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PADLOCK.

954,795.

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To all whom it may concern:

Be it known that I, BENJAMIN J. GREER, a citizen of the United States, residing at Athens, in the county of Henderson and State of Texas, have invented a new and useful Padlock, of which the following is a specification.

The objects of the invention are, generally, the provision, in a merchantable form, of a device of the above mentioned class which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of a padlock, the rotatable tumblers of which shall coöperate in a novel and improved manner to lock and to unlock the device, novel means being provided for assembling the tumblers rotatably with each other, and for securing them to the body of the padlock of which they form a part; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive features of the device, it being understood, that, within the scope of what hereinafter thus is claimed, divers changes in the form, proportions, size, and minor details of the structure may be made, without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings, Figure 1 shows my invention in transverse section; Fig. 2 shows the invention in perspective, the several tumblers and the index members being spaced in alinement, from the body of the lock; and Fig. 3 is a front elevation of the padlock, the parts being disposed in unlocked relation.

By way of explanation, I will state that the device includes a body member, with each side face of which is assembled a series of rotatable tumblers. There is no coöperative relation between the set of tumblers upon one side of the body and those upon the other side, each set of tumblers constituting a distinct locking means, so that one, or both of these sets of tumblers may be em-

ployed for the locking of the device. The tumblers which are located upon one side of the body of the padlock, are duplicated upon the other side thereof, and therefore but one side of the padlock will be described, it being understood that the description applies with equal propriety to the other side and that the lock would be effective to exercise its functions, should one of the sets of tumblers be dispensed with entirely.

The body 1 of the lock is annular in form and is provided with a pivoted shackle 2, the movable end of which is adapted to register in an opening 12, extending entirely through the body 1 of the lock. The end of the shackle 2 is provided upon both of its side faces with notches 3, 4 and 5, which are adapted to be engaged by the several rotatable tumblers hereinafter described, to hold the movable end of the shackle in place within the body of the lock.

The side of the body 1 is provided with a circumscribing channel 6, defining an outer flange 7 and an inner flange 8, the flange 8 outstanding beyond the flange 7. Within the flange 8 is a channel 9, defined by the flange 8 and a concentric flange 10, the flange 8 outstanding beyond the flange 10. Extending from the flange 10, inwardly, and defining the opening in the center of the body 1, is a rib 11.

The rotatable tumblers are three in number, and are adapted to be nested within one another, the tumbler of largest diameter being denoted by numeral 14. The tumbler 14 is provided with a flange 16 which is adapted to register in the channel 6 of the body of the lock, the tumbler 14 inclosing closely, yet for rotation thereon, the flange 8 of the body of the lock, the outer face of the tumbler 14 being substantially flush with the outer face of the flange 8. The flange 16 is provided with an opening 15 adapted to be brought into alinement with the opening 12 in the body of the lock, to permit the outward passage of the end of the shackle 2. The inner tumbler 17 carries a flange 19 adapted to rest upon the rib 11 of the body of the lock within the flange 10; an opening 20 for the passage of the shackle is provided, and a knob 18 serving as a means whereby the tumbler may be rotated moving the opening 20 into alinement with the openings 12 and 15.

Surrounding the tumbler 17 is an intermediate tumbler 21, including a body por-

tion 23 and a reduced neck 24. The outer face of the body 23 is inclosed by the flange 8 of the body of the lock, the flange 26 registering rotatably in the channel 9 in the body of the lock. The flange 26 is provided with an opening 22, and, by means of a projecting stud 27, the tumbler may be rotated to aline the opening 22 with the openings 12, 15, and 20.

The invention further includes a fixed index member 28, in the form of a ring. This index member 28 is provided with openings 29 adapted to receive rivets 30, or other like retaining elements, which, passing through the flange 8 of the body of the lock, engage, and hold in place against rotation, the fixed index member which is located upon the opposite side of the lock. The width of the index member 28 is sufficient so that it may cover entirely the flange 8, and extend upon the tumbler 14, the opening in the index member being adapted to inclose closely, yet rotatably, the neck 24 of the tumbler 21. When the several tumblers are assembled as hereinbefore pointed out, their outer faces, 34, 35 and 36 will be disposed in a common plane, as shown in Fig. 1, the face 33 of the tumbler 14 being depressed below the faces of the other tumblers.

To recapitulate the manner in which the several tumblers are held to the body of the lock, it will be noted that the face 31 of the member 21 will engage against withdrawal, the flange 19 of the tumbler 17, the index member 28 engaging the face 32 of the member 21 and a portion of the face 33 of the member 14, the index member 28 being retained in place upon the flange 8 by means of the rivets 30.

To explain in detail the manner in which the several tumblers engage the shackle 2, by referring to Fig. 1, it will be seen that the flange 19 of the tumbler 17 is adapted to register in the notch 5, the flange 26 of the tumbler 21 to register in the notch 4, and the flange 16 of the tumbler 14 to register in the notch 3, thus holding the movable end of the shackle securely in place within the body of the lock.

Referring to Fig. 3, directly below the point at which the shackle is assembled with the body of the lock, the numbers 7—3—2—5, appear, reading from the circumference of the lock toward the center, the faces 34, 36, and 33 of the tumblers and the face 36 of the index member 28, being inscribed with suitable numerals, or the like. Reading from the circumference of the lock toward its center, the combination is set for 7—3—2—5, and when these numerals are alined, the openings in the several tumblers will be alined with the opening in the body of the lock so that the shackle may readily be swung outwardly. It is to be recalled that the index member 28 is fixed with re-

spect to the body of the lock, the numeral 3 upon the member 28 in the present instance being the index with which the numerals upon the tumblers 17, 21 and 14 must be alined. It is obvious, that by disturbing the alinement of the combination figures, through a rotation of one or more of the tumblers, the shackle will be locked in place within the body of the device.

Passing now to a description of the operation whereby the combination may be changed, it will be seen that by shifting the position of the index member 28 upon the rivets 30 a new combination may be secured. For instance, by moving the index member through approximately 120 degrees, assuming that but three rivets are employed, and that they are equally spaced, the numeral 7 upon the index member may be brought into the combination, the combination then being changed from 7—3—2—5, to 7—7—2—5. Thus, by simply rotating the index member through the desired arc and riveting it in place, the combination may be changed.

The several tumblers 14, 17 and 21, are provided, respectively, on their flanges 16, 19 and 26, with a plurality of notches 50. These notches 50 may be of any number, and it will be noted that they do not extend entirely through the flanges in which they occur. The several notches 50 are adapted to serve as decoys, for, if through a faulty construction, the shackle, after having been engaged by the flanges 16, 19 and 26, should have a slight movement in its locked position, it will be impossible, by listening to the movement of the shackle, as it clicks over the notches, when the tumblers are rotated, to discern when the several tumblers 14, 17 and 21, are so positioned that the shackle may be withdrawn from their grasp.

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

1. A device of the class described comprising a body; a shackle carried by the body; rotatable nested tumblers to engage the shackle; and a fixed index ring connected with the body and arranged to retain the tumblers within the body.

2. A device of the class described comprising a body; a shackle carried by the body; an outer tumbler mounted upon the body; an inner tumbler mounted within the outer tumbler; an intermediate tumbler mounted between the inner and the outer tumblers and arranged to retain the inner tumbler; and a fixed index ring connected with the body and arranged to retain the outer and the intermediate tumblers, the several tumblers being rotatable to engage the shackle.

3. A device of the class described comprising a body provided with a flange; a

shackle carried by the body; a tumbler carried by the body upon the exterior of the flange; nested tumblers located within the flange; a fixed index ring mounted upon the flange and arranged to hold all of said tumblers within the body, the several tumblers being rotatable to engage the shackle.

4. A device of the class described comprising a body provided with a flange; a shackle carried by the body; an outer tumbler carried by the body upon the exterior of the flange; an inner tumbler mounted within the flange; an intermediate tumbler disposed between the inner tumbler and the flange and arranged to retain the inner tumbler; and a fixed index ring mounted upon the flange and arranged to retain the outer and the intermediate tumblers, the several tumblers being rotatable to engage the shackle.

5. A device of the class described comprising a body provided with a channel defining intermediate and outer flanges upon the body; a shackle carried by the body; an outer tumbler mounted upon the exterior of the intermediate flange and having a flange to register in the channel; an inner tumbler mounted within the intermediate flange; an intermediate tumbler mounted between the inner and the outer tumblers and arranged to engage the inner tumbler; and a fixed index ring mounted upon the intermediate flange and arranged to engage the outer and the intermediate tumblers, the several tumblers being rotatable to engage the shackle.

6. A device of the class described comprising a body provided with outer and intermediate flanges; a shackle carried by the body; a tumbler having a flange to register between the outer and the intermediate flanges of the body; an inner tumbler mounted within the intermediate flange of the body; an intermediate tumbler arranged to engage the inner tumbler and having a flange to register within the intermediate flange of the body; a fixed index ring mount-

ed upon the intermediate flange of the body and arranged to engage the outer tumbler and the flange of the intermediate tumbler, the several tumblers being rotatable to engage the shackle.

7. A device of the class described comprising a body provided with concentric flanges; a shackle carried by the body; an outer tumbler having a flange to register between the outer and the intermediate flanges of the body; an inner tumbler having a flange to rest within the inner flange of the body; an intermediate tumbler arranged to rest upon the flange of the inner tumbler and having a flange to register between the inner and the intermediate flanges of the body; and a fixed index ring mounted upon the intermediate flange of the body and arranged to engage the outer tumbler and the flange of the intermediate tumbler, the several tumblers being rotatable to cause their flanges to engage the shackle.

8. A device of the class described comprising an annular body provided with an inner and an intermediate flange; a shackle carried by the body; an inner tumbler having a flange to rest upon the body within the inner flange of the body; an intermediate tumbler arranged to engage the flange of the inner tumbler and having a flange to register between the said flanges of the body; an outer tumbler carried by the body; a fixed index ring connected with the body between the outer and the intermediate tumblers and arranged to engage the outer tumbler and the flange of the intermediate tumbler, the several tumblers being rotatable to engage the shackle.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

BENJAMIN J. GREER.

Witnesses:

J. J. FAULK,
GEO. R. DAVIS.