May 17, 1927. 1,629,438

C. W. DAKE

HOOK DEVICE

Original Filed Aug. 11, 1922

Fig. 1.

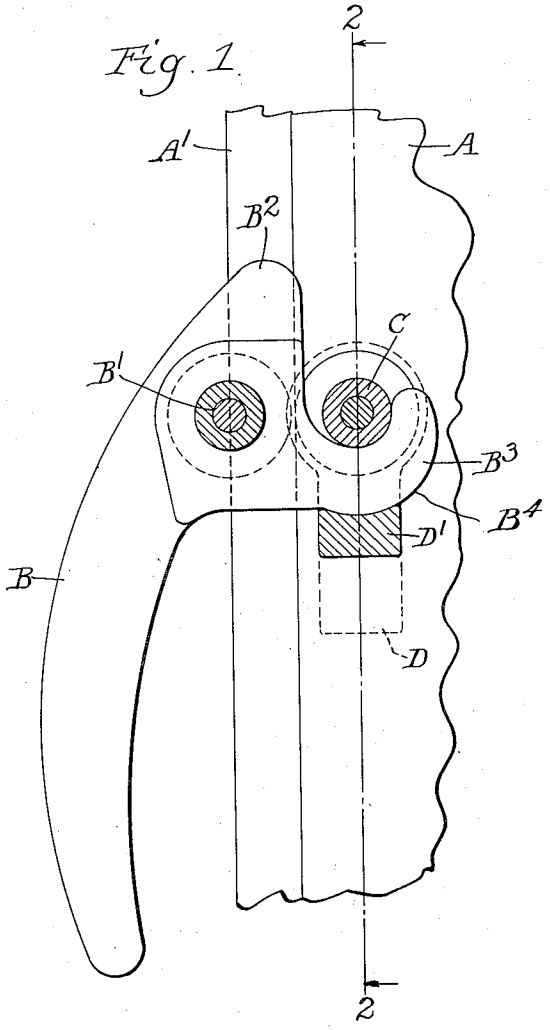
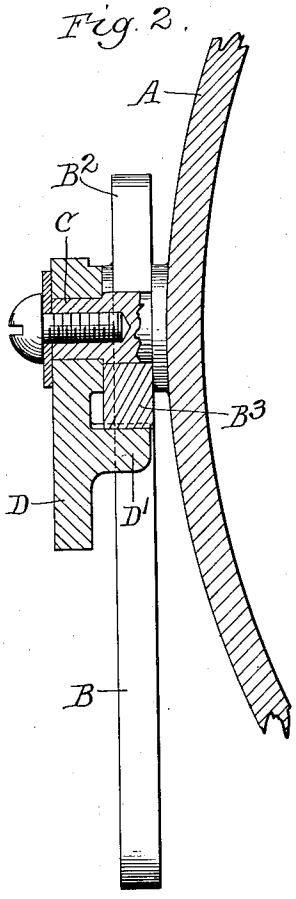


Fig. 2.



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UNITED STATES PATENT OFFICE.

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HOOK DEVICE.

Original application filed August 11, 1922, Serial No. 581,081. Divided and this application filed March 7, 1924. Serial No. 697,457.

This invention relates to a hook device. The form here shown is particularly advantageous for use in hooking openings and doors, such for example as that of a headlight casing. It is, of course, adaptable for any purpose, however, where a hook is useful. It has for one object to provide a hook which is strong and which will automatically go into operation when the door to which it is applied is moved or slammed shut, and which after having gone into operation is locked and requires specific manipulation of the various parts to free it to permit the door to open. Another object is therefore to provide a self-locking latch or hook for doors. Other objects will appear from time to time throughout the specification and claims.

This application is a division of my copending application Serial Number 581,081, filed August 11, 1922.

My invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

Figure 1 is an elevation with parts in section showing my latch;

Figure 2 is a vertical cross section taken on the line 2—2 of Figure 1.

Like parts are designated by like characters throughout.

A is a stationary portion to which a door A^1 is hinged. The latch mechanism is intended to fasten the door closed in the position shown in Figure 1. The latch is composed of a handle B which is pivoted on the door at B^1 and provided with an upper extension B^2 and a hook shaped lock engaging member B^3. The hook shaped member is progressively thickened from this point and is in effect thus provided with an outer cam face B^4. This member is adapted to engage a pin C on the main stationary frame. The inner face of the hook B^3 is so shaped that it at first engages the pin C and then as the handle B is forced further down, it progressively tends to draw the pin C into tighter engagement.

Pivoted upon this pin is a locking dog D. It is provided on its inner face with an inwardly extending projection D^1 adapted when in the locking position to contact the lower face of the hook B^3, and adapted when it is desired to open the latch, to be swung up out of the engaging position. Because of the shape of the hook member B^3, as the latch member D is moved further about it the member D^1 locks with increasing force.

The upper extension B^2 of the latch is designed to act as a lever when the latch is opened. Thus as the handle is raised the face of the extension B^2 bears against the pin C with a wedge action and forces the door outward and open.

Although I have shown an operative device, still it will be obvious that many changes in size, shape and arrangement of parts may be made without departing materially from the spirit of my invention; and I wish therefore that my showing be taken as in a sense diagrammatic.

The use and operation of my invention are as follows:

When the door is to be closed the latch handle is raised so that the hook is below the center of the latch pin and the door is then closed and the handle depressed. In this position the latch engaging hook is engaged by the pin on the stationary part and is itself engaged on its under side by the locking dog which is pivoted on the latch pin. In this position the parts are locked against accidental opening movement. Even movement of the latch handle will not suffice to free the latch and open the door, because the locking dog will cramp against the latch engaging hook and prevent its freeing movement. In order to open the latch it is necessary to raise the dog so that it no longer engages the hook, and then the latch handle may be rotated upward and the hook will be rotated out of engagement with the pin.

When this movement is completed the upper extension of the handle is brought into contact with the pin and bears against it forcing the door open. Thus my invention constitutes at once an automatic locking safety latch and a lever means for opening a door which is jammed or for any other reason is difficult to open.

I claim:

1. In a hook device including in combination a casing and a door hinged thereto, a pin on said casing and a latch pivoted on said door and provided with a hook for engaging said pin, a locking member pivoted on said pin and adapted when in one position to engage said hook to prevent its with-

drawal from the pin, the lower face of said hook member being eccentric with relation to said pin and adapted to be wedged against the inner face of said locking member when in locking position.

2. In combination with a casing, a door adapted to close the same and mounted for movement with relation thereto, a pin on one of said parts and a hook latch on the other, said hook latch adapted to engage said pin, the lower face of the hook member of said latch being eccentric with relation to said pin, there being mounted on said pin a locking member adapted when in one position to engage said hook to prevent its withdrawal from the pin and adapted to be wedged against the lower face of said hook member when in the locking position, said latch member provided with a lever face adapted to bear against said pin to force the door open.

Signed at Chicago, county of Cook and State of Illinois, this 1st day of March, 1924.

CHARLES W. DAKE.