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S. KOFFLER

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KEY OPERATING IMPLEMENT

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INVENTOR
Samuel Koffler.

BY
William F. Nickel
ATTORNEY

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KEY OPERATING IMPLEMENT

Samuel Koffler, Brooklyn, N. Y., assignor of one-half to Irving A. Oremland, New York, N. Y.

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This invention is an improved appliance for manipulating rotatable elements that require turning several times to effect a predetermined operation; such as the movable parts of some specially designed locks.

Locks of this character are often incorporated with coin controlled vending units that comprise a receptacle containing articles to be sold, and mechanically delivered to the buyer after the deposit of a coin; which allows part of the contents to be discharged from the receptacle. To open and close a lock of this kind with a key by hand, when the receptacle needs refilling, is difficult and laborious, especially to an attendant who must visit and service a number of such receptacles in different places; and it is an important object of this invention to provide a simple, inexpensive, and easily handled device by which the turning of the key for such locks can be facilitated.

The nature of the invention is described at length herein, and illustrated on the drawings, but the disclosure is explanatory only, and variations not shown in the drawings may be adopted without deviation from the essential construction in which the invention actually resides.

On said drawings,

Figure 1 shows a receptacle having a lock with an implement according to my invention in position to operate the key thereof; the implement being shown in section.

Figure 2 is a longitudinal section of the implement on a larger scale; and

Figure 3 is an end view thereof.

The numeral 1 indicates the metal base of a receptacle and secured to the base is the body 2 of glass or other transparent material to permit a view of the contents. The body has a removable top 3, and within the body is an upright central rod 4. At the upper end of the rod is a lock casing 5, and this casing receives a plug with a slot for the insertion of a key 6. The lock may be of any suitable design or construction and need not be more fully shown or described except to state that the casing and the key plug are so related and connected to the top 3 and rod 4 that, when the key turns the plug in one direction, the top is held fast; and when rotated in the opposite direction the top is released. The receptacle is filled with candies or nuts, for example, and has a coin slot and delivery mechanism, not shown, but working in the usual way to discharge a measured quantity whenever a coin is put into the slot and the delivery mecha-

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nism, which is controlled by a lever within reach of the customer, is actuated.

My invention resides primarily in the appliance illustrated by itself in Figures 2 and 3. In vending receptacles of this type, the lock often is such as to require a number of turns before the top 3 is released. My improvement makes easy the rapid rotation of the key and simultaneously lubricates the inside of the lock. It comprises a hollow shank 7 with an enlarged head 8 at one end. The interior of the shank communicates through a port or duct 9 with a transverse slot 10 in the head 8 to receive the flat knob on the outer end of the key 6. The shank contains powdered graphite or paraffin or other suitable lubricant which escapes, a little at a time, through the port 9.

The other end of the shank is closed by a removable closure in the form of a screw plug 11 having a rigid stem 12 for engagement by a tool capable of revolving the shank, head and key quickly till the top 3 is unlocked. The stem 12 has a shouldered end and a recess 13 in the side or is otherwise shaped to fit into the rotatable chuck 14 fixed to the rotatable shaft 15 of a tool such as is often used for screw drivers. The shaft has spiral grooves or slots in its outer surface and a slidable handle 16 with an internal projection that engages the grooves in the shaft 15. This kind of tool is well known, and is utilized for putting in screws by inserting the stem of a screw driver in the chuck 14, placing the screw driver into the kerf of the screw and pressing down on the handle 16. The shaft 15 and the screw driver are then revolved by the action of the projection, not shown, in the handle, on the spiral grooves in the shaft 15. When the stem 12 of the nut 11 is connected to the chuck 14 and the head 8 is slipped over the key 6 the same result is obtained. As the handle is pressed down, the chuck is revolved by one of the grooves in the shaft 15 to turn the key to unlock the receptacle. When pulled up, the handle acts through the other spiral groove in the shaft 15 to rotate the chuck 14, head 8, and key 6 in the opposite direction to secure the top 3 by means of the lock 5.

The head 8 has a cover element or sleeve 17 with an inside groove 18 adjacent one end. The adjacent end of the head 8 has an outside groove 19, and the parts are connected by an expanding split ring 20 in the two grooves. The ring is slipped upon the head 8 till it seats in the groove 19, the sleeve 17 slipped on the head till the groove 18 registers with the ring 20, which then

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expands into the groove 18. The ring is thick enough to project into the groove 19. The sleeve 17 is thus rotatably held on the head, and cannot be disconnected. When the handle 16 is operated, the operator holds the sleeve with one hand to keep the head 8 in engagement with the key 6.

The receptacle has a delivery spout 21 on the outside of the base 1, with a pivoted lid or cover 22.

Whenever the key 6 is turned to open or close the lock, some of the powdered lubricant is shaken down through the port 9 into the recess 10 and enough runs down the sides of the key to enter the key hole of the lock 5. Thus the lock is maintained in good working condition.

Having described my invention, what I believe to be new is:

1. A device of the kind described comprising a hollow shank with a head rigidly attached to one end, the head having a transverse slot to fit a key and a duct connecting the slot to the inside of the shank, a removable closure secured to the other end of the shank and having a stem projecting therefrom and shaped to be engaged by a tool to operate the device, a sleeve

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encircling the head, the sleeve and head having matched grooves, and a retaining ring engaging said grooves to secure the sleeve rotatably upon said head.

2. A device of the kind described comprising a hollow shank with a head having a recess at one end and a duct connecting the inside of the shank to said recess, the shank having a closure at the opposite end, and a rigidly connected stem projecting from the closure and shaped to be engaged by a tool for rotating the device, and a rotatable element mounted on the head and encircling same.

SAMUEL KOFFLER.

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