No. 641,301. Patented Jan. 16, 1900.

P. KLOSE.

BICYCLE LOCK.

(Application filed Aug. 9, 1898.)

(No Model.)

Fig. 1.

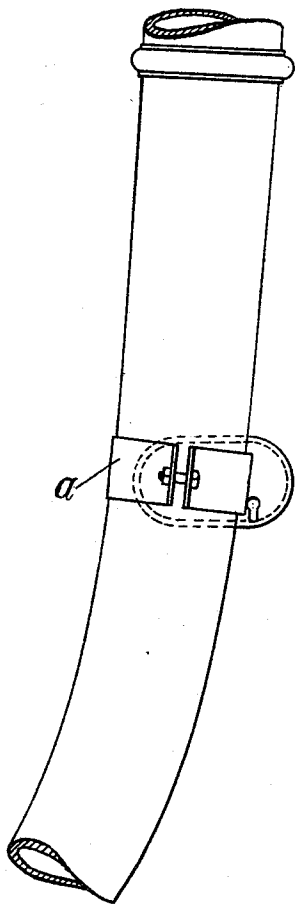


Fig. 2.

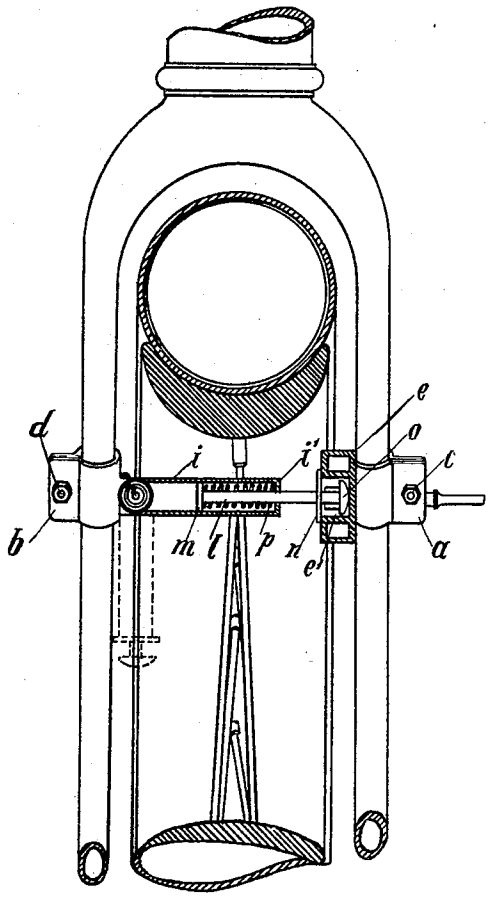


Fig. 4.

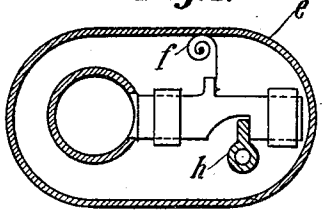
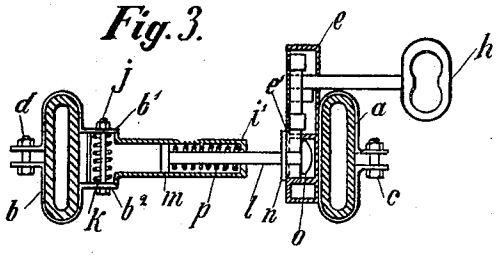


Fig. 3.



Witnesses:-
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Colin C. Campbell.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PAUL KLOSE, OF SORAU, NIEDER-LAUSITZ, GERMANY.

BICYCLE-LOCK.

SPECIFICATION forming part of Letters Patent No. 641,301, dated January 16, 1900.

Application filed August 9, 1898. Serial No. 688,170. (No model.)

To all whom it may concern:

Be it known that I, PAUL KLOSE, a subject of the King of Prussia, German Emperor, residing at Sorau, Nieder-Lausitz, Prussia, in the German Empire, have invented certain new and useful Improvements in Bicycle-Locks, (for which I have applied for patents in France, dated July 6, 1898, No. 276,311, and in England, dated July 4, 1898, No. 14,699,) of which the following is a specification.

This invention relates to a locking apparatus for cycles which possesses the advantage over other apparatus of the same kind heretofore in use that it is much easier to manipulate and is easily applied to any existing cycle without the least alteration in the construction of the machine.

The improved locking apparatus is constructed with a double arrangement of springs, one of which is for the purpose of causing the locking-bolt to fall out of the way automatically when the lock is unfastened, while the other enables the locking-bolt to be drawn out to enable its end to be introduced into a corresponding opening in the lock.

The locking apparatus may be applied either to the front or back wheel forks or to both, if desired.

The accompanying sheet of drawings illustrates the invention as applied to the fork of the front wheel of a cycle.

Figure 1 is a side view showing the application of the improved locking apparatus to the fork of the front wheel. Fig. 2 is a front view, partly in section, of the apparatus in the locked position—that is to say, locking the front wheel. Fig. 3 is a horizontal section of the apparatus; and Fig. 4 is a longitudinal section, to a larger scale than Figs. 1, 2, and 3, of the lock or latch forming part of the apparatus.

The apparatus consists of the following arrangements:

a and *b* are two clamps carrying, respectively, a locking-bolt and a fastening lock or latch. These clamps *a* and *b* are provided with lugs and screw-bolts *c* and *d*, by means of which they can be fixed securely to the arms of the fork.

The lock or latch connected with the clamp *a* consists, as usual, of an outer case *e*, in which is arranged a suitably-guided latch-bolt *g*, acted on by a spring *f* and operated by a key *h*, which may be of more or less complicated construction, according to the degree of security desired.

The locking-bolt of the apparatus is connected, as above stated, with the clamp *b*, and the arrangement of this locking-bolt is best seen in Figs. 2 and 3 of the drawings. The clamp *b* carries the two lugs *b'* and b^2, connected with which is the tubular part *i* of the locking-bolt, the same being pivoted to them by the pin *j*. Around the pin *j* is wound a spiral spring *k*, one end of which is fixed to the clamp *b* and the other end to the tubular part *i*. Inside the tube *i* is arranged a rod *l*, having at its rear end a piston *m* and at its front end a collar *n* and a head *o*, a space being left between the collar *n* and the head *o*, into which the front beveled end of the latch-bolt *g* can enter. The front end of the tube *i* is provided with a cover-plate *i'*, and between this cover-plate and the piston *m* is a spring *p*, encircling the rod *l*. The case of the lock is furnished with an opening *e'*, through which the head *o* of the locking-bolt can be introduced.

The manipulation and action of the apparatus are as follows: The locking-bolt, which when unlocked is held by the spring *k* in the vertical position shown by dotted lines in Fig. 2—that is to say, parallel to the arm of the fork—is raised by hand into the horizontal position shown by full lines in Fig. 2 when it is desired to lock the wheel. Then by means of two fingers, preferably the middle and fore finger, the head *o* is drawn out, whereby the spring *p* between the piston *m* and the cover-plate *i'* is compressed, and the head *o* of the bolt can then be passed through the opening *e'* in the casing *e*. The rounded front of the head *o* is thereby pressed against the beveled front end of the latch-bolt *g*, pushing the latter backward. Then when the head *o* has been pushed far enough into the casing the said latch-bolt *g* springs into the space between the collar *n* and head *o*, so as to hold the locking-bolt securely in the locked position. By these means the front wheel is locked so that it cannot be turned around, and it then only remains to remove the key *h* to prevent any unauthorized person using the machine and to make it difficult for any one to steal it. In the above-described operation

of locking it is quite unnecessary to use the key, and consequently to leave it in the lock, because, as above explained, the latch-bolt *g* acts automatically. In practice it is best to carry the key always in a pocket of the dress usually employed by the rider, or the key may be connected to the dress by means of a chain or string to prevent it being lost. In order to unlock the wheel, it is only necessary to draw back the latch-bolt *g* by means of the key *h*. The spring *p* then immediately draws the piston *m* and rod *l* back, so that the head *o* comes clear of the opening *e'*, and the whole locking-bolt, including the tubular part *i*, is returned into the vertical position shown in dotted lines, Fig. 2, by means of the spring *k*.

It will be understood from the above description that the manipulation of the apparatus is extremely simple.

Having thus fully described my invention, I declare that what I claim, and desire to secure by Letters Patent, is—

1. In a locking device for cycles, the combination of the clamps *a*, *b*, a locking-bolt pivoted to one of said clamps and comprising a cylindrical casing *i*, a bolt *l* movable longitudinally in said casing, and a spring *p* tending to draw the bolt *l* within the casing, and a spring-lock upon the other clamp, said spring-retained bolt adapted to be drawn outwardly in its casing into position to be engaged by the spring-lock, substantially as and for the purpose set forth.

2. In a locking device for cycles, the combination of the clamps *a*, *b*, adapted to be fixed to the forked parts of a machine, a locking-bolt pivotally mounted upon the clamp *b* and comprising a cylindrical casing *i*, a bolt *l* mounted longitudinally movable in said casing and formed with a piston *m* within the casing engaging head *o* at its opposite end and an operating-collar *n*, a spiral spring confined between the end of the bolt-casing and the piston *m* for normally drawing the bolt within its casing, and a spring lock or latch mounted upon the clamp *a* and adapted to engage the head *o* when the bolt *l* is forced outwardly in its casing, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

PAUL KLOSE.

Witnesses:
J. D. MURPHY,
PAUL FOLLENBERG.