No. 863,868. PATENTED AUG. 20, 1907.

J. B. MILLER.

PADLOCK.

APPLICATION FILED DEC. 7, 1904.

Fig. 1.

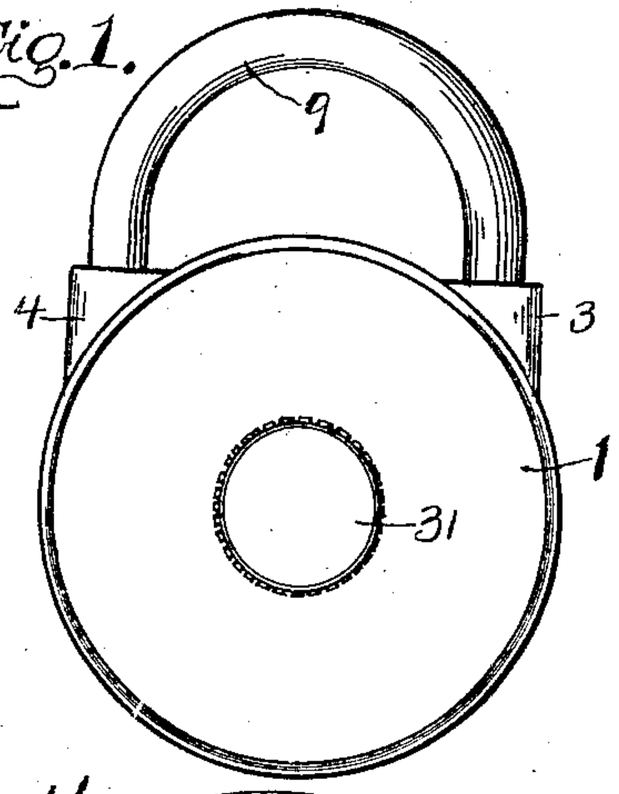

Fig. 2.

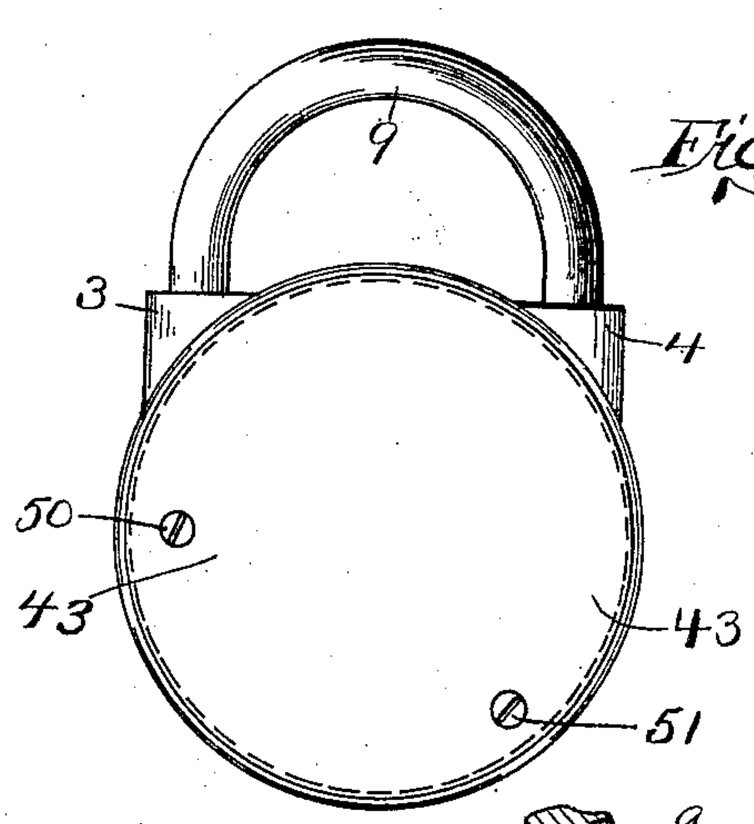

Fig. 4.

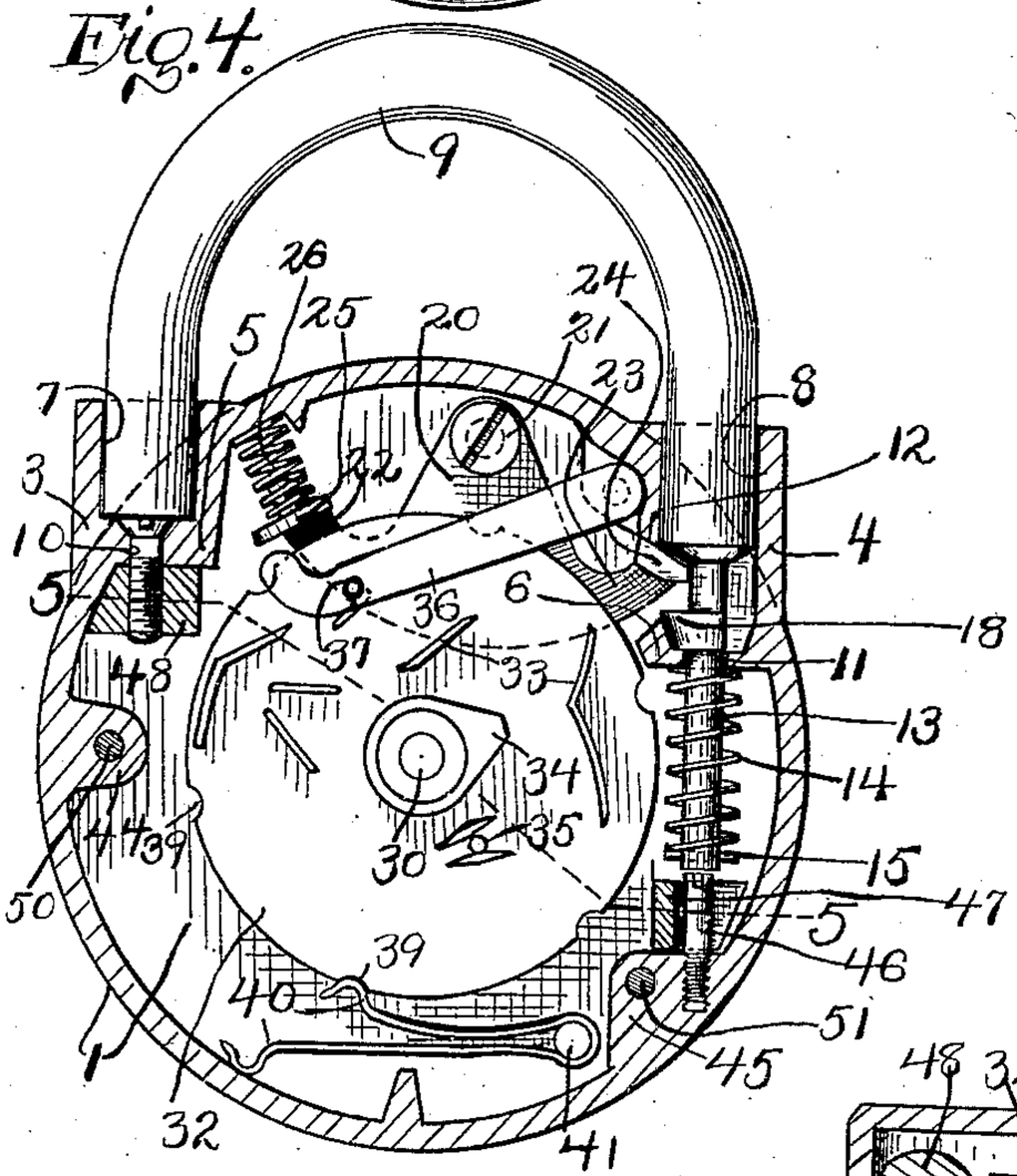

Fig. 3.

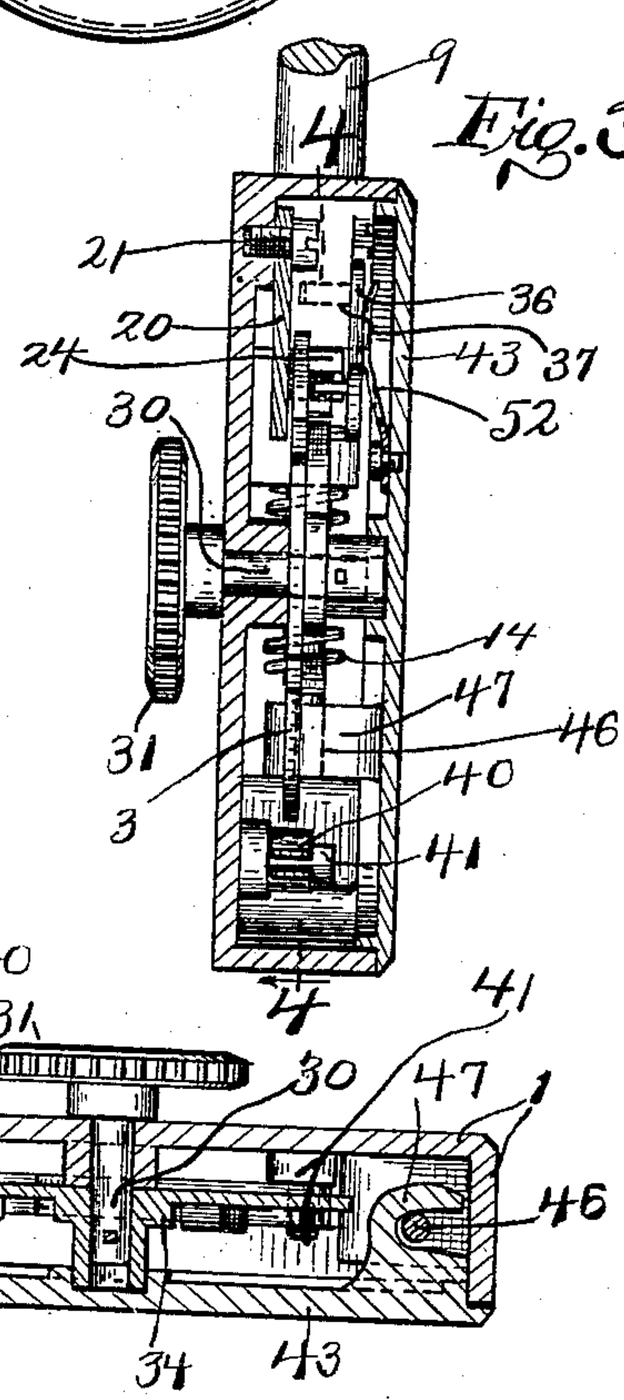

Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES B. MILLER, OF KENT, OHIO.

PADLOCK.

No. 863,868. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed December 7, 1904. Serial No. 235,827.

To all whom it may concern:

Be it known that I; JAMES B. MILLER, a citizen of the United States of America, residing at Kent, in the county of Portage and State of Ohio, have invented certian new and useful Improvements in Padlocks; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in combination pad-locks.

The object of this invention is provide a lock of this description which will be simple in construction, reliable in operation and having an arrangement of mechanism which cannot be manipulated so as to open the lock except by one familiar with the combination.

My invention, therefore, consists in the features of construction and combination of parts as described in the specification, pointed out in the claims and illustrated in the drawings.

In the accompanying drawings Figure 1 is a front view of my lock. Fig. 2 is a rear view of the same. Fig. 3 is a central vertical section. Fig. 4 is a section on line 4—4, Fig. 3. Fig. 5 is a section on line 5—5, Fig. 4.

Again referring to the drawings, 1 represents one section of the casing of my lock, comprising the front and side walls. The walls of the casing are thickened at each side near the top, as at 3 and 4, and the shoulders 5 and 6 are formed on the inner surface of the casing. In the thickened portions 3 and 4 are formed sockets 7 and 8, respectively, the socket 8 being somewhat deeper than the socket 7. The sockets 7 and 8 are designed to receive the ends of the shackle 9. In the bottom of the socket 7 is formed an opening 10, and in the bottom of the socket 8 is formed an opening 11, and in the side of said socket 8 is formed an opening 12. The end of the shackle 9, which enters the socket 8, is reduced in size to form a stem portion 13, which extends through the opening 11 into the interior of the casing. Around the lower end of the stem 13 is arranged a coiled spring 14, one end of which rests on a pin 15, secured in said stem 13 and the other end abuts against the shoulder 6. The object of this spring 14 is to make the shackle 9 snap back into the sockets 7 and 8 so that the lock will be what is termed self locking. On the upper end of the stem 13 is formed a shoulder or lug 18. The tumbler comprises a sector shaped plate 20 which is pivotally mounted in the upper part of the casing by means of a screw 21. The plate 20 is provided with arms 22 and 23. On the arm 23 is formed a flange 24, which is arranged to abut against the side wall of the casing and lie in the path of the lug 18 on the stem 13, and prevent the said stem from being withdrawn from the casing. On the arm 22 is formed a flange 25 and between this flange 25 and the side wall of the casing is arranged a coiled spring 26, which is arranged to exert a downward pressure on the flange 25 and thereby press the flange 24 against the side wall of the casing and normally hold said flange 24 in the path of the lug 18.

In the center of the casing is rotatably mounted a spindle 30, which is arranged to project at the front of the lock, and is provided with a knob 31, by means of which the said spindle can be turned. On the spindle 30 is rigidly secured a combination disk 32, on one face of which are arranged a series of ridges 33, a cam 34 and a stop 35. A lever 36 is pivotally secured at one end in the casing and the other end is free to move over the face of the combination disk 32. In the free end of the lever 36 is secured a pin 37 which extends towards the face of the disk 32, and is arranged to come in contact with the ridges, cam and stop thereon. The arrangement is such that when the disk 32 is turned back or forth through a whole or part of a revolution, a number of times, according to a predetermined plan, the pin 37 will travel from ridge to ridge constantly moving farther from the center of the disk, and the free end of the lever will be brought against the flange 25 shoving up said flange against the tension of the spring 26, and the flange 24 will therefore swing down and away from the stem 13, and out of the path of the lug 18 and said stem 13 and the shackle can be withdrawn sufficiently to open the lock. Around the perimeter of the combination disk 32 are formed notches 39, and to one side of the combination disk is arranged a spring 40, which is supported on a lug 41, so that one end of said spring presses against the perimeter of said disk and the other end presses against the side wall of the casing. When the combination disk is turned the end of the spring passing over the notches indicates what portion of a revolution the combination disk has been turned through.

The rear section 43 of the casing is secured to the section 1 as follows. On the inner surface of the section 1 are formed lugs 44 and 45. In the lug 45 is secured a screw-threaded pin 46. On the inner surface of the section 43 is formed a hook-shaped lug 47, which is arranged to engage with the pin 46 and a lug 48 which is arranged to abut against the shoulder 5. A screw 49 is passed through the opening in the bottom of the socket 7 and enters the lug 48, thereby securing the section 43 to the section 1. It will be readily understood that the screw 49 is only accessible when the lock is open for when the lock is closed the end of the shackle in the socket 7 will cover the head of the screw. Screws 50 and 51 are also passed through the section 43 into the lugs 44 and 45 so as to tightly clamp the section 43 to

the section 1 in order to keep out dust and moisture. A flat spring 52 is secured to the inner face of the section 43 and presses against the lever 36 to hold it in position.

What I claim is:—

1. In a pad-lock, the combination of a shackle, a casing provided with sockets for receiving the ends of said shackle, a stem formed at one end of said shackle and arranged to extend into said casing and provided with a lug near its upper end, a tumbler consisting of a plate pivotally supported in said casing and provided with two arms, a spring for normally holding said plate with one arm thereof in the path of the lug on said stem, a lever arranged to come in contact with the other arm of said tumbler and means for actuating said lever.

2. In a pad-lock, the combination of a shackle, a casing provided with sockets for receiving the ends of said shackle, a stem formed at one end of said shackle, and arranged to extend into said casing and provided with a lug near its upper end, a coiled spring mounted on said stem and having its upper end abutting against a stationary portion of said casing, a tumbler consisting of a plate pivotally supported in said casing and provided with two curved arms, one of said arms being arranged to lie in the path of the lug on said stem, a spring arranged between the end of the other arm and a stationary portion of the casing, a lever arranged to come in contact with the last-mentioned arm of said tumbler, a combination disk arranged to engage with said lever and means for rotating said combination disk.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

JAMES B. MILLER.

Witnesses:
J. EMIL DOSENBACH,
MARGARET O. BRIEN.