H. B. SMITH.
Match-Box.

No. 217,961. Patented July 29, 1879.

Fig. 1.

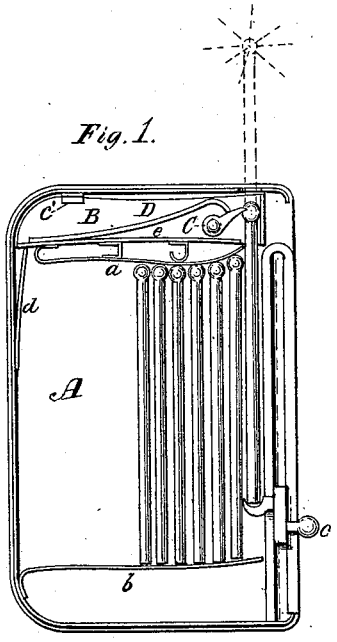
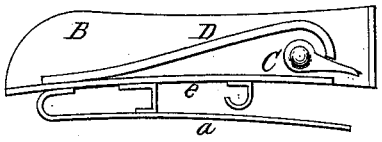


Fig. 2



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UNITED STATES PATENT OFFICE.

HIRAM B. SMITH, OF PHILADELPHIA, ASSIGNOR TO FRANK S. DIPPERY, OF READING, PENNSYLVANIA.

IMPROVEMENT IN MATCH-BOXES.

Specification forming part of Letters Patent No. **217,961**, dated July 29, 1879; application filed December 12, 1878.

To all whom it may concern:

Be it known that I, HIRAM B. SMITH, of Philadelphia, Pennsylvania, (assignor to FRANK S. DIPPERY, of Reading, Pennsylvania,) have invented certain new and useful Improvements in Self-Feeding Match-Boxes, of which the following is a specification.

My invention relates to that class of match-boxes designed more especially for smokers' use, to be carried in the pocket, and in which the operation of a slide feeds out successive matches, which become ignited at the moment of their exit or withdrawal; and the present improvement aims at greater durability, strength, accessibility, and ease of action in the igniting device.

Figure 1 in the annexed drawings represents a plan view of my improved match-box with the cover removed, showing the internal mechanism. Fig. 2 is a plan view of the igniting device, &c., removed from the box, and in which the present invention mainly consists.

As shown in Fig. 1, the matches rest in a layer on the base of the box or case A, with their heads resting against a spring, *a*, at the top of the box, and their stems resting upon another spring, *b*, at the lower end of the case. The slide *c*, which operates to eject the match, works in guides in one side of the case, as shown, its inner end terminating in a hook-shaped claw, which, when moved downward so as to depress the end of the spring *b*, catches firmly on the end of the leading match, and by its upward movement the match is ejected through the orifice in the upper corner of the box. The end of the upper spring, *a*, projects toward this orifice and partly closes it, so that while it yields sufficiently to readily admit the passage of the leading match, it prevents the passage or disturbance of any other match at the same time. This guard-spring *a* is fixed to an independent base-plate, B, which is removable from the case, as shown in Fig. 2, and when the plate is inserted in the box, as shown in Fig. 1, it is securely held in place by a stop, *c'*, on the top of the box, under which the edge of the plate fits, and also by a spring, *d*, on the side of the box, which projects out under a rib or flange, *e*, on the plate. To this base-plate is also attached the igniting device, which consists of a spring-pawl, C, pivoted on the plate above the end of the guard-spring *a*, with its acting end projecting over the passage through which the matches are ejected, which pawl is constantly pressed into action by a strong spring, D, fixed at one end to the base-plate, and bearing at the other end on the pawl, as shown.

The front of the pawl is notched with a number of fine saw-teeth, which closely approach the side of the match-orifice when the pawl is at rest. As the match is advanced against the pawl the pawl gradually yields to its movement till the head of the match becomes wedged between the side of the orifice and the point of the pawl, as seen in Fig. 1, when the sharp teeth of the pawl become forced into the head of the match with an effectual scratch, which instantly ignites the match as it passes under the teeth and advances out of the case, thus presenting itself in a lighted condition. This igniting device is very effectual, durable, and simple, and is positive in its action on either the parlor-match or the common sulphur match.

In former devices, where the end of a steel spring served to scratch and ignite the match-head, the scintillations and heat therefrom soon cause the spring to corrode and lose its form and temper.

In my invention the spring D is not exposed to contact with the match-heads, and is therefore not liable to injury, and may be made of brass, which is not so subject to corrosion as steel, which requires to be used when the spring is formed with sharp points to scratch the match. The pawl C, which forms the scratching or igniting device, may thus be made of sufficient size to be quite strong and durable, and it is preferably made of steel, which is galvanized or plated with a non-corrosive metal.

The pawl, in being pivoted close to the exit, has a more easy and positive action on the passing match, and is less liable to clog than is the case where a long spring is used as the igniting device. Again, in case of any clog or inaction of the parts, the base-plate B,

which carries the igniting device C D and guard-spring *a*, may be removed from the box by pressing back the spring *d* and swinging out the plate, and the mechanism may then be examined and cleared at ease, which constitutes another important advantage of my invention.

What I claim is—

In a self-feeding match-box, the independent base-plate B, fitted with the match scratching or igniting device, and removable from the case for examination or adjustment, in combination with the sustaining case or box A, provided with engaging-points or equivalent devices to retain the plate in position when inserted, substantially as herein set forth.

HIRAM B. SMITH.

Witnesses:

CHAS. M. HIGGINS,

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