Sept. 27, 1932. E. W. PELTON 1,879,459

ANCHOR PLATE

Filed Feb. 20, 1930

Fig. 1

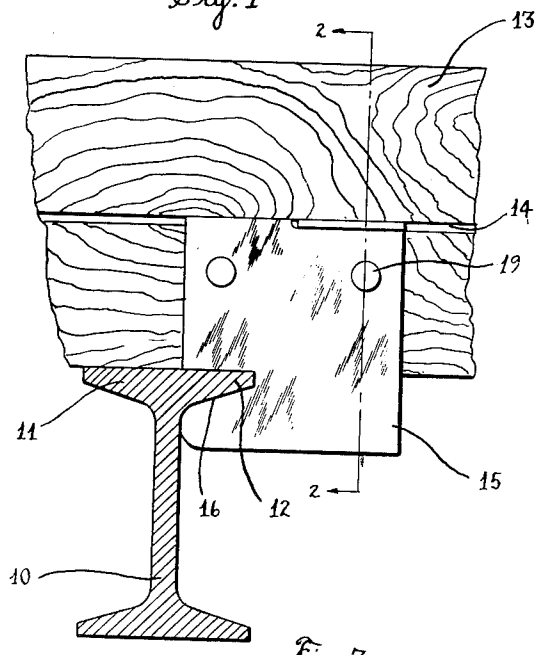



Fig. 2

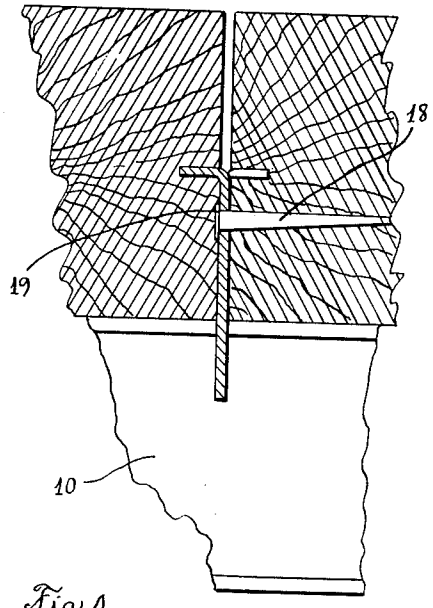



Fig. 3

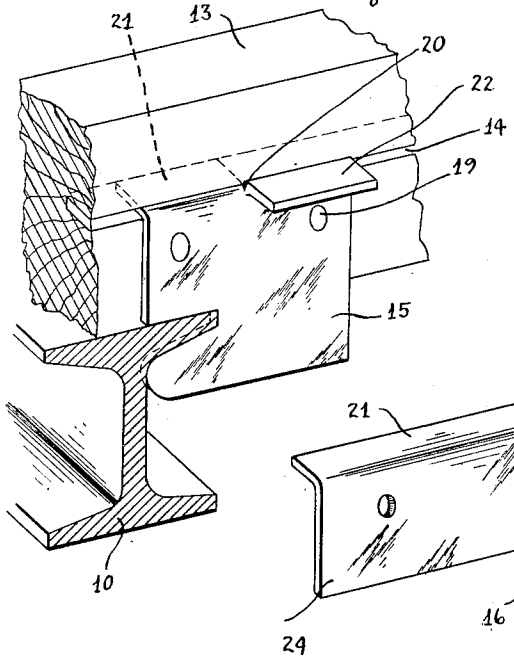



Fig. 4

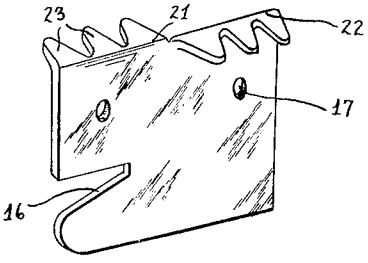
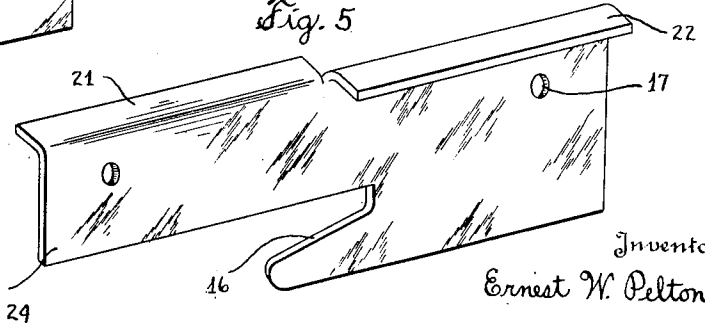



Fig. 5




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1,879,459

# UNITED STATES PATENT OFFICE

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## ANCHOR PLATE

Application filed February 20, 1930. Serial No. 429,891.

The present invention relates to so-called anchor plates such as are used to effect a connection between steel I-beams and planking. More particularly the invention is concerned with improved means for affixing the plates to the wooden boards.

At the present time there are available certain devices of this nature which are characterized by having a slot which is designed to receive the flange of an I-beam and which device is secured to the wooden planking only by being nailed thereto or fastened in some other similar manner. The chief disadvantage associated with this arrangement is that the connection between the anchor plate and the planking is not positive enough or sufficiently strong to meet some of the needs to which these anchor plates are put.

In view of the foregoing, this invention has, as its primal object, the provision of an anchor plate of the character above noted which includes means for connecting the same to wooden planking or the like and which means is independent of the nails or like fastening devices which are usually employed.

In carrying out this idea the anchor plate itself is formed with a flange on its upper edge and this flange is intended to either bite into the wooden planking or be fitted in a groove therein. This flange is substantially perpendicular to the plate itself and is effective to receive any upward stresses which normally would be borne by the nails. Carrying this idea out a little further, the plate is formed with oppositely formed flanges on its upper edge, one flange being adapted to cooperate with one plank and the other being designed to be fitted in the next adjacent plank. When this arrangement is availed of, each of the planks is securely fastened to the steel I-beams at each side of the plank, and at the same time only one of the fastening devices need be employed for each of the planks.

Other objects will be in part obvious and in part pointed out more in detail hereinafter.

The invention accordingly consists in the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the appended claims.

For a full and more complete understanding of the invention, reference may be had to the following description and accompanying drawing, wherein:

Figure 1 is a view partly in section and partly in elevation of one form of the improved anchor plates as applied to a steel I-beam and a wooden plank.

Figure 2 is a section taken at right angles with respect to the showing of Figure 1. This view is taken about on the plane indicated by the line 2—2 of Figure 1.

Figure 3 is a perspective showing, somewhat fragmentary, of one form of the plate as applied to the steel beam and plank.

Figure 4 is a view in perspective of a slightly modified form, and

Figure 5 is a similar view of a still further modification.

Referring now to the drawing, and more particularly Figures 1, 2, and 3, an I-beam which is typical of steel beams with which these anchor plates are intended to be used, is referred to by the reference character 10. This beam is formed with a top piece which defines the flanges 11 and 12. Of course, the particular steel beam with which the plates are used is susceptible of wide variations so far as its particular design and dimensions are concerned. A wooden plank is shown at 13 and this plank is ordinarily laid across a series of I-beams 10 such as in the construction of a floor of a bridge or the like. In the present instant this plank 13 is shown as formed with a slot 14 which may be made by a sawing operation.

A novel anchor plate such as proposed hereby is designated 15 and this plate is formed with a notch 16 which is complementary to either of the flanges 11 and 12 which are, of course, of duplicate construction. The plate is relatively short and is of thick gauge so that it is sufficiently heavy to serve its duty. Any appropriate number of openings 17 may be provided in the plate 15 and these openings are intended to have nails or other similar fastening devices pass therethrough.

In the present instance these fastening devices take the form of nails 18 having flattened heads 19.

The upper edge of the plate 15 is divided as indicated at 20 and from 20 to one side of the plate this upper edge is turned over to provide a flange 21 which extends in one direction while a flange 22 extending in the other direction is formed by bending the other half of the top edge of the plate over in the opposite direction. The flange 21 is shown as fitting in the slot 14 in the plank 13 while the flange 22 will extend into the corresponding slot of the next adjacent plank.

In utilizing the foregoing construction, one of the planks 13 is first laid across the I-beams 10 whereupon the plate 15 is positioned by fitting the notch 16 over the flange 12 with the flange 21 entering the slot 14. The headed nails 18 are now driven in through the openings 17 and the plank is thereby securely fastened to the steel beam 10. When the next adjacent plank is positioned, the slot 14 therein will receive the flange 22.

Referring now to Figure 4 a slightly modified embodiment of the invention is shown. In this instance the flanges 21 and 22 take the form of teeth 23 which are designed to bite into and be embedded in the wooden plank. When this form is used the groove 14 may be materially reduced in size or entirely done away with, depending to a large extent on the dimensions of the particular anchor plate and the teeth 23.

Passing on to the form shown in Figure 5 it is noted that in this form the plate 15 has a portion 24 which extends across and beyond the entire top of the I-beam 10. This provides for a better bearing engagement between the anchor plate and the steel beam, also for an increased surface engagement between the anchor plate and the plank.

It is apparent from the foregoing that the anchor plate provided is susceptible of easy manufacture and is of a construction having the property of simplicity to a high degree. It is apparent that the plate can be made by very few manufacturing operations involving blanking and stamping steps. Plates are made from a sheet material and this also adds to the ease of manufacture thereof. These features of simple construction and ready manufacture have been borne in mind throughout the designing of the instant anchor plate and are important advantages associated with the present invention.

What is claimed as the invention is:

1. An anchor plate for inter-connecting flanged beams with cross pieces, comprising a substantially rectangular sheet of metal having a recess in one end near the lower edge of the sheet for interfitting engagement with a flange of a beam and having its upper edge portion divided intermediate the ends of the plate and bent in opposite directions to provide oppositely extending flanges in the plane of the upper edge of the sheet and co-extensive with the length of the sheet, said flanges adapted for engagement in the sides of adjacent cross pieces engaging across the flanged beam for holding the cross pieces to the beam and equally distributing strains and stresses in an edgewise direction through the plate to the oppositely turned flanges at the upper edge thereof.

2. An anchor plate for inter-connecting flanged beams with cross pieces, comprising a substantially rectangular sheet of metal having a recess in one end near the lower edge of the sheet for interfitting engagement with a flange of a beam and having its upper edge portion divided intermediate the ends of the plate and bent in opposite directions to provide oppositely extending flanges in the plane of the upper edge of the sheet and co-extensive with the length of the sheet, said flanges adapted for engagement in the sides of adjacent cross pieces engaging across the flanged beam for holding the cross pieces to the beam and equally distributing strains and stresses in an edgewise direction through the plate to the oppositely turned flanges at the upper edge thereof, said oppositely turned flanges at the upper edge of the body sheet being recessed to provide teeth for anchoring engagement in the sides of the cross pieces.

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