(No Model.)

H. G. STRIPE.

INDICATOR LOCK.

No. 318,218. Patented May 19, 1885.

Fig. 1

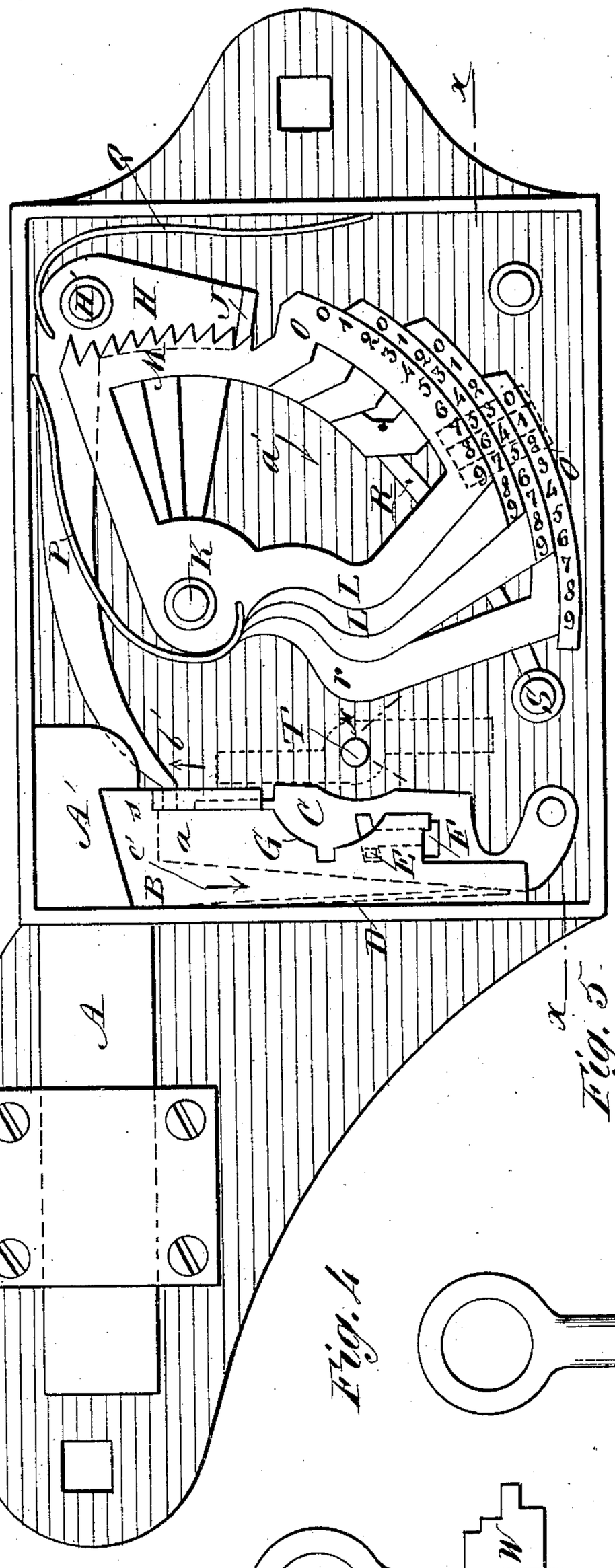


Fig. 2

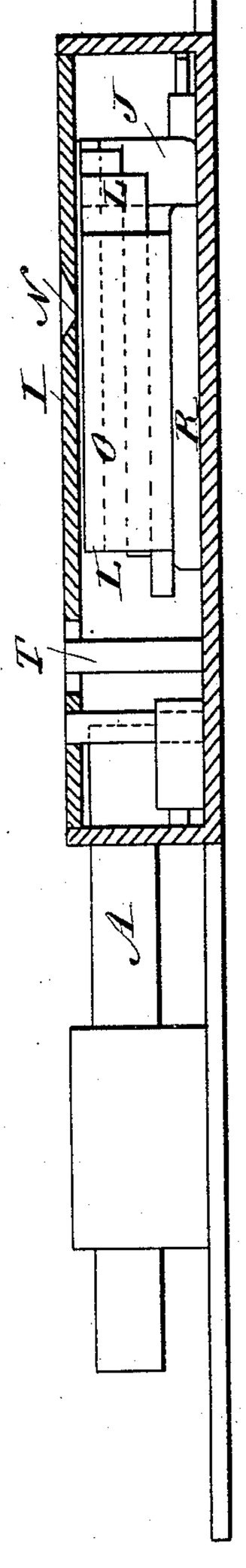
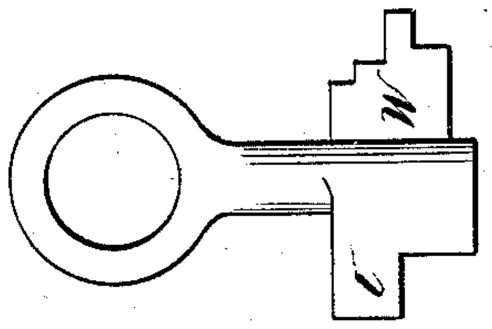


Fig. 3

Fig. 4

Fig. 5



WITNESSES:

C. Neveux

C. Sedgwick

INVENTOR:

H. G. Stripe

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

HORACE G. STRIPE, OF OMAHA, NEBRASKA.

INDICATOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 318,218, dated May 19, 1885.

Application filed April 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, HORACE GREELY STRIPE, of Omaha, in the county of Douglas and State of Nebraska, have invented a new and Improved Indicator-Lock, of which the following is a full, clear, and exact description.

My invention relates to improvements in indicator-locks; and it consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

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

Figure 1 is a side view of my improved lock, the front plate being removed. Fig. 2 is a longitudinal sectional elevation of the same on the line *x x x*, Fig. 1. Figs. 3 and 4 show keys for my improved lock. Fig. 5 is an end view of one of the keys.

The bolt A is provided at its inner end with a notch, A′, adapted to receive the sliding latch-bolt B, which moves transversely to the bolt A. The end of the latch-bolt B fits into the notch A′ in the bolt A, and the latch-bolt B rests upon a tumbler, C, pivoted in the casing and adapted to swing toward and from that end through which the bolt A passes, which tumbler is acted upon by a spring, D, which presses it in the direction from the said end of the casing.

The latch-bolt B is provided in its under side with a downwardly-projecting stem, E, which passes into a slot, F, parallel with the axis of the tumbler, and provided with a transverse slot at each end. The latch-bolt B is provided with a notch, G, for receiving the bits of the key..

In place of the above-described tumblers, any other tumblers of suitable construction can be used.

On the inner surface of the back of the casing an elbow-lever, H, is pivoted by a pin, H′, at its angle, which lever is provided at the end of its short arm with an upwardly-projecting tooth, J, having a beveled edge. On the end of the other arm of the lever H a tooth is formed, which is adapted to rest against a shoulder, *a*, formed on the free end of the tumbler C.

On a pivot, K, a series of frames, L, are pivoted, which have curved edges, and parts of the curved edges are provided with teeth, forming racks M, and on the upper surfaces of the other parts the numerals from 0 to 9, inclusive, or other characters are arranged, the said numerals or other characters being arranged in segmental lines. The racks M of the said frames L are arranged above each other, so that the ends of the teeth form vertical lines; but the parts O, carrying the numerals, are so arranged that their upper surfaces will be in the same plane, and the rows of numerals or other characters will be adjoining each other on parallel segmental lines. Each frame L is provided with a spring, P, which throws the frame in the direction of the arrow *a′*.

The elbow-lever H is provided with a spring, Q, which throws the end of its long arm in the direction of the arrow *b′*.

The bottom frame, L, rests on a curved track R, and a check-pin, S, is provided to limit the movements of the frames L in the direction of the arrow *a′*.

A pintle, T, projects upward from the bottom or back of the casing and passes into the opening *m* of the barrel of the key V.

All the keys used have two bits, U and W. The bits U of the keys are shaped alike, and must be provided with more or less shoulders or offsets, according to the number of tumblers used with the latch-bolt B, and according to the configuration and shape of the said tumblers and the arrangement of the same. The bits W of the several keys are all different, for a purpose that will appear hereinafter.

The top plate, I, of the lock-casing is provided with a slot, N, the length of which is equal to the width of four (more or less) rows of numerals or characters on the parts O, and the slot being so arranged that when the frames L all rest against the stud or pin S the numeral 0 of each row of numerals on the parts O will appear in the slot.

Means are also provided for covering the slot N with glass or any other transparency, which can be taken out or replaced when broken or destroyed without removing the lock.

The operation is as follows: If the key is inserted to draw the latch-bolt B, to permit moving the locking-bolt A back or into the casing, the key is inserted, with the bit U on top,

and is then turned to the left. The bit then pushes back the tumbler C, so that the projection E on the bottom of the latch-bolt B will be at the bottom of the longitudinal slot F, and then by further turning the bit moves the bolt B in the direction of the arrow *c'*, and when the pin or projection E on the bottom of the latch-bolt B arrives at the lower end of the longitudinal slot F the spring D forces the tumblers outward, and the pin E passes into the bottom transverse slot of the longitudinal slot F, thus locking the bolt and tumblers in place. If the bolt is to be locked after having been pushed into the casing, the latch-bolt B must be moved upward. To do this the key is inserted in such a manner that the bit U projects downward. When the key is turned, the bit U first pushes back the tumbler, thereby disengaging the bolt, and then throws the bolt B upward in the inverse direction of the arrow *c'* and causes its end to pass into the notch A' in the bolt A. By turning the key in such a manner that the bit U can act on the tumbler C and the bolt B, the bit W is turned in such a manner as to act on the curved shoulders *r* of one or more frames L, thereby swinging the frames L in the inverse direction of the arrow *a'* a greater or less distance, according to the length of that part of the bit acting on each separate frame L. As the frames L are moved in the inverse direction of the arrow *a'*, at the same time that the bolt is thrown the spring Q of the lever H moves the long arm of the angle-lever H upward, thereby causing the tooth J at the opposite end to move in the direction toward the racks M and engage with the teeth of the same. After the bolt B has been thrown the frames L are held in the different positions by the tooth J, the positions varying according to the length of the parts of the bit W acting on the several frames. Different numbers or characters on each curved part O of each frame L will show through the slot N, thus showing what key has been used to throw the bolt B, and thus lock the bolt A in place. If any key is used to throw down the bolt B, the key is inserted with the bit U upward, as stated before, and turned to move the bolt B downward. At the same time the bit W of the key presses the frames L slightly in the inverse direction of the arrow *a'*, thereby causing the beveled teeth of the rack to force the tooth J outward from the racks. By the time that the tooth J has been disengaged from the teeth of the racks M the shoulder *s* on the latch-bolt B begins to act on the long arm of the angle-lever H and moves the same in the inverse direction of the arrow *b'*, thereby disengaging the teeth of the racks entirely from the tooth J and permitting the springs P of the several frames, L, to throw the said frames in the direction of the arrow *a'* until all the frames rest against the stop-pin S.

I have shown my improved registering device applied on a railway-car-door lock; but it is evident that it can be applied to any form of lock.

I am aware that it is not broadly new to provide a lock with a series of indicator-plates provided with teeth and a toothed lever for engaging and holding them in position, and therefore do not claim such, broadly.

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

1. In a lock, the combination, with the sliding bolt A, of the latch-bolt B, provided with the shoulders *s*, the series of frames L, provided with racks M, and flat parts O, carrying numbers or characters, the angle-lever H, provided with the tooth J on one end and having its opposite end held adjoining the shoulders *s* of the bolt B, and of springs acting on the lever H and on the several frames, L, substantially as herein shown and described.

2. The combination of the sliding latch-bolt B, provided with a key-recess and a stud, E, and a pivoted slotted tumbler for engaging said stud, with the pivoted frames L beyond the latch-bolt, and provided with racks M and flat numbered faces O, and the elbow-lever H, pivoted beyond the racks M, and provided with a tooth, J, on the short arm for engaging the racks, the long arm being operated by the downward movement of the latch-bolt to disengage it from the racks, and springs for returning said plates and lever to their normal position, substantially as herein shown and described.

HORACE G. STRIPE.

Witnesses:
WM. H. BARDS,
A. J. MUNDERSON.