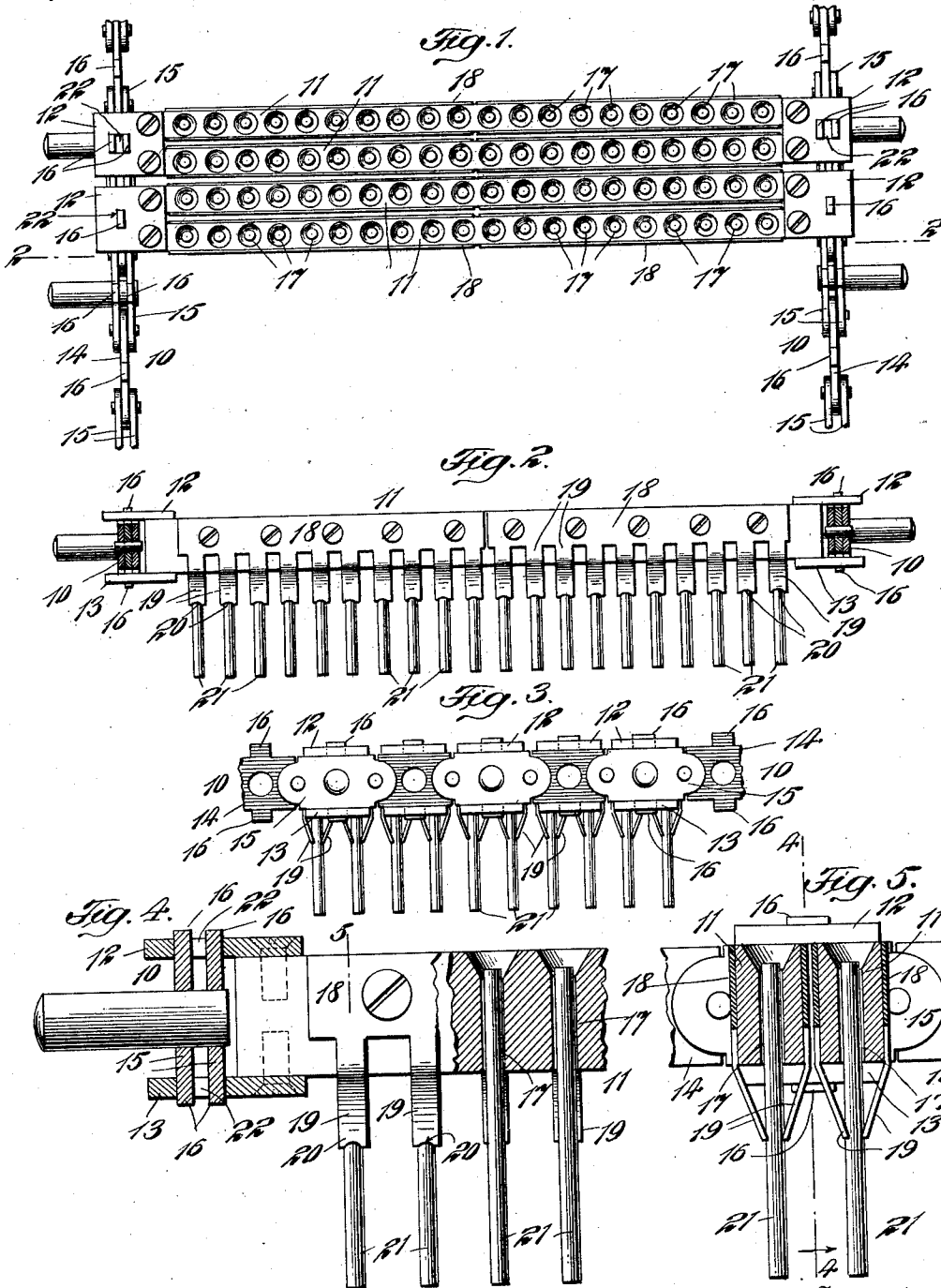


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MATCH SPLINT CARRIER.
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1,002,827.

Patented Sept. 12, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

FERRAL C. DININNY, OF SUFFERN, NEW YORK.

MATCH-SPLINT CARRIER.

1,002,827.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed December 28, 1909. Serial No. 535,341.

To all whom it may concern:

Be it known that I, FERRAL C. DININNY, a citizen of the United States, and a resident of Suffern, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Match-Splint Carriers, of which the following is a specification.

The invention relates to improvements in splint-carriers designed more especially for use in the manufacture of matches.

The carriers of my invention are arranged side by side in a long series and connected at their ends to endless sprocket chains which are, by preference, of the character shown in Letters Patent No. 845,447, granted to American Match Manufacturing Company on February 26, 1907. The carriers of my invention embody certain improvements over the carriers shown in said Letters Patent No. 845,447 and also in Letters Patent No. 845,439 dated February 26, 1907.

One object of my invention is to produce a highly efficient carrier of durable and simplified construction and improved operation, and a further purpose of the invention is to provide a carrier having improved means on its ends for securing the carrier to the aforesaid sprocket chains and permitting the ready removal of the same from and its return to said chains whenever desired.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a top view of a portion of an endless chain of splint-carriers embodying my invention; Fig. 2 is a vertical transverse section through the same on the dotted line 2—2 of Fig. 1; Fig. 3 is a side elevation of the same, five pairs of the carriers being shown on the chain; Fig. 4 is an enlarged vertical transverse section through a portion of the chain and between the individual carriers of one pair of the same on the dotted line 4—4 of Fig. 5, a portion of one of the carriers being shown as partly broken away and in section, and Fig. 5 is a vertical section through the same on the dotted line 5—5 of Fig. 4.

In the drawings, 10 designates the sprocket-chains, and 11 the individual carriers, which I arrange in pairs, as shown, the carriers of each pair being connected together at their upper and lower end portions

by upper and lower corresponding plates 12, 13 adapted to be connected with and thereby secure the carriers to the sprocket chains. The chains 10 are fully shown and described in the aforesaid Letters Patent No. 845,447, and hence require only brief description herein. The chains 10 correspond with each other and each is composed of single links 14 alternating with double-links 15, said links being pivotally connected together in series and formed at the center of their upper and lower edges with vertically projecting tongues 16 provided for use in connecting the carriers with the chains.

Each carrier 11 comprises an individual bar having a series of corresponding tubular holes 17 through it and a series of corresponding oppositely disposed spring-grippers extending downwardly from and inclining inwardly below the bar and recessed at their adjoining ends to receive and clasp the splints fed between them. The spring-grippers are preferably constructed in the form of plates 18 fastened, preferably by screws, to the opposite sides of the carrier bars 11 and having depending spring-fingers 19 concaved or recessed at their lower ends, as at 20. The plates 18 and spring-fingers 19 correspond with each other and the spring-fingers at the opposite sides of the bar 11 incline downwardly and inwardly or converge toward each other on corresponding lines and terminate below the holes 17 in said bar. In order to secure a better action in the fingers 19 and lessen the liability of breakage, I extend the fingers upwardly above the lower edge of the bar 11, as clearly shown in Figs. 2, 4 and 5. The recesses 20 in the lower edges of the fingers 19 are provided to partly encircle the match-splints 21 and thereby increase the effective clamping action of the fingers on the splints and assure the retention of the splints in vertical line with the holes 17, which contain the upper portions of said splints. The upper ends of the holes 17 are enlarged and have converging walls for the purpose of aiding the proper and convenient delivery of the splints into the holes 17, down through which the splints are all pushed until they pass between and uniformly project suitably below the spring gripper-fingers 19, as shown.

The carrier-bars 11 are connected together in pairs, as referred to hereinbefore, by the upper and lower plates 12, 13, which are

fastened by screws to and project beyond the end portions of said bars so as to embrace or receive between them the upper and lower edges of the sprocket chains.

5 The plates 12, 13 are small and readily detachable, when desired, from the carrier bars 11, and said plates are provided with corresponding vertical apertures or openings 22 (Figs. 1 and 4) to snugly receive the

10 tongues 16 on the sprocket chains 10. With the lower plates 13 below the sprocket chains and receiving the downwardly projecting tongues 16 and the upper plates 12 above said chains and receiving the upwardly projecting tongues 16, it is obvious

15 that the carrier-bars will be very securely held in position, and since the openings 22 in said plates snugly receive said tongues the carrier-bars become not only securely

20 held but are prevented from shifting or having lateral or longitudinal displacement. The carrier-bars, in pairs, may be very readily secured to and detached from the chains 10, since with either plates 12 or 13 detached from a pair of carrier-bars the latter may be quickly detached from or secured to the chains. When the plates 12 of a pair of carrier-bars are removed, said bars may be dropped from the chains 10, the plates 13 then slipping down from the lower tongues 16, and when it is desired to restore the pair of carrier-bars to the chain, said bars will be applied thereto by passing the plates 13 upwardly against the chains with the

30 openings 22 in said plates receiving the lower tongues 16, and then securing the upper plates 12 to said bars, with the upper tongues 16 in the openings 22 of said plates. The carrier-bars are secured in position

40 without any bending or other manipulation of the parts further than to fasten the plates 12, 13 to the bars so as to embrace the chains and receive in their openings 22 the oppositely extending tongues or projections 16 thereon.

My chain of carrier-bars consists of a reduced number of parts to be made and assembled and is of great durability, efficiency and maximum capacity. Both sides

50 of each individual carrier-bar are alike in every respect, and likewise both ends of each of said bars are alike, which facilitates the assembling of the bars in pairs. The pairs of bars 11 are alike at both the ends and

55 sides thereof with the exception that the openings 22 in the plates 12, 13 for the pairs of bars to be connected with the double links 15 are made large enough to receive the two corresponding tongues 16 of said

60 links, while the openings in the plates 12, 13 for the pairs of bars to be connected with the single links 14 are smaller or of a size to snugly receive the individual tongues 16 of said links 14, as shown in Fig. 1. The

65 individual bars 11 are of substantial charac-

ter and lacking in complexity of detail, and the upper portions of the splints are well maintained in the holes in said bars, while the lower portions thereof are gripped by the corresponding oppositely acting pairs

70 of spring-fingers 19. The holes 17 in the bars 11 will be large enough to admit splints varying in diameter without pinching them, and the springs 19 are adapted to grip splints of their usual varying diameters and rigidly hold them. The springs 19

75 being in pairs and oppositely diverging will effectually prevent the splints from being pushed back during the dipping operation but will readily permit the discharge of the

80 completed matches.

What I claim as my invention and desire to secure by Letters Patent, is:

1. A splint-carrier comprising chains and carrier-bars connected at their ends thereto,

85 the individual bars each having a series of splint-receiving holes through it and a series of spring gripper-fingers converging from the sides of said bars downwardly and inwardly to points below the said holes, said

90 fingers being extended upwardly above the lower edges of said bars; substantially as set forth.

2. A splint-carrier comprising chains and carrier-bars connected at their ends thereto,

95 the individual bars each having a series of splint-receiving holes through it and side plates whose lower portions are slotted and form spring gripper-fingers which converge downwardly and inwardly to points below

100 said holes; substantially as set forth.

3. A splint-carrier comprising chains and carrier-bars connected at their ends thereto, the individual bars each having a series of

105 splint-receiving holes through it and side plates whose lower portions are slotted and form spring gripper-fingers which converge downwardly and inwardly to points below said holes and are recessed at their lower

110 ends to partly inclose opposite sides of the splints; substantially as set forth.

4. A splint-carrier comprising chains and carrier-bars connected at their ends thereto, the individual bars each having a series of

115 splint-receiving holes through it and side plates whose lower portions are slotted and form spring gripper-fingers which converge downwardly and inwardly to points below said holes, said plates having their slots and

120 fingers extended upwardly above the lower edges of said bars; substantially as set forth.

5. A splint-carrier comprising sprocket-chains having oppositely projecting tongues on its upper and lower edges, carrier bars having a series of splint-receiving holes

125 through them and a series of spring-gripper-fingers converging downwardly and inwardly from opposite sides of said bars to points below said holes, and end plates (12, 13) on the upper and lower sides of the end por-

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tions of said bars and embracing said chains and having openings therein to receive said tongues; substantially as set forth.

6. A splint-carrier comprising sprocket-chains having oppositely projecting tongues on its upper and lower edges, carrier bars having a series of splint-receiving holes through them and a series of spring gripper-fingers converging downwardly and inwardly from opposite sides of said bars to points below said holes, and end plates (12, 13) on the upper and lower sides of the end portions of said bars and embracing said chains and having openings therein to receive said tongues, the individual carrier-bars being connected together in pairs by said end plates; substantially as set forth.

7. A splint-carrier comprising sprocket-chains having upper and lower oppositely projecting tongues, carriers to receive and hold the splints, and upper and lower end-plates 12, 13 detachably secured to each end of said carriers and having openings therein to receive said tongues, said end plates projecting beyond the carriers to embrace said chains; substantially as set forth.

Signed at New York city, in the county of New York and State of New York this 27th day of December A. D. 1909.

FERRAL C. DININNY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."