June 27, 1939. A. BRAY 2,164,049

BELT HOOK HOLDER

Filed Dec. 13, 1937

Fig. 1

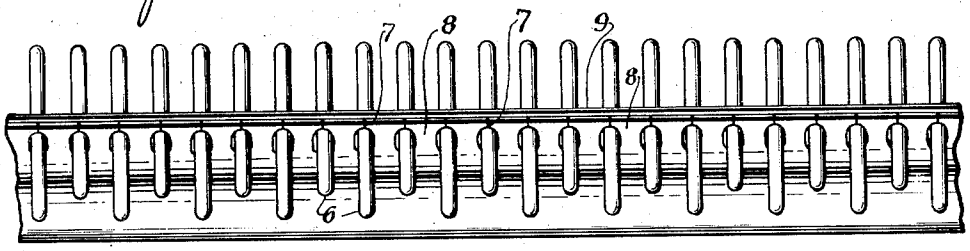


Fig. 2

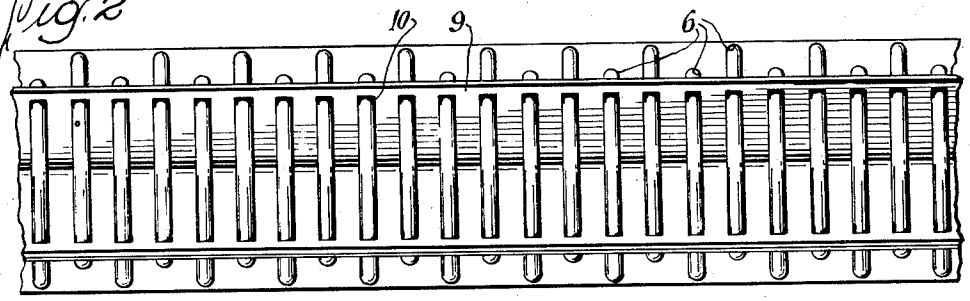


Fig. 3

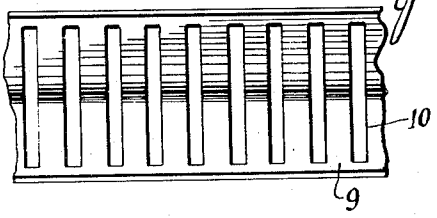


Fig. 4

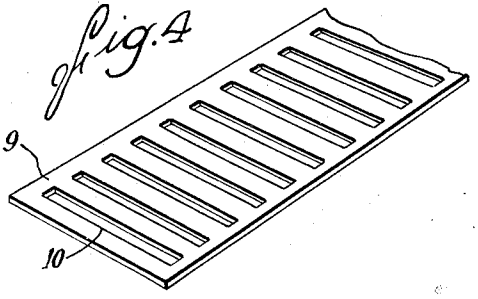
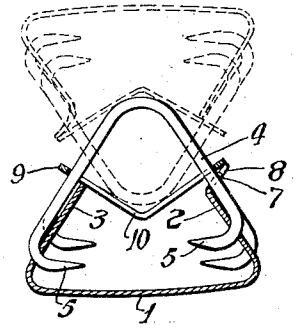


Fig. 5.



INVENTOR

Albright Bray,

By Parker, Carlson, Pitzner & Hubbard

ATTORNEYS

Patented June 27, 1939

2,164,049

UNITED STATES PATENT OFFICE

2,164,049

BELT HOOK HOLDER

Albright Bray, River Forest, Ill., assignor to Armstrong-Bray & Co., Chicago, Ill., a corporation of Illinois

Application December 13, 1937, Serial No. 179,456

3 Claims. (Cl. 1—56)

The present invention relates to improvements in belt hook holders.

Metal or wire belt hooks, for lacing belts, are commonly mounted on elongated holders of cardboard or other suitable material from which sections with the desired number of hooks may be severed as required. The hooks are closely spaced on the holder, and are intended to be held thereon in parallel upright position for ready insertion into a lacing machine. Heretofore, holders of this general type have been subject to various objections and difficulties which are avoided by the present invention.

One of the primary objects of the invention is to provide a new and improved belt hook holder in which the hooks are held more firmly and securely in position so that severing of a section from the holder with the desired number of hooks is facilitated, and the line-up of the hooks at the severed ends is not disturbed. This avoids the necessity, commonly arising, for straightening and adjusting the hooks before insertion into the machine.

The invention resides in an elongated supporting member of paper or other suitable material which is formed with a plurality of transverse slots uniformly spaced in accordance with the spacing of the hooks on the holder, and adapted respectively to receive the intermediate bent portions of the hooks so that the latter act collectively through the member to maintain each hook upright and in centered position, and to hold the hooks evenly spaced for accurate registration with the grooves to receive them in the lacing machine.

Another object of the invention is to provide a novel supporting member of the foregoing character which need not be removed before placing the holder with the hooks into the lacing machine, and which may be formed to permit convenient packing of the holder and hook assemblies for shipment.

Further objects and advantages will become apparent as the description proceeds.

In the accompanying drawing, Figure 1 is a fragmentary side elevational view of a holder and hook assembly embodying the features of my invention.

Fig. 2 is a fragmentary plan view of the assembly.

Fig. 3 is a fragmentary plan view of the supporting member for maintaining the alignment and verticality of the hooks on the holder, the member being shown folded or bent about its longitudinal center line.

Fig. 4 is a fragmentary plan view of the supporting member in flat condition.

Fig. 5 is a transverse sectional view of a holder and hook assembly.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

Referring more particularly to the exemplary embodiment of the invention, the holder is in the form of an elongated strip 1 which may be made of any suitable material such, for example, as cardboard or fibre board. The strip is channel-shaped in cross section, and has side walls 2 and 3 bent upwardly and somewhat toward each other so that when the holder and the hooks are assembled a generally triangular structure is defined. Mounted on the holder strip 1 are a plurality of belt hooks 4 in upright position and closely spaced parallel relation. The hooks 4 are bent into a generally trianguar shape, and have inwardly projecting open or spaced prongs 5 on their ends. In assembling the hooks 4 with the strip 1, the prongs 5 are caused to perforate the side walls 2 and 3, thereby forming in each side two parallel rows of longitudinally aligned holes 6. Preferably, the holes 6 of the two rows are arranged in staggered relation.

Also formed in one of the side walls, namely the wall 2, are a plurality of vertical slots 7 which have a restricted opening to the upper longitudinal edge thereof, and which define intermediate flexible locking projections 8. The slots 7 conform in number to and are in vertical alignment respectively with the holes 6. In the assembly, the inclined arms of the hooks 4 lie substantially against the outer sides of the walls 2 and 3, and the prongs 5 project through the holes 6. The projections 8 are flexed outwardly between the arms of the hooks 4 at one side of the latter so that these arms in effect extend through the slots 7.

The projections 8 thus tend to hold the hooks 4 normally in upright position. In practice, however, the projections 8 are not of sufficient strength to insure retaining the hooks 4 in the desired position for ready and convenient insertion into a belt lacing machine (not shown). On the contrary, the alignment of the hooks 4, par-

ticularly at and adjacent the ends of the holder or sections severed therefrom, is frequently disturbed. This results in considerable inconvenience and loss of time, both of the machine and the operator.

One of the primary features of the present invention resides in providing for the avoidance of the foregoing difficulty. In the specific form illustrated, this is accomplished by means of a separate supporting member 9 which is formed to interfit with the upper or intermediate bent portions of the hooks 4, and thereby to maintain the latter in parallel relation. The member 9 may be a strip of any suitable material such, for example, as comparatively stiff or heavy paper or light cardboard, and is formed with a plurality of uniformly spaced transverse slots 10 adapted snugly to receive the upper or intermediate bent portions of the hooks 4. It will be understood that the slots 10 are so spaced and of such width that they will properly interfit with the hooks 4 when the latter are in parallel upright position.

The slots 10 preferably are of such length that the outer bent portions of the hooks 4 will project therethrough sufficiently to permit the longitudinal marginal portions of the member 9 to rest on or engage the upper longitudinal edges of the sides 2 and 3 of the holder. As a result, the projecting portions of the hooks are exposed to a substantial extent so that the hooks on any one holder may be interfitted with those on another holder without appreciable interference by the member 9 to permit compact packing of the holders for shipment and storage purposes. To facilitate compact packing still further, as illustrated in dotted outline in Fig. 5, the strip 9 may be bent or partially folded inwardly along its longitudinal center line so as to conform generally to the triangular shape of the hooks 4.

The slots 10 are herein shown of such length that the ends engage the diverging arms of the hooks 4 when the member 9 is positioned to engage the side walls 2 and 3 of the holder 1, and hence are adapted to maintain the hooks centered or in longitudinal alignment. Even though the ends of the slots were not to engage the arms of the hooks, the member 9 would tend to constrain the hooks against lateral shifting on the holder by reason of the frictional engagement between the hooks and the sides of the slots 10.

It will be evident that the strip member 9 serves to hold all of the hooks 4 in parallel relation and acts collectively with all of the hooks and the projections 8 to maintain each hook securely in vertical or upright position. Consequently, all of the hooks 4 are held in centered, parallel and upright position, and the holder and hook assembly may be inserted without difficulty or inconveniece into the lacing machine. The hooks cannot lay over sidewise and will not become lost or damaged. The holder and hook assembly may be severed at any longitudinal point without disturbing the proper mounting of the hooks. The strip 9, being severable and spaced inwardly from the outer bent portions of the hooks 4, need not be removed to permit insertion of the holder and hook assembly into the lacing machine.

I claim as my invention:

1. A belt lacing hook holder and hook assembly comprising, in combination, an elongated strip of flexible material having longitudinally folded side walls to define a holder of generally triangular cross section, a plurality of generally triangular open belt hooks arranged in spaced relation along said holder, said hooks each having angularly disposed arms with end prongs projecting inwardly through said walls and having a bent portion connecting said arms and projecting from said walls, a plurality of projections on the free longitudinal edge of one of said walls and extending outwardly respectively between the adjacent arms of successive hooks to dispose said hooks in perpendicular relation to said holder, and an elongated strip of flexible material having a plurality of longitudinally spaced transverse slots respectively receiving said bent portions of said hooks to maintain said hooks in parallel relation, said last mentioned strip being bent inwardly along its longitudinal center line, and at its side margins engaging the free longitudinal edges of said walls.

2. A belt lacing hook holder and hook assembly comprising, in combination, an elongated strip of flexible material having longitudinally folded side walls, a plurality of closely spaced parallel upright hooks having prongs projecting inwardly through said side walls and having outwardly projecting intermediate bent portions, and an elongated member of flexible material formed with a plurality of transverse slots respectively receiving said bent portions of said hooks and being bent inwardly along its longitudinal center line to conform generally to the triangular shape of the hooks of an inverted nested holder and assembly having the bent portions of its hooks inserted between the bent portions of said upright hooks, and said slots being of such length that the ends thereof engage the opposite arms of the respective upright hooks received therein to hold such upright hooks positively in longitudinally centered alignment and to hold the member substantially against further inward bending under the pressure of the nested assembly.

3. A positioning member for belt hooks having intermediate bent portions and mounted on a carding holder, said member consisting of an elongated strip of flexible material formed with a longitudinal series of transverse slots adapted respectively to receive said portions to maintain said hooks in predetermined relation on said holder, and being longitudinally bent to project inwardly into the associated carding holder substantially to form a trough adapted to receive therein the apexes of the bent hook portions of a nested holder and hook assembly.

ALBRIGHT BRAY.