

Feb. 16 , 1926.

E. ROETHLISBERGER

1,573,791

COMBINATION KEY

Filed April 30, 1923

Fig. 1.

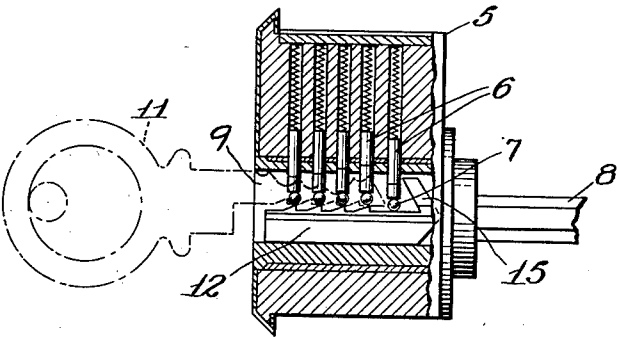


Fig. 2.

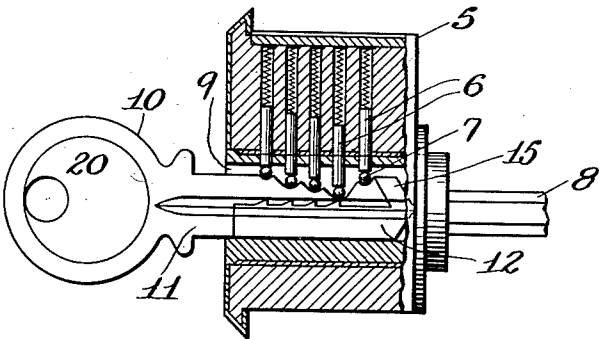


Fig. 3.

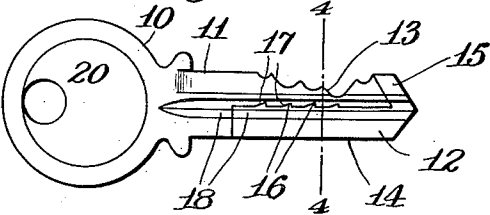
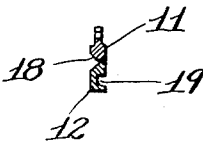


Fig. 4.



Inventor

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By his Attorneys

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1,573,791

UNITED STATES PATENT OFFICE.

EMIL ROETHLISBERGER, OF NEW YORK, N. Y.

COMBINATION KEY.

Application filed April 30, 1923. Serial No. 635,446.

To all whom it may concern:

Be it known that I, EMIL ROETHLISBERGER, a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Combination Keys, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to keys for use in connection with locks of various kinds and classes and particularly to tumbler locks, and the object of the invention is to provide an improved combination key device for locks of the class specified, said key device being composed of two parts adapted to interlock one with the other, one of said parts constituting a plug key which is adapted to be inserted into a lock to render the lock inoperative, and the other part of the key device constituting the key proper for manipulating or opening the lock, said last named part cooperating with the first named plug part in the operation of opening the lock; and with this and other objects in view the invention consists in a combination key device of the class and for the purpose specified which is simple in construction, efficient in use and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Fig. 1 is a diagrammatic sectional view through a tumbler lock illustrating one part of my key device mounted therein;

Fig. 2 is a view similar to Fig. 1 but showing both parts of the key within the lock;

Fig. 3 is a detail view of my improved key device; and,

Fig. 4 is a section on the line 4—4 of Fig. 3.

In Figs. 1 and 2 of the drawing, I have shown at 5 the cylinder construction of a tumbler lock for the purpose of illustrating one use of my invention, and in said figure 6 represents a number of tumblers in the cylinder of a lock, the ends of said tumblers cooperating with balls 7 in the usual manner. At 8 I have shown a part of the lock spindle which controls the latch and lock bolts of the lock and 9 represents the key aperture into which my improved key device 10

is adapted to be inserted as hereinafter set out.

In Fig. 3 of the drawing I have shown my improved key device detached and in detail, said device being composed of two parts 11 and 12, the part 11 constituting the key proper and being provided at its upper edge with a plurality of predetermined grooves or depressions 13 which control the proper manipulation of the lock to rotate the spindle 8 and open a door or the like in which the lock is mounted, the part 12 of the lock constitutes a plug part and is substantially L-shaped in form or comprises a shank portion 14 and leg portion 15. The upper face of the shank 14 is provided with a plurality of spaced projecting members 16 adapted to cooperate with corresponding recesses 17 formed in the bottom face of the part 11 for interlocking the separate parts 11 and 12 together, and it will be understood that when the parts 11 and 12 are together they will resemble the usual unitary key.

Both of the parts 11 and 12 are provided on one side face thereof with a groove 18 which extends longitudinally therethrough, and on the other side face thereof with another groove 19 shown in Fig. 4 of the drawing, and these grooves form a key of predetermined form in cross section which is adapted to enter a predetermined key aperture 9 in the lock, and it will be understood that these grooves or the cross sectional form of the key device as a whole may be varied as is the custom with the usual unitary key construction.

It will also be noted that the top and bottom edges or faces of the key device when the parts 11 and 12 are together and interlock are in common alinement, and the part 11 is provided with a substantially circular head 20 constituting a finger piece which will facilitate the manipulation of the key part 11 in the operation of opening the lock.

In the use of my improved key device the part 12 thereof, or the plug part may be inserted into the key aperture 9, and this part will be retained against accidental displacement by the leg 15 which cooperates with the tumbler 6, and in order to open the lock a key part similar to the part 11 must be at hand to accomplish the desired result, and in the operation of opening the lock or operating the same the part 11 is inserted into the key aperture 9, and when in its in-

nermost position said part will interlock with the part 12, and the part 11 may then be rotated in the usual manner to open the lock or to revolve the spindle 8 to manipulate the latch or lock bolts of the lock in the usual manner. In the above operation it will be understood that the part 11 of the key device must be the mate to the part 12, or must have recesses or projections interlocking with the projections or recesses in the part 12 and must also be provided with the required recesses or projections 13 on the upper edge or face thereof, otherwise the part 11 will not accomplish the desired result or actuate the mechanisms of the lock. In order to remove the plug part from the aperture 9 it is also necessary to provide a part 11 which will interlock with said plug part.

From the foregoing it will be apparent that an ordinary key which might fit the lock, or fit into the aperture 9 of the lock and actuating the mechanisms thereof to open the same cannot be employed or used without removing the plug part 12, if said plug part is within the aperture, and on the other hand if said plug is within the aperture 9 the specific or cooperative key part 11 must be used, that is to say, a part 11 which will interlock with the part 12 and also be provided with the required key grooves to actuate the lock mechanism, and in this way a double assurance of safety is effected, especially to check the use of a skeleton key, it being understood that many combinations between the interlocking of the separate parts 11 and 12 may be employed as well as the usual key combination, but with my improved key construction the possible combinations are multiplied many times over the present type of keys.

My improved key device will work to a great advantage in connection with the locks, particularly the entrance doors to homes, apartments, compartments or the like, and also to locks of the class under consideration employed in motor vehicles and various other and unlimited uses, and in every instance the plug part 12 of the key device may be kept within the key aperture of the lock at all times, if desired, but may be removed at will for any purpose. One of the distinctive features of my present invention rests in the fact that it is only necessary for the proper party who is to have possession of the key part 11 to carry but a single key or unit as is the usual custom and it is not necessary to be in possession of the part 12 unless there should be special reason for so doing, and it will also be understood that any number of the key parts 11 may be employed and used in connection with a single plug key part 12.

While I have shown and described my invention as applied to a lock of specific con-

struction and have shown and described a specific form of lock, it will be understood that my invention is not necessarily limited in these respects, and various changes in and modifications of the construction herein shown and described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

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

1. A combination key for tumbler locks, said key being composed of separate interlocking and cooperative parts positioned one above the other and edge to edge, and one of said parts constituting a key part for actuating the tumblers of the lock.

2. A combination key for tumbler locks, said key being composed of separate interlocking and cooperative parts, one of said parts constituting a key part for actuating the tumblers of the lock, and the other of said parts being substantially L-shaped in form and being adapted to be inserted into the key aperture of the lock and to cooperate with the tumblers thereof to prevent the withdrawal of said part.

3. A combination key for tumbler locks, said key being composed of separate interlocking and cooperative parts, one of said parts constituting a key part for actuating the tumblers of the lock, and the other of said parts being substantially L-shaped in form and being adapted to be inserted into the key aperture of the lock and to cooperate with the tumblers thereof to prevent the withdrawal of said part, and said first named part being adapted to withdraw said last named part of the key from the lock.

4. A combination key for tumbler locks, said key being composed of separate interlocking and cooperative parts, one of said parts constituting a key part for actuating the tumblers of the lock, the other of said parts being substantially L-shaped in form and being adapted to be inserted into the key aperture of the lock and to cooperate with the tumblers thereof to prevent the withdrawal of said part, said first named part being adapted to withdraw said last named part of the key from the lock, and said first named part being provided with a finger piece.

5. A combination key for tumbler locks, said key being composed of separate interlocking and cooperative parts, one of said parts constituting a key part for actuating the tumblers of the lock, the other of said parts being substantially L-shaped in form and being adapted to be inserted into the key aperture of the lock and to cooperate with the tumblers thereof to prevent the withdrawal of said part, said first named part being adapted to withdraw said last

named part of the key from the lock, said first named part being provided with a finger piece, and the cross section of both of the parts of the lock corresponding with the contour of the key aperture of the lock.

6. A combination key of the class described for use in connection with tumbler locks, said key comprising a key part and a plug part, said key part being fastened to cooperate with the tumblers of the lock to permit of the opening of said lock, and said plug part being adapted to be placed in the key aperture of the lock and provided with means cooperating with the tumblers of the lock to normally prevent the withdrawal thereof.

7. A combination key of the class described for use in connection with tumbler locks, said key comprising a key part and a plug part, said key part being fashioned to cooperate with the tumblers of the lock to permit of the opening of said lock, said plug part being adapted to be placed in the key aperture of the lock and provided with means cooperating with the tumblers of the lock to normally prevent the withdrawal thereof, and means for interlocking the separate parts of the key.

8. A combination key of the class described composed of separate parts adapted when placed one upon another and edge to edge to form a complete key both parts of which are insertable into the lock, cooperative means for interlocking said key parts, and one of said key parts being fashioned to actuate the mechanisms of a lock.

9. A combination key of the class described composed of separate parts adapted when placed together to form a complete key, cooperative means for interlocking said key parts, one of said key parts being fashioned to actuate the mechanisms of a lock, and said part being provided with a finger piece.

10. A combination key of the class described composed of separate parts adapted when placed together to form a complete key, cooperative means for interlocking said key parts, one of said key parts being fashion-

ioned to actuate the mechanisms of a lock, said part being provided with a finger piece, and the other of said parts being substantially L-shaped in form.

11. A key of the class described the shank of which is fashioned to actuate the mechanisms of a lock and other means on said shank and positioned in common alinement with the plane of said shank for controlling the use of said key in a predetermined lock, said last named means being entirely insertable into a lock.

12. A combination key of the class described, said key being composed of separate interlocking parts, one of which is adapted to be inserted into the usual key aperture of a lock and retained against displacement therefrom and the other of said parts constituting the key proper and adapted to be inserted into said key aperture above the first named part and adapted to manipulate the mechanisms of a predetermined lock.

13. A combination key of the class described, said key being composed of separate interlocking parts, one of which is adapted to be inserted into the usual key aperture of a lock and retained against displacement therefrom and the other of said parts constituting the key proper and adapted to be inserted into said key aperture above the first named part and adapted to manipulate the mechanisms of a predetermined lock and means for interlocking the separate parts of the key.

14. A combination key of the class described, said key being composed of separate interlocking and cooperative parts, positioned one above another to form, when assembled, a unitary key for actuating a predetermined lock, and one of said parts being provided with a finger portion and constituting a key proper and the other of said parts constituting a plug key adapted to be inserted into the key aperture of a lock and retained against displacement therefrom.

In testimony that I claim the foregoing as my invention I have signed my name this 27th day of April 1923.

EMIL ROETHLISBERGER.