

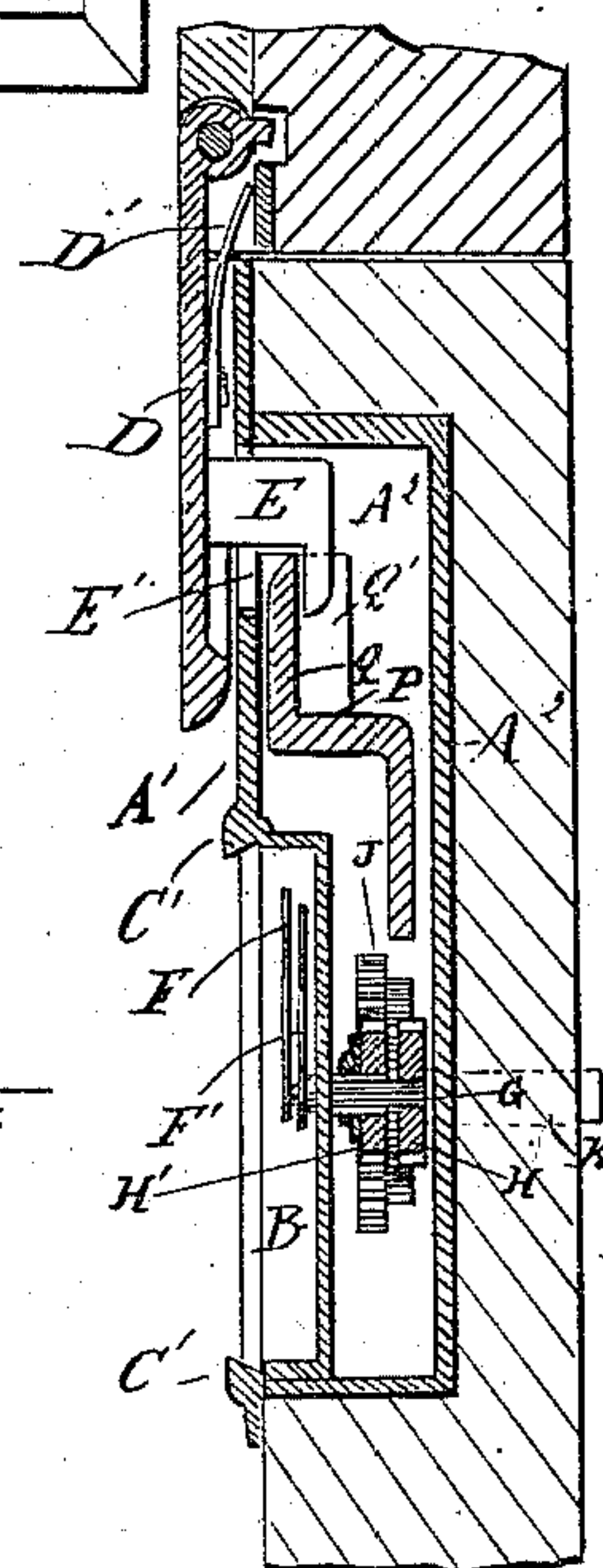
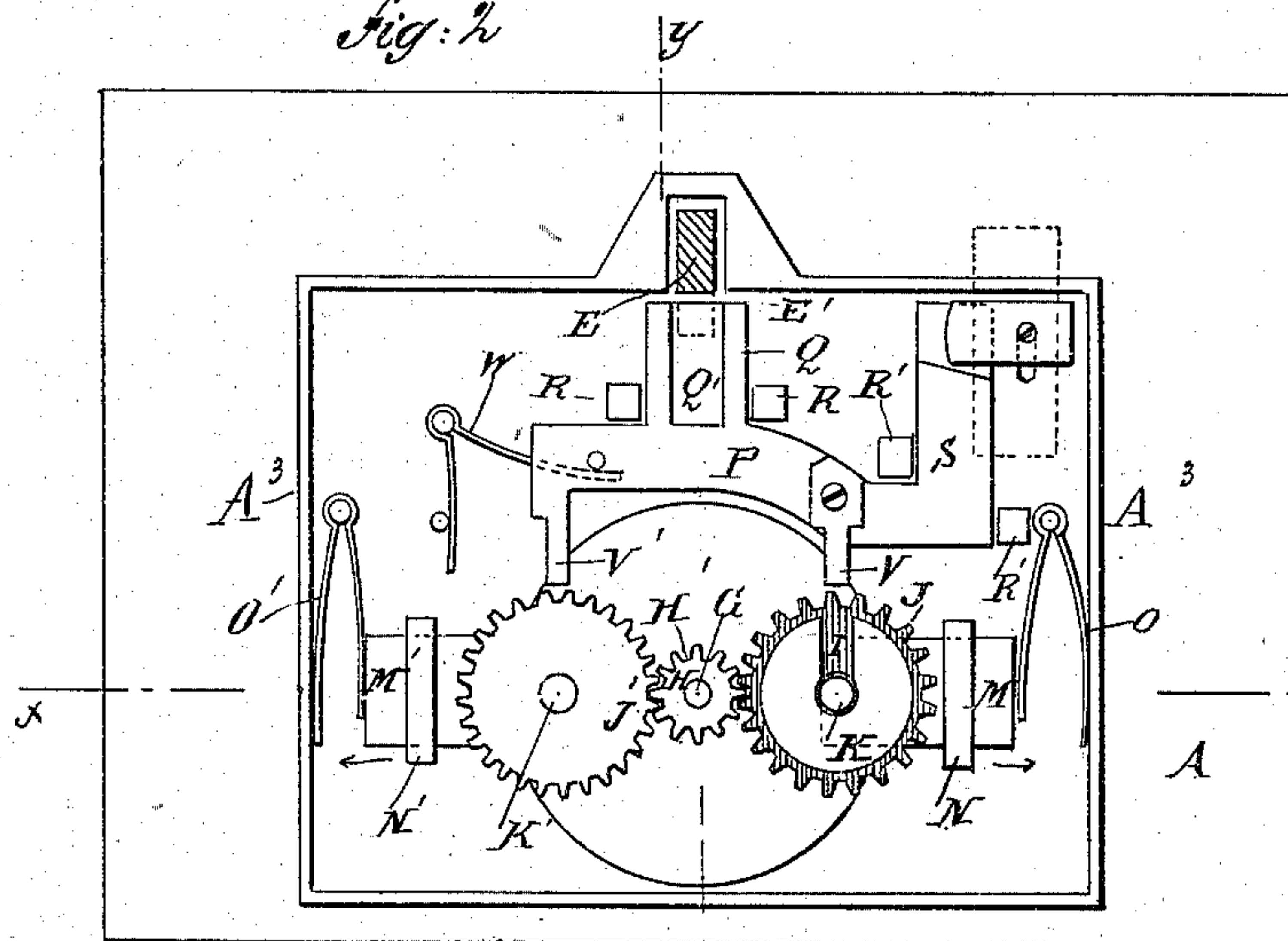
W. ROWE.
PERMUTATION LOCK.

Patented Mar. 14, 1882.

Fig: 1.



Fig: 2



WITNESSES :

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WILLIAM ROWE, OF BIDDEFORD, MAINE.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 253,027, dated March 14, 1882.

Application filed December 15, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM ROWE, of Biddeford, in the county of York and State of Maine, have invented a new and Improved Combination-Lock, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved lock which can only be locked or unlocked by a person acquainted with the combination of the several parts to which these parts have been adjusted.

The invention consists in a combination-lock constructed with a sliding bolt provided with two tongues fitting into recesses in two side disks on two spur-wheels engaging with pinions mounted on a shaft and its surrounding sleeve, both the shaft and sleeve having each a hand at the outer end, these hands being over a dial in the outer surface of the lock-casing. The spur-wheels are loosely mounted on pintles attached to slides, by means of which the lock can be adjusted to be opened at a certain position of the hands on the dial. At all other positions of the hands the lock cannot be opened, and to open it the hands must be returned to their original position on the dial, for thereby the inner mechanism will be brought to its original position, permitting the tongues on the bolt to pass into the recesses in the cog-wheel.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improved combination trunk-lock, showing the dial uncovered. Fig. 2 is a rear elevation of the same, showing the rear side or wall of the casing removed. Fig. 3 is a horizontal sectional view of the same on the line *xx*, Fig. 2. Fig. 4 is a cross-sectional elevation of the same on the line *yy*, Fig. 2.

The lock-casing A is provided on the front wall or side, A', with a dial, B, in a recessed part, B', of this front side, A', and this dial B can be covered by a plate, C, sliding between two beveled ridges, C', on the front surface of the lock-case, and extending along the upper and lower edges of the recess B'.

The hasp D is provided with a spring, D', for throwing it open, and with a downwardly-

projecting hook, E, fitting into a slot, E', in the outer side or wall, A', of the lock-casing.

The dial B is provided with two hands, F F', of which the former is mounted on the outer end of a shaft, G, and the latter is mounted on the outer end of a sleeve, G', surrounding this shaft.

On the inner ends of the shaft G and the sleeve G' the pinions H and H', respectively, are mounted, as shown in Fig. 3. The pinion H' engages with a spur-wheel, J, having a side disk, h', with the notch I, and mounted loosely on a pintle, K, passing through a horizontal slot, L, in the rear wall or side, A², of the casing A, and rigidly attached to a slide, M, guided by a clip, N, and pressed toward the dial-shaft G by a spring, O, one end of which rests against the end wall, A³, of the casing A, the other end resting against the end of this slide M, which slides horizontally—that is, at right angles to the sliding bolt, which will be described later. The pinion H engages with a spur-wheel, J', provided with a notched side disk, h', corresponding to the one on wheel J, but located upon the opposite side, and mounted loosely on a pintle, K', passing through a slot, L', and attached to a slide, M', guided by a clip, N', and pressed toward the shaft G and sleeve G' by a spring, O'.

The bolt P is provided with a tongue, Q, provided with a recess, Q', to receive the hook E, and is guided by two studs, R R, to slide at right angles to the slides M M', and this bolt is also provided with a rectangular arm, S, guided by studs R' R', and having at its end a transversely grooved or serrated plate or block, T, extending through a vertical slot, S', in the outer side or wall, A', of the casing A. The bolt is further provided with two projections, V V', fitting into the recesses of the side disks, h' h', when these spur-wheels are engaged with the pinions H H'. The bolt is pressed from these cog-wheels J J' by a spring, W—that is, the grooved tongue is pressed under or within the hook E, and thus keeps the hasp D locked to the casing A.

The pintles K K' must be of such length that they will project from the inner surface of the front wall of the trunk, &c., as shown in Fig. 4.

The operation is as follows: The lock is adjusted from the inside of the trunk, &c. The

slides M M' are drawn from each other by means of the pintles K K' in the directions of the arrows, whereby the wheels J J' will be disengaged from the pinions H H'; but these wheels are not rotated, so that the positions of the recesses I I' will not be changed, and the tongues V V' can pass into these slots when the slides M M' are returned to their original position. The wheels J J' and pinions H H' having been disengaged, the hands F F' are adjusted as may be desired—for instance, the hand F is adjusted to point to I and the hand F' to IV. Then the pintles K K' are released and the springs O O' press the slides M M' back into their original position, and the wheels J J' engage with the pinions H H' again. If the trunk, &c., is to be locked, the bolt P is pushed downward by means of the transversely grooved or serrated plate T, the tongues V V' passing into the recesses I I' of the wheels J J'. The hook E of the hasp D is then passed into the slot E' and the bolt P is released, upon which the spring W presses it upward, the grooved tongue Q passing under the hook E, and thus locking it to the casing A. The hands F F' are then turned or moved more or less. This causes a rotation of the pinions H H', and consequently also of the spur-wheels J J', and the recesses I I' will no longer be on a line with the tongues V V', and if an attempt is made to push down the bolt P the ends of the tongues V V' will strike against the peripheries of the wheels J J', so that the bolt cannot be pushed back, and the lock cannot be opened. If the lock is to be opened by the person acquainted with the combination, the hand F is moved to I and the hand F' to IV. These movements will cause corre-

sponding movements of the pinions H H' and the spur-wheels J J'—that is, the wheels J J' will again be in such positions that the tongues V-V' can be passed into the recesses I I' when the bolt P is pushed back. By means of the pintles K K' the wheels J J' and pinions H H' can be separated at any desired time and the lock adjusted differently.

. I have shown a trunk-lock; but a lock of this combination can be used on any other article requiring a lock.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the shaft G, carrying pinion H, the sleeve G', carrying pinion H', and the spur-wheels J J', arranged on pintles K K' and carrying side disks, h' h', with notches I, of the bolt P, provided with two projections to fit the recesses of said side disks, as and for the purpose described.

2. In a permutation-lock, the combination, with the spur-wheels J J', having the notched side disks, of the slides M M', clips N N', and springs O O', arranged substantially as shown and described.

3. In a permutation lock, the combination, with the bolt P, having a recessed tongue, Q, and rectangular arm S, of the studs R R', the hook E, the serrated block T, and the case A, having slot S', as and for the purpose specified.

WILLIAM ^{his} X ROWE.
mark

Witnesses:

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