

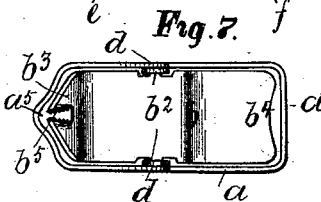
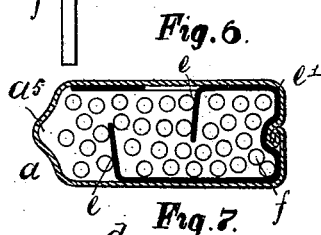
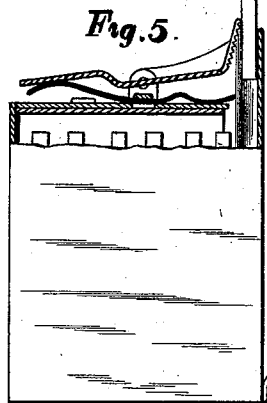
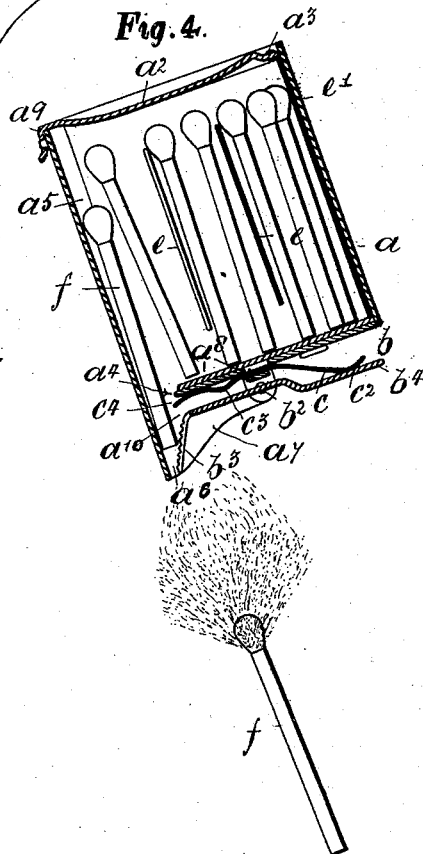
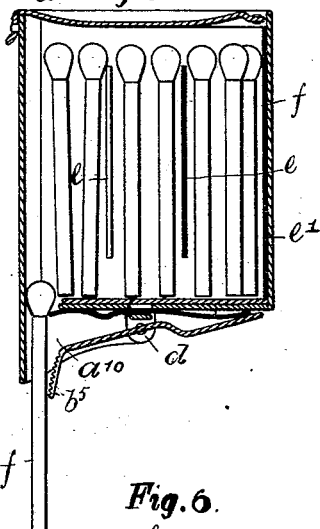
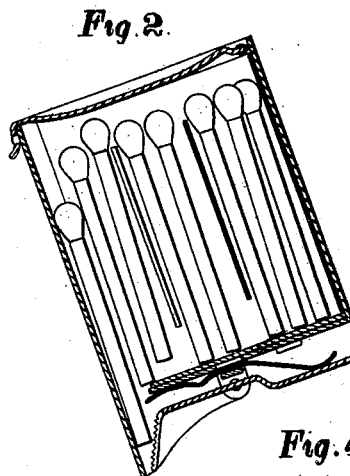
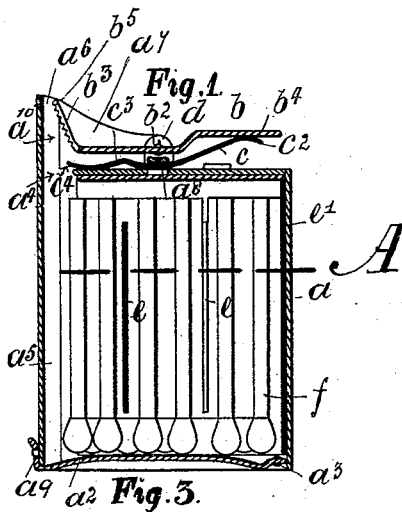
(No Model.)

F. WALLIS.
MATCH BOX.

2 Sheets—Sheet 1.

No. 492,700.

Patented Feb. 28, 1893.



WITNESSES

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 8.

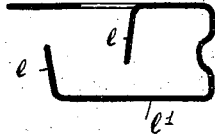


Fig. 9.

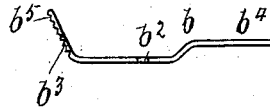


Fig. 10.

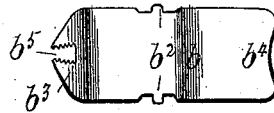


Fig. 11.

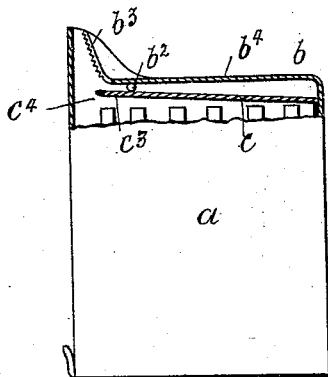
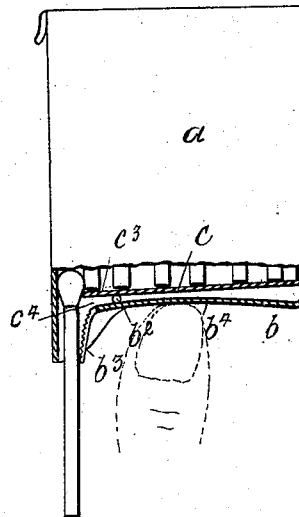


Fig. 12.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRED WALLIS, OF BIRMINGHAM, ENGLAND.

MATCH-BOX.

SPECIFICATION forming part of Letters Patent No. 492,700, dated February 28, 1893.

Application filed April 8, 1892. Serial No. 428,355. (No model.) Patented in England September 24, 1891, No. 16,215.

To all whom it may concern:

Be it known that I, FRED WALLIS, manufacturer, a subject of the Queen of Great Britain, residing at Edgbaston Street, in the city of Birmingham, England, have invented certain new and useful Improvements in Match-Boxes, (for which I have obtained Letters Patent of Great Britain, dated September 24, 1891, No. 16,215;) and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to an automatic or self striking match box, so fitted, and constructed that the matches, on being withdrawn one at a time, are struck and ignited.

Figure 1 of the accompanying drawings represents in vertical section, an automatic striking match box, constructed, and arranged according to my invention. The said box is so constructed and arranged that matches are both delivered one at a time, and struck and ignited in the act of being withdrawn. Fig. 2 represents the said match box inverted and slightly inclined, and which, when shaken, compels a match to fall into a lead, which is coincident and a lignable with the striker and mouth outlet of the box. Fig. 3 represents the said box in an inverted and upright position, and with the releasing lever shown pressed back, which liberates, or forms a clearance for, the stem of the match to fall through, while its head is suspended or held by a catch stop at the inner outlet of the box, and when in this last named position, the lever is then released, and the match subsequently pulled, which draws the head of the match past the catch stop, and then brings the said head into intimate contact with the striker, hence the ignition, and should the head be pulled off by the act of striking, the same is caught, and prevented from passing inwardly into the box by the semi-closed inner outlet. Fig. 4 represents the match box, with a match withdrawn, struck and ignited. Fig. 5 represents the match box again inverted, or with its striking end uppermost, and with a match held torch-like, by the stem coming between back of mouth and striker as a holder. Fig. 6 is a cross section on the dotted line A Fig. 1, show-

ing the arrangement of the semi-partitions, for taking off the weight of the bulk of the matches contained within the box from the one being delivered, and also keeping them in their proper relative positions. Fig. 7 shows the lever ends of the box. Fig. 8 is a detail view showing the combined lining and semi-partitions separately. Fig. 9 is an edge view of the combined lever and striker. Fig. 10 is a plan of the same. Figs. 11 and 12 are side views partly in section of a modified construction of my improved match box.

The same letters of reference indicate corresponding parts in Figs. 1 to 12.

a is an elongated and rectangular shaped box or metallic shell, closed at its sides, fitted at bottom with a lid a^2 , jointed at a^3 , and with the striking end closed, save for a small opening a^4 , of about the size of the head of a match, and with the same coming alignable with a lead a^5 , located upon one side of the box.

Situated on the striking or top side of the box, is a combined lever and striker b , fulcrumed or jointed at b^2 , and with the striking or serrated end b^3 , partially closing the mouth entrance a^4 , formed by a semi-shroud a^7 , which makes as it were, an extended lip to the striking side of the box, and a continuation of the lead a^5 . The presser end b^4 , is pushed upward by the free end c^2 , of a spring c , held between a clip a^8 , and the top of the box, and with the fore part c^3 of the said spring extended into a catch stop c^4 , which intercepts the matches by their heads as they fall from the box, and which are there held in a suspended position until the lever of the striker has been liberated, and the said match pulled forcibly from the box by its stem, which hangs out of the box as in Fig. 3. It will be seen that the tip c^4 , of the stop catch, slightly extends itself into the inner outlet a^4 , so that the inversion of the box as in Fig. 3, when the striker is clear, allows a match to fall down the lead, and it becomes then suspended by its head. The lever c , turns within bearings or ears d , while the interior of the box has semi-partitions e , slightly inclined from the sides toward the middle of the box, and in manner that the matches take a circuitous course, and are pre-

vented from pressing unduly upon the one being withdrawn. These partitions are preferably pressed out of the same metal as the lining e' , while the lid of the match box is secured by a catch a^9 . The middle of the striker part of the lever is gapped and slightly sunken at b^5 , and with the teeth or serrations slightly turned upward.

Operation: Place the matches within the box, between the semi-partitions, with the heads presented toward the lid. Then invert the box from the position Fig. 1 to that of Fig. 2, with the same slightly inclined toward the lead, so that the matches may fall and lean that way, when the same are shaken. The operation of shaking causes the first match by gravity, to fall slightly down the lead, with the stem directed through the inner outlet, and with its extreme end resting upon the striker. The pressing of the lever turns it upon its joint, and lifts the striker clear from the match, when the same falls, until its head comes in contact with the tip of the stop catch c^4 , when the match is there retained in a suspended position. Releasing the lever, and pulling out of the match, causes the tongue of the yielding stop catch to move away, in obedience to the pressure exerted, and on the head of the match being free, and coming into intimate contact with the serrated edge b^3 , of the striker b , the same is ignited, and the match lighted, as represented in Fig. 4. Should the head be pulled off in the act of igniting, as is sometimes the case, the same is retained within the chamber a^{10} , located between the mouth a^6 , of the box and the inner outlet a^4 , hence the return of the ignited head into the match box, and the lighting of the matches contained therein is prevented.

In the modification shown in Figs. 11 and 12

a is the box or shell, with inclosed sides, open bottom, and closed by a lid, with the metal at the striker end of the box formed into a lever b , fulcrumed at b^2 , and having a presser part b^4 , and a striker part b^3 . C is a spring limb or rest to which is pivotally attached the lever b . The metal is made sufficiently thin, so that when pressed forcibly at b^4 , as in Fig. 12, the striker part b^3 , gapes or cocks upward, and allows the stem of a match to fall, until the same is intercepted by the tip c^4 , of a split end c^3 , of the spring or inner support c , after which, the withdrawal of pressure allows the deflected metal top to resume its normal figure, and the striker to close upon the match, and by the withdrawal of the same, the head is struck or ignited.

Having described my invention, what I claim as new is—

1. In a self striking match box the combination with the box a , and the pivoted striker b , having an upturned serrated end b^3 , of the intercepting plate or spring c , by which the matches are suspended, after partial extraction and prior to ignition, and by which detached heads are prevented from returning to the box, substantially as described.

2. In a self striking match box the combination with the box a , of the bent plate e' having the lips e , e , extending into the box and forming semi-partitions therein, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of March, 1892.

FRED WALLIS.

Witnesses:

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ARTHUR T. SADLER,

Both of Birmingham.