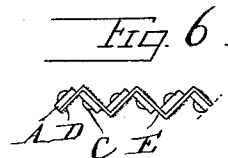
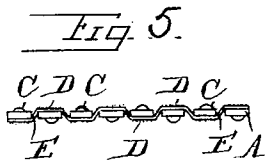
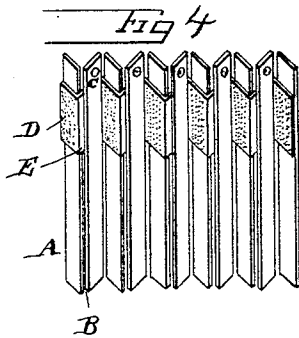
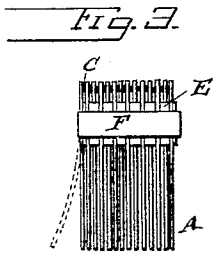
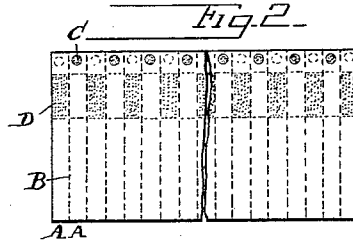
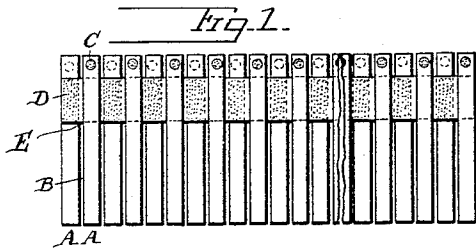


(No Model.)

H. P. FEISTER
MATCH.

No. 535,893.

Patented Mar. 19, 1895.



Witnesses:

Jesse B. Heller
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UNITED STATES PATENT OFFICE.

HENRY P. FEISTER, OF PHILADELPHIA, PENNSYLVANIA.

MATCH.

SPECIFICATION forming part of Letters Patent No. 535,893, dated March 19, 1895.

Application filed October 9, 1893. Serial No. 487,550. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. FEISTER, of the city and county of Philadelphia and State of Pennsylvania, have invented an Improvement in Matches, of which the following is a specification.

My invention has reference to the manufacture of matches, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings which form a part thereof.

In carrying out my invention I employ a continuous match strip, composed of a series of match sticks united at their edges and provided on each face with alternately disposed portions of detonating compound and igniting compound, the relations of the compounds on the two faces being oppositely disposed. This strip is then folded into an accordion plaited or zig zag form on the line of union between successive match sticks, and the compound on each face of any stick in the strip is opposed to the opposite compound on the opposed face of the adjacent stick. When any match stick in the strip thus folded is pulled out, the friction of these opposed faces will produce ignition of the igniting compound. The folded match strip may be fastened in a suitable box, or in any other way, to make a compact package and hold the sticks of the series together with sufficient pressure to produce the desired friction when any separate stick is withdrawn.

It is evident that the match sticks may be made separately and united to form a zig zag strip by the use of a strip of paper or otherwise, or they may be formed of one integral piece so perforated or marked that they are readily separable. The match sticks when folded together may be held in contact by a suitable elastic band or any spring device, and may be used with or without an inclosing case, though the latter may be employed in connection with them for protection in shipment or for appearance. In this case the match sticks would be preferably secured to the box by a transverse wire extending through the ends of the match sticks and fastened upon the box. In this construction a match stick may be pulled from the remaining bunch, and while being removed from the

box is ignited by contact with the igniting substance upon the adjacent match stick.

My invention will be better understood by reference to the accompanying drawings, in which—

Figure 1 is an elevation of a match strip laid out or unfolded embodying my invention. Fig. 2 is a similar view of a modification of same. Fig. 3 illustrates the construction of Fig. 1 folded in the position ready for use. Fig. 4 is a perspective view showing the method of folding my improved match strip. Fig. 5 is an end view of the match strip shown in Fig. 1; and Fig. 6 is an end view of the match strip shown in Fig. 4.

A represents the match sticks and these are either formed separately and connected together by a paper strip E as shown in Fig. 1, or may be made of one continuous piece with divisions or perforations at B as shown in Fig. 2. In the case of Fig. 1, the match sticks are separated by spaces B, and the paper E is preferably arranged in front of one stick and back of the next and so on.

The upper ends of the various match sticks are provided with a detonating substance C, the said detonating substance being upon the face of the match stick, but so arranged that upon adjacent sticks when formed into a strip as shown in Figs. 1, 2 and 6 it lies upon opposite sides.

Lower down upon the match stick, so as to be out of contact with the detonating substance C when the strip is folded or the sticks brought into a compact position, is arranged the igniting substance D and this is upon the opposite face of any match stick relatively to the detonating substance C. This is very clearly illustrated in the end view Figs. 5 and 6. From this it will be seen that the detonating substance C and the igniting substance D are arranged at different places in the length of the match stick and upon opposite sides or faces. When such a match strip as shown in Figs. 1 and 2 is folded in a zig zag or accordion plaited manner such as illustrated in Fig. 4, and ultimately compacted as shown in Fig. 3, and fastened with a rubber band F or held by any other suitable elastic means for keeping the match sticks superposed, it will be observed that the detonating substance of one match stick C comes over a

plain surface of the next adjacent match stick, and immediately below the said detonating substance and upon the adjacent match stick is the igniting substance. It will now
 5 be seen that if, while the package is held in the hand, one of the match sticks be pulled, the detonating substance thereof will be caused to pass over and rub against the igniting substance of the adjacent match stick,
 10 and under the frictional contact produced by the elastic device F the match stick will be ignited, and upon its being rapidly pulled from the package will be in condition for immediate use. From this it will be observed
 15 that the act of removing a match from the package or bunch causes it to be ignited, and yet there is no possibility of accidental removal. It is preferable to hold the match sticks in position relatively to each other as
 20 to prevent longitudinal displacement except under actual power in pulling one of the match sticks from the package.

In the construction shown in Figs. 1 and 3 the paper strip E holds the match sticks sufficiently in position and yet permits any one
 25 of them to be readily torn from the rest by a simple continuous pull.

In the construction shown in Fig. 2 the several match sticks can be held together by the
 30 fact that the card is only partly perforated, and yet to such an extent as to permit the ready removal of one stick from the rest.

It is quite evident that in this construction the lower parts of the match sticks may be
 35 entirely separated from each other as in the case of Fig. 1.

It is quite evident that the match sticks may be either of the plain material such as wood or card board, or the same may be saturated with paraffine or other hydro-carbon
 40 substance capable of improving the burning qualities of the match stick. In the case of paper or card board this would be very advantageous. The coating of the substance
 45 with paraffine or hydro-carbon should preferably be done prior to the applying of the detonating and igniting substances.

From the foregoing it will be seen that the detonating and igniting compounds of the
 50 match sticks of a bunch or package are located wholly within the confines of the ac-

cordion plaited folds, in such manner that the detonating substance does not rest against the igniting compound, but is only brought
 55 in contact therewith upon removing a match stick from the bunch. The detonating and igniting compounds are never in contact when within the confines of the accordion plaited folds.

What I claim as new, and desire to secure
 60 by Letters Patent, is—

1. A continuous match strip, composed of a series of match sticks united at their side edges, and provided on each face with alternately disposed portions of detonating compound and igniting compound, the relations
 65 of the compounds in the two faces being oppositely disposed, and said strip being folded into a zig-zag accordion plaited form on the line of union between successive match sticks
 70 so that the compound on each face of any match stick of the strip is opposed to the opposite compound on the opposed face of the adjacent match stick.

2. The combination of a series of match
 75 sticks connected together side by side by a strip of flexible material, and provided upon one side with a detonating compound and on the opposite side with an igniting compound.

3. The combination of a series of match
 80 sticks connected side by side by a strip of flexible material, alternate match sticks being on opposite sides of the strip, and the match sticks being provided on one side with a detonating compound and on the opposite
 85 side with an igniting compound.

4. The combination of a series of match sticks connected side by side by a strip of flexible material, alternate match sticks being
 90 on opposite sides of the strip, and the match sticks being provided on one side with a detonating compound and on the opposite side with an igniting compound, one of said compounds being located on the exposed face of the connecting strip.

In testimony of which invention I have
 95 hereunto set my hand.

HENRY P. FEISTER.

Witnesses:

BENJ. L. LEHMAN,
 ALEXANDER RICKEY.