Nov. 15, 1949 J. A. RUMSEY 2,488,240

EJECTOR DEVICE FOR LOCK KEYS

Filed June 12, 1946

FIG. 1.

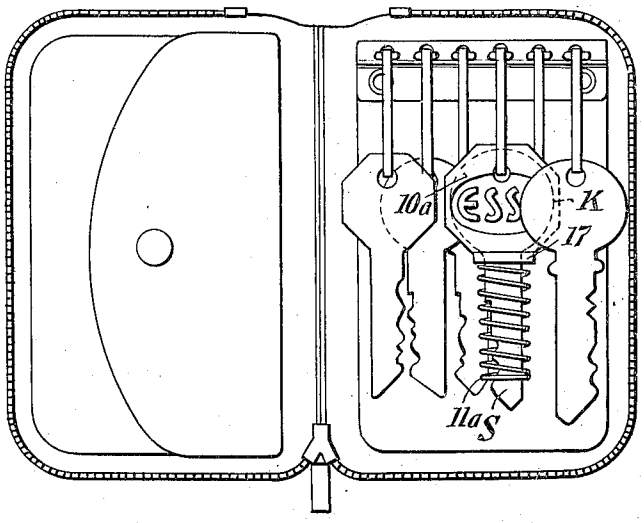


FIG. 4.



FIG. 2.

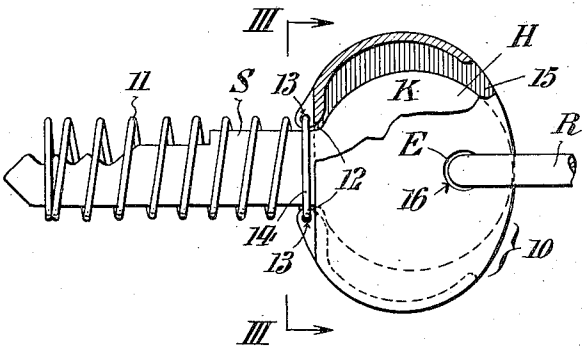


FIG. 3.

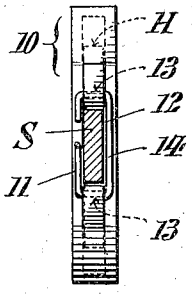


FIG. 5.

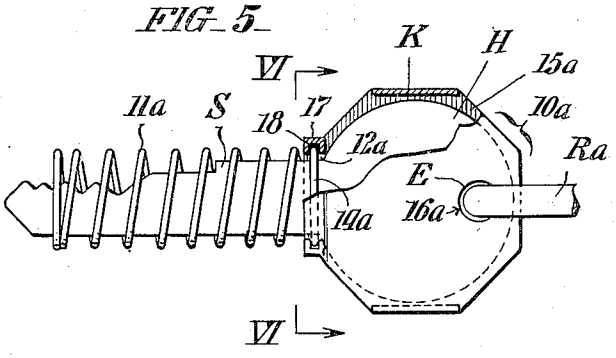
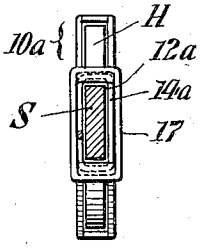


FIG. 6.



WITNESSES

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EJECTOR DEVICE FOR LOCK KEYS

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5 Claims. (Cl. 70—414)

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This invention relates to ejector means designed for association with lock keys and adapted to automatically dislodge the keys when they are unintentionally left in the locks through carelessness or forgetfulness. Keys so equipped are particularly advantageous to automobile drivers as safe-guards against theft or unauthorized use of the vehicles.

The chief aim of my invention is to provide a device for the purpose stated which is applicable to standard forms of lock keys without requiring any changes in them or any special securing means for holding it assembled with the key; which is of simple and compact construction; and which lends itself to ready manufacture in quantity at small cost.

Other objects and attendant advantages of my invention will appear from the following detailed description of the attached drawings, wherein—

Fig. 1 shows a pocket key container and a key therein wherewith is associated an ejector device conveniently embodying my invention.

Fig. 2 is a broken out view, partly in side elevation and partly in section drawn, to a larger scale and showing to better advantage the construction of the device and the manner in which it is assembled with the key.

Fig. 3 is a cross sectional view of the organization taken as indicated by the angled arrows III—III in Fig. 2.

Fig. 4 shows the rear elevation of the organization.

Fig. 5 is a view like Fig. 2 showing a modification; and

Fig. 6 is a cross section taken as indicated by the angled arrows VI—VI in Fig. 5.

With reference first more particularly to Figs. 2–4 of these illustrations, it will be noted that my improved ejector device comprises a flat sheathlike component 10 which is in this instance shown as being generally conformative with and as fitting rather snugly over the flat discous manipulating head H of the key K; and a flat coil spring 11 which, at one end, is connected to the sheath and which surrounds the key shank S, terminating somewhat short of the free end of the latter. At the front, the sheath 10 is provided with an edge slot 12 for passage of the key shank S, and adjacent the top and bottom of said slot, with transverse apertures 13 through which the contiguous terminal or end coil 14 of the spring 11 is threaded for permanent anchorage. The sheath 10 is also open at the back as at 15 to permit entry thereinto of the key head H incident to assembling by thrust of the key shank S first

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from the rear through the slot 12 at the front of the sheath. The transversely-aligned apertures 16 in the opposite sides of the sheath 10 are so located as to accurately register with the usual eye E in the key head H so that the ejector is held assembled with the key by either an ordinary key ring R as in Fig. 2 or by a key hook of a key container such as illustrated in the Fig. 1. For the sake of lightness and cheapness, the sheath 10 may be molded or otherwise fabricated from plastic material.

In use, the key K is inserted into the lock and turned to operate it as ordinarily, the spring 11 being incidentally compressed and thereby subsequently aids in the retention of the key in the lock. Upon reverse turning of the key in locking, the spring 11, by reaction with the lock face, operates to forcibly eject the key automatically in a manner readily apparent from the drawings, and thus serves the purpose for which the device of my invention was designed.

In Figs. 5 and 6, I have shown a sheath 10*a* which, in practice, is intended to be fashioned from sheet metal, and which, although of polygonal configuration, is intended to snugly receive the key head H. The slot 12*a* for passage of the key shank S is in this instance surrounded by a cupped flange 17 to accommodate the contiguous end coil 14*a* of the spring 11*a*, the latter being permanently anchored by soldering or welding as conventionally indicated at 18. As in the first described embodiment, the spring 11*a* is flattened to closely encase the key shank S, and the sheath 10*a* is provided at opposite sides with aligned apertures 16*a* which are so allocated as to register with the eye E in the key head H and retention of the device in assembly with the key by a key ring or hook as before.

If desired or found more convenient the sheath component of the device may, within the scope of the appended claims, be shaped otherwise than shown in the two types herein illustrated by way of example.

Having thus described my invention, I claim:

1. An ejector device for use in association with a lock key, comprising a sheath to engage over and enclose the head of the key, said sheath having transversely-aligned apertures in its sides for registration with an eye in the key head so as to be held assembled with the key when connected to a key ring or hook, and an edge slot for protrusion of the key shank; and a helical ejector spring surrounding the key shank, said spring being secured to the sheath with its other end free and terminating short of the end of the key shank.

2. An ejector device characterized as in claim 1, wherein the sheath is provided adjacent the top and the bottom of the key shank slot with transverse apertures through which the contiguous terminal coil of the ejector spring is threaded for anchorage.

3. An ejector device characterized as in claim 1, wherein the sheath is open at the back to permit entry thereinto of the key head during assembling upon thrust of the key shank first from the rear through the key shank slot and the spring.

4. An ejector device according to claim 1, wherein the sheath is formed with a cup flange perimetrically of the key shank slot, and wherein one end of the spring is seated in said flange and there permanently united with the sheath.

5. Key ejector means according to claim 1, for a flat key in which the sheath is cross-sectionally conformative with the key head, and the spring with the key shank.

JOHN A. RUMSEY.

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