[Second Edition.]

PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in and relating to Locks.

I, HEINRICH BIEMER, of Rankestrasse 29, Berlin, W. 50, Germany, of German nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a lock, comprising a locking cylinder rotatable in a lock casing, with tumbler strips bearing directly upon one another without spring loading, which, upon the introduction of the key, are drawn back into the locking cylinder and arranged in their order, thereby rendering possible a rotation of the locking cylinder and a movement of the locking bolt connected with the latter

The object of the invention is to provide a lock of this type which is distinguished by particularly simple construction with particularly reliable protection of the lock against unauthorized opening.

According to the present invention these objects are attained by arranging the tumbler strips beside the aperture provided in the locking cylinder for the key, and by providing the tumblers with lateral lugs for displacement by the key, these lugs also preventing the tumbler strips from dropping out of the locking cylinder.

A padlock and a door lock according to the present invention are diagrammatically illustrated by way of example in the accompanying drawings, in which

Fig. 1 shows a longitudinal section through a padlock,

Figure 2 a front view thereof,

Figure 3 a cross section through the locking cylinder of the lock on a larger scale,

Figure 4 a cross section through the locking cylinder of the lock in a somewhat modified constructional form, also on a larger scale,

Figure 5 a plan of the locking cylinder of the lock on an enlarged scale, with the key inserted.

Figure 6 is an elevation view corresponding to Figure 5,

Figure 7 is an end view of the locking cylinder as seen from the inside of the lock.

Figures 8 to 11 show details on a larger scale.

Figures 12 to 13 are side views of the key showing opposite sides thereof, and

Fig. 14 is an elevation view, partially in section, of a lock according to the invention in a somewhat modified form of construction.

In these drawings, 1 denotes the casing of a padlock. 2 the hoop at the top of the padlock, 3 a locking cylinder, and 4 a locking bar, which, by entering an aperture 5 in a part 6 of the hoop 2 keeps the latter in the locked position. 7 is an opening spring, which throws up the hoop 2 when the locking bar 4 is retracted.

In Figs. 3 and 4 are shown sheet-like tumbler strips 8, with lugs 9. These tumbler strips are arranged side by side in direct contact with one another in the locking cylinder 3 without a spring, as will be seen from Figs. 1, 5 and 6, and are so supported in the locking cylinder by means of guiding members 10 to 12, 13 and 14, as to be slidable in their longitudinal direction, the lugs 9 preventing the tumbler strips from dropping out.

There is preferably provided in the interior of the locking cylinder a guiding rib 15, the purpose of which will hereinafter be further described.

In place of the tumbler strips 8 with a lug 9 according to Fig. 4, tumbler strips 16 with a lug 17 and an auxiliary lug 18, as shown in Fig. 11, are also possible. In this case the auxiliary lugs 18 prevent the tumbler strips from dropping out of the locking cylinder, while the main lugs 17 only serve for the displacement of the tumbler strips by the key.

In order to prevent the tumbler strips 8 dropping out of the locking cylinder in the longitudinal direction thereof, a holding member 19 is provided, which preferably consists of a sheet metal plate with an aperture 20 in the middle, and is inserted in suitable grooves 21 in the locking cylinder.

In Figures 12 and 13 is shown a key 22 suitable for this lock, with lateral cam grooves 23 and 24 and a guiding groove 25. The latter ensures the key only being introduced into the locking cylinder