April 30, 1929. O. B. BRITE 1,711,082

LOCK

Filed May 19, 1927

Fig. 1.

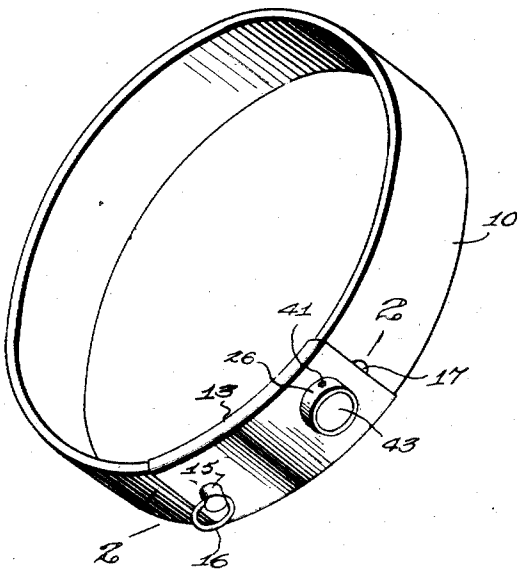



Fig. 2.

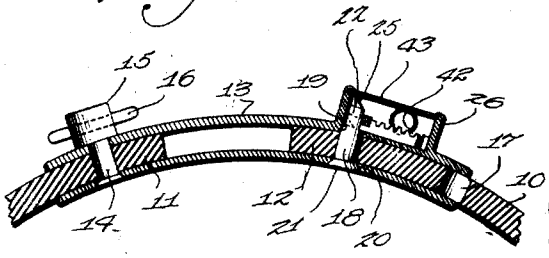
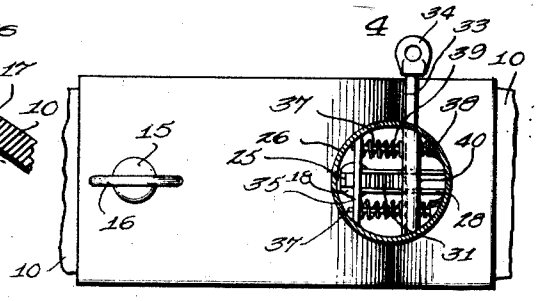



Fig. 3.



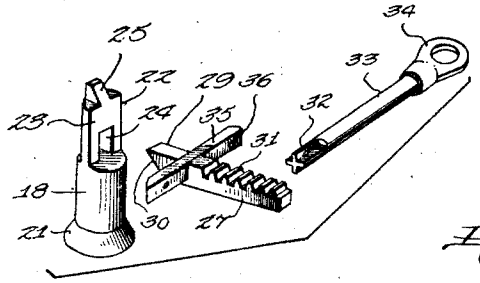




Fig. 5.

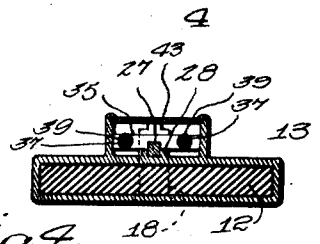



Fig. 4.

Inventor
ORIS B. BRITE

By G. W. Earnshaw
Attorney

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# UNITED STATES PATENT OFFICE.

ORIS B. BRITE, OF JOPLIN, MISSOURI.

## LOCK.

Application filed May 19, 1927. Serial No. 192,737.

This invention relates to locks and more particularly to a locking device adapted for use in connection with dog collars, straps and the like.

An important object of the invention is to provide a novel form of lock adapted to be secured to one end of a strap and adapted to receive the opposite end whereby both ends of the strap will be covered and protected.

A further object is to provide a locking pin which is adapted to be connected to one end of a strap and to pass through the opposite end thereof, and to provide novel means for holding the locking pin in operative position.

A further object is to provide a novel form of lock including an open ended casing adapted to be connected to one end of a strap and to receive the other end thereof and to provide a novel locking pin adapted to pass through the casing and through the last named end of the strap to secure these elements together.

A further object is to provide a novel lock for dog collars and the like comprising a casing in one end of which one end of the collar is secured, the opposite end of the casing being adapted to slidably receive the opposite end of the collar, the last named ends of the collar and casing being provided with openings adapted to register and to receive a locking pin controlled by suitable locking mechanism carried by the casing.

A further object is to provide a lock of the character referred to wherein the casing is provided on its outer face with a housing having suitable locking mechanism arranged therein and including a locking bolt adapted to be received in an opening in the locking pin to secure the latter in position.

A further object is to provide a locking device of the character just referred to wherein the housing for the locking mechanism is provided with a tubular member extending therethrough and adapted to receive a suitable key to be rotated therein, the key being provided with portions adapted to engage the locking bolt to withdraw it from locked position.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings I have shown one embodiment of the invention. In this showing,

Figure 1 is a perspective view of a dog collar showing the device attached,

Figure 2 is a section taken substantially on line 2—2 of Figure 1,

Figure 3 is a plan view of the lock, the lock housing being shown in section,

Figure 4 is a detail section on line 4—4 of Figure 3, and,

Figure 5 is a detail perspective view of the bolt, locking pin and key.

Referring to the drawings, the numeral 10 designates a leather or similar dog collar or other strap having ends 11 and 12. An open ended casing 13 receives the end 11 of the collar and is secured thereto by means of a rivet or the like 14. This rivet may be provided with a head 15 carrying an eye 16 adapted to be attached to a leash or the like. The casing 13 is preferably closed on all four sides and curved to conform to the normal curvature of the collar to permit the latter to be worn in comfort.

The end 12 of the collar is provided with a plurality of openings 17 adapted to receive a locking pin 18 which projects through openings 19 and 20 formed in the casing 13. The opening 20 is tapered to receive the tapered head 21 of the pin 18 to limit the movement of the latter as will be apparent. The pin 18 is provided with a reduced end 22 having a flat inner face 23, and the reduced end of the pin is provided with an opening 24 as clearly shown in Figure 5. A tapered finger 25 is formed integral with the end of the pin for a purpose to be described.

The outer end of the pin 18 projects into a preferably cylindrical lock housing 26 formed integral with or secured against the outer face of the casing 13, as shown. A locking bolt 27 is slidable between guides 28 formed within the lock housing and is provided with an end 29 adapted to engage within the opening 24. The lower face of the end 29 is tapered as at 30 to permit the locking pin to be snapped into locking position, as will become apparent. The upper face of the bolt 27 is provided with a series of teeth 31 similar to gear teeth, and adapted to be engaged by teeth 32 formed on the end of a key 33. This key may be provided on its end with a head 34 having an opening therein to permit the key to be attached to a key ring or hung upon a nail or the like.

A transverse member 35 is carried by the bolt and is provided in opposite ends with openings 36 sildably receiving pins 37. The opposite ends of these pins are secured to bosses 38 carried by the lock housing, and coil springs 39 surround the pins between the transverse bar 35 and the bosses 38. It will be apparent that these springs act against the bar 35 to normally project the bolt 27 to locking position.

A tubular member 40 projects through the housing 26 transversely of the bolt and is secured at its ends to the housing. The tubular member is provided with an open end 41 through which the key 33 is adapted to be inserted. As shown in Figure 2, the tubular member 40 is provided in its inner portion with an opening 42 through which the bolt 27 extends to permit the key to engage the teeth 31. The housing 26 is normally closed by a cover 43 which may be secured in position in any desired manner.

The operation of the device is as follows:

The end 12 of the collar is inserted in the end of the casing 13 until one of the openings 17 registers with the opening 20 in the casing. The locking pin is then pressed upwardly through the opening 20, whereupon the finger 25 contacts with the bevelled face 30 to force the locking bolt 27 rearwardly. Since the opening 24 is arranged in alinement with the end 29 of the bolt, the latter will snap to locking position through the action of the springs 39. It will be apparent that the locking pin may be inserted in either of the openings 17 according to the desired size of the collar. When it is desired to unlock the device, the key 32 is inserted in the opening 41 and moved inwardly until the teeth 32 engage the teeth 31 whereupon the key may be revolved to retract the bolt against the tension of the springs 39. The pin 18 then can be readily removed and the end 12 of the collar withdrawn from the casing 13. It will be apparent that the casing 13 serves as protecting means for the ends of the collar, these ends both being arranged within the casing when the device is in operative position. The locking device itself is small and compact, and is simple in construction and operation. When the device is in locked position the inner face of the head 21 of the locking pin obviously is flush with the inner face of the casing 13.

It is to be understood that the form of the invention herewith shown and described is to be taken as the preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. A lock comprising a casing adapted to receive a member to be locked thereto, said casing and said member being provided with openings adapted to register, a pin having an aperture therein and slidable through said openings, and a bolt carried by said casing and adapted to engage said pin through said aperture to maintain the pin in said openings.

2. A lock comprising a casing adapted to slidably receive a member inserted into one end thereof, said casing and said member being provided with openings adapted to register, a pin adapted to be inserted through said openings from one side of said casing to assume an operative position, said pin being provided with an opening arranged outwardly of said casing on the opposite side thereof when in operative position, and a bolt slidably carried by said casing and adapted to move to an operative position in engagement with the opening in said pin.

3. A lock comprising a casing adapted to slidably receive a member inserted into one end thereof, said casing and said member being provided with openings adapted to register, a pin adapted to be inserted through said opening from one side of said casing to assume an operative position, said pin being provided with an opening arranged outwardly of said casing on the opposite side thereof when in operative position, a bolt slidably carried by said casing and adapted to move to an operative position in engagement with the opening in said pin, spring means normally urging said bolt to operative position, and means for withdrawing said bolt from operative position to release said pin.

4. A lock comprising an open ended casing adapted to receive one end of a strap inserted in one end thereof, means for securing said end of the strap in said casing, the opposite end of said casing being adapted to slidably receive the other end of the strap, the last named ends of said strap and said casing being provided with openings adapted to register, a pin adapted to be inserted into said openings to lock said strap to the casing, said pin being provided with an opening arranged outwardly of said casing when in operative position, a bolt slidably carried by said casing and having one end adapted to engage within the opening in said pin when in operative position, said bolt being provided with teeth and being movable from operative position by a key rotatably supported adjacent said bolt, and adapted to engage with said teeth, and spring means normally urging said bolt to operative position.

5. A lock comprising a casing adapted to slidably receive one end of a strap inserted in one end thereof, said strap and said casing being provided with openings adapted to register, a pin adapted to be inserted through said openings from one side of said casing and to project from the opposite side thereof, the projecting end of said pin being provided with an opening, a lock housing carried by the last named side of said casing

and covering the projecting end of said pin, guides arranged in said housing, a bolt slidable in said guides and having an end adapted to engage within the opening in said pin, means carried by said casing for rotatably supporting a key, adapted to be inserted in said means and having a portion adapted to engage said bolt to withdraw it from operative position upon rotation of said key.

6. A device constructed in accordance with claim 5 wherein the key supporting means comprises a tubular member mounted in said housing and having an open end into which the key is adapted to be inserted, said tubular member being arranged transversely of said bolt and having an opening through which the bolt is adapted to extend, said key being adapted to engage the portion of said bolt extending through said last named opening.

7. A device constructed in accordance with claim 5 wherein said bolt is provided with a transverse member having an opening in each end thereof, pins arranged in said housing on opposite sides of and parallel to said bolt, and slidable in the openings in said transverse member, and springs surrounding said pins, said springs contacting at one end with said casing and at their opposite ends with said transverse member to normally project said bolt to operative position.

8. A device constructed in accordance with claim 5 wherein the key supporting means comprises a tubular member mounted in said housing and having an open end into which the key is adapted to be inserted, said tubular member being arranged transversely of the bolt and having an opening through which the bolt is adapted to extend, the portion of said bolt extending through the opening in said tubular member being provided with a series of teeth, said key being adapted to be inserted in the said tubular member and being provided with teeth adapted to engage the teeth of said bolt to retract the latter and release said first named pin upon rotation of the key.

In testimony whereof I affix my signature.

ORIS B. BRITE.