E. P. BAIRD.

KEY.

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1,161,760. Patented Nov. 23, 1915.

Fig. 1.

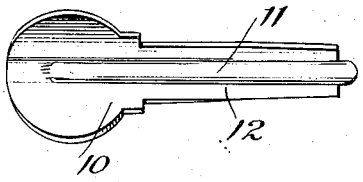


Fig. 2.



Fig. 3.

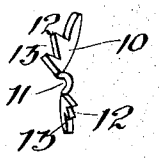


Fig. 4.

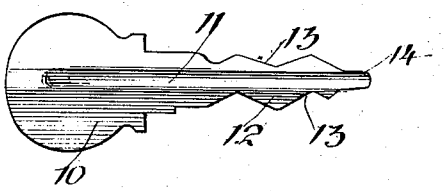


Fig. 5.

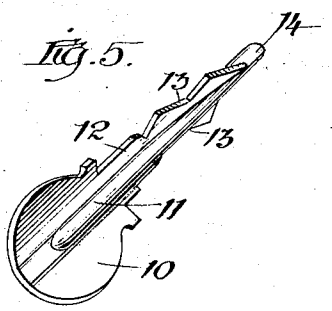


Fig. 6.

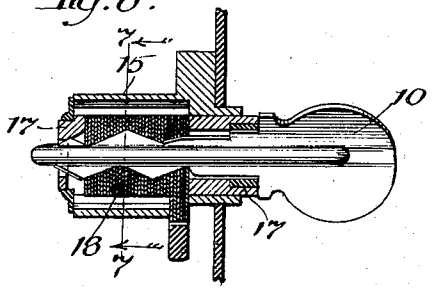
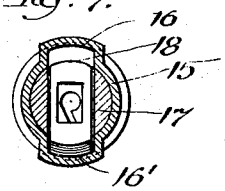


Fig. 7.



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KEY.

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To all whom it may concern:

Be it known that I, EDWARD P. BAIRD, a resident of Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Keys, of which the following is a full, clear, and exact description.

This invention relates to a key for a lock and designs to produce a twisted or spiral key.

The invention further designs to produce a new and improved form of lock-key.

The invention further designs to produce a key which can be used in connection with a tumbler lock, the key being twisted along its length so that it is possible to construct the tumbler lock for the key, contrary to the usual custom of fitting the key to the lock.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Figure 1 is a plan of the key blank. Fig. 2 is a side elevation thereof. Fig. 3 is an end view of the key. Fig. 4 is a plan view of the key. Fig. 5 is a perspective view of the key. Fig. 6 is a sectional view of a tumbler lock with the key inserted therein. Fig. 7 is a cross sectional view of the tumbler-lock shown in Fig. 6, showing the tumblers after the key has been withdrawn from the lock.

The key is made from a single piece of sheet metal which is placed in a suitable press and a blank produced, which has a central groove 11 extending lengthwise of the blade 12 which is twisted longitudinally, as shown in Figs. 2 and 3, and which has a handle 10. The blank is then taken and placed in a milling machine, the cutters of which are adapted to cut notches on either side of the key so as to produce a blade 12 having its opposite edges 13 formed of irregular, but corresponding outline. Thus the width at all points along the key is equal, for wherever there is a depression on one side, there is a projection on the other and the distance between them will always be equal to that between another depression and corresponding projections. The end 14 of the key may be formed, as shown in Fig. 4 to fit in a bearing in a suitable lock.

Fig. 6 shows a form of tumbler lock adapted for use with the spiral key comprising a barrel 15 having covered slots 16 and 16' therein. A spindle 17 is adapted to be inserted in the barrel. This spindle carries the tumbler plates 18 which are adapted to be moved transversely of and through the barrel 15 by the spiral key. When the key is inserted in the spindle, the tumblers will be alined so that the spindle is free to turn within the barrel. When the key is withdrawn, the tumbler plates will be moved to engage in the curved slots in the barrel as shown in Fig. 7.

The key is adapted for use on tumbler locks, wherein the tumblers must be constructed to fit the spiral key so that when they are assembled in the lock, only the key so fitted will operate it. A key whose twist varies slightly to the one to which the tumblers are fitted, will not operate the lock. The edges of the lock are formed to engage the tumblers in the lock and the key, as it is inserted in the lock to operate the tumblers, executes a rotary motion due to its twist.

The special feature of this key is the twisted blade by means of which a key is produced which cannot be duplicated from a lock but one to which a lock itself must be fitted. Furthermore, in cutting the notches in the spiral blade of the key, the edges will not be at right angles to the surface of the blade due to the twist along said blade and this of itself would make it difficult to produce a duplicate.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. As an article of manufacture, a key comprising a handle, a blade twisted spirally along its length, a groove extending lengthwise with the blade, notches in the edges of said blade, said notches being oppositely disposed along said blade.

2. As an article of manufacture, a key comprising a handle, a flat blade twisted spirally along its length, a groove extending lengthwise of the blade, notches on the edges of the said blade, said notches being oppositely disposed along said blade.

3. As an article of manufacture, a key comprising a handle, a flat blade twisted

spirally along its length, notches cut in the edges of said blade forming a blade of irregular but corresponding outline so that the width of the blade at all points along it is equal.

4. As an article of manufacture, a key, comprising a handle and a twisted spiral blade, said blade offset to provide a groove extending lengthwise in said blade.

5. As an article of manufacture, a sheet metal key, comprising a handle and a blade, said blade twisted spirally along its length, and provided with a groove therein on one side and a bead on the other extending lengthwise thereof.

6. As an article of manufacture, a key, comprising a handle and a blade, said blade having a central groove therein extending longitudinally thereof, and twisted spirally along its length on each side of said groove.

7. As an article of manufacture, a key, comprising a handle and a blade, said blade having a groove extended lengthwise thereof and twisted at the edges and on each side of said groove, with notches provided in said edges.

8. As an article of manufacture, a sheet metal key comprising a handle and a blade, said blade offset lengthwise to provide a groove on one side and a bead on the other, and notched on opposite edges to form a series of undulations, the undulations on one side being the reverse of those on the other.

9. As an article of manufacture, a sheet metal key comprising a handle and a blade, said blade offset lengthwise to provide a groove on one side and a bead on the other, and notched on opposite edges to form a series of undulations, the undulations on one side being the reverse of those on the other, the blade being given a slight twist on each side of said groove between the ends of the blade.

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