

Nov. 18, 1930.

R. S. PULLEN

1,782,074

MATCH PACKET

Filed Nov. 24, 1928

2 Sheets-Sheet 1

Fig. 4.

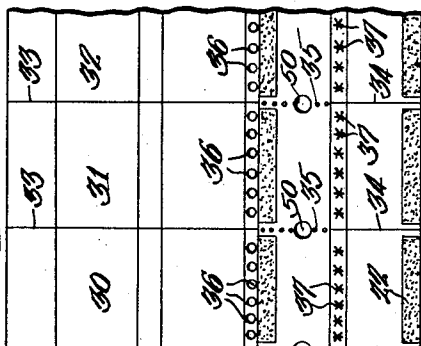


Fig. 3.

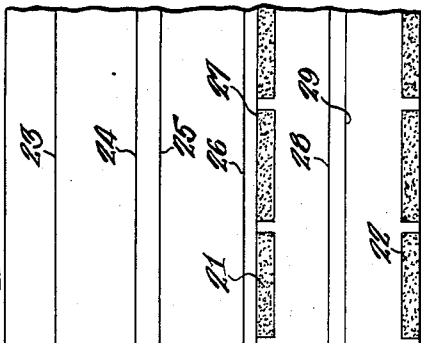


Fig. 2.

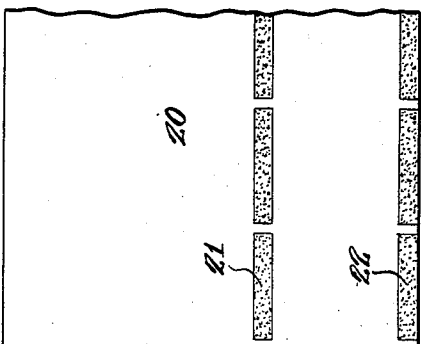


Fig. 1.

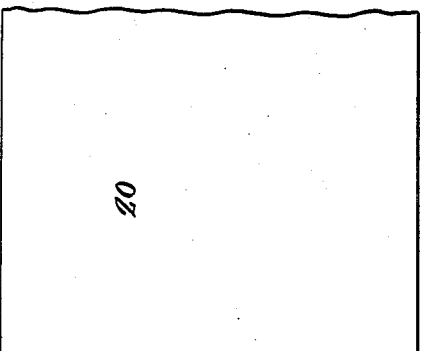


Fig. 7.

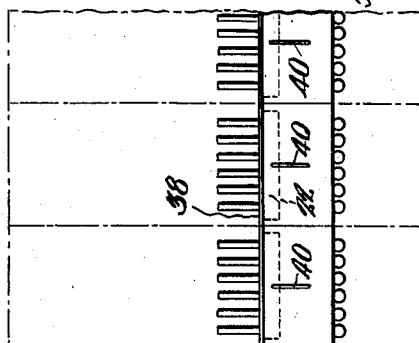


Fig. 6.

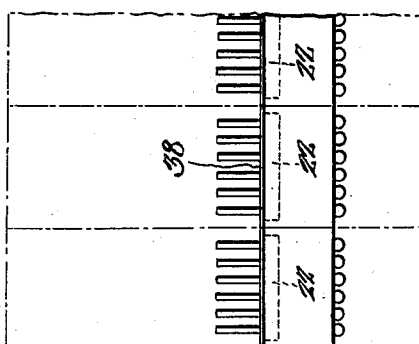


Fig. 5.

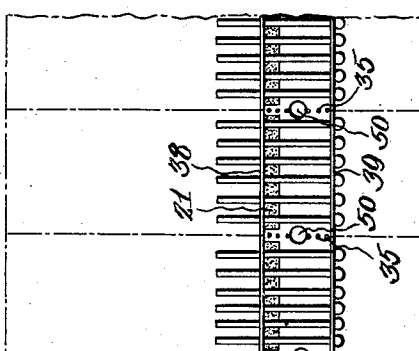


Fig. 8.

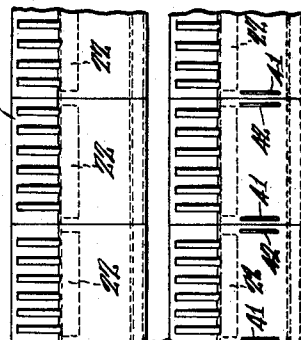
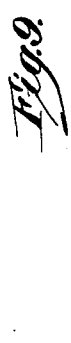


Fig. 9.



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2 Sheets-Sheet 2

Fig. 5a

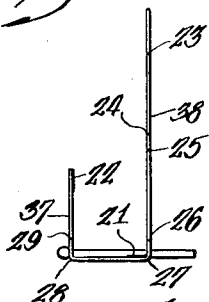


Fig. 6a

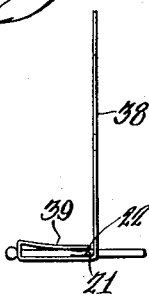


Fig. 7a

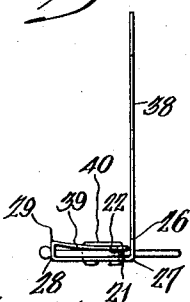


Fig. 8a

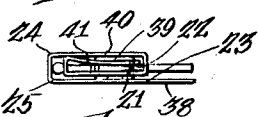


Fig. 10.

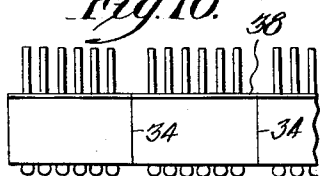


Fig. 11.

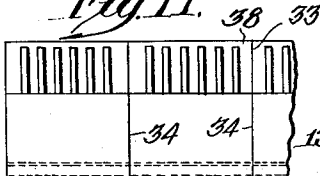


Fig. 12.

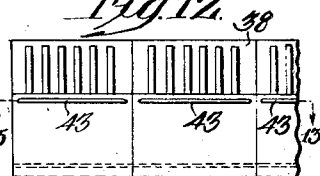


Fig. 13.



Fig. 16.

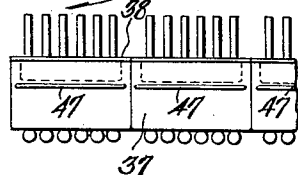


Fig. 14.



Fig. 17.

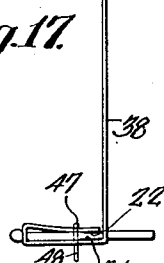


Fig. 18.

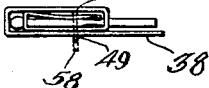
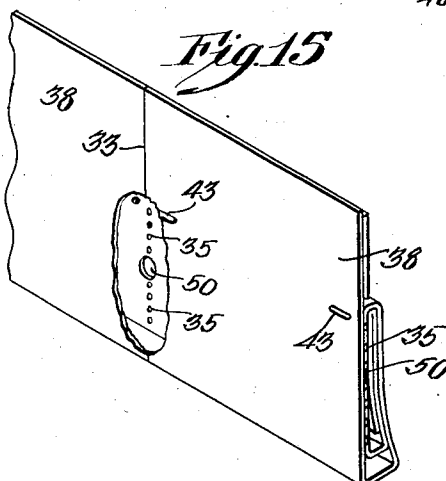


Fig. 15



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by

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UNITED STATES PATENT OFFICE

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MATCH PACKET

Application filed November 24, 1928. Serial No. 321,597.

My invention relates to match packets in which the matches are ignited during their longitudinal withdrawal from the packet, stick end foremost.

5 A purpose of my invention is to provide a desirable form of wrap for a multiple section match packet, the individual packet sections being of the character indicated.

10 A further purpose is to provide a stiff connection between the adjacent sections of a match packet made up of a plurality of packet sections of the character indicated that is easily broken by the user.

15 A further purpose is to have clean-cut separation between the different pack sections on the outside layers of the wrap and an easily broken connection between the adjacent packet sections along an inside portion of the wrap, that is preferably scored or perforated for easy separation by a user, and the line of separation along the perforations which is of necessity of a less clean-cut finish than the cut lines of separation between the outside layers being located where it will not
25 show.

30 A further purpose is to hold the folded flap in place upon the matches by one or more staples. I may fold the packet to its final form by a single staple on each individual packet section across the matches and the width of the section or may use a plurality of staples in each packet section parallel to the matches, one or more staples in each to hold the first flap down and located intermediate the sides of the section and a staple on
35 each side of each section holding the outside portions of the wrap together.

40 A further purpose is to use staple means to maintain a resilient pressure between flap portions that are presenting ignition material upon opposite sides of the matches, a pressure sufficiently yielding to permit match withdrawal without injuring the match heads and sufficiently great to insure match ignition
45 during withdrawal.

Further purposes will appear in the specification and in the claims.

I have elected to illustrate my invention in one main form only that may be variant with respect to detail, selecting a form that is practical and efficient and which well illustrates the principles involved.

Figure 1 is a top plan view of a wrap blank before it has been operated upon further than cutting it to size.

55 Figure 2 is a view generally similar to Figure 1 showing the wrap in Figure 1 after the application of ignition material.

Figure 3 is a plan view of the wrap shown in Figure 2 after it has been provided with longitudinal creasings for subsequent folding.

Figure 4 shows the completed wrap before the matches have been inserted.

65 Figures 5 and 6 are plan views showing the packet in progressively different stages of folding and before the insertion of any stapling.

70 Figures 7, 8 and 9 are plan views showing the packet in the later stages of folding when the stapling is to be parallel to the matches, Figure 9 representing the completed packet of this form.

75 Figures 5^a, 6^a, 7^a and 8^a are respectively side elevations of Figures 5, 6, 7 and 8.

Figures 10, 11 and 12 are plan views corresponding generally to Figures 7, 8 and 9 but showing the form having stapling across the outside of the finished packet.

80 Figure 13 is a section taken upon the line 13—13 of Figure 12.

Figure 14 shows a desirable form of stapling for use in the packet of Figure 12.

85 Figure 15 is a perspective view of the finished packet shown in Figure 12.

Figures 16, 17 and 18 are views illustrating a somewhat different form of staple fastening, the views corresponding respectively to Figure 6, Figure 7^a and Figure 8^a except with respect to the different form of stapling.

Like numerals refer to like parts in all figures.

Describing in illustration and not in limitation and referring to the drawings:—

5 The present invention is to considerable extent a development of the subject matter of my application No. 186,097, filed April 23, 1927, and entitled "Match book", the improvement lying in a novel form of wrap which
10 joins the individual sections of a multi-section packet together in a way that secures a connection between the sections that is normally stiff yet is easily broken by the user, the separated sections presenting clean-cut out-
15 side edges, and is also directed at the fastening of the wrap.

The figures illustrate a multi-section packet in its different stages of manufacture.

20 Figure 1 shows a sheet of blank paper having a length to be determined by the desired number of individual packet sections and a width suitable for wrapping, or may represent the free end of a roll.

25 In Figure 2, strip coats 21 and 22 of ignition material have been added across each section in position to be presented to opposite sides of the match heads during the match withdrawals.

30 In Figure 3 the blank has been scored longitudinally at 23, 24, 25, 26, 27, 28 and 29 the manner of scoring being in any suitable way as that used when making my packet disclosed in my application above referred to.

35 The wrap is adapted to bend readily along any one and each of these score lines.

In Figure 4 the wrap has been partially divided along straight lines between the successive sections 30, 31 and 32 clean-cut outwardly to opposite edges of the wrap from
40 the lines 27 and 28 respectively, and provided with a row 35 of spaced perforations intermediate and aligned with the clean-cuts 33 and 34.

45 The individual sections are thus held together intermediate adjacent sections along the rows of perforations 35.

In Figure 4 the wrap has been provided with spaced rows 36 and 37 of perforations that receive the matches. The perforations 36 are clean-cut round holes while the perforations 37 are preferably star perforations
50 comprising short radial cuts giving inwardly directed flaps that are adapted to form petticoats around the match sticks when the match sticks have been inserted through
55 these holes.

Desirably the cuts 33 and 34, the rows of perforations 35 aligned with the cuts 33 and 34 and the two rows of holes 36 and 37 are made at a single stroke of a suitable die.

60 In Figure 5 the long flaps 38 and the short flaps 39 have been folded up along the scored lines 27 and 28 as is best seen in Figure 5^a and the matches have been threaded through the petticoated holes 37 and the round holes 36

so as to suitably project beyond the up-turned long flaps 38.

70 It will be seen that the ignition coatings 21 are under the inserted matches adjacent the holes 36 which are turned-up with the long flap 38.

75 In Figures 6 and 6^a the short flap 39 has been folded down on to the inserted matches, bringing the strip coating of ignition material 22 against the match sticks.

I have elected to show two only of the many different ways of finishing the packet after the stages shown in Figures 6 and 6^a has been reached, and will first describe the form of finish illustrated in Figures 7 to 9.

80 The short flap is fastened down by one or more staples 40 which are inserted between and parallel to the matches through the short flap and the wrap body portion 41 lying intermediate the rows of holes 36 and 37.

85 Throughout the illustration I have for the sake of greater clearness shown the packet sections as containing each but six matches.

90 Normally each packet section will contain many more than six matches and when the number is large I may find it desirable to use more than one staple 40 intermediate the sides of the individual sections for holding the short flap down.

95 Figure 8 shows the next stage where the long flap has been turned down and around the packet folding successively at the score lines 26, 25 and 24 and covering the staples 40 that have been inserted to hold the short flap to place.

100 In Figure 9 side staples 41 and 42 have been inserted parallel to the matches and through the whole thickness of the pack along each side of each section. These staples cooperate with the staples 40 to hold the wrap in its folded position and to maintain the requisite tightness between the opposing ignition surfaces, a tightness sufficient to insure match ignition during match withdrawal but not so much as to endanger rupturing the match head during the match withdrawal.

105 In the form shown in Figures 10 to 14 I use but a single staple 43 in each packet section to hold the wrap in its folded position and to suitably resiliently press the ignition surfaces 21 and 22 against opposite sides of the matches.

120 In Figure 10 the packet is in the same stage as is illustrated in Figures 6 and 6^a the short flap 39 having been turned down upon the inserted matches while the long flap 38 is still turned up.

125 In Figure 11 the long flap has been folded down upon the short flap, no stapling having been used to hold the short flap temporarily into place.

130 The long flap 38 is turned down around the match heads in under the packet to exactly the same position as shown in Figure 8, the

only difference between the packet shown in Figure 11 from that shown in Figure 8 being the absence of the stapling 40 of the short flap illustrated in Figure 7.

After the long flap is folded around to the position shown in Figure 11 I insert the staples 43 each of which spans or includes the matches of its packet section, penetrating all of the folds outside the outside matches and preferably over or adjacent the coatings of ignition material.

In order to obtain proper pressure between the opposing coatings of ignition material I desirably bow the body portion of the staple as illustrated in Figure 14, preferably making the staple of spring material, as spring bronze or steel, so that when the staple has been inserted its bow is straightened out and its tendency to straighten exerts an inward pressure along the whole length of its body portion and across the ignition material.

The four fold thicknesses of the wrap are desirably compressed together at the edges of each section where the staple ends penetrate the packet and in order to avoid undue tightness against the outer matches of the section I may desirably provide the staple 43 with an offsetting bend 44 at each side adapted to fit the contour of the packet section after it has been compressed at the edges, without pressing the outside fold of the wrap unduly down upon the matches.

Figure 14 shows the staple as it appears before insertion, with the offsetting bends 44 somewhat exaggerated in size.

The bow 45 straightens out during insertion and the offset bends 44 fit into the depressions at the edges of the pack section that result from compressing the packet at these points during staple insertion.

After insertion the staple ends that have penetrated the back are bent inward as indicated in the dot-and-dash lines at 46 (Figure 14).

I show in Figures 16 to 18 inclusive another desirable form of fastening to hold the folded wrap in place.

Up to the stage of manufacture shown in Figures 6 and 6^a the operation is exactly as already described, and a packet in its stage of manufacture following that of these figures is shown in Figures 16 and 17.

While the long flap is still raised a staple 47 is inserted through and across the short flap as indicated in Figure 16.

The ends of the staple are let project as shown at 48 in full line, Figure 17 and in dot-and-dash in Figure 18, while the long flap is folded down upon the short flap around the match heads, under and up against the packet so that the ends of the staple penetrate the flap. These ends are then clinched as illustrated in full line at 49 in Figure 17, which shows the finished wrap.

Desirably the same precautions are taken

in the matter of bowing the staple and providing offsetting bends at each end as has already been described and illustrated in Figure 14 except that the offsetting bends are somewhat less pronounced by reason of the staple having one less thickness of wrap to penetrate.

The form just described has the advantage as compared to that shown in Figures 10 to 14 inclusive in that the body of the staple is hidden in the finished packet and is thus out of the way of advertising matter that might be placed in space covered by the staple in the form of Figures 10 to 14.

I have preferred to illustrate my wrap and packet without mechanism for performing their manufacture and intend to disclose and claim such mechanism in an application intended to be copending herewith.

The packet sections during manufacture are desirably required to register exactly with suitable operating mechanism and I preferably provide the wrap with perforations 50 for cooperation with suitable dowel registering members of packet manufacturing mechanism intended to be claimed in the copending application.

I have shown these perforations 50 for cooperation with registry dowels of manufacturing mechanism as located in the lines 35 along which the packet sections are separably connected. Obviously however, the location of the perforations 50 used for cooperating with registry dowels of manufacturing mechanism may be intermediate the sides of the individual sections.

One of the important features of my invention lies in the easily broken connection between the individual pack sections upon a portion of the wrap that is inside the outer folds, given by heavy scoring or successive perforations at 35 intermediate and aligned with the cuts 33 and 34 (Figure 4).

This form of wrap gives a connection between the adjacent packet sections that is inside the cleanly cut edges of the outer folds and thereby insures a stiffness for the packet as a whole, but permits very easy breaking apart of the packet sections into individual sections that have an appearance of clean-cut finish at both sides of the remaining section or sections.

It will be seen that a packet that initially may be made up of any desired number of sections always presents the appearance of a unit having finished sides irrespective of whether one or more of the sections originally present may have been broken away.

In view of my invention and disclosure variations and modifications to meet individual whim or particular need will doubtless become evident to others skilled in the art, to obtain all or part of the benefits of my invention without copying the structure shown, and I, therefore, claim all such in so far as

they fall within the reasonable spirit and scope of my invention.

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

1. In manufacturing a plural section match packet the method of procuring a stiff but readily broken connection between the sections of the packet which consists in separating the outside surfaces of the adjacent sections and in providing a weakened connection between the sections intermediate the thickness of the packet.
2. The method of obtaining a stiff but readily broken connection between the adjacent sections of a match packet containing a plurality of sections and of obtaining an appearance of finish at the separated edges of the packet at a broken section connection which consists in providing the individual sections with finished edges between the sections along the outside surfaces and with a weakened connection between the sections intermediate their outside surfaces.
3. In a match packet containing a plurality of packet sections, the matches being adapted to ignite during longitudinal withdrawal stick-end foremost from the packet, a wrap common to the sections and having in each section an inside fold and outside folds and the inside fold of adjacent sections having a weakened connection between the sections while the corresponding outside folds are separated between the sections.
4. In manufacturing a plural section match packet, a wrap which has an individual wrap portion for each packet section, said portion including a long flap which forms the outside folds in the finished packet and a portion for an inside fold in the finished packet, the long flaps of the adjacent sections being cut apart and the said inside fold portions having a weakened connection between the packet sections.
5. In manufacturing a plural section match packet, a wrap which has an individual wrap portion for each packet section, each wrap portion having spaced rows of perforations for receiving matches and the wrap portions of adjacent sections having clean-cut separations from the interiors of the respective rows of holes outwardly to the opposite edges of the wrap and a row of perforations intermediate the cuts and in line with the cuts.
6. A wrap for use in manufacturing a plural section match packet, said wrap having an individual wrap portion for each section, each wrap portion having a long flap, a short flap and spaced rows of perforations intermediate the flaps for receiving matches, the wrap portions of adjacent sections having finished edge separations between their long flaps and between their short flaps and a row of perforations intermediate and in line with

the said separations, score lines on each wrap portion for more easy folding said score lines being located upon each side of each row of perforations, and other score lines on the long flap adapting the long flap to crease at opposite sides of the packet along the head ends of the matches.

7. In a match packet, a wrap having an intermediate portion and a row of perforations along opposite sides thereof, a long flap extending laterally outwardly from one row of perforations and a short flap extending laterally outwardly from the other row of perforations, the wrap being turned up at the sides of the intermediate portion so that the perforations are perpendicular to said portion, matches inserted in the perforations with the match heads adjacent the row of perforations at the short flap, the short flap turned down upon the matches and a staple parallel to and between adjacent matches holding the short flap to the said intermediate portion, the long flap turned down upon the short flap around the match heads and up against the said intermediate portion and other staples along the side of the pack holding the wrap folds together at the edges of the packet.

8. Two match packages having a plurality of cover sheets each and united laterally by an interior cover sheet.

9. In a match packet containing a plurality of packet sections, a wrap common to the sections and having in each section an inside fold and outside folds, and the sections being connected to one another across the inside fold and separate from one another at the outside folds.

10. In a match packet containing a plurality of packet sections, the matches being adapted to ignite during longitudinal withdrawals stick end foremost from the packet, a wrap common to the sections and having in each section an inside fold and outside folds, and the sections being connected to one another across the inside fold and separate from one another at the outside folds.

11. A match packet having double front and back walls, staples holding the inner front and back walls together at an intermediate point in the width of the packet and staples holding the outer front and back walls together at the ends of the packet.

12. A match packet having double front and back walls, staples holding the inner front and back walls together at an intermediate point in the width of the packet and staples passing through both the inner and outer front and back walls and holding them together at the ends of the packet.

13. A match packet comprising a cover reversely bent upon itself to form double front and back walls and apertured walls transverse to the front and back walls, matches passing through the apertures of the walls, a

5 staple holding the inner front and back walls together at a point short of the ends of the package and staples at opposite ends of the package holding the outer front and back walls together to close the package at the ends.

10 14. A match package having matches extending lengthwise of the package, scratch material for the matches in line of withdrawal of the heads of the matches and staple means located at the ends and at an intermediate point of the width of the package for tightening the scratch material against the matches.

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