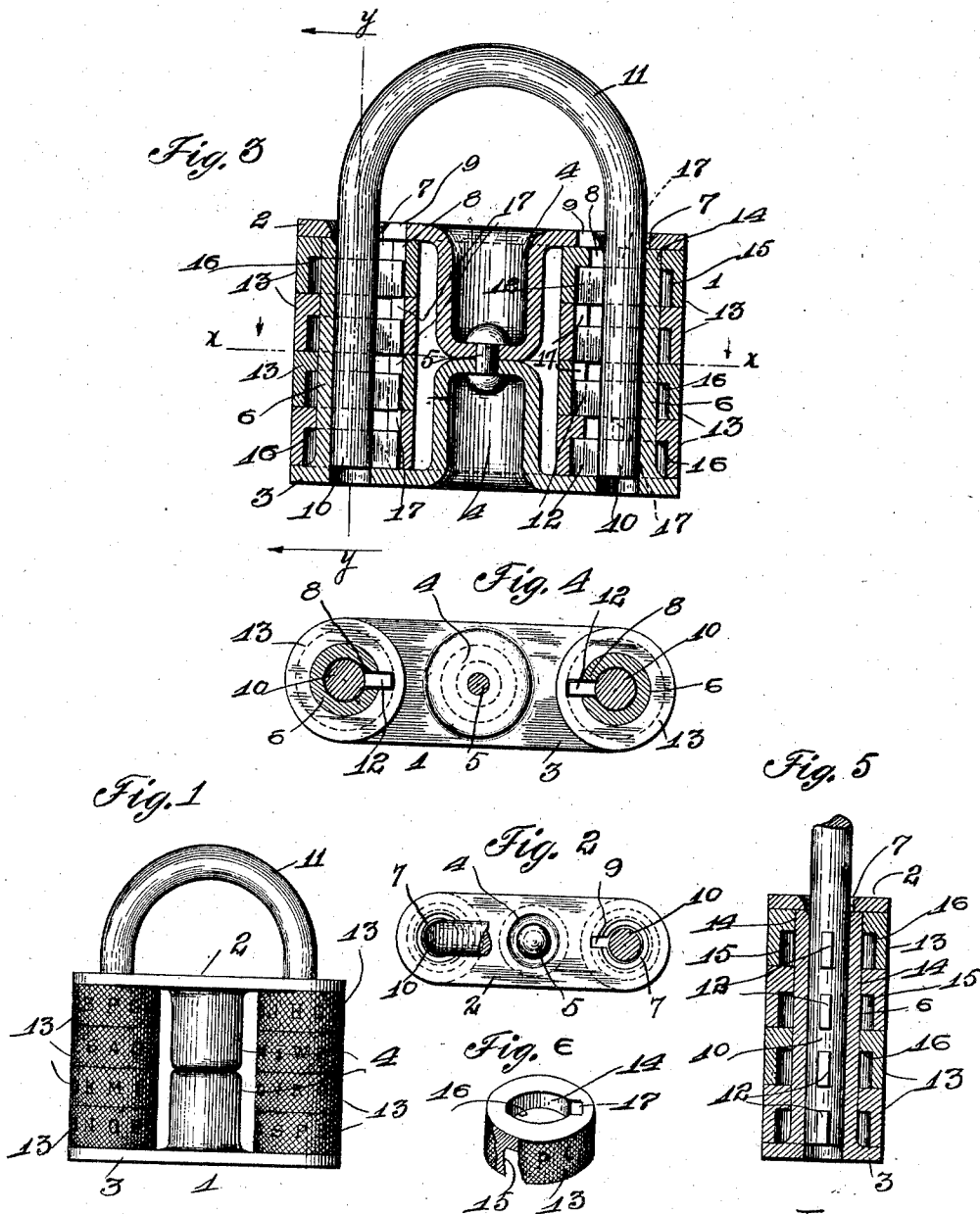


W. TRIERWEILER.
COMBINATION PADLOCK.
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UNITED STATES PATENT OFFICE.

WILLIAM TRIERWEILER, OF AURORA, ILLINOIS.

COMBINATION-PADLOCK.

967,466.

Specification of Letters Patent. **Patented Aug. 16, 1910.**

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To all whom it may concern:

Be it known that I, WILLIAM TRIERWEILER, a citizen of the United States, residing at Aurora, county of Kane, and State of Illinois, have invented certain new and useful Improvements in Combination-Padlocks, of which the following is a specification.

My invention relates to improvements in combination padlocks and has for its object the production of a lock of this character which will be efficient in operation, which will be strong and durable, and of simple and economical construction, hence of low cost to manufacture.

Other objects will appear hereinafter.

With these objects in view my invention consists in a padlock characterized as above mentioned and in certain details of construction and arrangement of parts all as will be hereinafter fully described and more particularly pointed out in the appended claims.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of a combination padlock embodying the preferred form of my invention, Fig. 2 is a top plan view thereof, a portion of the shackle being broken away, Fig. 3 is a slightly enlarged central vertical section, Fig. 4 is a transverse section taken on line *x-x* of Fig. 3, Fig. 5 is a longitudinal section taken on line *y-y* of Fig. 3, and Fig. 6 is a detail perspective of one of the rotary disks included in the lock, detached.

Referring now to the drawing, 1 indicates the body or frame of the lock which is comprised of two substantially similar upper and lower spaced plates 2 and 3 respectively. The central portions of the plates 2 and 3 are formed with corresponding inwardly projecting comparatively deep depressed portions 4 which are rigidly connected at their inner contacting extremities by means of a rivet 5. With this construction it will be seen that the heads of said rivet will be sunk or seated at the bottoms of the depressed portions 4, and whereby the same will be protected and tampering therewith by unauthorized persons prevented. Formed upon the inner sides of the plate 3 at each end thereof is an upwardly projecting cylindrical tube 6 which extends to engagement with the corresponding end of the plate 2 and to the under side of which it is

suitably secured. Flaring openings 7 provided in said ends of the plate 2 register with the openings or passages through said tubes. The inner side of each of the tubes 6 is provided with a coextensive longitudinally extending slot 8; the openings 7 being provided with corresponding slots 9 registering with the slots 8, the slots 9 being however of a length such as to extend beyond the outer surfaces of said tubes, for reasons which will be obvious as the description proceeds. Said tubes are of interior diameters such as to adapt the same to snugly receive the parallel arms 10 of the shackle 11; equally spaced teeth 12 formed upon and projecting from the inner sides of said arms 10 being adapted to engage the slots 8, said teeth being of such length as to extend beyond the lateral surfaces of said tubes, as clearly illustrated. Rotatably mounted upon each of said tubes is a series of similar disks 13 preferably cylindrical in form and knurled upon their peripheries to facilitate ready rotation thereof by the fingers. The inner surfaces of each of said disks is of two diameters—a smaller diameter 14 at its upper portion which is slightly larger than the diameter of the tubes 6 so as to permit of rotation thereon, and a larger diameter 15 at its lower portion adapted to clear the outer ends of the teeth 12, and whereby an annular shoulder 16 is formed therein for engagement by said teeth. The upper portion of each disk is provided with an interior slot 17 adapted to permit of the passage of the shackle teeth 12.

With this construction it will be observed that insertion of the shackle arms into the openings or sockets in the body part of the lock will be permitted only when the disks of each series of disks 13 are positioned with the slots 17 thereof vertically alining and in registration with the slot 8 in the tubes 6 upon which they are mounted, such arrangement being shown in the left-hand portion of Fig. 3. By rotating said disks so as to non-aline the slots 17, the teeth 12 of the shackle arms will be positioned under and will engage the shoulders 16 of said disks, as clearly shown at the upper and lower disks in the right-hand portion of Fig. 3 to effect the locking of the shackle to the body of the lock. Each tooth 12 is of a width such as to snugly fit between a shoulder 16 and the upper end surface of the next lower disk, and whereby the shackle, when the

teeth thereof are engaged by the disks 13, as described, will be locked against all possible relative movement in the body 1.

The periphery of each disk is provided with a plurality of spaced letters or other suitable indicia bearing predetermined relations with the slots 17 so that, only when certain letters are in alinement or upon a certain combination being effected, will said slots be in registration to permit of insertion or detachment of the shackle. With this provision it is evident that in order to effect the opening or unlocking of the lock it is required that the combination of the disks be known, and which combination will only be known by those authorized. With the provision of a padlock of a construction as set forth one of suitable and efficient construction and inexpensive to manufacture will be provided.

While I have shown what I deem to be the preferable form of my invention I do not wish to be limited thereto as there might be various changes made in the details of construction and arrangement of parts without departing from the spirit of the invention comprehended within the scope of the appended claims.

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

1. In a lock, a body part and a shackle, said shackle having parallel arms, said body part comprising parallelly disposed spaced upper and lower plates having their central portions depressed, said depressed portions being rigidly secured together; cylindrical tubes secured to and extending between corresponding ends of said plates, said tubes registering with openings in the ends of said

upper plate, the openings through said tubes being adapted to snugly receive said shackle arms; a series of spaced longitudinally alining teeth projecting from each of said shackle arms, said tubes being longitudinally slotted to permit of the passage of said teeth; and a series of rotary disks mounted upon each of said tubes and adapted to engage said teeth to lock the shackle to said body, substantially as described.

2. In a lock, a body and a shackle, said shackle having parallel arms, said body part comprising parallelly disposed spaced upper and lower plates, the central portions of said plates being depressed toward each other, a securing rivet extending through contacting end surfaces of said depressed portions, the heads of said rivet being positioned at the bottoms of said recesses, tubes integral with one of said plates and extending between corresponding ends of said plates, the upper ends of said tubes registering with admission openings in the ends of said upper plate, the openings through said tubes being adapted to snugly receive said arms of said shackle, a series of spaced longitudinally alining teeth projecting from each of said shackle arms, said tubes being longitudinally slotted to permit of the passage of said teeth, and a series of rotary disks mounted upon each of said tubes and adapted to engage said teeth to lock the shackle to said body, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM TRIERWEILER.

Witnesses:

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