March 27, 1934. H. S. CAMERON 1,952,235

STEEL JOIST

Filed Jan. 19, 1931

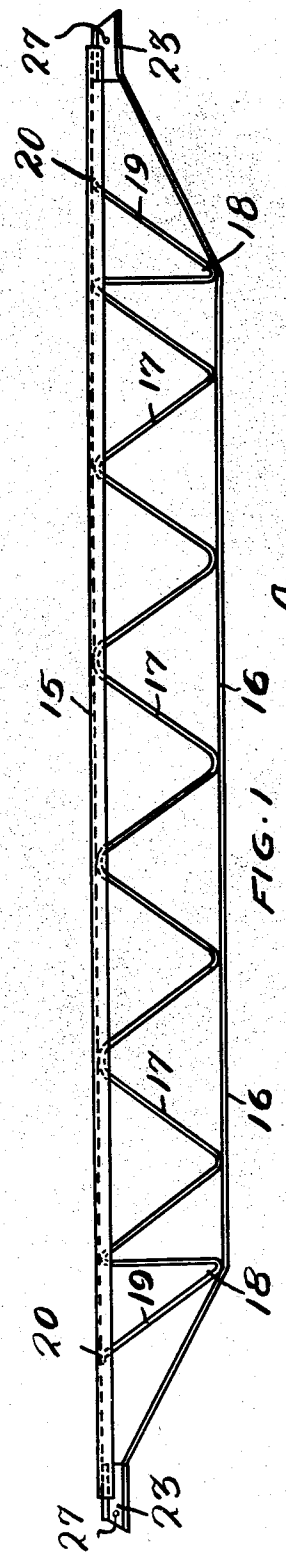


FIG. 1

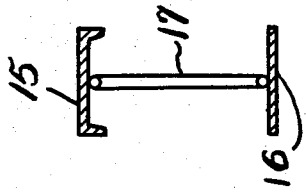


FIG. 4

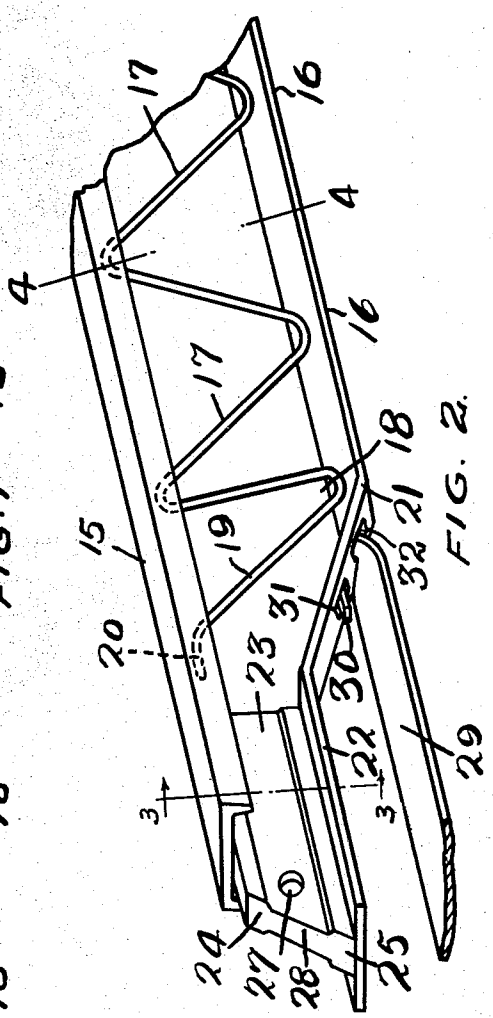


FIG. 2.

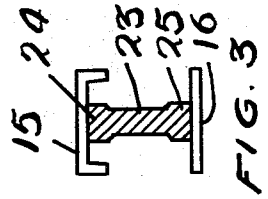


FIG. 3

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STEEL JOIST

Hugh Scott Cameron, New Glasgow, Nova Scotia, Canada

Application January 19, 1931, Serial No. 509,730
In Canada September 9, 1930

1 Claim. (Cl. 189—37)

The invention relates to a steel joist as described in the present specification and illustrated in the accompanying drawing that forms part of the same.

The invention consists essentially in the structural strength of the bearing chord and its relation to the lower chord and spacer, as pointed out in the claim for novelty following a description in detail of the parts.

The objects of the invention are to materially increase the bearing properties of a joist in respect to its weight and yet maintain a low production cost; to simplify the parts and produce an openwork structure that will minimize the danger of flaws and yet be capable of withstanding the strains and stresses of heavier construction; to reduce the costs of transportation in the shipping of the joist and facilitate the handling thereof; and generally to provide in structural steel a light, durable and effective joist.

In the drawing, Figure 1 is a side elevational view of the complete joist.

Figure 2 is an enlarged fragmentary perspective view of the joist.

Figure 3 is a cross sectional view of the joist on the line 3—3 in Figure 2.

Figure 4 is a cross sectional view of the joist on the line 4—4 in Figure 2.

Like numerals of reference indicate corresponding parts in the various figures.

Referring to the drawing, the particular feature of the upper chord 15 illustrated is its channel formation as the walls of the channel in its inverted position reinforce the chord and insure great bearing strength, and to this is added the lower chord 16 in the shape of an elongated flat plate or strip of steel approximately the same width as the outside transverse dimension of the inverted channel.

The upper chord 15 and the lower chord 16 are spaced by the wire rod 17 which runs in angle sections 18 up to the end half sections formed by the perpendicular posts 19 in the same rod and terminating in the rod ends 20 welded to the upper chord while the angles throughout are welded, thus forming a zig-zagged length throughout the length of the joist.

The lower chord 16 at each end portion is inclined upwardly at 21 and continues in the extensions 22 parallel to the upper chord, these extensions being welded to the anchoring plates 23 which are welded to the upper chord 15.

The anchoring plates 23 are formed with the heads 24 and 25 welded to the chords 15 and 16 and have the holes 27 for anchoring purposes, each plate extending beyond the upper chord and having the bevelled ends 28.

The lower chord 16 may be extended by the strip 29 which is preferably attached to the inclined portion 21 by means of a hooked end 30 engaging said inclined portion through the slots 31 and 32.

It will thus be seen that a very light and stable construction is assured by means of which the web rod becomes a spacer and the bottom chord a tie bar that effects a tying strain on the channel bar.

What I claim is:—

A steel joist comprising upper and lower chords and intermediate lacing, said lower chord having upwardly offset ends rising to an anchor member and slotted through said offsets and an extension chord piece having a hook formation at the end engaging an offset in an offset slot and continuing the lower chord beyond the angle of its rises.

HUGH SCOTT CAMERON.