(No Model.)

E. G. HEENE.

KEY FOR TIME RECORDERS.

No. 571,268. Patented Nov. 10, 1896.

Fig. 1.

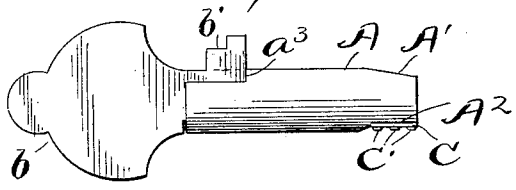


Fig. 2.

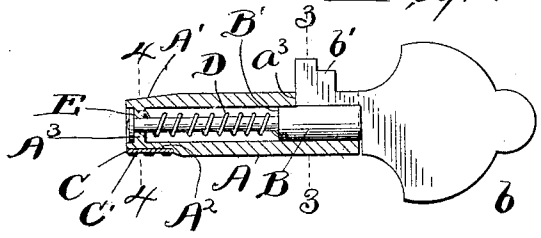


Fig. 3.

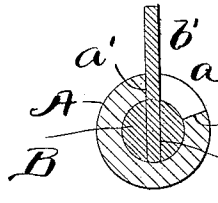


Fig. 4.

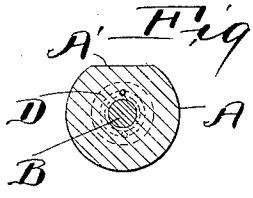
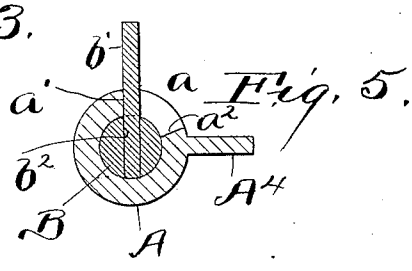


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

EDWARD G. HEENE, OF CLEVELAND, OHIO, ASSIGNOR TO GEORGE W. HEENE, OF SAME PLACE.

KEY FOR TIME-RECORDERS.

SPECIFICATION forming part of Letters Patent No. 571,268, dated November 10, 1896.

Application filed April 6, 1896. Serial No. 586,352. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. HEENE, of Cleveland, Cuyahoga county, Ohio, 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 pertains to make and use the same.

My invention relates to improvements in keys, and more especially to a key employed in actuating the mechanism in a time-recording machine.

One object of my invention is to provide a key whose shank is not liable to be bent or mutilated from much or severe usage.

Another object of my invention is to provide a key comprising not only a shaft or spindle having a laterally-projecting tongue or arm adapted to engage and operate mechanism in a lock or machine, but also a cylinder or barrel surrounding and affording bearing for the shank and slotted laterally and circumferentially to accommodate the operation of the tongue or arm of the inclosed shaft.

Another object is to provide the cylinder or barrel with a tongue or arm adapted to engage mechanism in the lock or machine, so that the cylinder or barrel, when the tongue on the shank or stem of the key has been actuated as far as the size of the slot in the cylinder or barrel will accommodate, will be turned with the shaft upon turning the latter still farther in the same direction, and thereby cause the tongue upon the cylinder or barrel to perform its function.

With these objects in view, and to the end of attaining certain other advantages hereinafter referred to, my invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a key embodying my invention. Fig. 2 is a side elevation of the key and shows the cylinder or barrel of the key in central longitudinal section. Fig. 3 is a transverse section on line 3 3, Fig. 2. Fig. 4 is a transverse section on line 4 4, Fig. 2. Fig. 5 is a transverse section of a key that not only has a laterally and outwardly projecting tongue or arm upon the shaft or inner portion of the key, but also has another tongue or arm formed upon the cylinder or barrel that affords bearing for said shaft.

My improved key comprises a hollow cylinder or barrel A, made of any suitable metal or material. A shaft B has suitable bearing within and is arranged longitudinally of the cylinder or barrel A. A handle or thumb-and-finger piece b is rigid with one end of stem or shaft B, and a tongue or arm b' projects laterally and outwardly from shaft B through a lateral slot a in cylinder or barrel A and is adapted to engage and operate the mechanism of a lock or machine for the purpose of obtaining certain results, and the size of slot a, circumferentially of cylinder or barrel A, is large enough to accommodate the turning of shaft B the required distance. One, a', of the side walls of slots a constitutes a stop for for limiting the movement of member B in one direction, and the oppositely-located side wall a^2 of the slot forms a stop for limiting the movement of said member B in the opposite direction, and wall a^2 in the case illustrated constitutes a stop for the movement of member B in the direction required to cause the tongue or arm of said member to perform its function.

In the case illustrated slot a is formed at the outer end of cylinder or barrel A, and the latter at its opposite end and externally has a beveled or flat surface A', that, upon the introduction of the key into the lock or machine in connection with which the key is adapted to be used, is designed to engage the under side of a member within said lock or machine, and thereby hold the cylinder or barrel stationary while accommodating the turning of shaft B within the cylinder or barrel without effecting a rotation of the latter.

If the key is designed for use in a time-recording machine, cylinder or barrel A would be provided externally, in any approved manner, with a distinguishing type C', that would be preferably formed upon a thin metallic

plate or piece C, suitably secured to a flattened surface A^2, formed upon any suitable portion of the cylinder or barrel.

The diameter of the handle-bearing end of shaft B is preferably such that said portion of the shaft nicely fits within the surrounding cylinder or barrel, and the remaining portion of the shaft is sufficiently smaller in diameter to accommodate the provision of a torsional spiral spring D, confined upon the reduced portion of the shaft between the shoulder B′, formed at the inner end of the diametrically larger portion of the shaft, and an annular shoulder or flange A^3, formed internally of cylinder or barrel A. Opposite ends of spring D are suitably secured to said annular shoulder A^3 and the aforesaid shaft, respectively, to retain the laterally-projecting tongue or arm of the shaft in its starting or normal position.

The end wall a^3 of slot a constitutes a stop for preventing endwise displacement of the shaft in the one direction, and a washer or other member E, that is suitably secured upon the shaft at the outer side of the internal flange of the cylinder or barrel, prevents endwise displacement of the shaft in the opposite direction. Tongue or arm b' and shaft B are preferably composed of separate pieces, and said member b' is preferably secured within a slot b^2 with which the shaft is provided, and the handle or thumb-and-finger piece for turning the shaft is preferably integral with member b'. I would also remark that, if desired, cylinder or barrel A may be provided at any suitable point externally with a tongue or arm A^4, (see Fig. 5,) adapted to engage and operate mechanism within the lock or machine in connection with which the key is designed to be used. Tongue or arm A^4, it is obvious, might be used in the actuation of mechanism within the lock or machine during the introduction of the key, or the laterally-projecting tongue or arm b' of shaft B might be employed not only to operate mechanism within the lock or machine for performing its ordinary function, but might also be employed for moving or actuating other mechanism instrumental in removing the member engaged by the beveled or flattened surface A′ of the key out of the way, and thereby render cylinder or barrel A free to be turned, in which case it is obvious that upon turning the shaft of the key in the direction required to cause the outwardly-projecting tongue or arm of the shaft to perform its function, the surrounding cylinder or barrel would, upon the further actuation of the shaft in the same direction, be turned with the shaft, because if said cylinder or barrel were free to turn, member b' of the shaft and wall a^3 of the slot in the cylinder or barrel would establish operative connection between the shaft and cylinder or barrel upon the actuation of said member b' into engagement with the aforesaid wall of the slot, and hence it will be observed that by means of my improved key certain mechanism in the lock or machine could be operated by the tongue or arm of the inner portion or core (shaft B) of the key and other mechanism in the lock or machine operated by a tongue or arm on the cylinder or barrel.

What I claim is—

1. A key comprising a laterally and circumferentially slotted cylinder or barrel bearing the distinguishing-type externally; a shaft having bearing within the cylinder or barrel and fixed in the latter so far as endwise movement is concerned, said shaft being provided with a tongue or arm projecting laterally and outwardly through the slot in the cylinder or barrel, and means for turning the shaft, substantially as set forth.

2. A key consisting of a laterally and circumferentially slotted type-bearing cylinder or barrel A; a shaft having bearing in the cylinder or barrel and fixed in the latter so far as endwise movement is concerned, said shaft being provided with a laterally-projecting arm extending through the slot in the barrel; means for turning the shaft, and a spiral spring confined upon the shaft within the barrel and having opposite ends secured to the barrel and shaft, respectively, and acting to retain the shaft in its normal position, substantially as set forth.

3. A key consisting of a type-bearing cylinder or barrel slotted laterally at its forward end and provided with an internal flange at or near the rear end; a shaft having suitable bearing in the cylinder or barrel and provided with an arm projecting laterally through the slot in the barrel and next forward of the rear wall of said slot, said shaft extending through the aforesaid flange; a member fixed upon the shaft next rearward of said flange and overlapping the flange's rear side, and means at the forward end of the shaft for turning the latter, substantially as set forth.

4. A key consisting of a cylinder or barrel slotted laterally at its forward end, and provided, at its rear end and externally, with a flattened surface A′, a shaft having suitable bearing in said barrel and provided with an arm extending through the slot in the barrel, and means for turning the shaft, substantially as set forth.

5. A key consisting of a laterally-slotted cylinder or barrel provided, at any suitable point externally, with a laterally-projecting arm, a shaft having suitable bearing in the barrel and provided with a laterally-projecting arm extending through the slot in the barrel, and means for turning the shaft, substantially as set forth.

6. A key consisting of a cylinder or barrel slotted laterally at its forward end, and provided, upon one side and at or near its rear end and externally, with a distinguishing-type, a shaft having bearing in said barrel and provided with an arm extending through

the slot in the barrel, and means for turning the shaft, substantially as set forth.

7. A key consisting of a cylinder or barrel slotted laterally at its forward end, and provided, at or near its rear end and externally with two flattened surfaces A′ and A^2; the distinguishing-type formed upon or fixed to one of said flattened surfaces; a shaft having suitable bearing in said barrel, and means for turning the shaft, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 2d day of April, 1896.

EDWARD G. HEENE.

Witnesses:
C. H. DORER,
ELLA E. TILDEN.