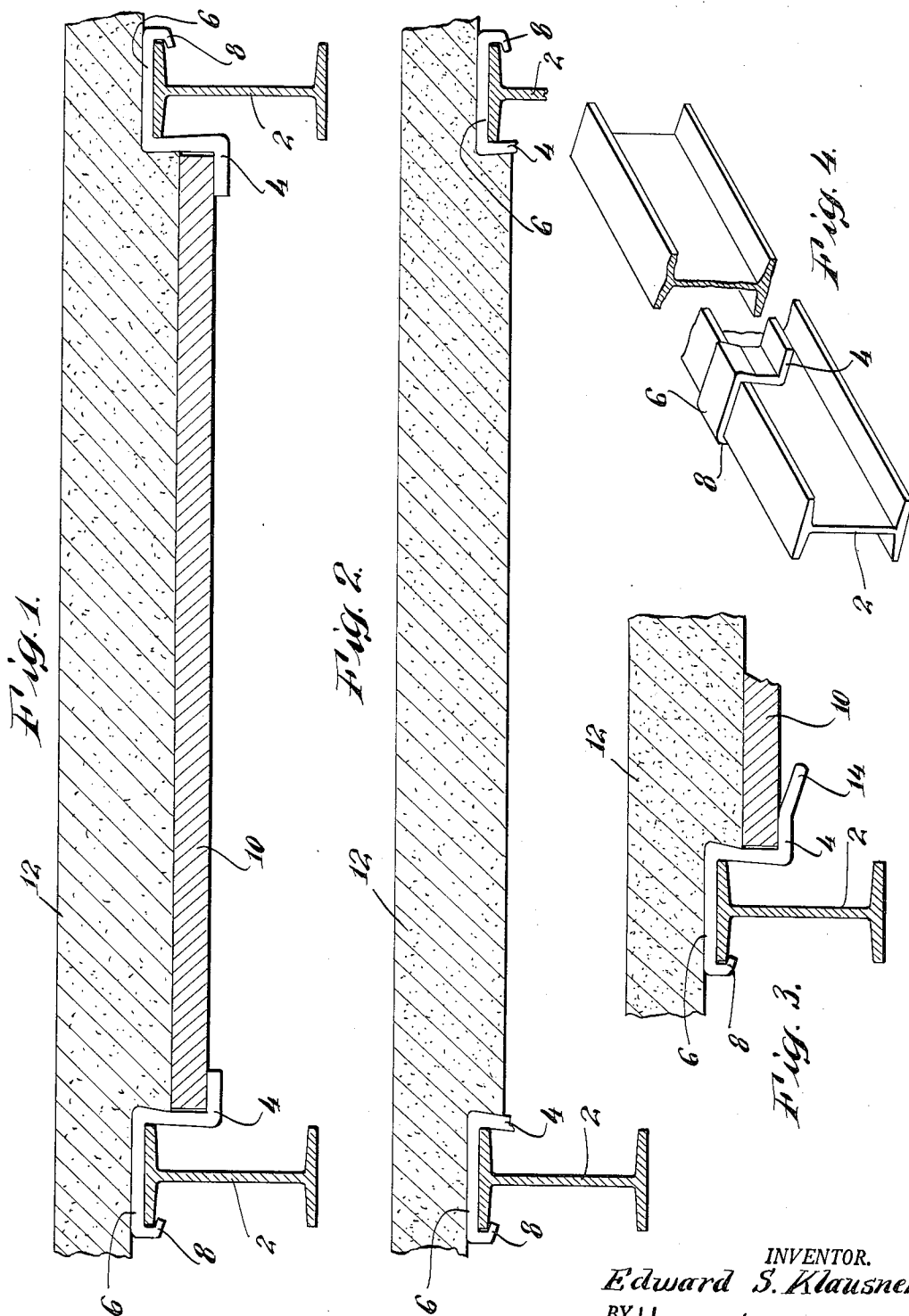


Jan. 24, 1956

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CLIPS FOR FACILITATING THE ERECTION AND STRIPPING
OF CONCRETE FORMS FOR THE BUILDING INDUSTRY
Filed May 27, 1952

2,731,701



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1

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CLIPS FOR FACILITATING THE ERECTION AND STRIPPING OF CONCRETE FORMS FOR THE BUILDING INDUSTRY

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Application May 27, 1952, Serial No. 290,157

5 Claims. (Cl. 25—131.5)

The present invention relates to improvements in accessories to concrete forms and, more specifically, to a new and improved type of clips for facilitating the erection and stripping of concrete forms for the building industry.

The bottom portions of forms supporting floors or ceilings of concrete, gypsum or any other cementitious products usually are made of plywood or the like, and it is desirable to save these forms and the bottom portions thereof for re-use after the concrete or the like of a floor or ceiling has hardened, so that the forms can be removed. Hitherto said bottom portions of these forms have been supported by means of steel wires or the like each of which was bent to a hook-shaped formation engaging the lower side of said form with one end, while the other end was fastened to or in firm engagement with a portion of a joist or beam or the like. This arrangement required time for properly bending said wires and for attaching them to the joists; moreover, after the hardening of the cement the wires had to be cut for making possible a removal of the forms, which also required a considerable amount of time and effort and which frequently resulted in damaging of the forms to such an extent that either all or parts of the forms could no longer be used or re-used and had to be discarded as waste. Therefore, one object of the present invention is the provision of a device of the character described which can be attached to a beam easily and quickly in such a manner that it will readily support the forms, thus facilitating the erection of said forms, and which can be removed from the form instantaneously simply by means of a hammer blow or the like without damaging thereby the forms, so that the same can be re-used.

Another object of the present invention is the provision of a device of the character described which is simple in construction, light in weight, small in size, inexpensive to manufacture, and well adapted for the purpose for which it is intended.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing a preferred form of the invention has been shown.

In said drawing:

Figure 1 is a fractional cross-sectional view of a concrete floor showing the form supported by preferred embodiments of my invention;

Figure 2 is a cross-sectional view as Figure 1, but showing said embodiments of my invention as they appear after the removal of the form;

Figure 3 is a partial cross-sectional view as Figure 1, showing a modification of my invention; and,

Figure 4 is a fractional isometric view of a joist showing the embodiment of my invention attached thereto before the erection of the form.

2

Similar reference characters refer to similar parts throughout the several views.

In the drawing the numeral 2 denotes I-shaped steel beams having vertical web portions and horizontal flange portions. My new and improved clip 4 consists of a substantially Z-shaped member whose upper flange portion 6 is so dimensioned that it can be extended crosswise entirely over a flange portion of a beam 2, and a downwardly directed hook-shaped portion 8, provided at the outer extremity of the flange portion 6 engages a section of the upper flange portion of the beam 2, as shown, so that the weight of the form resting upon the lug or the lower horizontal flange portion of the clip 4 cannot cause a tilting of the latter. After the clips 4 have been inserted on the beams 2, as shown in Figure 4, and the form 10 placed upon said lower flange portions of the clips 4, the concrete floor 12 or the like is poured in the usual manner. The clips 4 preferably are made of cast metal or of plastic material sufficiently strong to sustain the necessary loads preferably having a tensile strength of twenty thousand pounds per square inch and a low resistance to shock, or of any other suitable material of a low degree of resiliency, so that the web portion of the clip 4 will break if a hammer blow is struck upon the lower flange portion thereof preferably in a direction toward the beam 2 to which the clip 4 is attached. Thus, after the curing of the concrete, the clips 4 can be broken as shown in Figure 2, without touching the form 10. Thereafter the form 10 can be removed easily and quickly, without being damaged, and ready for re-use, and the upper flange portions 6 with the broken-off sections of the web portions of the clips 4 are left in the structure. The upper flange portions 6 with the hook-shaped portions 8 thus left in the structure will act as anchor-like reinforcements holding the floor 12 in position relative to the beams 2 and securing it against lateral movements. This is an important additional advantage of my new and improved clips, which are used primarily for light-weight constructions.

If a clip 4 is made of malleable or soft steel or the like I prefer to provide its lower flange portion with a downwardly bent extremity 14 (Figure 3), so that a prying tool (not shown) engaging the extremity 14 can be used for bending the web portion of the clip 4 toward the beam 2 to which the clip is attached so far that the lower flange portion of the clip 4 no longer supports the form and allows a removal of the same.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

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

1. In combination with spaced structural steel beams, a plurality of discrete clips engaging the tops of said steel beams for temporarily and directly supporting thereon concrete molding forms without the intermediary of centering, each of said clips comprising a horizontal web portion extending transversely across the top of a steel beam and terminating in a downwardly extending hook at one end thereof adapted to interlock with an external part of a structural beam for support thereby and merging with a downwardly extending web portion at the end thereof opposite said hook, and a lug at the bottom of said last-mentioned web portion forming a continuation

3

from the plane thereof and projecting substantially horizontally therefrom for support of the molding forms directly and solely thereon, the positioning of said lug being controllable to eliminate the supporting function performed thereby.

2. In combination with spaced structural steel beams, a plurality of discrete clips engaging the tops of said steel beams for temporarily and directly supporting thereon concrete molding forms without the intermediary of centering, each of said clips comprising a horizontal web portion extending transversely across the top of a steel beam and terminating in a downwardly extending hook at one end thereof adapted to interlock with an external part of a structural beam for support thereby and merging with a downwardly extending web portion at the end thereof opposite said hook, and a lug at the bottom of said last-mentioned web portion forming a continuation from the plane thereof and projecting substantially horizontally therefrom for support of the molding forms directly and solely thereon, said lug being bendable from its substantially horizontal supporting position to a vertical position for releasing the molding forms therefrom.

3. In combination with spaced structural steel beams, a plurality of discrete clips engaging the tops of said steel beams for temporarily and directly supporting thereon concrete molding forms without the intermediary of centering, each of said clips being of material which is brittle but with substantial load-bearing capacity and having a portion thereof directly supported on the top of a structural beam, a lateral lug integral with said supporting portion and extending transversely from the

4

lowermost end of said portion to define a point of weakness at the junction of said portion and lug, said lug being readily breakable from said portion at said junction by a hammer-blow to release the support of said molding forms by said clip.

4. An apparatus as set forth in claim 3 wherein the clip is formed of cast iron.

5. In combination with spaced structural steel beams, a plurality of discrete clips supported by the tops of said beams for directly engaging concrete molding forms without the intermediary of centering, each of said clips being of substantial load-bearing but frangible material and having a horizontal portion for resting upon the top of a structural steel beam, a hook formed on one end of said rest portion for engagement with the edge of a structural beam, a vertical web extending from the opposite end of said rest portion, a lug projecting transversely to said web at the lower end thereof and adapted to support a molding form thereon, the junction line of said vertical web and lug being easily breakable by a hammer-blow at the conclusion and setting of the molding operation to release the molding forms supported thereby.

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