

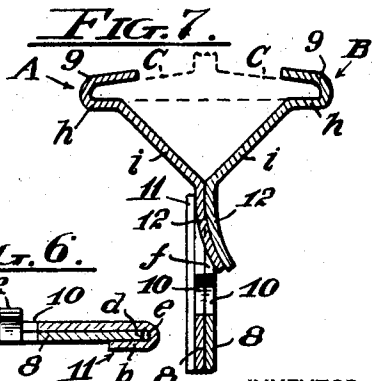
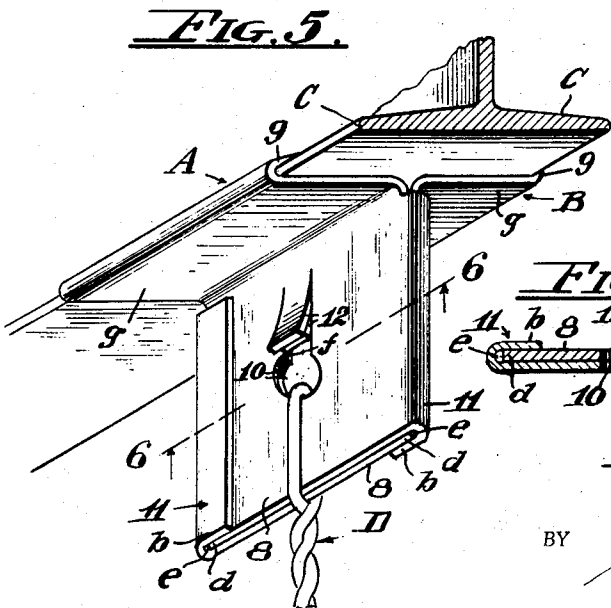
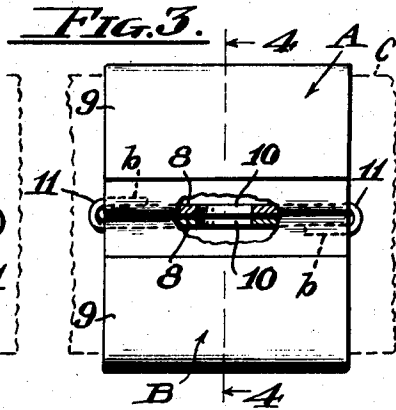
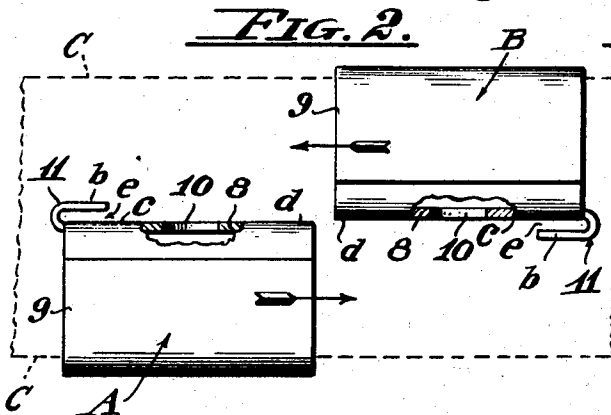
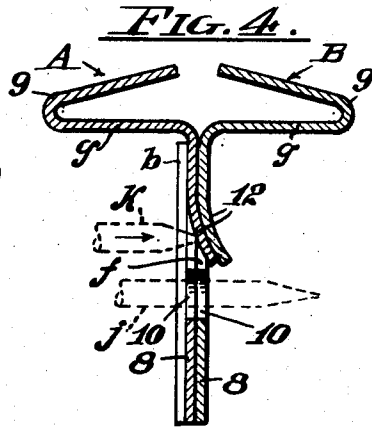
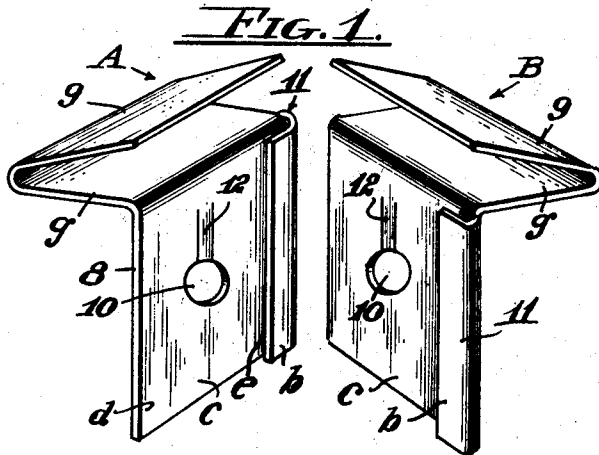
July 12, 1960

G. E. MASTERS

2,944,781

HANGER CLIP

Filed July 15, 1955



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HANGER CLIP

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Filed July 15, 1955, Ser. No. 522,313

6 Claims. (Cl. 248—228)

This application is a continuation-in-part of application Serial Number 471,632, filed by George E. Masters on November 29, 1954, which application is now abandoned.

This invention relates to a hanger clip for attachment to the lower flanges of overhead metallic beams as a means for connecting dependent hangers to the beams to afford supports for suspended ceilings, pipes, conduits and the like.

The primary object of the invention is to provide a divided hanger clip embodying a pair of at least substantially corresponding members adapted to be separately applied to the oppositely extending lower flanges of a horizontally extending I-beam and the like and then be securely interlocked with each other by integral means against accidental separation preliminary to the attachment of hangers thereto.

A particular object of the invention is to provide a divided hanger clip in which the pair of members thereof on being separately applied edge to edge on an I-beam flange may be united in telescopic engagement with each other by advancing the clip members on the I-beam flange into opposed relation to each other thereby greatly facilitating mounting of the hanger clip on the I-beam.

Another object is to provide a construction in the pair of hanger clip members whereby they may be united on an I-beam flange without the use of tools thereby effecting economy of time and labor in applying the hanger clips.

Another object is to provide a construction in the hanger clip whereby the members thereof may be readily interconnected without the aid of extraneous fastenings.

A further object is to provide a hanger clip of the above character in which the interconnecting features are of such simple character as not to materially increase the costs of manufacture over a similar type of hanger clip now on the market having no integral interlocking elements.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and as illustrated by way of example in the accompanying drawings in which:

Fig. 1 is a perspective view of the pair of co-operating members of the hanger clip as separated and as seen from the top and inner sides thereof;

Fig. 2 is a plan view of the clip members with portions broken away depicting the mode of their application to the flanges of a beam;

Fig. 3 is a plan view of the hanger clip as assembled apart from a beam with portions broken away;

Fig. 4 is a view in section taken on the line 4—4 of Fig. 3 depicting the manner of interlocking the clip members against accidental separation;

Fig. 5 is an isometric view of the hanger clip as seen from the underside thereof showing it as applied;

Fig. 6 is a view in horizontal section taken on the line 6—6 of Fig. 5; and

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Fig. 7 is a view in vertical section of a modified form of the hanger clip.

Referring to the drawings more specifically A and B designate generally the pair of complementary co-operating clip members each of which embodies a flat rectangular plate portion 8 having laterally extending U-bends 9 on their upper margins having open channels adapted to receive and be positioned astride one of the lower flanges C—C of an overhead beam to suspend the plate portion 8 therefrom.

The plates 8 are each formed with a hole 10 arranged to register with the corresponding hole 10 of the companion plate when the plates are disposed in registering overlying abutting relation to each other which holes serve as a means of engagement with the assembled clip of a wire hanger D as shown in Fig. 5. The above recited construction is that of a conventional hanger clip.

The present invention resides in part in providing each of the plates 8 of the members A—B with a preformed narrow flange 11 extending along one side edge only thereof and protruding from the inner face thereof which when the plate portions 8—8 are disposed face to face in slightly laterally off-set relation to each other are located on relatively opposite side edges of the plates so that the flange 11 on one of the plates will be presented toward the flange 11 on the other plate. The flange 11 has an inturned marginal portion *b* which is spaced from the contiguous inner face *c* of the plate 8 a distance corresponding to or slightly greater than the thickness of the free side marginal portion *d* of the opposing plate 8 so as to form an open ended channel *e* adapted to slidably receive such marginal portion laterally when assembling the members A—B on the flanges C—C wherein the U-bends 9 on the plates 8 of the pair of members A—B are positioned astride the flanges C—C with the members A—B sufficiently offset relative to each other as to present the free side marginal portions *d* of each plate 8—8 toward the channel *e* of the companion plate.

Initial assemblage of the members A—B is effected by advancing them toward each other on the flanges C—C until the free side marginal portions *d—d* of the plates 8—8 are extended into the channels *e—e* which effects interengagement of the side margins of the members A—B. When the parts are thus assembled the holes 10—10 of the plates 8—8 will be in register.

Means are provided for fastening the assembled plates 8—8 against accidental separation as by sliding apart, which means comprises a tongue 12 formed in each of the plates 8—8 the free end of which is presented to the hole 10.

The tongue 12 normally lies parallel with the plate 8 so as not to interfere with sliding the plates laterally over each other, and is arranged so that when the plates 8—8 are in their assembled position the tongue of one plate will overlie the tongue of the other plate. When thus positioned the tongues are collectively bent so that the tongue on one of the plates will project into an aperture *f* formed by displacement of the tongue in the other plate thus effecting interlocking engagement between the plates.

In the form of the invention shown in Figs. 1 to 6 the U-bend 9 on the upper end of each of the plates 8 embodies a lower wall portion *g* which extends at right angles to the plate so as to underlie the beam in parallel relation to the underside thereof from the margin thereof to substantially its mid center, which is common practice in hanger clips of this character. However in some instances, particularly where the beam flanges C—C are of considerable width, it is desirable to form the U-bends 9 as shown in Fig. 7, that is with a narrow lower wall portion *h* engageable with a marginal portion only of the beam flange C, and to form the upper plate 8 with an

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outwardly inclined upper end portion *i* leading to the wall portion *h*.

The mode of application and operation of the invention is apparent from the foregoing, it being seen on reference to Figs. 2 and 3 that on offsetting the members A—B relative to each other on the flanges C—C with the side flanges 11 thereof outermost and then advancing the members toward each other as indicated by the arrows in Fig. 2 into overlying relation to each other as shown in Fig. 3 the side margins of the plates 8—8 will be inter-engaged through the flanges 11—11, then on collectively bending the tongues 12 outwardly as indicated in Fig. 4 so that the inner tongue will project into the aperture *f* formed by displacing the outer tongue, the members A—B will be securely fastened against transverse sliding movement relative to each other.

The operation of feeding the free side marginal portions *d—d* of the plates into the channels *e—e* may manifestly be effected where the parts are loose fitted by manually sliding the plates 8—8 into their overlying relation, but where a tight fit is desired such as to effect wedge engagement with the flanges 11—11 the plates may be driven from their opposite side margins to effect the tight engagement, or the plates 8—8 may be forced into their interengaged relation by means of a screw driver, punch or similar tool inserted in the holes 10, as indicated by the dotted lines *j* in Fig. 4.

The operation of bending the tongues *f* may be effected by means of a punch K or similar tool as indicated in dotted lines in Fig. 4.

While a specific embodiment of the invention has been shown and described, the invention is not limited to the exact details of construction set forth, and the invention embraces such changes, modifications and equivalents of the parts and their formation and arrangement as come within the purview of the appended claims.

I claim:

1. In a hanger clip embodying a pair of complementary members each of which includes a flat plate portion formed with a U-bend on an end thereof adapted to receive and engage a flange on an I-beam or the like, and which plates are designed to be disposed face to face and are adapted to have a hanger attached thereto; the improvement consisting in inturned flanges on opposed side margins of said plates adapted to slidably engage the other side margin of said plates and thereby interconnect the side margins of the plates when assembled, and a tongue on each of said plates arranged to overlie each other when said plates are abutted face to face, said tongues being adapted to be collectively bent outward when said plates are assembled whereby one of said tongues will protrude into a space formed by displacement of the other tongue and thereby fasten said plates against movement relative to each other.

2. In a hanger clip embodying a pair of complementary members each of which includes a flat plate portion formed with a U-bend on an end thereof adapted to receive and engage a flange on an I-beam or the like, and which plates are designed to be disposed face to face and are formed with hanger receiving holes adapted to register with each other when said plates are assembled face to face; the improvement consisting in inturned flanges on opposed side margins of said plates slidably engageable with the other side margins of said plates to interconnect the side margins of the plates, and a tongue on each of said plates presented to the hole therein arranged to overlie the tongue on the other plate when said plates are abutted face to face, said tongues being adapted to be collectively bent outward when said plates are assembled whereby one of said tongues will protrude into a space formed by displacement of the other tongue and thereby fasten said plates against movement relative to each other.

3. In a hanger clip embodying a pair of rectangular plates each of which has a U-bend on an end thereof adapted to receive and engage a flange on a I-beam or

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the like, said plates being designed to be disposed face to face and adapted to have a hanger attached thereto; the improvement consisting in integral co-operating means on said plates interconnecting the side marginal portions thereof when assembled, together with tongues on said plates extending opposite each other when said plates are disposed face to face, said plates having apertures bordering the sides of said tongues and holes to which the free ends of the tongues are presented, said tongues being adapted to be bent outward collectively when said plates are positioned face to face in abutting relation to thereby engage the tongue on one of said plates in the aperture in the other of said plates.

4. A hanger clip comprising a pair of members each of which embodies a rectangular plate having opposed flat faces and opposed parallel side margins, a U-bend on an end of said plate adapted to receive and engage a flange on an I-beam or the like, said U-bend projecting substantially perpendicular from one face of said plate and extending between said side margins, a preformed flange on one side margin only of said plate having an inturned marginal portion overlying the other face of said plate in spaced relation thereto and forming an open ended channel on the inner side of said flange; said pair of members being assembled with said plates abutting face to face with the open ended channel on the flange on one side margin of each plate in laterally slidable telescoped engagement with the other side margin of the other plate, and a bendable tongue on at least one of said plates normally flush therewith and engageable when bent with the other of said plates to hold the plates in their abutting face to face position against lateral movement relative to each other.

5. In a hanger clip embodying a pair of complementary members each of which includes a flat plate having parallel side margins and having a U-bend on an end thereof adapted to receive and engage a flange on an I-beam or the like, the plate of one of said members being designed to be disposed face-to-face with the plate of the other member with said plates in vertical dependent relation to the flanges of a beam engaged by the U-bends on said plates; a preformed flange on one side margin only of each of said plates having an inturned outer marginal portion adapted to be disposed in overlapping engagement with a side margin of the other of said plates on laterally advancing said plates into overlying relation to each other to thereby interconnect said plates against outward movement relative to each other when assembled face to face; said plates each having a hole arranged to register with the hole in the other plate when the plates are interengaged face to face, and a hanger projecting through and engaged in the registered holes and extending in overlying dependent relation to said plates.

6. In a hanger clip, a pair of complementary members each of which embodies a rectangular plate having opposed flat faces and opposed parallel side margins, and each plate having a U-bend on an end thereof projecting from one face thereof adapted to receive and engage a flange of an I-beam or the like, a preformed flange on one side margin only of each of said plates the other margin of which is free, the flange on each of said plates having an open ended channel extending longitudinally along the inner side thereof adapted to slidably receive the free side margin of the other plate; said members being adapted to be disposed with the plate of each member in abutting offset face to face position with the open ended channel on the flange of each plate presented to the free margin of the adjacent plate, and said members being movable laterally relative to each other to telescopically engage the channel on the flange of each plate with the free margin of the other plate to thereby interconnect said members against outward movement relative to each other; at least one of said plates having an aperture therein and the other of said plates having a tongue registrable with said aperture and normally out of engagement there-

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with when said plates are initially assembled and adapted to be subsequently bent into engagement with said aperture to hold said plates against lateral movement relative to each other.

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