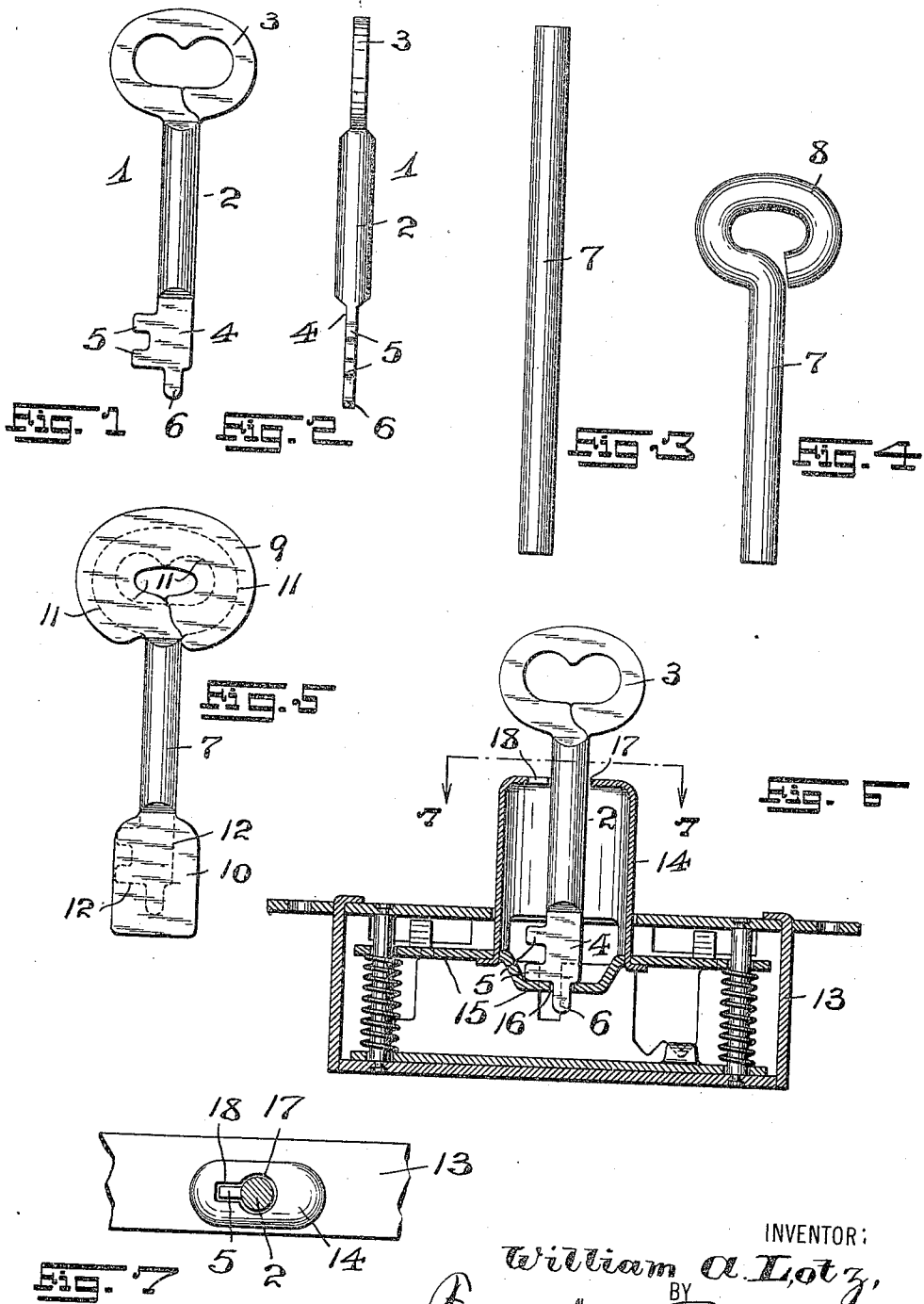


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KEY.

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1,373,897.

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KEY.

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To all whom it may concern:

Be it known that I, WILLIAM A. LOTZ, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Keys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates, generally, to improvements in keys; and, the present invention has reference, more particularly, to a novel form of key for use especially with bag-frame locks, and a novel method of producing such key, with a view of providing a key having a main cylindrical shank or body which is solid, and having flattened out end-members, the flattened-out lock-engaging end of the key being made with a centering stud of teat, so as to be adapted for use with a bag-frame lock in which the usual key-receiving and key centering post is dispensed, the post-carrying plate of the lock, in lieu of such post, being simply provided with a hole or perforation for the reception of the centering stud or teat when the key is inserted in the lock.

The present invention, therefore, has for its principal object to provide a key of the general character hereinafter more fully set forth, and a novel method of making the same, with a view of carrying out the hereinabove stated purposes.

The invention has for its further object to provide a key, in lieu of a flat key in its entirety, or in lieu of the usual key having the usual tubular shank, so that the key as herein made can be centered in the usually formed key-hole of the lock, the cylindrical body-portion of the key maintaining the latter in its properly centered and vertical relation in the key-hole, for the proper manipulation of the mechanism of the lock.

Other objects of the present invention not at this time more particularly enumerated will be clearly understood from the following description of the same.

With the various objects of the present invention in view, the said invention consists,

primarily, in the novel key hereinafter more fully set forth; and, the invention consists, furthermore, in the novel method of making the key, all of which will be more fully described in the following specification, and then finally embodied in the clauses of the claims which are appended to and which form an essential part of the said specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation, and Fig. 2 an edge elevation of a finished key, made according to and embodying the principles of the present invention.

Fig. 3 is a view of a piece of wire or rod, prior to being formed with the key; Fig. 4 is a view of the said wire or rod, showing an end-portion thereof bent in the form of a loop, said views illustrating, respectively, the first and second steps in the operation, of making the key; and Fig. 5 is a view showing the respective end-portions of the wire or rod pressed out flat, prior to the last step in the operation of cutting away certain parts of said flattened portions, on the dotted lines in said Fig. 5, to produce the finished key.

Fig. 6 is a side view of the finished key, inserted for operation in the bag-frame lock, the latter being represented in longitudinal vertical section; and Fig. 7 is a horizontal sectional representation of the key, and a top view of a fragmentary portion of the lock with which the key is to be used, said section being taken on line 7—7 and looking in the direction of the arrows in said Fig. 6.

Similar characters of reference are employed in all of the said above described views, to indicate corresponding parts.

Referring now more particularly to Figs. 1, 2 and 6 of the drawings, the reference-character 1 indicates a complete key made according to the principles of the present invention, the same comprising a solid and preferably cylindrical main body-portion or shank, as 2, provided upon its one end-portion with a flattened-out bow or loop, as 3, forming an integral part of the said body or shank 2. The opposite end of the said body-portion or shank 2 is also flattened-out, as at 4, the said flattened-out portion 4 having extending therefrom a key-bit 5 and a centering stud or teat 6, all of said parts being integrally connected and the flattened-

out portion 4 forming an integral part of said main body or shank 2.

In carrying out the novel method of producing the key, I first cut from a rod or wire, of cylindrical form, a piece 7, see Fig. 3, of suitable length, and bend the one end-portion thereof into a loop or bow 8, as indicated in Fig. 4 of the drawings. By means of pressure, in suitable dies, or otherwise, this loop or bow 8 and the opposite end-portion of the wire or rod 7 are next flattened-out, as at 9 and 10, see Fig. 5 of the drawings, the surplus parts of the flattened-out portions 9 and 10 being next cut away on the dotted lines 11 and 12, indicated in said Fig. 5, to provide the complete key herein-before described and illustrated in said Figs. 1, 2 and 6.

The use of the key and the purposes of the cylindrical body or shank 2, and the flat centering stud or teat 6 in connection with a bag-frame lock are illustrated more particularly in Figs. 6 and 7 of the drawings.

In said Figs. 6 and 7, the reference-character 13 indicates one form of bag-frame lock 14 indicating the usual push-piece or operating mechanism carried by the vertically movable plate 15. In the usual construction of lock, this plate has a vertically disposed and upwardly projecting key-centering post with which the hollow or tubular end of the key-shank registers. With the present construction of key, however, this post is dispensed with, and in lieu thereof, the plate 15 has a hole or perforation 16 for reception of the previously mentioned key-stud or teat 6, as clearly shown in said Fig. 6 of the drawings.

In referring to Fig. 7 of the drawings, it will be seen that the key-hole is of the usual configuration and comprises the circular opening 17 and rectangularly shaped open part 18 extending therefrom, the circular opening 17 serving to receive the cylindrical body or shank 2 of the key to maintain the key in its proper vertical position within the lock and prevent it from moving sidewise into the slot or open part 18 of the key-hole to prevent the proper manipulation of the key, as will be clearly evident.

With hollow or tubular key-shanks, the

key has to be made as set forth in Letters-Patent No. 1,127,770, issued January 5, 1915; or, the key has to be cast, both of which methods are more or less tedious and expensive.

Furthermore, while I am aware that flat keys have been made, and are in use, such keys have this disadvantage that specially constructed lock-casings are necessary, and in many cases such keys can not be properly centered with relation to the lock-casing and the mechanism contained therein.

Keys made according to the present invention are much stronger than the ordinarily cast-metal or the sheet-metal key; and the cost of construction of the same is greatly reduced.

I claim:—

1. An improved key comprising a main solid cylindrical shank, said shank being provided with a flattened-out end-portion, said flattened-out portion being formed with a bit-extension and a centering stud, all being made from a single piece.

2. An improved key comprising a main solid cylindrical shank, said shank being provided at one end with a flattened-out end-portion bent into a loop or bow, and said shank being provided at its other end with a second flattened-out portion formed with a bit-extension and a centering stud, all being made from a single piece.

3. The method herein-described of producing a key which consists in taking a cylindrical bar of proper length, being one of the end-portions of said bar in the form of a bow, by means of pressure flattening-out said bow and also the opposite end-portion of said bar, and cutting away parts of said last-mentioned flattened-out end-portion to provide said end-portion with a key-bit and a centering stud, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 7th day of August, 1918.

WILLIAM A. LOTZ.

Witnesses:

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FRED'K H. W. FRAENTZEL.