clear of the strike (12) to enable the movement of the plug (1) to its position clear of the opening of the frame (2), the lock (5) comprising a drive mechanism (10, 25) linked to the bolt (11) so as to enable the movement of the bolt (11) under the action of the key (3) between its positions that are captive and clear of the strike (12), characterized in that the lock (5) bolt (11) comprises a shaft (11a) returned to its position that is captive of the strike (12) by an elastic return member (14) and the drive mechanism (10, 25) cooperates with the bolt (11) under the action of the key (3) to translate the bolt (11) shaft (11a) against the return force of the return member (14) to its position clear of the strike (12), in that the lock (5) bolt (11), when the key (3) is withdrawn from the plug (1) in its position clear of the opening of the frame (2), enables the automatic locking by the elastic return member (14) of the plug (1) to the frame (2) on insertion of the plug (1) into the frame (2) and in that the emergent opening (4) of the plug (1), is obturated by an unlosable stopper (34) returned to bear under the plug (1) in its position of closing the emergent opening (4) by a return spring (39), wherein the drive mechanism (10, 25) comprises a rotor (10) rotatably mounted in the plug (1) perpendicularly under the latter, accessible at one (10b) of its ends by the opening (4) and a cam-forming part (25) fastened to the opposite end (10a) of the rotor (10) and engaged in a recess (24) of the bolt (11) shaft (11a), said recess of the bolt shaft cooperating with the cam-forming part (25) of the rotor (10) when the latter is actuated by the key (3) engaged with the corresponding end (10b) of the rotor (10) to translate the bolt (11) shaft (11a) against the return force of the return member (14) to is position clear of the strike (12).

2. A device according to claim 1, characterized in that the bolt (11) shaft (11a) and the return member (14) are coaxial and housed perpendicularly to the rotor (10) in a casing (13) removably fastened under the plug (1) and the end part (10a) of the rotor (10) comprising the cam (25) passes through a wall (16) of the casing (13) situated on the

inside face of the plug (1) such that the cam (25) engaged in the recess (24) of the bolt (11) shaft (11a) is housed in the casing (13).

3. A device according to claim 1 or 2, characterized in that the rotor (11) cam (25) extends perpendicularly to the longitudinal direction of the bolt (11) shaft (11a) when the latter occupies its position that is captive of the strike (12).

4. A device according to one of claims 1 to 3, characterized in that the bolt (11) shaft (11a) shaft bears, by an inside face (24a) of its recess (24) situated on the side near the return member (14), on a lateral face (10c) of the rotor (10) adjacent the cam (25) when the bolt (11) shaft (11a) occupies is captive position in the strike (12).

5. A device according to one of claims 2 or 3, characterized in that the bolt (11) shaft(11a) is flat and the casing (13) comprises two parts (15,16) removably fastened to each other, respectively a first part (15) of substantially Ω-shaped cross-section with a flat base (18) in which are housed for guided sliding the bolt (11) shaft (11a) and the return member (14) and a second part (16) in the form of a planar plate constituting the aforementioned wall of the casing (13) passed through by the cam (25) and to which are removably fastened the two elongate lateral branches (19) of the first part (15).

6. A device according to claim 5, characterized in that the second part (16) of the casing (13) comprises a small plate (21) attached to an edge of that second part so as to obturate the opposite end opening of the first part (15) to that enabling the passage of the beveled end (11b) of the bolt (11) shaft (11a) and on which small plate (21) bears an end of the return member (14) consisting of a helical compression spring.

7. A device according to claim 5 or 6, characterized in that the second part (16) of the casing (13) is removably fastened under the plug (1).

8. A device according to one of claims 1 to 7, characterized in that the emergent opening (4) of the plug (1) is coaxial with the end (10b) of the rotor (10) able to be engaged with the end (7) of the arm (6) of that key (3) and in that the key (3), when inserted into the emergent opening (4), causes the pushing-in of the closing stopper (34) against the return force of the spring (39) along the rotor (10) of which the end (10b) is engaged with the end (7) of the key (3) arm (6).

9. A device according to claim 8, characterized in that it comprises a cylindrical barrel (26) fastened under the plug (1) and comprising a transverse end wall (29) through which is formed the emergent opening (4) of the plug (1) which comprises a

circular central aperture (4a) and two diametrically opposite grooves (4b) opening into the circular central aperture (4a) and the closing stopper (34) is in the form of a cylindrical piece mounted for guided sliding in the cylindrical barrel (26) and on the lock (5) rotor (10) and comprising two cylindrical end parts (35, 36) separated from each other by a collar (37) able to slide in the cylindrical barrel (26), one (35) of the end parts of the closing stopper (34) comprising two diametrically opposite tenons (38) respectively engaged in the two grooves (4b) of the emergent opening (4) with the collar (37) bearing under the transverse wall (19) of the barrel (26) when the closing stopper (34) occupies its obturating position of the emergent opening (4), the tenons (38) of the closing stopper (34) being disengaged from the emergent opening (4) when the key (3) arm (6) is engaged with the end (10b) of the lock (5) rotor (10) to rotate the rotor (10) to its position at which the lock (5) bolt (11) is disengaged from the frame (2) strike (12).

10. A device according to claim 9, characterized in that the closing stopper (34) is rotationally coupled to the end (10b) of the lock (5) rotor (10).

11. A device according to claim 9 or 10, characterized in that the return spring (39) of the closing stopper (34) is housed in the cylindrical barrel (26) while being mounted pre-stressed between the collar (37) of the cylindrical stopper (34) and an inside shoulder (40) of the cylindrical barrel (26).

12. A device according to one of claims 9 to 11, characterized in that the transverse end wall (29) of the cylindrical barrel (26) forms part of a cylindrical sleeve (28) fastened to the corresponding end part of the cylindrical barrel (26).

13. A device according to one of claims 9 to 12 when considered in combination with claim 5, characterized in that the cylindrical barrel (26) is fastened to the second part in the form of a planar plate (16) of the casing (13) and perpendicular to that part.

14. An assembly comprising a key and a device according to one of claims 9 to 13, characterized in that the key (3) comprises at the tubular end (7) of its arm (6) two diametrically opposite lugs (7a) of complementary shape to the grooves (4b) of the emergent opening (4) to enable the engagement of the tubular end (7) of the key (3) arm (6) through the emergent opening (4) by pushing the closing stopper (34) into the cylindrical barrel (26) against the return force of the spring (39) to reach a position in which the two lugs (7a) of the key (3) are brought to bear under the transverse wall (29) of the cylindrical barrel (26) by rotation of the key (3) engaged with the lock (5) rotor (10) and