No. 692,538. Patented Feb. 4, 1902.

W. H. NIEMEYER.

BICYCLE LOCK.

(Application filed Apr. 29, 1901.)

(No Model.)

Fig. 4.

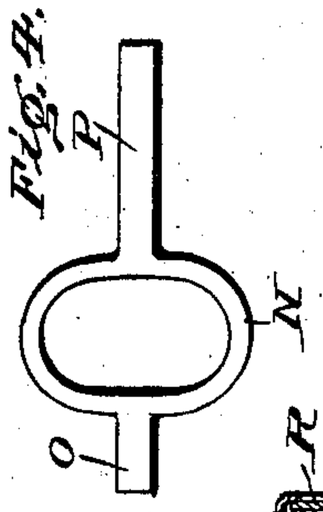


Fig. 3.

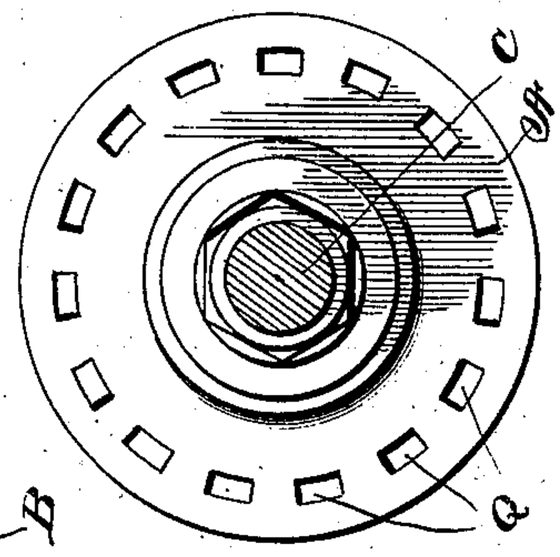


Fig. 6.

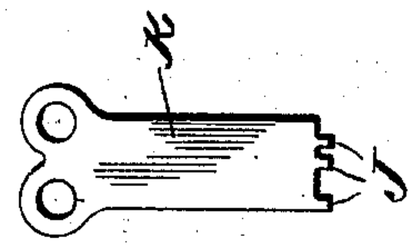


Fig. 2.

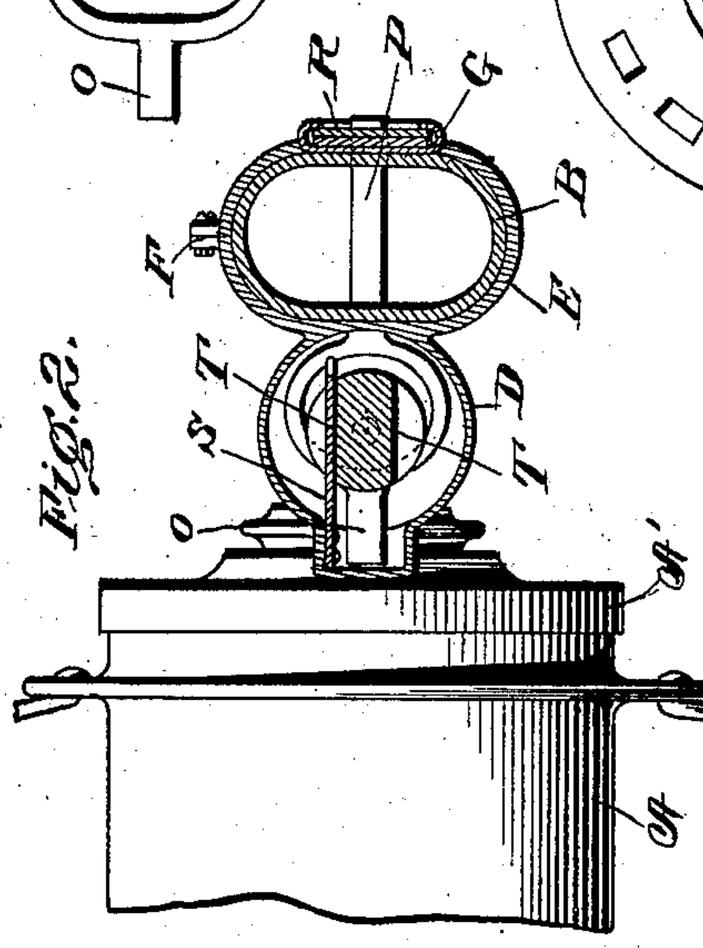


Fig. 5.

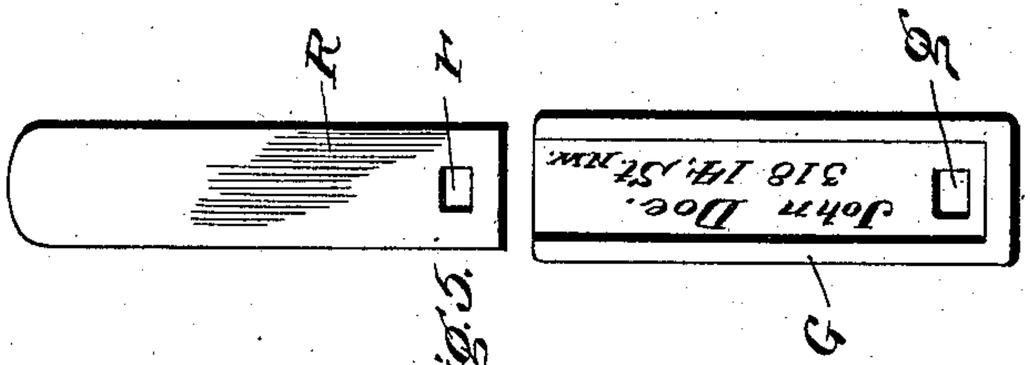
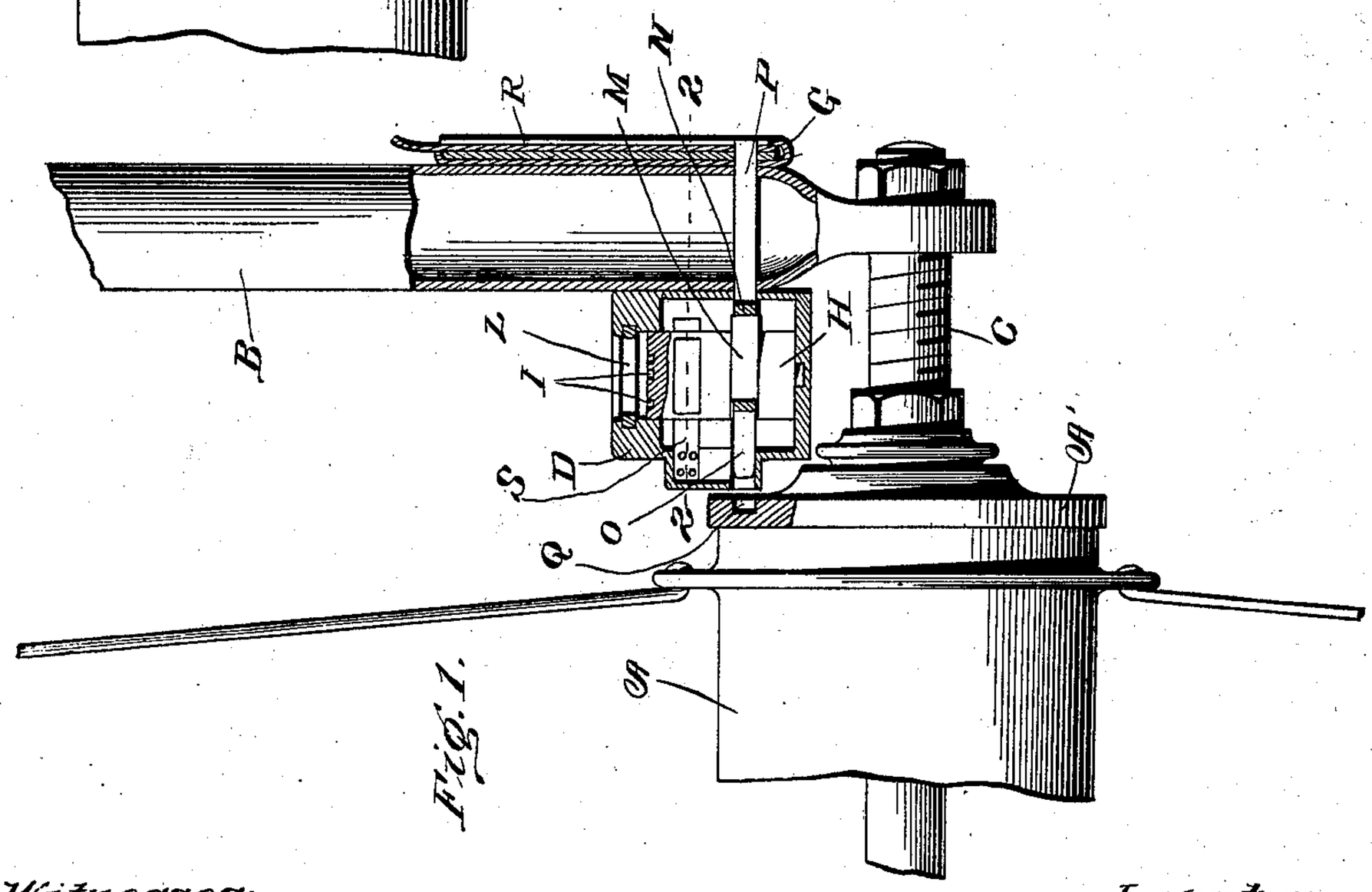


Fig. 1.



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by
W. Preston Williamson, Atty

UNITED STATES PATENT OFFICE.

WILLIAM H. NIEMEYER, OF LOS ANGELES, CALIFORNIA.

BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 692,538, dated February 4, 1902.

Application filed April 29, 1901. Serial No. 58,033. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. NIEMEYER, a citizen of the United States, residing at Los Angeles, county of Los Angeles, and State of California, have invented a certain new and useful Improvement in Bicycle-Locks, of which the following is a specification.

My invention relates to a new and useful improvement in bicycle-locks, and has for its object to provide a bicycle-lock which will alternately lock either the wheel against movement or a slide over the name-plate in place—that is to say, when the wheel is being used the slide over the name-plate is locked in place, and when the wheel is standing still and is locked against movement the slide over the name-plate is unlocked.

A further object of my improvement is to provide a bicycle-lock which will be small and compact and yet durable and simple in operation.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a section of a portion of the fork of the bicycle and the lock and name-plate, the hub of the bicycle being left in elevation. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a section of the axle, showing an elevation of the outer rim of the hub. Fig. 4 is a plan view of the locking-bolt. Fig. 5 is a face view of the name-plate case, showing the outer slide removed; and Fig. 6 is an elevation of the form of key used in my lock.

In carrying out my invention as here embodied, A represents the hub of a bicycle.

B is one of the forks of the framework, in which the axle C is secured in the usual manner.

D is the lock-casing, which is secured to the fork B by means of the strap E, which passes around the fork, the ends of this strap being secured together at the point F. The name-plate case G is formed with or secured to the strap E upon the opposite side of the fork.

H is a round plug, which is journaled in the lock-casing D. This plug has small cavities I upon its upper face, which cavities are adapted to correspond with projections J, extending down from the keys K, so that when said key is revolved the plug H will be caused to revolve with the same. Of course each lock and key will have the holes I and projections J set at different points, or these projections and holes will be increased or decreased, so that no two keys will fit the same lock.

L is a flat plate adapted to revolve loosely within the case D and has a slot cut through the same of just sufficient width for the flat key K to pass through to the plug H. This plug H has the portion M formed eccentric to the balance of the plug, and around this eccentric portion M is a strap N, and to one side of this strap is secured the bolt O, and to the opposite side is secured the bolt P.

The rim A′ of the hub A has formed in the outer face thereof openings Q. These openings Q are arranged in the form of a circle and are in such a position that when the plug H is revolved in one direction the bolt O will be caused to pass out of the case D and into one of the openings Q, and this will lock the wheel against rotation. The bolt P upon the opposite side of the strap N passes through openings formed in the case D and also through openings formed in the fork through to the name-plate case G. This name-plate case G has upon each side the edges turned over to form a guideway for a slide R and also for a transparent slip to be placed over the name. The slide R and the case G both have openings formed through the bottom thereof, which openings are adapted to register with the bolt P. When the bolt O is withdrawn from the openings Q, it will unlock the wheel. The bolt P will be forced through the openings *g* in the casing and the openings *r* in the slide, and thus the slide R will be locked against removal and such slide cannot be removed until the wheel is locked against rotation.

To prevent the plug H revolving of its own accord and to give the same a certain amount of tension, I provide a spring S, which is se-

cured to the case D, the free end of this spring resting flat against the flat surfaces T, formed upon each side of the plug H. Thus when the spring is resting against one flat surface the bolt O will be withdrawn and when it is resting against the opposite flat surface the bolt P will be withdrawn, and the plug H will be held in such position until turned by the key.

The advantages of my invention are that when the wheel is unlocked and is being ridden the name-plate slide R is locked in place, and so prevents the same from being lost; but when the wheel is locked against rotation this slide is free to be removed, and thus it can be readily seen at any time to whom the wheel belongs.

A further advantage of my invention is that the lock lies between the fork and the hub of the bicycle, and so is almost entirely out of sight, and therefore does not give the wheel any unsightly appearance.

Another advantage is that the lock itself being made only of three principal parts there is nothing to get out of order, and therefore enables the same to be manufactured at small cost and yet at the same time furnishes a strong and durable lock.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a bicycle-lock, a lock-casing adapted to be secured upon the framework of the machine, a name-plate casing also adapted to be secured upon the framework of the machine, a slide adapted to be guided in suitable guideways in the name-plate casing, a revolving plug journaled in the lock-casing, said plug adapted to be turned by a suitable key, an eccentric portion formed upon said plug, two bolts upon the opposite sides of said plug adapted to be operated upon by said eccentric portion, openings formed in the hub of a bicycle with which one of said bolts is adapted to come into engagement, openings formed through the fork of the bicycle, the name-plate casing and the name-plate slide, through which the opposite bolt is adapted to protrude when the other bolt is withdrawn from the openings in the hub of the wheel, substantially as described and for the purpose specified.

2. In a bicycle-lock, a lock-casing adapted to be secured to the inside of the fork of the bicycle, a name-plate casing adapted to be secured to the opposite side of said fork, a slide adapted to be guided in said name-plate casing, openings formed in the face of the hub of the bicycle, a bolt adapted to be guided in the lock-casing and adapted to come into engagement with said openings in the hub, a second bolt adapted to be guided in the lock-casing and protrude through the fork of the bicycle, openings formed through the name-plate casing and name-plate slide through which the last-named bolt is also adapted to protrude when the first-named bolt is withdrawn from the openings in the face of the hub, a revolving plug journaled in the lock-casing, means whereby the revolution of said plug will alternately cause the two bolts to lock the wheel against rotation and unlock the name-plate slide, a suitable key for causing said plug to revolve, substantially as described and for the purpose specified.

3. In combination in a bicycle-lock, a casing D adapted to be secured to the inside of the fork of the bicycle, a name-plate casing G secured to the outside of the fork of the bicycle, a slide R adapted to slide vertically within guideways in the name-plate casing, openings formed through the lower end of said name-plate casing and slide R, openings Q formed in the face of the hub of the bicycle, a plug H journaled in the lock-case, an eccentric portion formed upon said plug, a bolt O adapted to slide in suitable guideways in the lock-casing upon one side of said plug, said bolt O adapted to register with and come into engagement with the openings in the face of the hub of the bicycle, a bolt P upon the opposite side of the plug guided in suitable guideways and passing through the form of the bicycle and adapted to come into engagement with the openings formed through the name-plate casing and side for the purpose of locking the same in place, a strap surrounding the eccentric portion of the plug to which the two bolts are secured, flat surfaces formed upon each side of the plug, a spring adapted to be secured to the lock-case and lie against one of said flat surfaces, a disk L adapted to revolve in the lock-casing above the revolving plug, said disk L having a slot formed therethrough, a suitable key adapted to engage the plug and revolve the same, substantially as described and for the purpose specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM H. NIEMEYER.

Witnesses:

L. W. MORRISON,

SAML. PRAGER.