

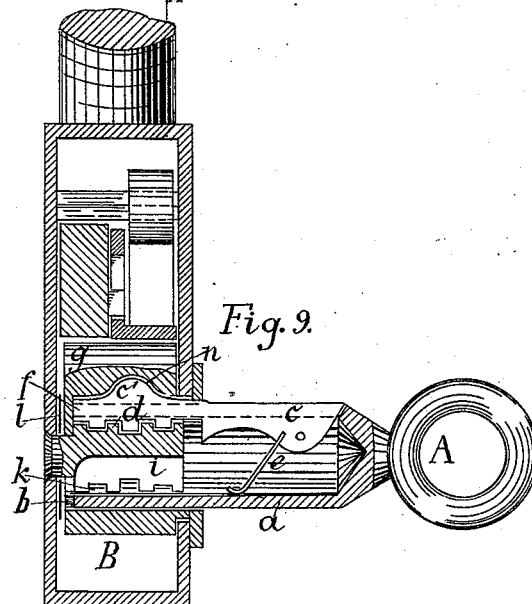
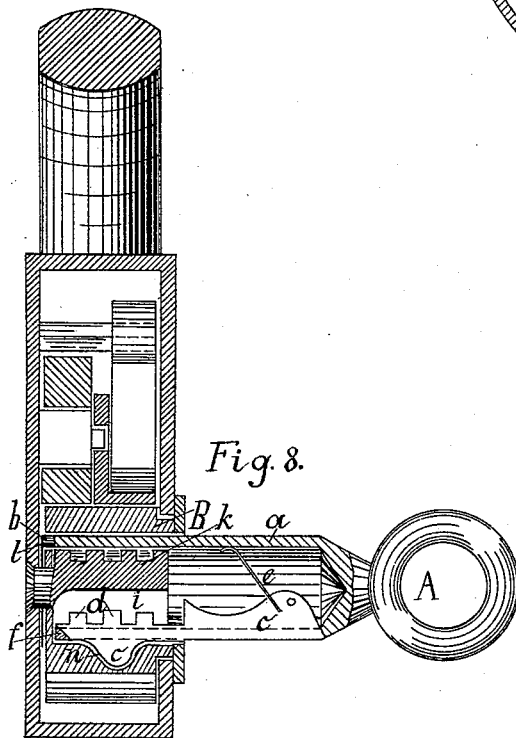
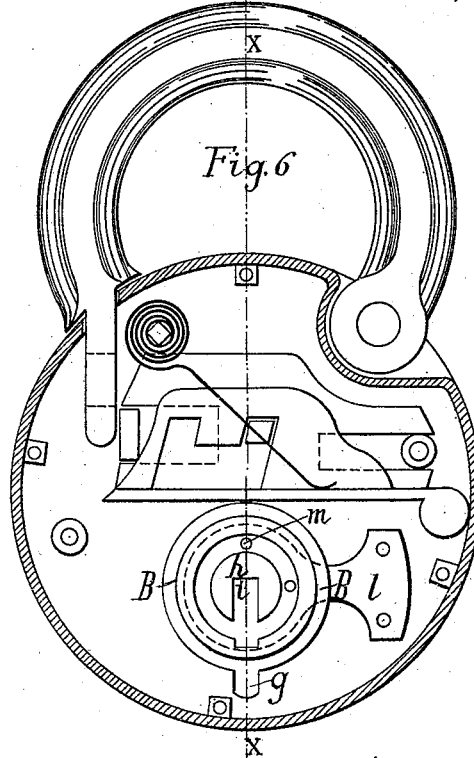
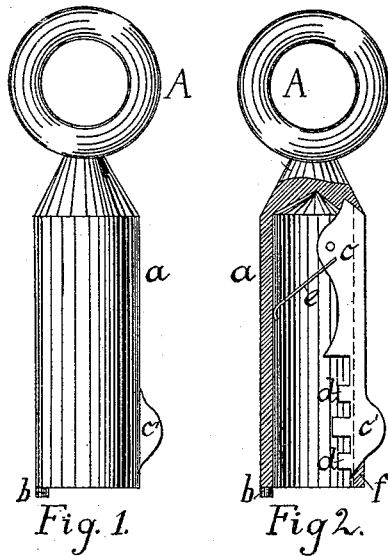
(No Model.)

2 Sheets—Sheet 1.

F. MEINKE.
PADLOCK.

No. 494,340.

Patented Mar. 28, 1893.



WITNESSES.

Jessie D. Kungobury.
Edw. Taubenschmidt.

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F. Franz Meinke.
Whitaker, Prevorst, Attys

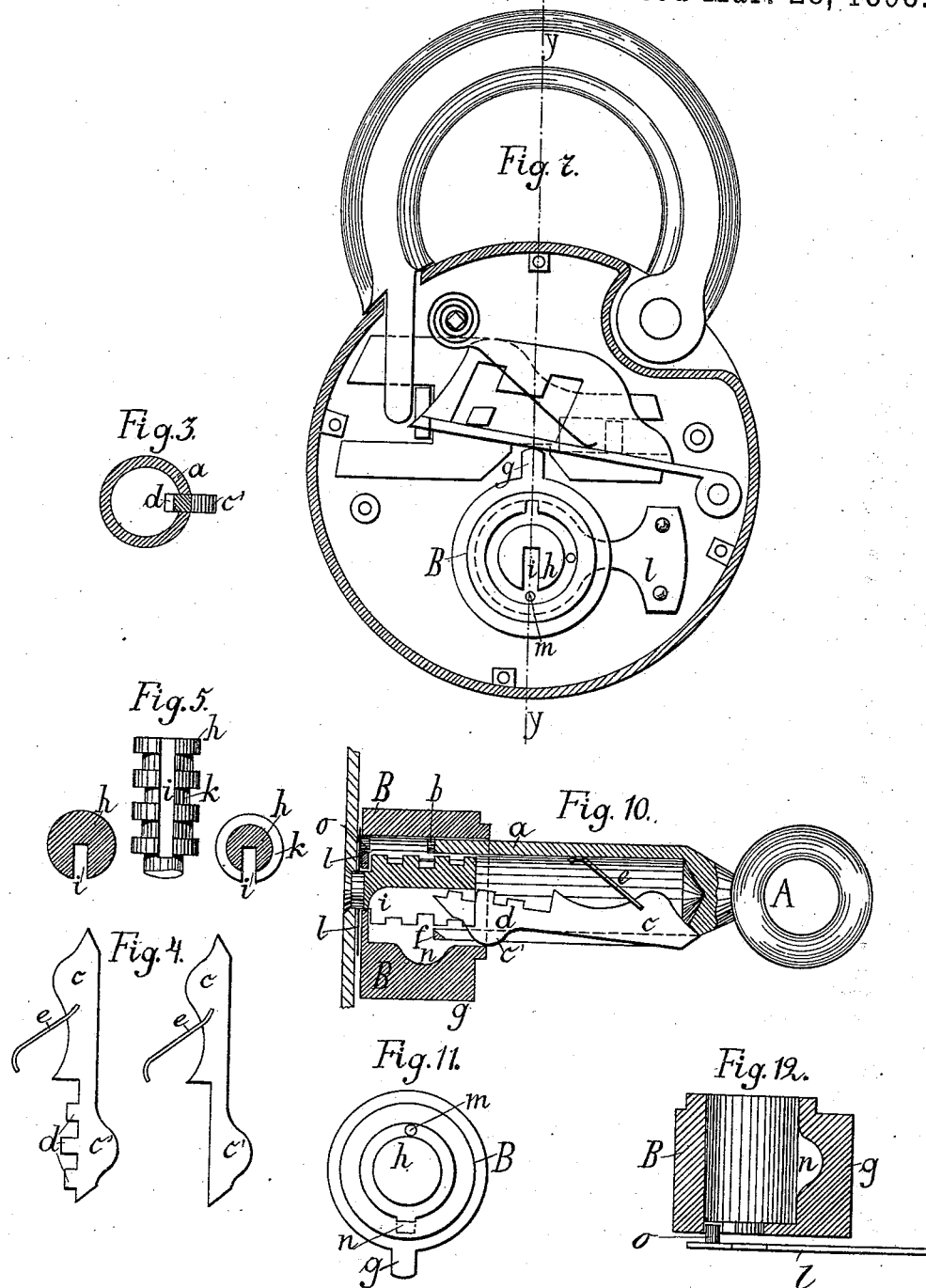
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2 Sheets—Sheet 2.

F. MEINKE.
PADLOCK.

No. 494,340.

Patented Mar. 28, 1893.



WITNESSES—

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UNITED STATES PATENT OFFICE.

FRANZ MEINKE, OF CÖRLIN, GERMANY.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 494,340, dated March 28, 1893.

Application filed September 3, 1892. Serial No. 445,026. (No model.)

To all whom it may concern:

Be it known that I, FRANZ MEINKE, of Cörlin, in Pomerania, in the Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had to the accompanying drawings.

This invention has for its object certain improvements in locks and in the keys to be used in connection therewith, and is particularly applicable in cases where a number of similar locks (but provided with separate keys) are in use, and where it may be desirable to have a master-key which shall be capable of locking and unlocking the whole.

In the accompanying drawings I have illustrated my invention applied to a pad-lock and key, but I would have it understood that my improvements are also applicable to other forms of locks, such as safe locks, trunk locks and the like.

With reference to the drawings: Figures 1, 2 and 3 illustrate a key constructed according to my invention. Fig. 4 illustrates two forms of key-bit, that on the left hand side of the figure being for ordinary use, and that on the right hand side being the bit of a master-key. Fig. 5 illustrates the key-pin of my improved lock. Figs. 6 and 7 represent a pad-lock constructed according to my invention in its unlocked and locked positions respectively, one side of the case being removed to show the parts contained within the same. Fig. 8 is a section on line $x-x$ Fig. 6. Fig. 9 is a section on line $y-y$ Fig. 7. Fig. 10 illustrates the introduction of the key into the lock. Figs. 11 and 12 are details of parts of the lock mechanism.

Upon referring to the drawings it will be seen that the key A consists mainly of the tubular body or pipe a provided with a slot in which is accommodated the bit c of the key. The bit c is pivoted at one end to the key-pipe, a spring e being provided to press it outwardly against the stop f . The free end of the bit c is provided on its outward side with a projection c' and on its inward side with the projections d . These projections d and the spaces between them correspond, when the key is turned in the lock, with the wards h and the spaces between them of the key-pin h secured in the lock casing as will be under-

stood. A slot i is formed in the corrugated key-pin or post h for the reception of the bit c on the insertion of the key into the lock and its withdrawal therefrom.

Inside the lock and arranged concentrically with the pin h is the hollow boss B, the neck of which projects through and is free to revolve in the side of the lock-case, such neck being provided with an outer plate or flange which forms the key-hole escutcheon. On the periphery of the boss B there is formed a shoulder g whose function it is to engage with and shoot the bolt of the lock, such bolt and accessory parts being of the usual formation as shown. On the inner surface of the hollow boss B there is provided a recess n for the reception of the projection c' of the bit c .

Upon introducing the key A into the lock the piece c' comes into contact with the key-hole escutcheon and is forced inwardly as is shown in Fig. 10, the bit c being received by the groove i of the pin h . As soon as the key A has arrived in the correct position for operating the lock the bit c is forced out of the slot i by the spring e and the projection c' engages with the recess n of the boss B. The projections d of the bit c are now in line with the grooves or corrugations formed in the post h , so that the key can be turned in the lock, and as the projection c' is now lying in the recess n it follows that upon turning the key either to the right or left hand the boss B will be rotated, and as the shoulder g engages with the bolt of the lock, the latter will be locked and unlocked respectively, as will be understood.

As a means of rendering my improved lock more secure against picking or tampering, the device shown in Fig. 12 is provided. This consists in forming a hole m in the end plate of the boss B into which takes the pin b of the key A when the key is inserted into the lock. Unless the hole m is thus occupied by the pin b a stop o carried by a flat spring l which lies in the path of the hole m as the boss revolves, will engage with it and arrest the boss B. Thus a key to be operative must be provided with the requisite pin p .

In a set of locks constructed as above described, the grooves and wards upon the key pins h would be arranged differently in each lock, and to provide a master key with which

to open the whole it is only necessary to place in the key A a bit such as shown on the right hand side of Fig. 4. This bit, it will be seen is devoid of projections *d* on its inner side, and it is therefore free to revolve round the key-pin *h* independently of the particular wards and grooves which may be formed thereon, the projections *c'* engaging with the boss B as before described.

It will be seen that by my invention the bit of a key is carried within and is protected by the tubular body *a*, and is therefore not exposed to view, whereby it is impossible for the configuration of such bit to be ascertained from without or for a waxen cast to be taken of it for fraudulent purposes as is possible with the keys now commonly used.

What I claim, and desire to secure by Letters Patent, is—

1. In a locking mechanism the combination with a lock casing provided with an immovable solid key receiving post having exterior rigid wards of a hollow key having interior projections corresponding to the grooves or clefts between the wards of the key post, whereby only the proper key can be inserted in the lock and turned upon the post to move the bolt of the lock, substantially as described.

2. In a locking mechanism the combination with a lock casing provided with an immovable solid key receiving post having exterior rigid wards of a hollow key having a bit secured thereto and extending within the hollow portion of the same, said inwardly extending portion of the bit being cut away to permit the same to pass the wards of said key receiving post when the key is rotated upon the same, substantially as described.

3. In a locking mechanism a key having a hollow tubular body provided with an exterior projection to actuate the bolt and on its interior with a longitudinal projection having ward engaging clefts or recesses whereby the taking of an impression of the ward registering portion of the key is prevented, substantially as described.

4. In a locking mechanism a key having a hollow body, said key being provided with a bit pivoted thereto and extending within the hollow of the same, said bit having the portion projecting within the hollow of the key provided with ward engaging clefts or recesses whereby the taking of impressions of the ward registering portion of the bit is rendered impracticable, substantially as described.

5. In a locking mechanism the combination with the lock casing provided with a stationary key post having recessed portions, and a longitudinally extending slot, of a key having a hollow body and a bit pivotally secured therein for engaging the longitudinal slot of said post, said bit having portions projecting into said hollow body for engaging the recesses of said post, substantially as described.

6. In a locking mechanism the combination with the lock casing provided with a stationary key post having a corrugated surface and a revoluble boss, having a recess therein, of a key having a hollow body provided with a bit having a corrugated surface for engaging said post, and a projecting portion for engaging the recess of said boss, substantially as described.

7. In a locking mechanism the combination with the lock having a corrugated key post, a revoluble boss provided with an aperture and a spring plate having a stop in the path of said aperture, of a key having a hollow body provided with a bit for engaging said boss having projections extending into said body for engaging the key post and a projection adapted to fill the aperture of said boss and prevent the stop from entering the same, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRANZ MEINKE.

Witnesses:

PAUL FISCHER,
PAUL BRINKMANN.