

A. GIACOMETTI.
 AUTOMATIC KEY FOR SAFETY LOCKS.
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1,054,525.

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Fig. 1.

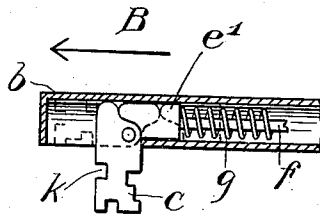


Fig. 2.

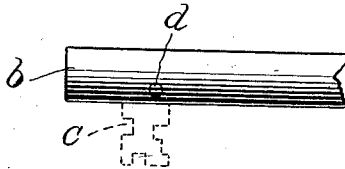
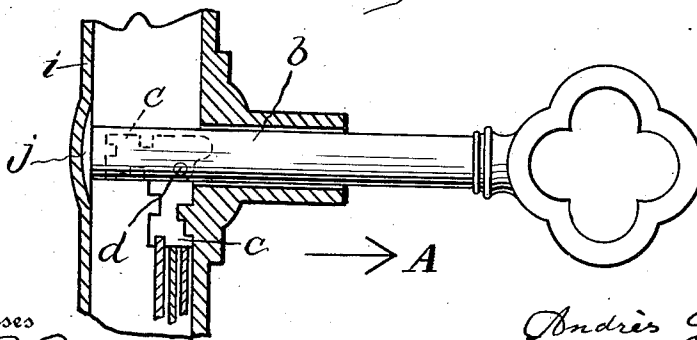


Fig. 3



Witnesses
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AUTOMATIC KEY FOR SAFETY-LOCKS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDRES GIACOMETTI, a citizen of the Republic of France, residing at 90 Route de Gonesse, Stains, (Seine,) France, have invented certain new and useful Improvements in Automatic Keys for Safety-Locks, of which the following is a full, clear, and exact description.

This invention refers to an automatic key with movable bit intended for safety locks with cylindrical or tubular key-holes. The advantages of such locks are well known but generally their keys fulfil but imperfectly the object for which they are intended. As a matter of fact the essential feature of such locks consists in the tubular formation of their key-holes which protects them from being forced or any impressions being taken of the same. On the other hand, however, the keys should have a bit capable of being adjusted so as to be situated in the axis of the pipe of the key while inserting the same and subsequently passing into its operative position. This condition necessitates complicated mechanical arrangements for thus manipulating the bit and furthermore these mechanisms should impart sufficient rigidity to the key at the moment of turning the lock.

Hitherto the bit has generally been pivoted and controlled by a rod projecting into the ring of the key or otherwise and provided with a knob or button for adjusting the bit into the desired position. Furthermore springs have been employed for assuring the position of the movable parts of the key. The automatic key according to this invention differs altogether from such arrangements. The insertion of the key causes the bit to pass into the operative position for turning the lock and as soon as this has been effected and the key has fulfilled its function it is in the proper position.

The advantages of these arrangements are perfectly clear; as a matter of fact the keys according to this invention have no notches or projections so that they are more convenient, more compact and of better appearance. More particularly, their use is facilitated by the fact that they need only be inserted in the locks without having to take any precaution as to the direction in which they are presented, the bit reliably passing into its operative position at the desired moment without it being necessary to

operate any button or knob, such operation very often entailing difficulties more particularly, when embarrassed with parcels or when inserting the key in the dark.

I shall now describe my invention with reference to the accompanying drawing showing various forms of construction of an automatic key embodying the features of the present invention, in which:—

Figure 1 is an elevation of such a key in normal position. Fig. 2 is a partial longitudinal section of the same. Fig. 3 shows the key inserted in a lock and in the operative position.

The key consists of a ring *a* of any suitable shape, a pipe *b* in which is arranged the bit *c* pivoted to a part *d* so as to be able to swing in a plane corresponding for example to that of the ring *a* and to assume the position shown in dotted lines in Fig. 2. The bit *c* is exposed to the action of a part *e* integral with a rod *f* suitably guided in the pipe of the key and exposed to the action of a coil spring *g*. The key is inserted without any adjustment or precaution into the key-hole of the lock, and on pushing home the key the bit will turn downward into the operative position Fig. 3 so as to act on the mechanism of the lock. When it is desired to withdraw the key, it suffices to turn it until it reaches the position in which the bit *c* can close, the latter then straightens out in the direction of the arrow B (Fig. 1). In order to facilitate these various movements the casing *i* is blocked slightly at *j* in the form of a basin so as to induce the bit to turn around its pivot *d*.

Any arrangement of the notches *h* on the bit may be adopted. They may be provided on one or more of the sides of the bit and the bit itself may be of any suitable shape such as cylindrical, quadrangular, conical or the like. As seen best in Fig. 3, the bit is normally held in its operative position, that is projected.

For inserting a key thus constructed into the lock it will be necessary to straighten out the bit by holding it with the finger in order to cause it to assume the position shown in dotted lines in Fig. 3 or the bit may be introduced directly into the key-hole, and the key straightened out so as to cause it to penetrate into the latter. Once past the key-hole the bit *c* passes into its operative position under the action of the spring *g*.

The key according to the present invention may be made of any suitable metals, rigid or elastic metals being preferably employed for the operative parts and very light metals for the ring *a* and the pipe *b* thus producing a very light key possessing a maximum resistance and an attractive appearance.

Having thus described my invention what I claim is:

1. In a device of the character stated, a key having a tubular shank, a bit pivotally mounted within said shank to swing from a position in line with said shank to a position at right angles thereto and to extend outside of the shank, means movably mounted within and contained wholly within the shank and independent of said bit for co-operation with the latter near its pivot to hold the bit normally in its right-angled position, and a spring acting yieldingly upon said means, said bit being foldable within the shank in a direction away from said movably mounted means.

2. In a device of the character stated, a key having a tubular shank, a bit pivotally mounted within said shank to swing from a position in line with said shank to a position at right angles thereto and to extend outside of the shank, means movably mounted within and contained wholly within the shank and independent of said bit for co-operation with the latter near its pivot to hold the bit normally in its right-angled position, and a spring acting yieldingly upon said means, said bit being foldable within the shank in a direction away from said movably mounted means, combined with a lock casing having an outward bulge opposite the inner end of the shank when the latter is inserted, forming a depression to allow the bit to turn upon its pivot.

In testimony whereof I affix my signature.

ANDRES GIACOMETTI.

In the presence of—

EUGÈNE J. LE BOUGÉ,
GEORGES VITTEBESSEUX.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
