

PATENT



SPECIFICATION

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Complete Accepted, Aug. 3, 1916.

COMPLETE SPECIFICATION.

Improvements in and relating to Locks and Keys.

We, **FREDERICK WILLIAM WEATHERELL**, Traveller, and **JOHN VALENTINE KAYE**, Lock Manufacturer, both of Joseph Kaye & Sons, Limited, Lock Works, South Accomodation Road, Hunslet, Leeds, in the County of York, do hereby declare the nature of this invention and in what manner the same is to be performed,
5 to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in locks and keys, and refers to that type of lock which employs two key holes, one for the servants key and one for the pass key, the keys for the locks being so constructed, combined with the locking levers, that a servants key can be in no circumstances altered to act as
10 a master or sub-master key. Our object is to arrange and construct a lock and keys for some of the type described which will give an enormous range of servants keys and sub-master keys and master key, and we may use or not as desired the usual system of "warding". The servants key will act on their own levers; the master and submaster keys on another lever or set of levers, the latter set
15 however are so constructed that on their operation the servants-key levers must be operated or moved by the master lever or levers in their correct order and into their correct position to clear the "gateing" to allow the bolt to be shot or withdrawn. The servants key will operate the lock independent of the master key.

In describing our invention in detail reference is made to the accompanying
20 sheets of drawings, similar letters indicating similar parts in which:—

Fig. 1 represents a view of the lock with the cover removed.

Fig. 2 represents a view of the bolt and tail pieces.

Fig. 3 represents suitable keys for the lock shewn and hereinafter described.

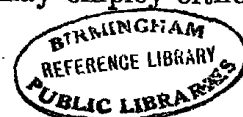
Fig. 4. represents a sectional view of the master levers on line *a. b.* in Fig. 1 &

25 Fig. 5 represents a similar view of a single master lever adapted to operate a plurality of servants levers.

To carry our improvement into effect; in the first place we employ a series of tumblers or levers *T* hereinafter referred to as servants levers and provide them with gates *T¹* adapted to engage a suitable gate-way *B¹* in the bolt head *B* in any
30 usual or convenient manner. The tail piece *P* has a suitable notch *P¹* therein, to be engaged by the bit of the servants key *S* when operated in keyhole *S¹*. Up to this point except as hereinafter pointed out there is no novel construction. The bolt *B* carries another tail piece *P²* and suitable notch *P³* adjacent to the keyhole *M¹* for the master or like key *M*. Mounted above the tail piece *P²* are
35 the master levers *M²*. These master levers as will be seen are angular and extend to behind and in contact with the servants levers *T* touching them at such a point and in such wise that the servants levers may be operated by their own key without moving the master levers, but when the master levers are operated the servants levers will also be actuated.

40 In the drawing Fig. 1. we have shewn a lock having 4 servants levers *T* and 4 master levers *M²*, but we wish it to be understood that we may employ either

[Price 6d.]



a greater or smaller number, and we may actuate the servants levers by one two or an equal number of master levers. Say there are 4 servant levers and only one master lever as in Fig. 5. The lower end M^3 of the master lever M^2 will be shaped to suit the various steps in the abutting ends of the servants levers in order that when the master lever is correctly actuated the servants levers will also be correctly operated thereby allowing their "gates" to enter or clear the gate-way in the bolt which bolt can be operated by the master tail piece P^2 .

Similarly 2 master levers may operate 2, 3, 4 or more servants levers or the numbers of the levers may be equal or there may be more master levers. In which case some would be inoperative on the servants levers.

In some cases, it may be desirable to make the bolt gate-way B^1 wider than is ordinarily necessary and so allow some of the levers to be moved rather more than others by a master or submaster key and yet pass the gate-way B^1 , or such gate-way may be slotted out in its sides to allow a particular lever to pass.

Now as to the keys, the servants keys S Fig. 3 may have a simple ward gap to engage a collar ward on the lock and the master key M may be warded in the manner with usual master keys to suit wards such as M^4 Fig. 1. In this case it is obvious a servants key will not actuate the master levers and cannot be turned in the key-hole. The actuating "bit" of the servants key may be made either larger, smaller or equal to that of the master key. If smaller no alteration could make the servant key operate the master tail piece; if made larger or equal apart from the warding, the steps to operate the servants levers will be so arranged that they cannot operate the master levers.

A simple way of effecting differences in the keys is to make every servants key different as to steps and so form each key that it possesses a step or steps less than an acting step or steps in the master or submaster keys.

Each servant key will suit only its own system of levers and cannot suit the master levers, each master or submaster key suits its own lever or levers, apart from any system of warding which is only an ordinary increase of security.

In Fig. 3 are shown a servant key S and master key M suitable for the levers shown in Figs. 1 & 4 and however the key S is altered it cannot actuate the master levers, the steps S^2 in key S being less than the steps M^5 in key M .

With regard to the single master lever in Fig. 5 this will be actuated by one of the steps M^5 and therefore cannot be actuated by the key S .

It will be noted that the master lever or levers M^2 require no springs.

A very great range of servants keys may be constructed, and a large range of servants levers may be made to be operated through one or a series of master or submaster levers. The lock is not complicated or unduly costly to produce.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. In locks having 2 keyholes and keys therefor, a master lever or levers adapted to actuate the servants levers to clear the gateway & so permit the bolt to be shot or withdrawn by the action of the master key or the master tail piece, substantially as described.

2. In a lock having two keyholes, the combination with a single gated bolt having two tail pieces and a set of servants or ordinary levers; of one or more master levers abutting at one end against the servants levers, arranged in such wise that only a master or submaster key may operate the master levers and thereby actuate the servants levers to clear the bolt gate.

3. In a lock having two keyholes, the combination with a single gated bolt having two tail pieces, a set of servants or ordinary levers mounted in connection with one tail piece & operating in the gated bolt, and a set of master levers over the other tail piece adapted to operate such servants levers; of the servants and master keys, substantially as described.

4. In a lock having two keyholes, one being adapted to receive a servants key

and the other a master or sub-master key, the combination with servants levers adapted to engage a gated bolt of a master lever (or levers) out of engagement with the gated bolt & adapted to operate correctly the servants levers and so free or engage the bolt provided with a tail piece to each set of levers, substantially as described.

5 In a lock substantially as set out in Claim 1. a gated bolt having play or slots in its gateway to allow one or more of the servants levers to pass the gateway with an extra movement, substantially as described.

10 6. The arrangement and construction of the lock and keys therefor, substantially as hereinbefore described and shewn in the drawings.

Dated this 4th day of April, 1916.

CLIVE WAUGH,
Chartered Patent Agent,
Sunbridge Chambers, Bradford, Yorks.

SHEET 1

SHEET 2

[This Drawing is a reproduction of the Original on a reduced scale.]

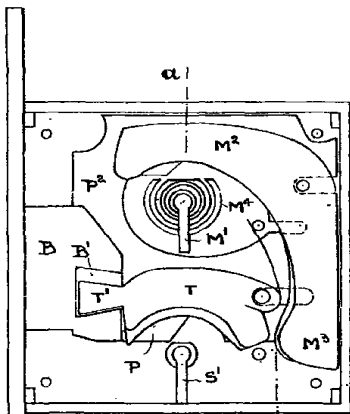


Fig. 1.

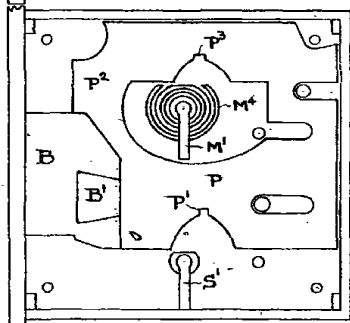


Fig. 2.

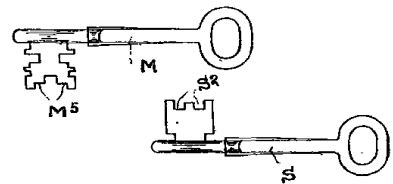


Fig. 3.



Fig. 4.

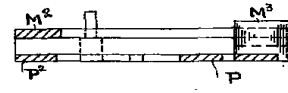


Fig. 5.



[This Drawing is a reproduction of the Original on a reduced scale.]

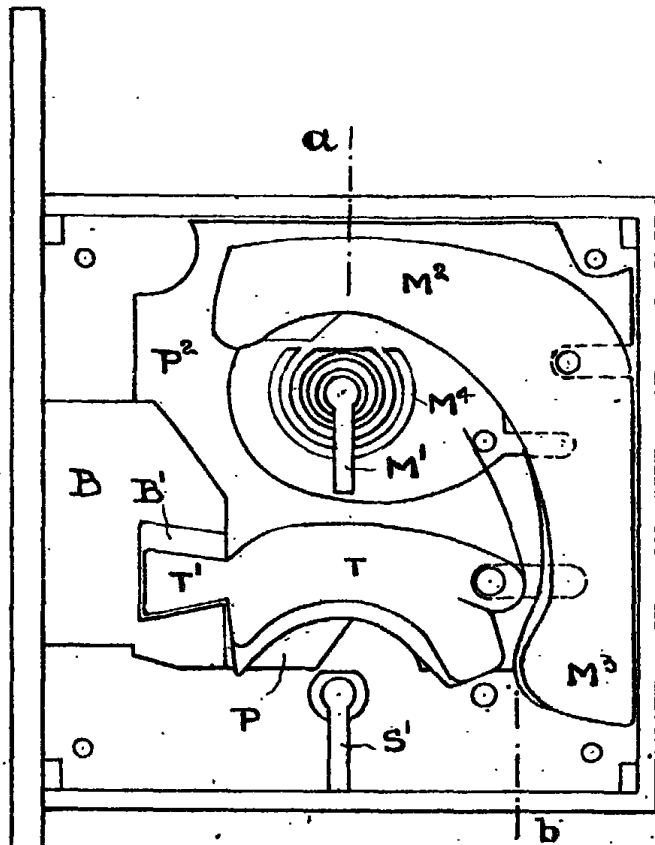


Fig. 1.

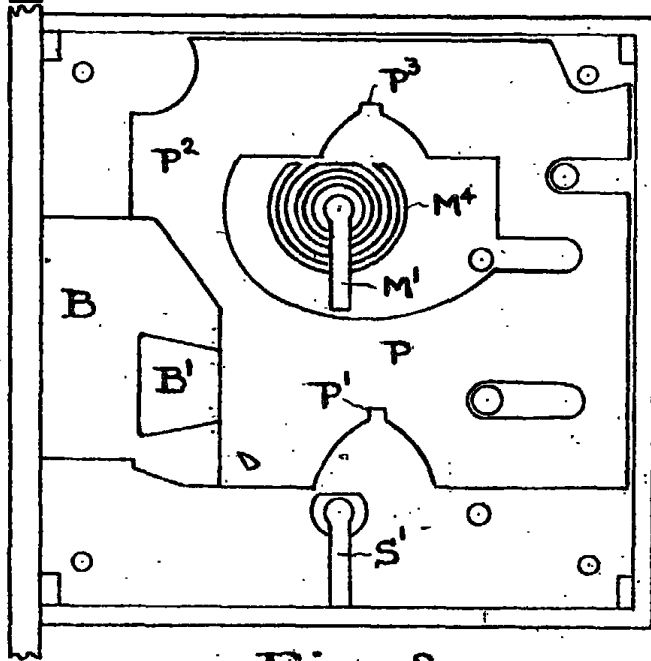


Fig. 2.

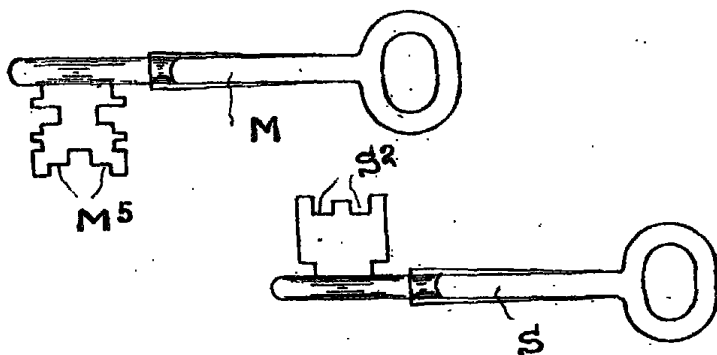


Fig. 3.

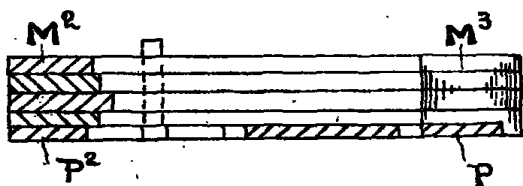


Fig. 4.

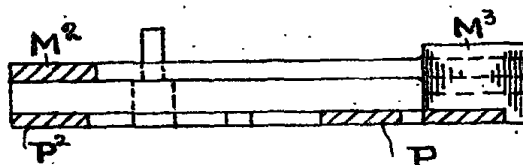


Fig. 5.

