

(No Model.)

C. D. COWGILL.  
PERMUTATION PADLOCK.

No. 429,017.

Patented May 27, 1890.

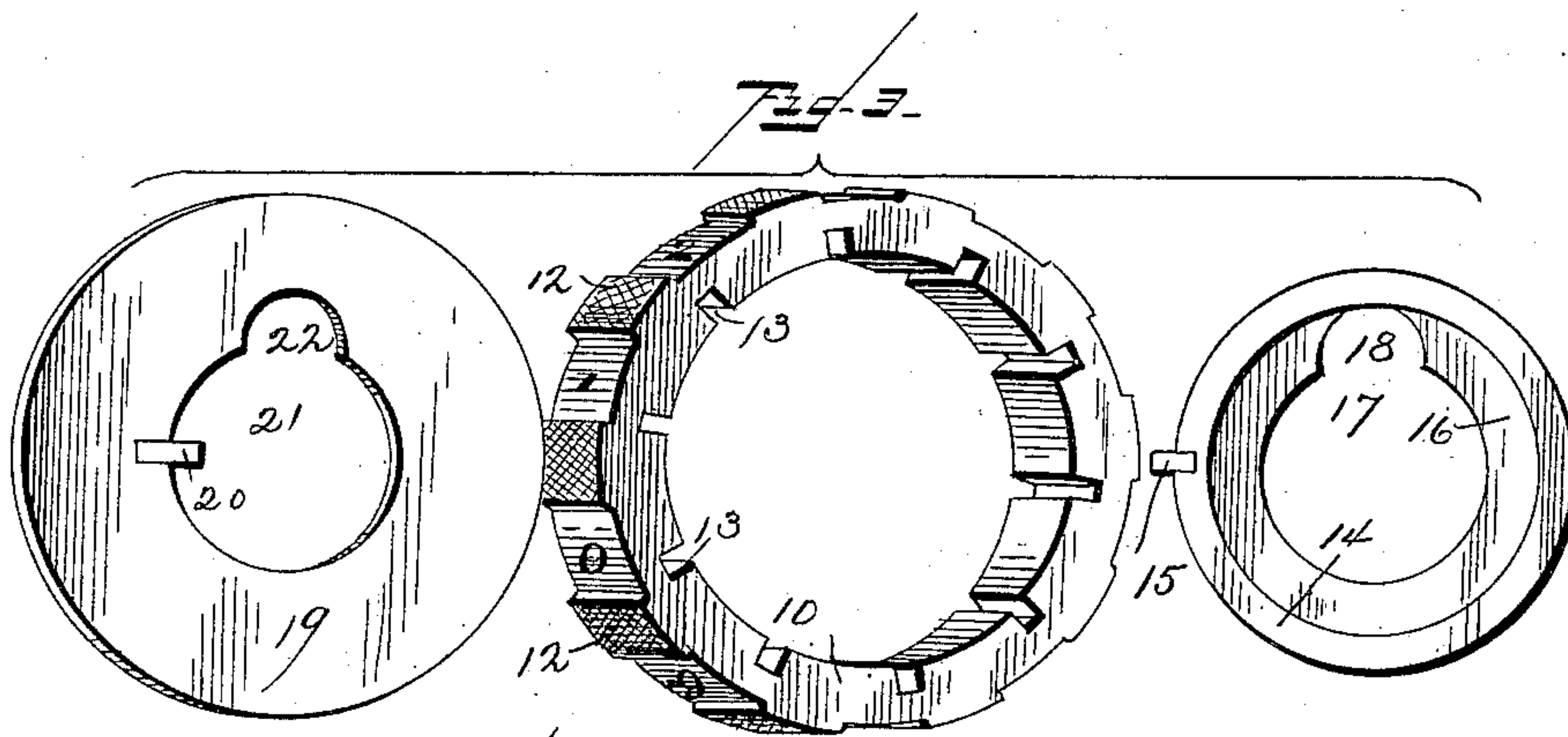
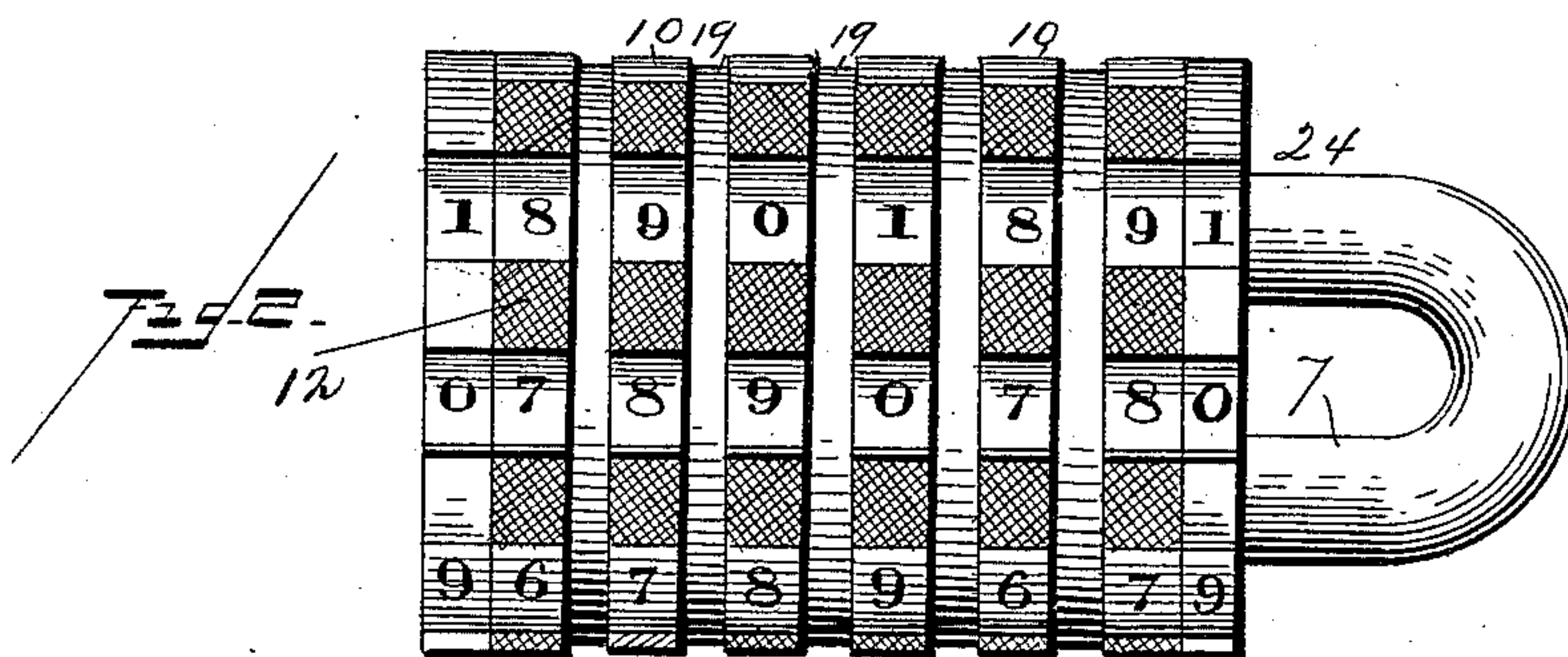
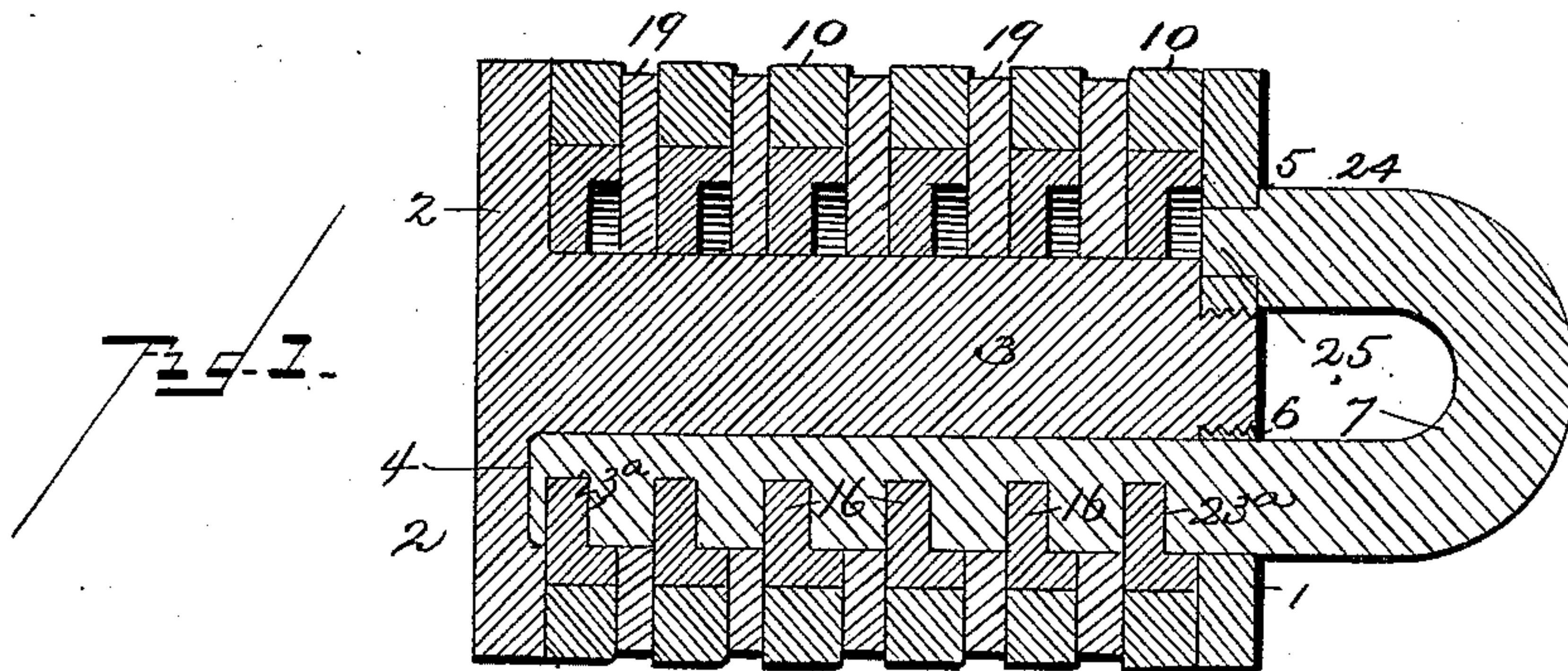
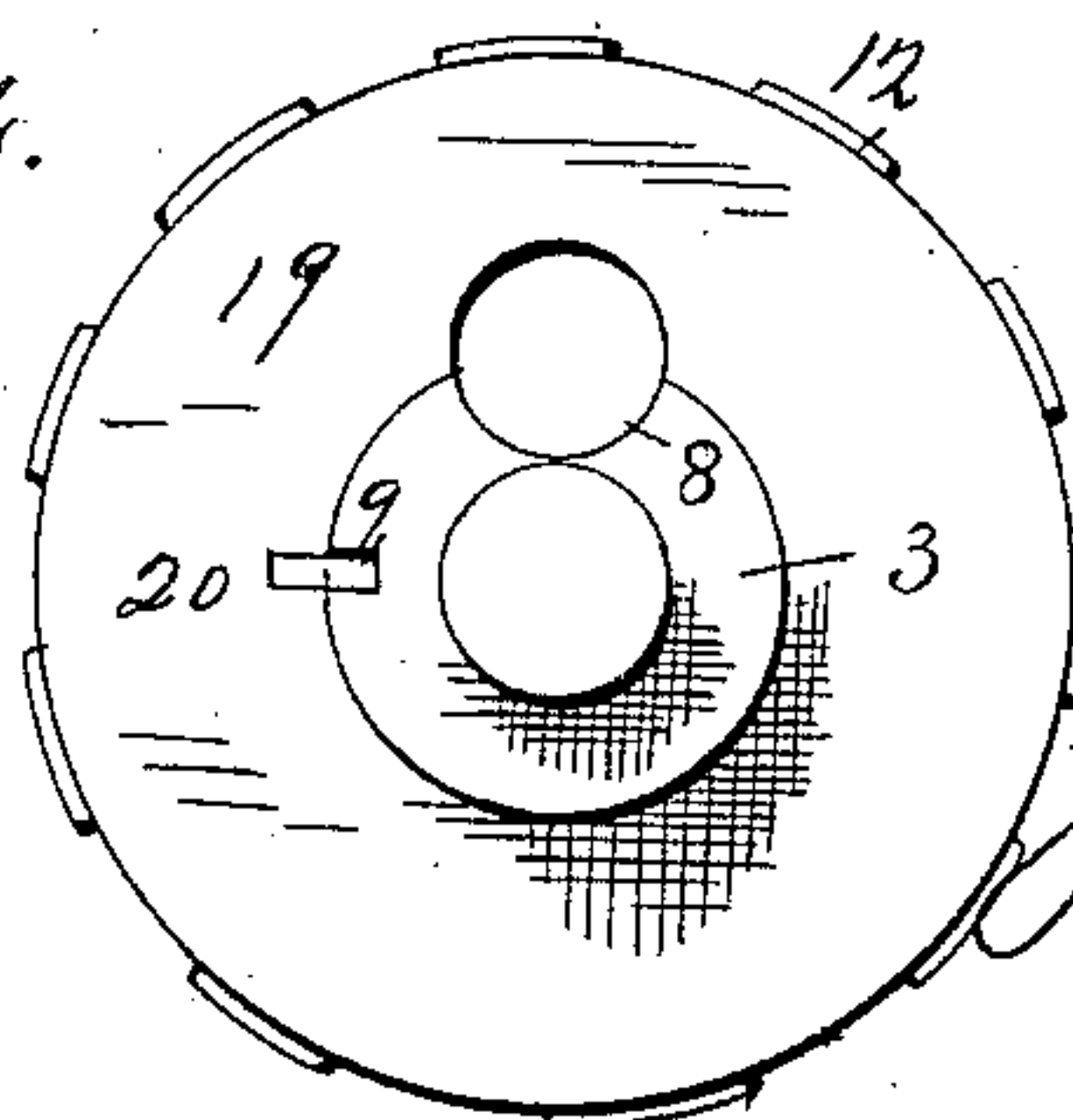


Fig. 4.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

CHRISTIAN D. COWGILL, OF TERRE HAUTE, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES A. LOWRY, OF SAME PLACE.

## PERMUTATION-PADLOCK.

SPECIFICATION forming part of Letters Patent No. 429,017, dated May 27, 1890.

Application filed February 25, 1890. Serial No. 341,653. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN D. COWGILL, a citizen of the United States, and a resident of Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Permutation-Locks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in permutation or combination padlocks which can be locked on a large number of combinations, thus adding greatly to the security against unlawful or unauthorized unlocking of the padlock.

The invention consists in the novel construction and combination of parts herein-after fully described, and definitely pointed out in the claims.

In the accompanying drawings, Figure 1 is a central sectional view of a padlock constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 represents detached views of the different parts composing the padlock. Fig. 4 is an end view with the end plate and bow or shackle removed.

In the said drawings, the reference-numerals 1 and 2 designate, respectively, the end caps or plates of the padlock, united together by the bar or rod 3, which may be screw-threaded for this purpose, said screw-threaded ends fitting in corresponding apertures in said plates or caps. The bottom plate 2 may be provided with a recess to receive the end of the bow or shackle. The cap 1 is provided with recesses 5 and 6, through which the ends of the bent bow or shackle 7 pass. The bar or rod 3 is provided with a vertical curved groove 8 and an angular groove 9, for a purpose to be hereinafter explained.

The numeral 10 designates a ring, having upon its periphery a number of numerals, letters, or other distinguishing marks, and is provided with milled projections 12 for turning the same. The end caps 1 and 2 are also provided with marks corresponding to those on rings 10. Any desired or convenient number of these rings may be employed, and

each ring on its inner surface is provided with a series of radial recesses 13, corresponding in number with the numerals on the periphery thereof. Fitting within the rings 10 is a flanged collar 14, having a projecting stud 15, which engages with the radial recesses in the ring, the combination on which the lock is set being determined by the recess with which said stud engages. The flange 16 of the collar is formed by recessing the upper face of said collar, as seen in the detail view in Fig. 3. The collars are also formed with a central aperture 17, corresponding in size with the bar 3, which passes there-through, and is also provided with an inner peripheral slot or recess 18, which with the slot in rod or bar 3 forms a complete circle.

19 designates a washer or disk interposed between the rings 10, being provided with a lug 20, engaging with the angular groove 9 in bar 3 and with aperture 21 and slot or recess 22, corresponding with the aperture 17 and slot 18 in collar 14. The lug 20 prevents washer or disk 19 from rotating on bar 3.

The numeral 7 designates the bow or shackle, bent over at its upper end, forming a short arm 24, having a projecting stud 25. The lower portion of this shackle is provided with a series of notches 23<sup>a</sup>, equidistant from each other and equal in number to the rings 10.

The padlock is put together as follows: The bottom cap being secured to the bolt or bar 3, one of the rings 10, with collar 14, is placed thereon. Then a washer 19 is added, and then another ring, and so on until the requisite or desired number has been reached, when the top cap is screwed on. The washers 19 are prevented from rotating by the lugs 20, and the recesses 22 are always opposite to the recesses or grooves 8 in the bar 3, forming circles therewith. Between the washers 19 and the collars 14 are annular recesses, which allow the rings 10 to be rotated, the inwardly-projecting flanges 16 of the collars engaging the notches in the bow or shackle and preventing it from being withdrawn.

The padlock is locked by turning the rings 10 until all the slots or recesses 18 come opposite the grooves 8 in the bar 3. These, with the similar slots in the washers 19, form a cylindrical bore or aperture extending the



entire length of the series of rings and collars and allowing the bow or shackle to be inserted. The rings 10 are then turned, the flanges 16 on the collars 14 engaging in the notches 5 in the bow or shackle and preventing it from being withdrawn until all the rings and collars and their recesses are in line again, which can readily be done by any one knowing the combination on which they are set, it 10 being only necessary to bring all the numbers on which the combination is set in line with each other. It is obvious that the ring 10 can be set at any number desired by simply inserting the lug on collar 14 in the radial slot in the ring corresponding with such 15 number.

Having thus fully described my invention, what I claim is—

In a permutation-padlock, the combination, 20 with the bar or rod 3, having grooves 8 and 9,

and end caps or plates 1 and 2, of the rings 10, having numerals or other characters on their outer peripheries and radial slots or recesses 13 on their inner surfaces, the collars 14, having lugs 15, engaging with said radial 25 slots, inwardly-extending flanges 16, and recesses 17 and 18, the washer 19, having lugs 20, and recesses or apertures 21 and 22, interposed between the rings 10, the lugs 20 engaging with the vertical groove 9 in bar 3, 30 and the shackle 23, having notches 23<sup>a</sup>, substantially as described.

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

CHRISTIAN D. COWGILL.

Witnesses:

WILSON H. SOALE,  
ANDREW GRIMES.