

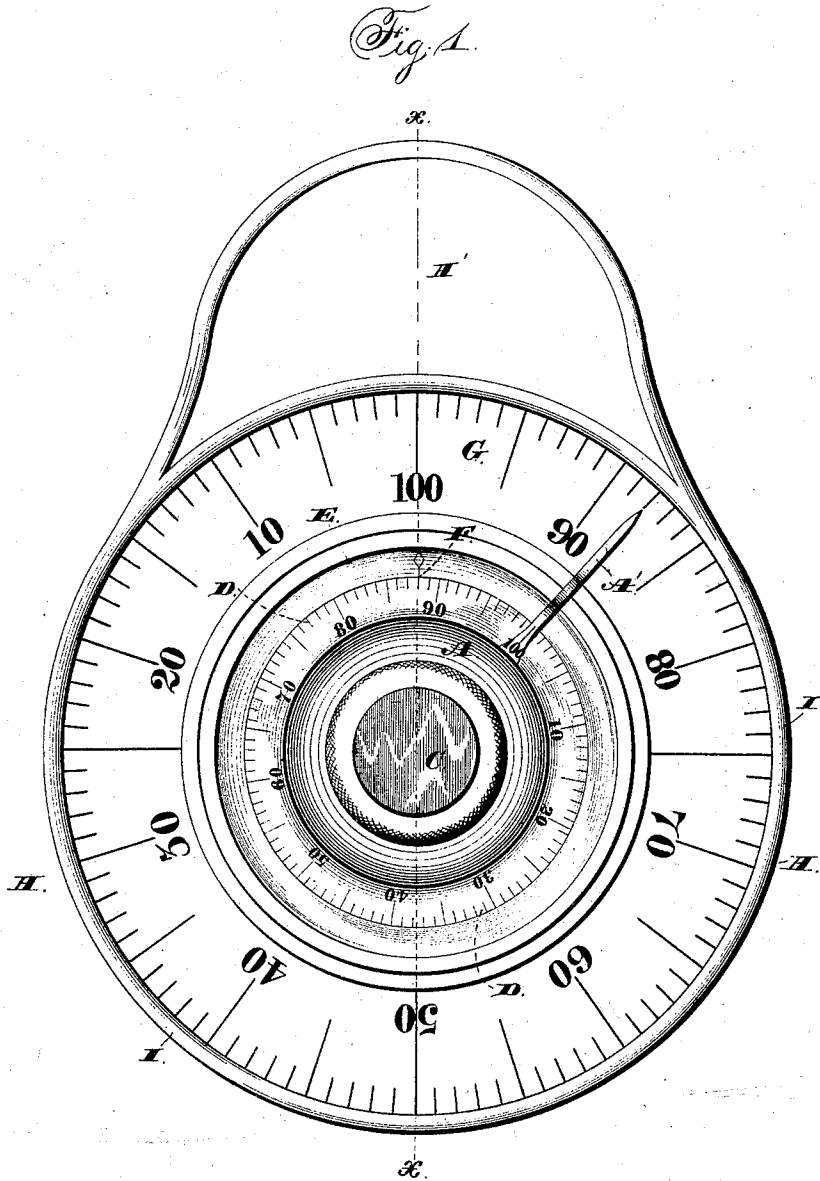
(No Model.)

2 Sheets—Sheet 1.

F. A. HATCH.  
DIAL FOR LOCKS.

No. 317,772.

Patented May 12, 1885.



*Witnesses:*

*Just Hutchinson.*  
*Henry C. Hazard.*

*Inventor.*

*F. A. Hatch*  
*by Prindle and Russell*  
*Attorneys*

(No Model.)

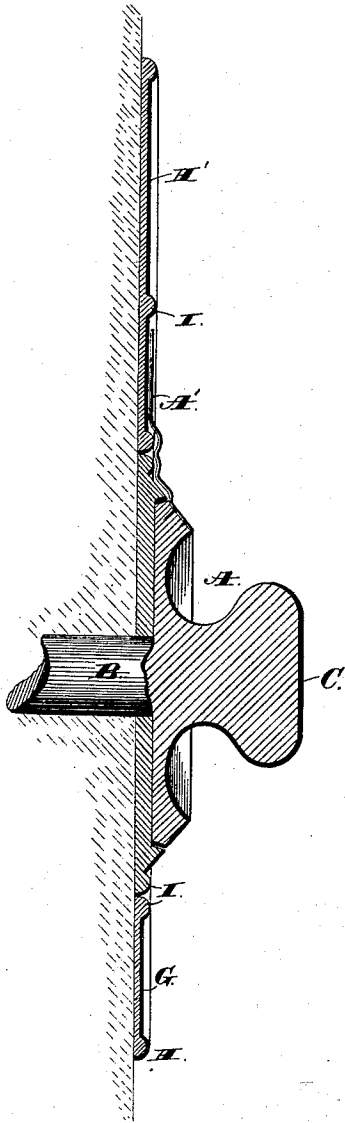
2 Sheets—Sheet 2.

F. A. HATCH.  
DIAL FOR LOCKS.

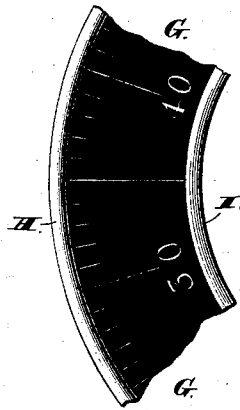
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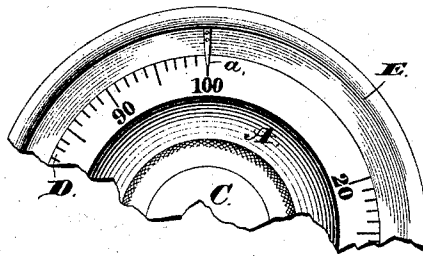
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
 Jas. E. Hutchinson.  
 Henry C. Hazard

Inventor:  
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# UNITED STATES PATENT OFFICE.

FRED A. HATCH, OF NEW BEDFORD, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO A. M. BROWNELL AND J. H. MURKLAND, OF SAME PLACE.

## DIAL FOR LOCKS.

SPECIFICATION forming part of Letters Patent No. 317,772, dated May 12, 1885.

Application filed February 4, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, FRED A. HATCH, of New Bedford, in the county of Bristol, and in the State of Massachusetts, have invented certain  
5 new and useful Improvements in Dials for Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

10 Figure 1 shows a view in front elevation of my invention; Fig. 2, a sectional view of the same on line *xx* of Fig 1; Fig. 3, a detail view of a portion of the supplementary luminous dial, showing a modification of my invention; and Fig. 4 a similar view showing a still  
15 further modification.

Letters of like name and kind refer to like parts in each of the figures.

20 The object of my invention is to provide an improvement in the dials of permutation and combination locks which will make it possible to operate or open the lock as well at night as in the day-time; and to this end my invention consists in the dial constructed and  
25 arranged and combined with the ordinary dial of locks, as hereinafter specified.

30 In the drawings, A designates the ordinary and well-known form of revolving dial in use with permutation or combination locks. It is attached in the usual way to the lock-spindle B, and is provided with a central knob, C, and around its edge with a series of graduations, D, numbered consecutively in the ordinary and well-known manner. This dial  
35 revolves over the index-plate E, formed with the circular depression receiving the dial and having its edges preferably beveled, as usual, and provided with an index-mark, F.

40 As the graduations on the dial are necessarily not very deep or wide, a strong light is requisite to enable them to be seen properly and clearly. At night or in the dark such locks cannot be successfully manipulated at all, but a light must be made, and, unless it  
45 is a large or very bright one, must be brought quite near the dial. To avoid the inconvenience of making a light every time the safe is opened, or of bringing the light near enough to the dial, I provide a luminous supplemental  
50 dial, G, attached to the safe, surrounding the index-plate E. This dial can consist of a flat an-

nular plate with some one of the well-known luminous paints applied to the front face thereof, and with dark graduation-marks suitably numbered thereon; but I prefer the form shown in  
55 the drawings, especially in Figs. 1 and 2. As shown in these figures, the supplemental dial consists of the annular portion H, flat on its back, and on its upper side provided with the extension or projecting portion H'. The an-  
60 nular portion H is, around its inner and outer edges, provided on its front face with the ribs or raised beads I I. The annular space between these concentric beads or ribs is coated  
65 with any one of the well-known paints or materials which will be luminous in the dark. The circuit of this space is graduated and numbered as is the revolving dial A, with the exception that the numbers run consecutively  
70 in the opposite direction. These graduation marks and numbers I prefer to make dark upon a luminous background; but, if desired, the background can be made black and the numbers and graduations be made luminous.

75 Attached to the revolving dial is an index hand or pointer, A', extending over the index-plate E, so as to indicate with its point upon the graduations of the supplemental dial G. In the drawings this index-hand is shown  
80 as projecting out from the rotary dial at the 100-mark thereon. The corresponding mark on the supplemental dial is situated opposite or in line with the index-mark on the index-plate E.

85 The graduations on the rotary dial are numbered consecutively to the right in the usual way, while the supplemental dial is correspondingly numbered to the left around the dial.

90 With this construction, when the pointer or hand A' on the rotary dial points to 100 on the supplemental dial, the 100-mark on the former dial will be opposite or in line with the index-mark on plate E, and when the rotary disk is turned to bring the pointer to another graduation-mark—as, for instance, 80—  
95 on the supplemental dial, the 80-mark on the rotary dial will be opposite the index-mark. As the end of the pointer or hand can, in the dark, be clearly seen against the luminous face  
100 of the supplemental dial, its position, with reference to the graduations, can be observed,

and the rotary dial can be turned properly to unlock the safe as easily, readily, and accurately as in the day-time.

As indicated hereinbefore, the face of the supplemental dial can, if desired, be made black or non-luminous, and the letters be made luminous. The index-hand is then best made luminous also by means of any of the well-known luminous paints or coatings. I contemplate, also, where it is desired, dispensing with the supplemental dial and making the rotary dial itself luminous. As shown in Fig. 4, an index-hand, *a*, is then provided, attached to the index-plate and projecting inward therefrom over the rotary dial.

The extension *H'* at the top of the supplementary dial *H* is for a trade-mark, name, or ornamental design, and is also convenient in attaching the dial to the safe and fixing it in position thereon.

I do not claim herein, broadly, as my invention a dial having its markings or graduations made visible in the dark by luminous paint or material applied to the dial.

Having thus described my invention, what I claim is—

1. A supplemental dial for locks made luminous or visible in the dark, and adapted to be placed outside of and around the ordinary

index-plate, substantially as and for the purpose described.

2. In combination with the graduated rotary dial of a lock having an index-pointer attached thereto, a supplemental fixed dial made luminous or visible in the dark, substantially as and for the purpose described.

3. In combination with the index-plate and the rotary dial having an index pointer or hand attached thereto and extending over the index-plate, a supplemental dial, luminous or visible in the dark, adapted to be fixed around and outside of the index-plate, substantially as and for the purpose described.

4. In combination with the index-plate, the rotary dial carrying an index hand or pointer extending over and beyond the index-plate, and the supplemental dial having its face made luminous or visible in the dark, and graduations corresponding with those on the rotary dial, but numbered in the opposite direction, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of January, 1885.

F. A. HATCH.

Witnesses:

JAMES H. MARKLAND,  
CHARLES C. SANDERSON.