Oct. 17, 1933. A. BOUSFIELD 1,930,606

MEAT BEAM

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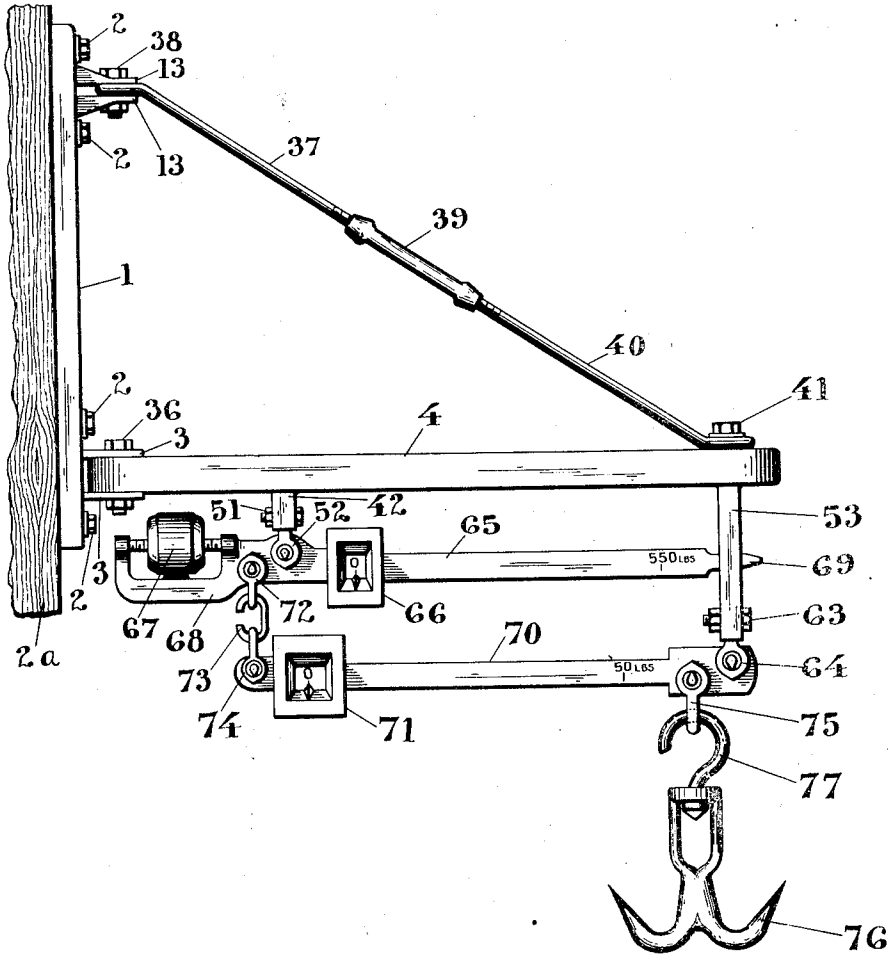


Fig. 1.

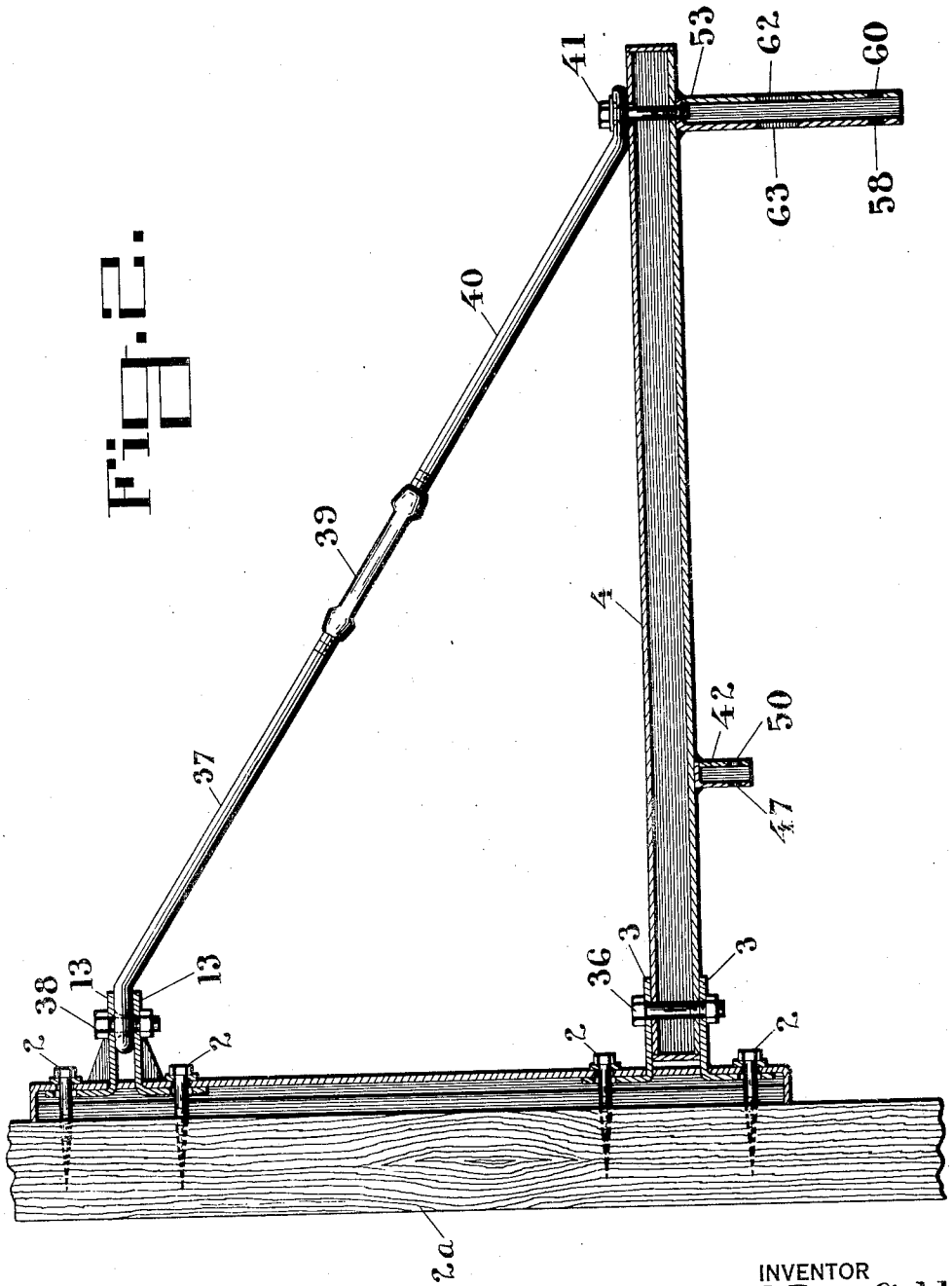
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MEAT BEAM

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Fig. 2.



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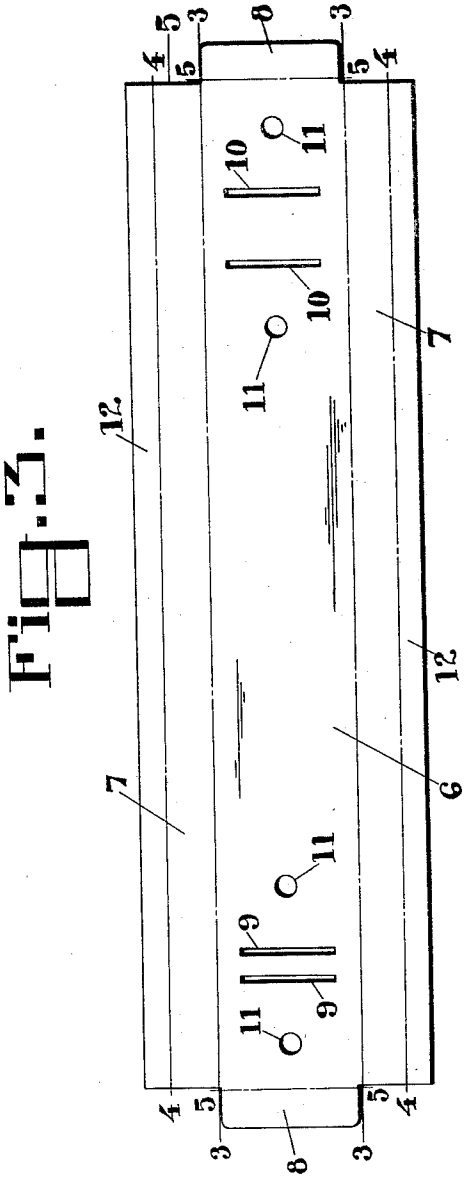


Fig. 3.

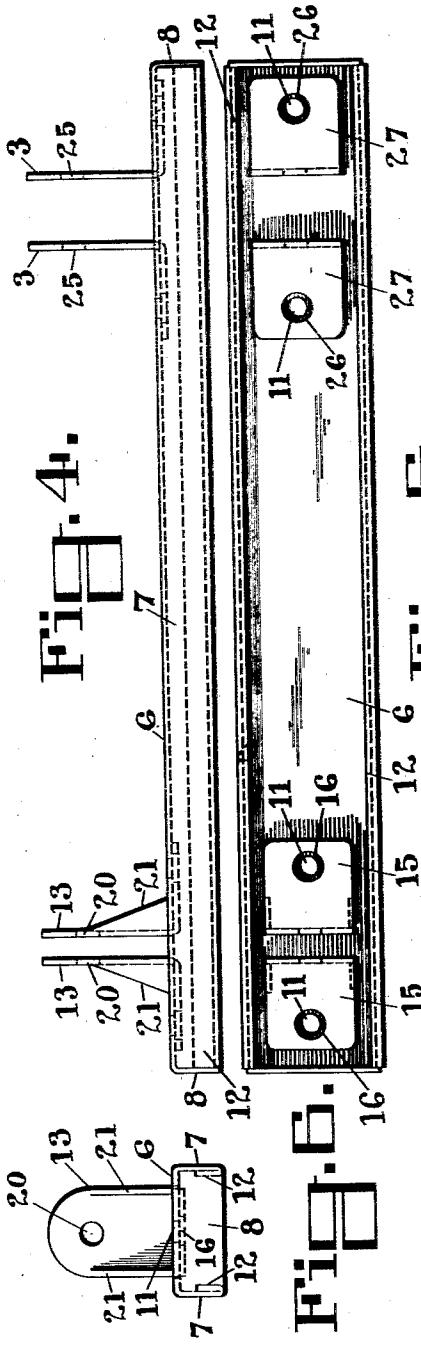


Fig. 4.



Fig. 5.

Fig. 6.

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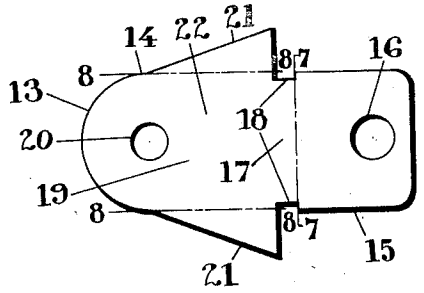


Fig. 7.

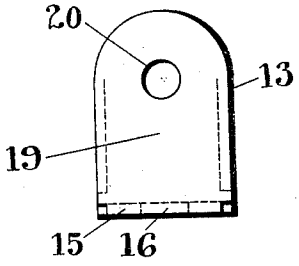


Fig. 8.

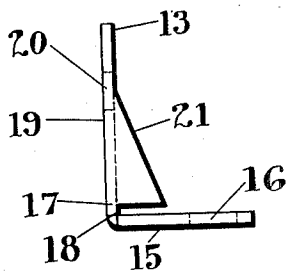


Fig. 9.

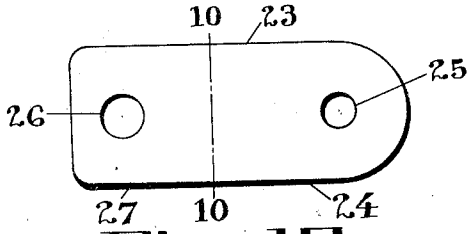


Fig. 10.

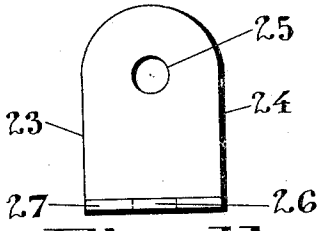


Fig. 11.

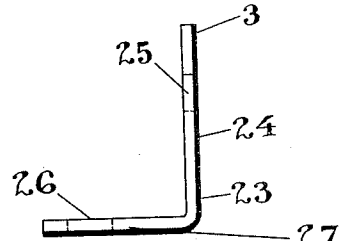


Fig. 12.

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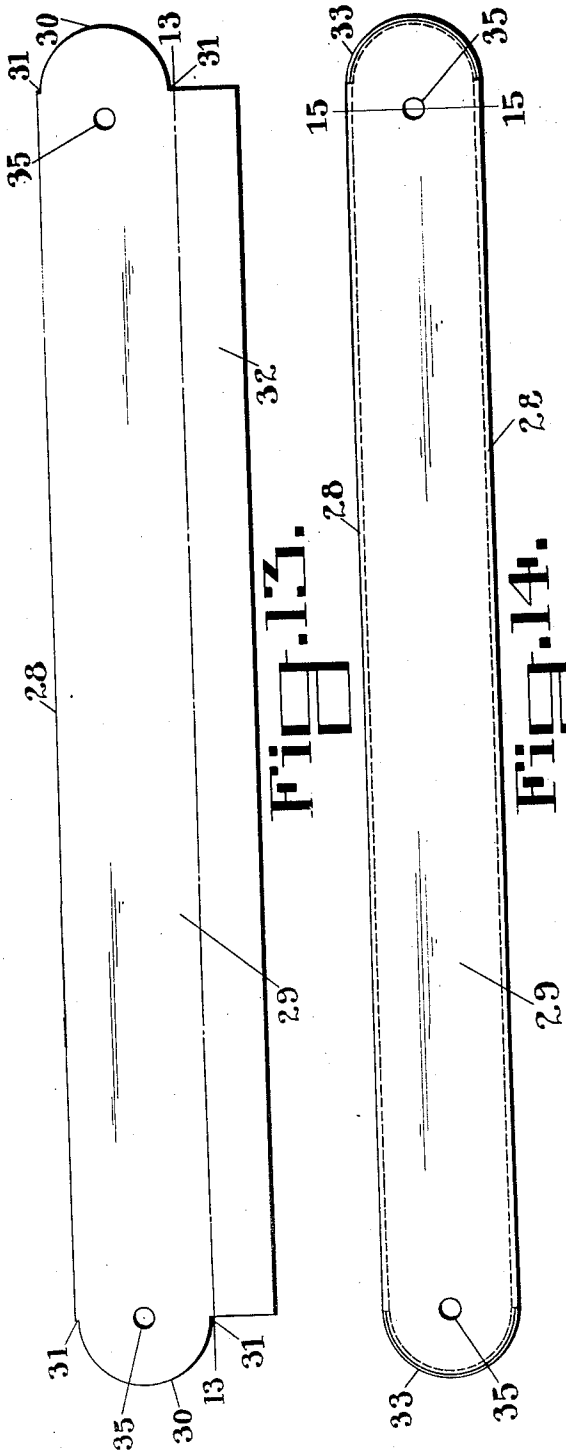


Fig. 13.

Fig. 14.

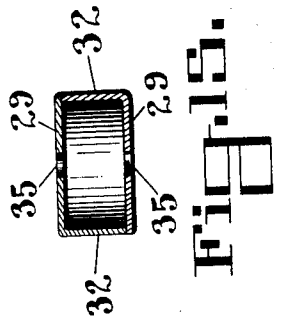


Fig. 15.

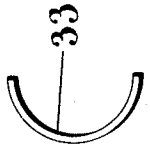


Fig. 18.

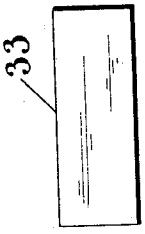


Fig. 16.

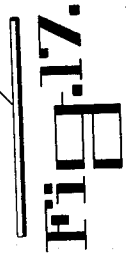


Fig. 17.

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Fig.30.

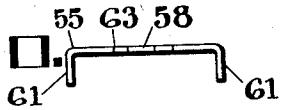


Fig.27.

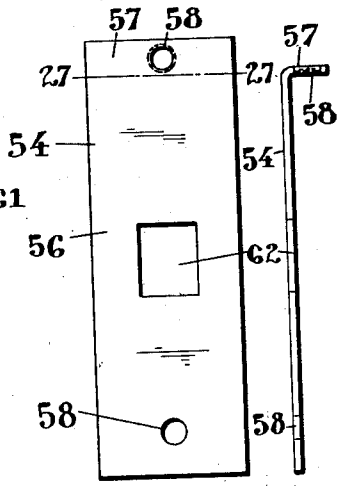


Fig.28.

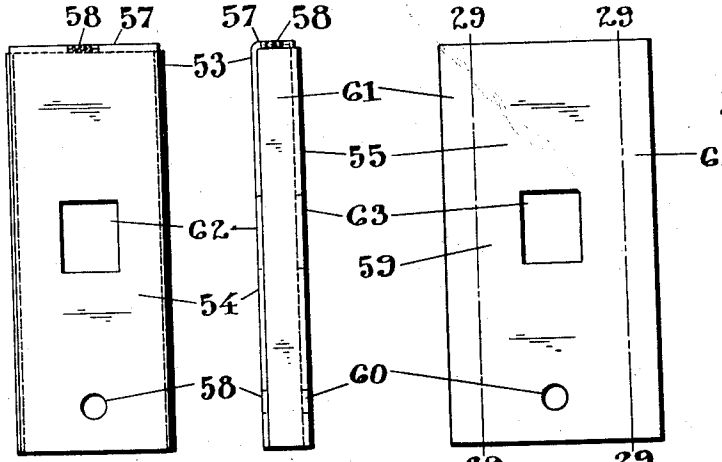


Fig.31. Fig.32. Fig.29.

Fig.21.

Fig.19.

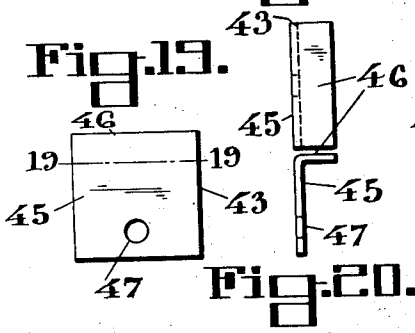


Fig.20.

Fig.24.

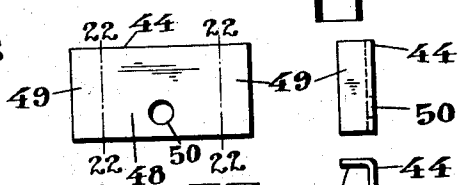


Fig.22.

Fig.23.

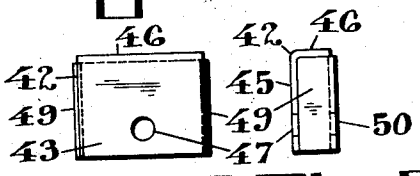


Fig.25. Fig.26.

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Patented Oct. 17, 1933

1,930,606

UNITED STATES PATENT OFFICE

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MEAT BEAM

Alfred Bousfield, St. Johnsbury, Vt., assignor to E. and T. Fairbanks and Company, St. Johnsbury, Vt., a corporation of Vermont

Application February 24, 1930. Serial No. 430,739

3 Claims. (Cl. 248—20)

This invention relates to improvements in meat beams and their frames, and more particularly to beams adapted to be pivotally secured to a wall, post or other rigid support.

Such beams have generally been made of solid metal and consequently have been unwieldly to handle and swing on their pivots. This invention is designed to improve upon beams of this type by simplifying and improving the method of construction of the beam and co-operating parts, so as to produce a simple and compact structure, relatively light in weight, hence easily moved and handled, as well as to reduce the cost of manufacture.

One of the objects of the invention is to shape blanks of sheet metal, from which to form hollow-bodied structures of the wall bracket, beam arm, beam load support and trig loop member.

Another object is to provide a method of bending and forming the sheet metal wall bracket and beam arm with its beam load support and trig loop member, into hollow-bodied structures.

Still another object is to suspend the beam arm from the wall bracket in pivot mounts, so disposed as to permit the beam arm with the suspended weigh-beam to swing readily to the position desired.

In order that the nature of my invention may be fully understood, I have illustrated certain embodiments of the invention in the accompanying drawings, in which,—

Figure 1 is a front elevation of a meat scale, in which my improved beam frame and co-operating parts are incorporated, and embodying a preferred form of my invention.

Figure 2 is a longitudinal elevation, partly in section, of the wall bracket and beam arm, with their co-operating parts.

Figure 3 is a plan of a sheet metal blank used to form the body of the wall bracket.

Figure 4 is a horizontal side elevation of a completed hollow-bodied wall bracket.

Figure 5 is a plan of the under side of a completely assembled hollow-bodied wall bracket.

Figure 6 is a vertical end elevation of a completed wall bracket.

Figure 7 is a plan of a sheet metal blank, from which each of the tension rod supporting plates is formed, while Figures 8 and 9 show a front and side elevation respectively of a completely formed L-shaped tension supporting plate.

Figure 10 is a plan of a sheet metal blank, from which is formed each of the beam arm plates and Figures 11 and 12 show a front and side elevation respectively of a completely formed L-shaped beam arm plate.

Figure 13 is a plan of a sheet metal blank, a pair of which are used to form the body of the beam arm.

Figure 14 is a plan of the upper side of the completely assembled hollow-bodied beam arm and Figure 15 is a cross-section on the line 15—15 of Figure 14.

Figures 16 and 17 show a plan and side elevation of the beam arm end plate, while Figure 18 shows one of the end plates in arcuate form.

Figures 19, 20 and 21 show a plan of a sheet metal blank, forming part of the beam load support, a side elevation and plan of the top respectively.

Figures 22, 23 and 24 show a plan of a sheet metal blank, which forms a companion part of the beam load support, a side elevation and plan of the top respectively, while Figures 25 and 26 show a front elevation and a side elevation respectively of the completely assembled hollow-bodied beam load support.

Figures 27 and 28 show a plan of a sheet metal blank, which is formed into a part of the trig loop member, and a side elevation thereof in its pressed form.

Figures 29 and 30 show a plan of a sheet metal blank, which is formed into a companion part of the trig loop member, and an end elevation respectively, the latter showing the metal blank in its pressed form. Figures 31 and 32 show a front elevation and a side elevation respectively of the completely assembled hollow-bodied trig loop member.

In the drawings 1 designates a wall bracket, secured by lag screws 2 to a fixed support 2*a*, on which is pivotally mounted between the spaced beam arm plates 3 a beam arm 4, whereby the beam arm is permitted to swing easily in the direction desired. The wall bracket 1 is formed of an elongated sheet metal blank 5, as shown in Figure 3, shaped so as to have a central, elongated body portion 6, a longitudinal portion 7 disposed on each side of the body portion 6, coextensive therewith, and a rectangular, laterally extended portion 8 on each end of the body portion 6, intermediate of the longitudinal portions 7, the body portion 6 being provided at the upper end with two spaced, transverse slots 9 and likewise at the lower end with two similar spaced transverse slots 10, together with a plurality of circular openings 11 disposed on either side of the spaced slots 9 and 10, through which the lag screws 2 are inserted.

In forming the sheet metal blanks 5 into a hollow-bodied structure, the longitudinal portions 7 are bent downwardly on the line 3—3, as indicated in Figure 3, at right angles to the body portion 6, the lower edge portion 12 of each longitudinal portion 7 being folded upon itself on the line 4—4, as indicated in Figure 3, and shown in Figures 4 and 6. The laterally extended end portions 8 are then bent downwardly on the line 5—5, as indicated in Figure 3, at right angles to the body portion 6 and welded to the ends of the longitudinal portions 7, as shown in Figures 4, 5 and 6.

Extending upwardly through the spaced transverse slots 9 in the upper end of the body portion 6 are two opposed L-shaped tension rod supporting plates 13, which are formed of a sheet metal blank 14, as shown in Figure 7, shaped so as to have a rectangular base portion 15, provided with a circular opening 16 adjacent to its lower side. Leading upwardly from the rectangular base portion 15 is an intermediate portion 17, provided with recesses 18 on each side, while extending upwardly from the intermediate portion 17 is a substantially triangular portion 19, provided with a circular opening 20 adjacent to its upper end, the edge of which is rounded, and having tapered sides or wing portions 21 extending outwardly from the body portion 22 beyond the intermediate portion 17 and the base portion 15. In forming the sheet metal blanks 14 into the L-shaped tension rod supporting plates 13, the base portion 15 and intermediate portion 17 are bent downwardly on the line 7—7, as indicated in Figure 7, at right angles to the triangular portion 19, then the wing portions 21 are bent downwardly on the line 8—8, as indicated in Figure 7, at right angles to the body portion 22 thereby forming the sheet metal blank into an L-shaped structure, as shown in Figure 9, after which the base portion 15 of each tension rod supporting plate 13 is inserted in one of the transverse slots 9 and welded to the under side of the body portion 6, the circular opening 16 coinciding with the circular openings 11 in the body portion 6 of the wall bracket 1.

Likewise extending upwardly through the two-spaced transverse slots 10 in the lower end of the body portion 6 are two opposed L-shaped beam arm plates 3, formed of an elongated sheet metal blank 23, as shown in Figure 10, shaped so as to have a body portion 24 and provided with a circular opening 25 adjacent to the upper end, the edge of which is rounded and having a circular opening 26 at the lower end. In forming the sheet metal blanks 23 into the beam arm plates 3, a portion is bent downwardly on the line 10—10, as indicated in Figure 10, at right angles to the body portion 24, and forming a rectangular base portion 27, thereby forming an L-shaped structure, as shown in Figure 12, then the base portion 27 of each beam arm plate 3 is inserted in one of the transverse slots 10 and welded to the under side of the body portion 6, the circular openings 26 coinciding with the circular openings 11 in the body portion 6 of the wall bracket 1.

The beam arm 4 is pivotally mounted on the wall bracket 1, as previously described, and it is held in a horizontal position between the spaced beam arm plates 3. The beam arm 4 is formed of two elongated sheet metal blanks 28, as shown in Figure 13, each having a longitudinal body portion 29 provided with laterally extending semi-circular wing portions 30 at each end and having upper and lower notched portions 31 at their junction with the body portion 29. Extending below the body portion 29 and coextensive therewith is a longitudinal portion 32.

In forming the sheet metal blanks 28 into a hollow-bodied structure, the longitudinal portions 32 are each pressed down on the line 13—13, as indicated in Figure 13, at right angles to the body portion 29, after which the two sections thus formed are welded together at the longitudinal edges of the body portions 29 and longitudinal portions 32, as indicated in Figures 14 and 15, and then rectangular sheet metal blanks 33, bent into arcuate form, as shown in Figure 17, are welded to the rounded edges of the semi-circular portions 30 and the notched portions 31, thus forming an integral, hollow-bodied structure. At each end of the body portion 29 of each sheet metal blank 28 is a circular opening 35, each opposed to the other in the completed structure, through which openings 35 at the inner end a pivot bolt 36 is inserted and locked in position.

In order to suspend the beam arm 4 properly from the wall bracket 1, an upper tension rod 37 is pivotally mounted by its eyelet at one end, on the pivot bolt 36 between the spaced tension rod plates 13, while the other end is threaded and secured in a turnbuckle 39, in which is likewise secured the threaded end of the lower tension rod 40, having its free end secured by its eyelet to a beam bolt 41, inserted in the opposed openings 35 in the opposed metal blanks 28 at the free end of the beam arm 4, the lower opening 35 being threaded, as shown in Figure 15, to engage and secure the beam bolt 41 in position.

Extending downwardly from the beam arm 4, adjacent to its inner end, is a beam load support 42 formed of two sheet metal blanks 43 and 44.

The metal blank 43 consists of a rectangular sheet of metal having a body portion 45 and an upper portion 46, the lower part of the body portion being provided with a circular opening 47, while the companion metal blank 44 consists of an elongated, rectangular sheet of metal having a body portion 48 and side portions 49, the lower part of the body portion having a circular opening 50.

In forming the sheet metal blanks 43 and 44 into a hollow-bodied structure the upper portion 46 of the blank 43 is bent down on the line 19—19, as indicated in Figure 19, at right angles to the body portion 45, while the side portions 49 of the blank 44 are bent downwardly on the lines 22—22, as indicated in Figure 22, at right angles to the body portion 48, after which the two blanks thus formed are joined and welded together, as shown in Figures 25 and 26, and the whole structure is then secured to the under side of the beam arm 4 by welding the upper portion 46 to the beam arm 4. In the two opposed circular openings 47 and 50 is inserted a bolt 51 holding the main beam load pivot loop 52.

At the outer end of the beam arm 4 is located the trig loop member 53, which extends downwardly from the beam arm 4. The trig loop member 53 is formed of two sheet metal blanks 54 and 55 into a hollow-bodied structure.

The metal blank 54 consists of an elongated sheet of metal having a body portion 56 and an upper portion 57, the body portion 56 being provided at its lower end with a circular opening 58. The companion metal blank 55 consists of a body portion 59 having a circular opening 60 adjacent to its lower end, and provided with longitudinal side portions 61 extending from the body

portion 59. Midway of the body portions 56 and 59 of the metal blanks 54 and 55 are opposed rectangular trig openings 62.

In forming the sheet metal blanks 54 and 55 into a hollow-bodied structure the upper portion 57 of the blank 54 is bent downwardly on the line 27—27, as indicated in Figure 27, at right angles to the body portion 56 and the side portions 60 of the blank 55 are pressed downwardly on the lines 29—29, as indicated in Figure 29, at right angles to the body portion 59. The blanks 54 and 55 are then joined and welded together, as indicated in Figures 31 and 32 so as to form a hollow-bodied structure, the whole structure being secured to the under side of the beam arm 4 by welding the upper portion 57 to the beam arm 4, the opening 58 therein being threaded and coinciding with the threaded opening 35 in the lower sheet metal blank 28, in which the threaded end of the beam bolt 41 is secured, while in the opposed circular openings 58 and 60 is inserted a bolt 63 holding the auxiliary beam load pivot loop 64.

Suspended pivotally from the main beam load pivot loop 52 is the main weigh-beam 65 provided with the usual poise 66 and balance ball 67, mounted in the weigh-beam extended portion 68, and having its arrow-pointed tip end 69 extending through the trig openings 62 and 63 of the trig loop member 53, the upper and lower edges of which openings serve to limit the up and down movement of the arrow-pointed tip end 69.

An auxiliary or fractional weigh-beam 70, provided with a poise 71, is suspended from a pivot loop 72, pivotally mounted on the main beam extension 68, through an intervening link 73 cooperating therewith and a loop 74 pivotally mounted on the inner end of the auxiliary beam 70, while its outer end is pivotally held in the auxiliary beam load pivot loop 64. Suspended from a loop 75 pivotally mounted on the outer end of the auxiliary beam 70 is a meat hook 76 swivelly connected to a hook 77 inserted in the loop 75.

It is, therefore, evident that both the hollow-bodied wall bracket 1, with its tension rod plates 13 and beam arm plates 3, and the hollow-bodied beam arm 4 with its hollow-bodied beam load support 42 and hollow-bodied trig loop member 53 are formed by the method employed into two compact, integral units, well adapted to the use and service for which they are intended, and possessing superior advantages over heavy, unwieldly structures generally in use.

It is further to be noted that while the preferred embodiment of my invention disclosed herein is well calculated to fulfil the objects outlined, it is apparent that the construction is susceptible to modification and variation without departing from the scope of the invention.

I claim:

1. As a new article of manufacture a weighing scale frame including a wall bracket comprising an elongated sheet of metal having a central body portion provided with spaced transverse slots at each end, upstanding plates inserted in the said spaced slots and welded therein to the body portion, longitudinal flange portions bent down at right angles to the said body portion and having a portion thereof bent back upon itself, and end flange portions bent down and meeting the ends of the longitudinal portions and having their edges welded together by continuous line welds.

2. As a new article of manufacture a weighing scale frame including a wall bracket comprising an elongated sheet of metal having a central body portion provided with spaced transverse slots at each end, upstanding plates inserted in the said spaced slots and welded therein to the body portion forming upper and lower brackets, longitudinal flange portions bent down at right angles to the said body portion and having a portion thereof bent back upon itself, and end flange portions bent down and meeting the ends of the longitudinal portions and having their edges welded together by continuous line welds, and a beam arm pivotally mounted in the lower bracket.

3. As a new article of manufacture a weighing scale frame including a wall bracket comprising an elongated sheet of metal having a central body portion provided with spaced transverse slots at each end, upstanding plates inserted in the said spaced slots and welded therein to the body portion forming upper and lower brackets, longitudinal flange portions bent down at right angles to the said body portion and having a portion thereof bent back upon itself, and end flange portions bent down and meeting the ends of the longitudinal portions and having their edges welded together by continuous line welds, a beam arm pivotally mounted in the lower bracket, and a tension rod extending from the beam arm to the said upper bracket, in which the said tension arm is pivotally mounted.

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