My invention relates to improvements in lock caps for containers, such as the gasoline tanks of automobiles, radiators, and the like, wherein a cap is threaded into a bushing rotatably mounted within the inlet opening of the container, the bushing normally being freely rotatable with the cap to prevent removal of the cap and having key controlled lock mechanism to secure the bushing against rotation to permit removal of the cap by an authorized person.

The primary object of my invention is to provide an improved lock cap for gasoline tanks or other storage containers.

Another object is to provide an improved cap for containers having key actuated means to permit removal of the cap only by an authorized person.

A further object is to provide an improved lock cap for containers provided with lock mechanism to normally prevent removal of the cap and operable from a point remote from the cap to permit removal of the cap by an authorized person when desired.

Another object is to provide an improved device of the character described which is simple and efficient in structure and in operation.

A still further object is to provide an improved lock cap embodying improved details of construction and arrangement.

I accomplish these and other objects by means of the improved device disclosed in the drawings forming a part of the present application wherein like characters of reference are used to designate similar parts throughout the specification and drawings, and in which:

Fig. 1 is a broken side elevation of a portion of an automobile showing the application of my improved lock cap mechanism to the gasoline tank thereof.

Fig. 2 is a broken vertical mid-section of my improved lock cap;

Fig. 3 is a broken horizontal section taken upon the line 3—3 of Fig. 2 in the direction indicated; and

Fig. 4 is a broken sectional detail showing the connection between the lock and the bolt actuating member.

Referring to the drawings, the numeral 1 is used to designate in general the inlet fitting of a container 2 such as the gasoline tank of an automobile 3. The fitting 1 is secured to the container in any suitable manner as in ordinary practice. The fitting 1 is provided with an internal annular flange 4 spaced inwardly from the outer end of the fitting, and the outer end of the fitting is internally threaded, as at 6.

A bushing 7 is rotatably mounted within the fitting 1. The bushing 7 is provided with an external annular flange 8 arranged to overhang the internal flange 4 of the fitting 1, the bushing being rotatably supported within the fitting upon balls 9 or other suitable anti-friction bearing members engaged between the adjacent faces of the flanges 4 and 8. A collar 11 is threaded into the outer end of the fitting 1 to engage and hold the bushing 7 upon the balls 9 and to prevent axial movement of the bushing within the fitting. A plurality of bolt engaging recesses 12 are formed in spaced relation around the bushing 7.

A cap 14 is threaded into the outer end of the bushing 7 to close the inlet of the container. The cap 14 is provided with an annular flange 16 overhanging the end of the fitting 1 and covering the collar 11 so that said collar cannot be removed when the cap is tightened to operative position upon the bushing. The flange 16 is preferably provided with a depending annular edge 17 to more effectually cover the end of the fitting 1 and the collar 11.

A bolt member 18 is mounted upon the fitting 1. The bolt 18 extends axially through the wall of the fitting 1 and is slidably movable to engage and disengage any of the recesses 12 of the bushing 7. The bolt 18 is enclosed within a casing 19 connected to the fitting 1 in any suitable manner. A spring 21 mounted within the casing 19 around the bolt 18 exerts a normal pressure upon a collar 20 carried by the bolt tending to move said bolt inwardly into engagement with an adjacent recess 12.

The bolt 18 is arranged to be retracted against the pressure of the spring 21 by...
means of a suitable actuating member 22 connected at one end to the bolt and at its opposite end to a suitable lock mechanism designated in general by the numeral 23. The lock mechanism 23 may be located at any desired point. In the preferred arrangement illustrated in the drawings, the lock 23 is mounted at a point remote from the tank 20, preferably upon the dash of the automobile, and the actuating member 22 consists of a flexible wire extending through a conduit 24 from the casing 19 to the lock 23. The lock 23, which may be of any ordinary construction, is provided with the usual rotatable cylinder 25 actuated by a proper key 26, the cylinder being provided with an eccentrically disposed pin 27 upon its inner end to receive the end of the bolt actuating member 22 whereby the member 22 may be moved longitudinally through the conduit 24 when the lock cylinder is turned by its key 26.

In operation, to lock the cap 14, the lock cylinder 25 is turned to a locked position whereby the bolt 18 is retracted against the pressure of the spring and held in disengaging relation with the bushing 7, as indicated in dotted lines in Fig. 3. In this position, the bushing 7 is released and is freely rotatable within the fitting 1. Any attempt to unscrew the cap 14 from the bushing 7 will cause the bushing to rotate freely upon the anti-friction bearings 9, and hence, the cap cannot be removed.

When it is desired to permit an authorized removal of the cap 14, the lock cylinder 25 is turned by means of its key 26 to a position such that the member 22 is moved through the conduit 24 toward the bolt 18, thereby releasing said bolt for movement by the spring 21 inwardly into engagement with the bushing 7. When now the cap 14 is turned, the bushing 7 will be turned until the bolt 18 drops into engagement with the nearest recess 12, thereby locking the bushing against further rotation and permitting the cap to be unscrewed from the bushing. The bolt is allowed to remain in its bushing engaging position until the cap 14 has been screwed back onto the bushing to close the inlet, and thereafter the lock cylinder 25 is again turned to retract the bolt.

As applied upon an automobile, the lock 23 may be mounted at a convenient point upon the dash. When it is desired to replenish the supply of gasoline in the tank 2, the operator turns the lock cylinder to release the bolt 18, thereby permitting the cap 14 to be removed by a service station attendant without requiring the operator of the automobile to leave his seat in the automobile. After the cap 14 has been returned to its closing position, the lock cylinder is turned to retract the bolt 18, thereby insuring that the cap cannot be removed by unauthorized persons and effectually preventing the theft of the gasoline by a siphon applied through the inlet when the automobile is left parked.

While I have illustrated and described what I now regard as the preferred embodiment of my invention, the device is of course subject to modification in various ways without departing from the spirit of my invention. The device may also be applied in connection with containers other than the gasoline tanks of automobiles without departing from the spirit of my invention. Therefore do not wish to be restricted to the specific details of construction and arrangement illustrated and described, but desire to avail myself of all modifications which may fall within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A lock cap for containers comprising a bushing mounted within the inlet opening of a container in normal rotatable relation thereto; a cap threaded onto one end of the bushing in close to the inlet opening, the bushing normally rotating with the cap to prevent removal of the cap; and means to engage and hold the bushing against rotation whereby the cap may be unscrewed.

2. A lock cap for containers comprising a bushing mounted within the inlet opening of a container in normal rotatable relation thereto; a cap threaded onto one end of the bushing and closing said inlet opening; and releasable means for engaging the bushing to hold the same against rotation whereby the cap may be unscrewed.

3. A lock cap for containers comprising a bushing mounted within the inlet opening of a container in normal rotatable relation thereto; a cap threaded onto one end of the bushing and preventing access to said rotatable bushing; means for engaging the bushing to hold the same against rotation; and means for disengaging said bushing engaging means from said bushing.

4. A lock cap for containers comprising a bushing mounted within the inlet opening of a container in normal rotatable relation thereto; a cap threaded onto one end of the bushing and having an annular flange enclosing the end of the inlet and preventing access to said rotatable bushing; means for engaging the bushing to hold the same against rotation; and means for disengaging said bushing engaging means from said bushing.
covering said inlet to prevent access to said bushing; and means for engaging one of the recesses in said bushing to prevent rotation thereof whereby the cap may be removed by rotating the same relatively to said bushing.

6. A lock cap for containers comprising a bushing mounted within the inlet opening of a container in normal rotatable relation thereto and having a plurality of recesses therein; a cap threaded onto one end of the bushing and covering said inlet to prevent access to said bushing; means for engaging one of the recesses in said bushing to prevent rotation thereof whereby the cap may be removed by rotating the same relatively to said bushing; and means for disengaging said bushing engaging means from said bushing whereby rotation of said cap will rotate said bushing and prevent removal of said cap.

In witness whereof, I hereunto set my signature.

WESLEY J. MYLAR.