April 6, 1937. R. A. RINGSEIS 2,076,004

KEYHOLE GUIDE

Filed May 2, 1936

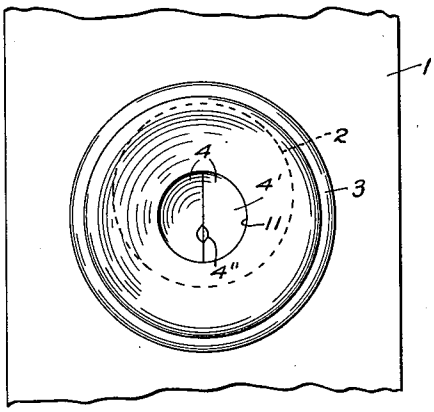


Fig. 1.

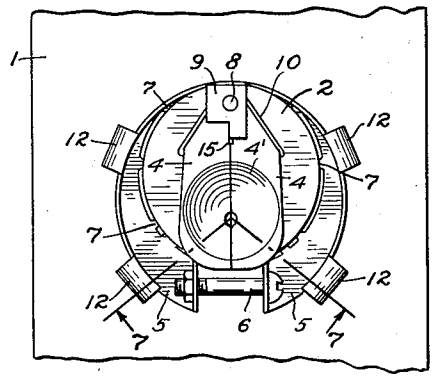


Fig. 2.

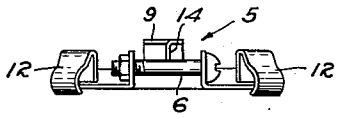


Fig. 3.

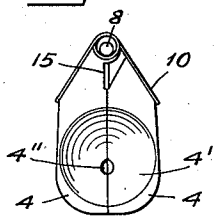


Fig. 5.

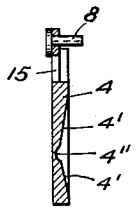


Fig. 6.

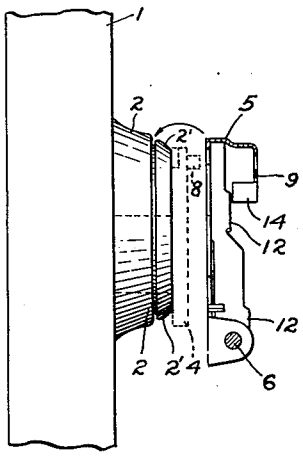


Fig. 4.

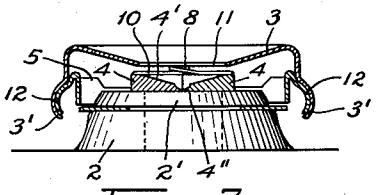


Fig. 7.

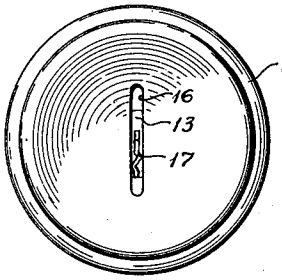


Fig. 8.

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Patented Apr. 6, 1937 2,076,004

UNITED STATES PATENT OFFICE

2,076,004

KEYHOLE GUIDE

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Application May 2, 1936, Serial No. 77,511

8 Claims. (Cl. 70—454)

This invention relates to funnel-like devices for guiding keys into keyholes of locks and in particular to such devices for guiding flat keys of the tumbler cylinder type locks, and forms an improvement over the similar device of my prior Patent No. 2,036,541, dated April 7, 1936.

The principal object of the present invention is to provide a device of the kind stated which may be easily and quickly fitted to existing locks without drilling holes in the door, escutcheon, or using screws or bolts. Other objects are to provide a simpler and better working device of this kind and which may easily be opened up to clean it, if required, or remove it entirely if desired to get at the lock itself for any purpose.

In the drawing Fig. 1 is a front view of my improved keyhole guide in place on a door lock of the cylinder type.

Fig. 2 shows the device with the funnel plate removed.

Fig. 3 is an edge view of the clamping ring as seen from the line 3—3 of Fig. 2.

Fig. 4 is a side view of the door lock with the key-guiding jaws dotted in position on its outer end, and the clamping ring drawn in cross section just forward of the lock to indicate how it clamps to the barrel of the lock.

Fig. 5 is a front view of the guiding jaws with their connecting pivot and spring.

Fig. 6 is a vertical section of the jaws of Fig. 5 taken immediately adjacent the vertical center line of the jaws.

Fig. 7 is a cross section of the device as seen along the line 7—7 of Fig. 2 but with the funnel plate in place.

Fig. 8 is a view similar to that of Fig. 1 showing a slotted funnel plate.

Briefly described the improvements include the provision of a clamping split ring or collar which is firmly clamped about the exposed neck or barrel of the lock, and the funnel plate is simply snapped or sprung in place over the clamping ring, while the key-guiding jaws operate between the funnel plate and the face of the lock, or rather barrel of the lock. The clamping ring or collar is preferably made of sheet metal to pull together with a screw similar to a hose clamp and is preferably formed with a few small teeth to dig into the bronze or brass neck of the lock barrel so as to form a firmly secured foundation to support the funnel plate.

In the drawing Fig. 1 is a plan view indicating a portion 1 of the door, the end of the lock barrel is dotted at 2, at 3 is the funnel plate and at 4 the guiding or key-centering jaws.

The clamping split ring is shown in Figs. 2, 3, 4 and 7 at 5 with its free ends bolted by a bolt 6 which clamps the ring about the neck or rim 2' of the main barrel 2 of the lock, and the ring is preferably formed to engage into a slight groove behind it as indicated by the arrow in Fig. 4, and also provided with a few very small spurs or teeth 7 at its inner edge for the purpose stated.

The two key-centering jaws 4 are pivoted together at the upper ends by a pivot 8 which projects forwardly through a hole in a lug 9 formed on the clamping ring, so that in Fig. 4 where the jaws 4 are dotted in place, if the clamping ring were put in place over the lock rim the jaws would be pivoted in lug 9 as shown in Fig. 2. A small wire spring 10 supported on the pivot engages the jaws with its free ends to normally urge them together yet permit opening wide enough to turn the key around between them.

The funnel plate 3 is preferably a spun or pressed sheet metal shell with a central round opening 11 and a recurrent rear edge 3' which snaps over a plurality of spring lugs 12 formed on the clamping ring so that the funnel plate cannot be removed except by forcibly pulling it off, though it may be free to revolve bodily as may be a useful feature where its central opening is other than round and thus permit to turn with the key.

In Fig. 8 the revolvable funnel plate is shown with a slot 16 for the key long enough to pass the shoulders of the key, and permit its displacement due to the eccentric relation of the keyhole 17 to the tumbler cylinder 13.

When the center opening 11 of the funnel plate is round it must be large enough to pass the key shoulder so that the shoulders of the key can pass on through the two jaws 14 and come to a stop against the lock barrel. This fact would normally leave a flat outer surface exposed on the jaws 4 against which the tapered end of the key would be liable to bump after being guided thereto by the funnel, but to overcome this I make the jaws quite thick and substantially continue the funnel surface part way into the jaws as indicated at 4' in Fig. 7 and from which point the meeting edges of the jaws are notched or locally beveled off as at 4'' to guide the tip of the key into the keyhole of the revolvable tumbler cylinder 13 of the lock.

In Figs. 5 and 6 the form of the guiding jaws 4 are clearly shown as well as the mode of pivoting them together on top with pivot 8, while in Fig. 2 the outer end of the pivot 8 is shown supported or positioned in the hole in lug 9 of the clamping ring. To make the two jaws close with

their meeting edges in line with the key slot, lug 9 has a lip 14 turned down between a clearance space 15 formed between the shanks of the jaws.

When the slotted funnel plate 3'' of Fig. 8 is used, no jaws are required as the funnel plate is of a depth to just clear the face of the lock barrel.

Having thus described my improved keyhole guide, what I claim is:

1. A keyhole guiding device for flat-type keys of cylinder-type locks comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock, and the mounting means providing for free bodily rotation of said funnel plate.

2. A keyhole guiding device for flat-type keys of cylinder-type locks comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a supporting member formed and arranged to clamp around the projecting normally exposed forward end of the lock.

3. A keyhole guiding device for flat-type keys of cylinder-type locks having a rim at the outer end of the lock barrel comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a supporting member formed and arranged to clamp around the projecting normally exposed forward end of the lock and engage under the rim of the lock barrel.

4. A keyhole guiding device for flat-type keys of cylinder-type locks having a rim at the outer end with a groove therearound comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a supporting ring formed and arranged to clamp around the normally exposed forward end of the lock barrel and engage in said groove.

5. A keyhole guiding device for flat-type keys of cylinder-type locks comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a supporting member formed and arranged to clamp around the projecting forward end of the lock and provided with spurs to engage the metal.

6. In the device as specified in claim 2, said supporting member being generally ring-shaped and provided with means removably engaging said funnel-like plate.

7. A keyhole guiding device for flat-type keys of cylinder-type locks comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a split-ring formed and arranged to clamp around the projecting forward end of the lock and provided with means to hold said funnel concentric with the tumbler cylinder of the lock.

8. A keyhole guiding device for flat-type keys of cylinder-type locks comprising a shallow funnel-like plate with an opening at its small end to receive the key, means mounting said funnel-like plate adjacent the face of the lock with its opening substantially aligned with the keyhole of the lock comprising a split-ring formed and arranged to clamp around the projecting forward end of the lock and provided with means to hold said funnel concentric with the tumbler cylinder of the lock, and a pair of key-centering jaws pivoted to said split-ring normally covering the lock key slot.

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