Dec. 8, 1959 W. L. DULL 2,916,152

SHIPPING RACK FOR WIRE COILS

Filed March 9, 1955 2 Sheets-Sheet 1

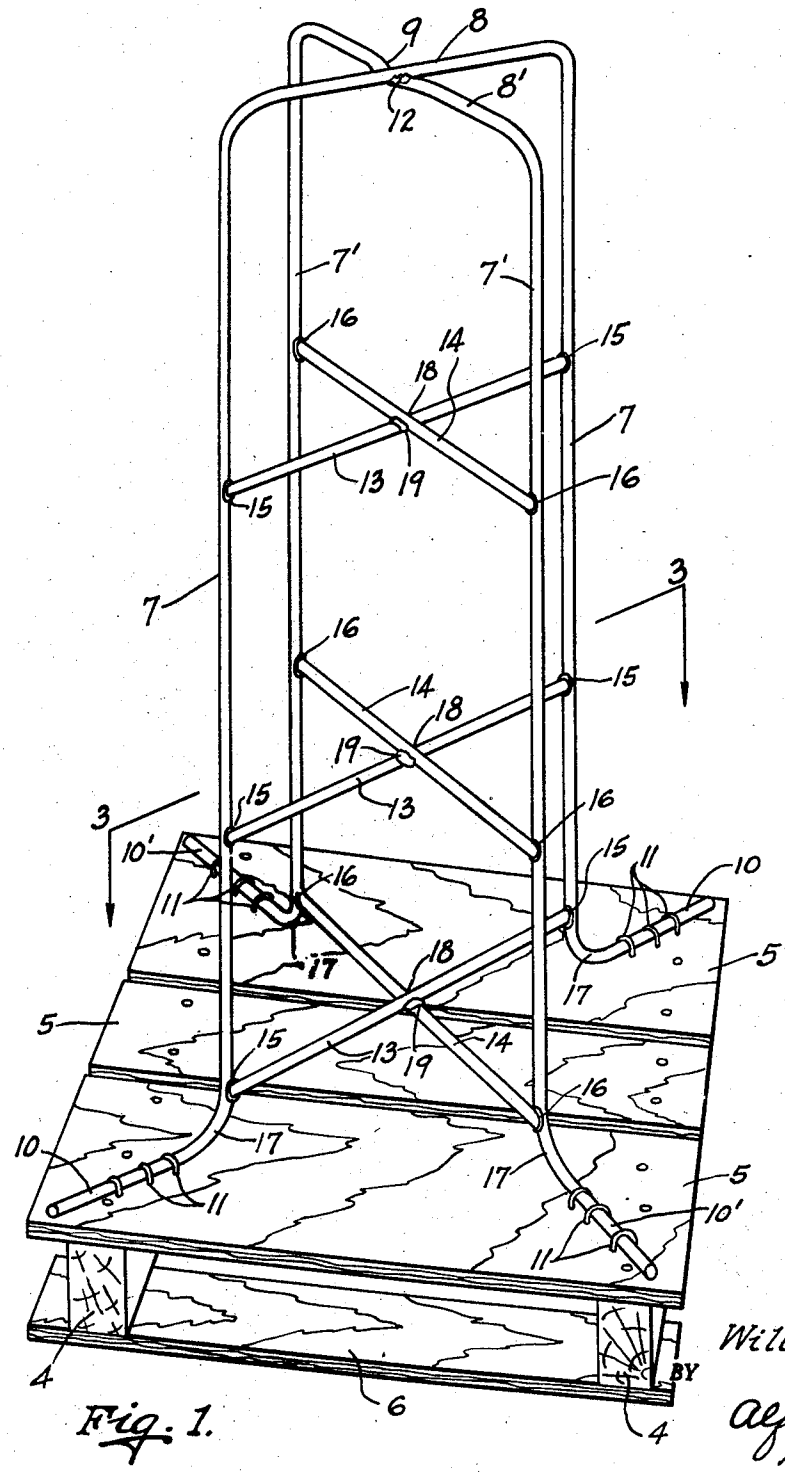


Fig. 1.

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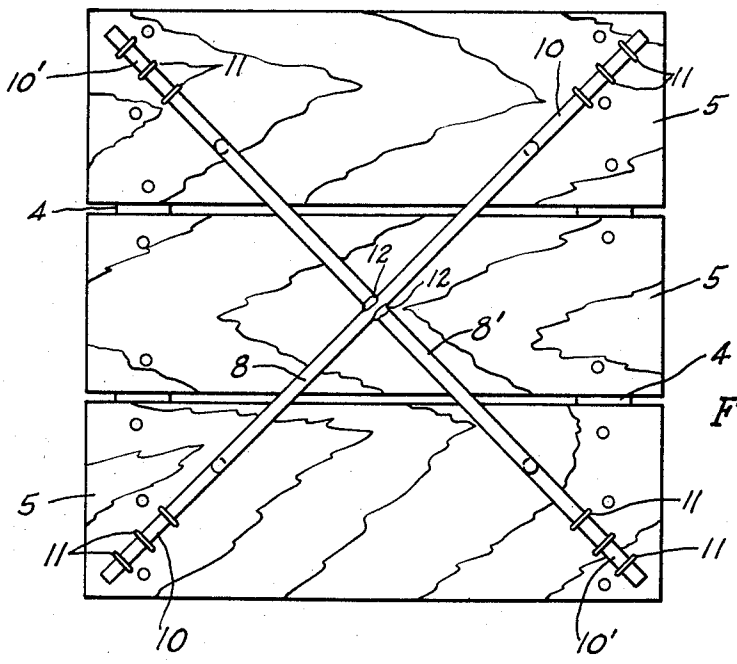


Fig. 2.

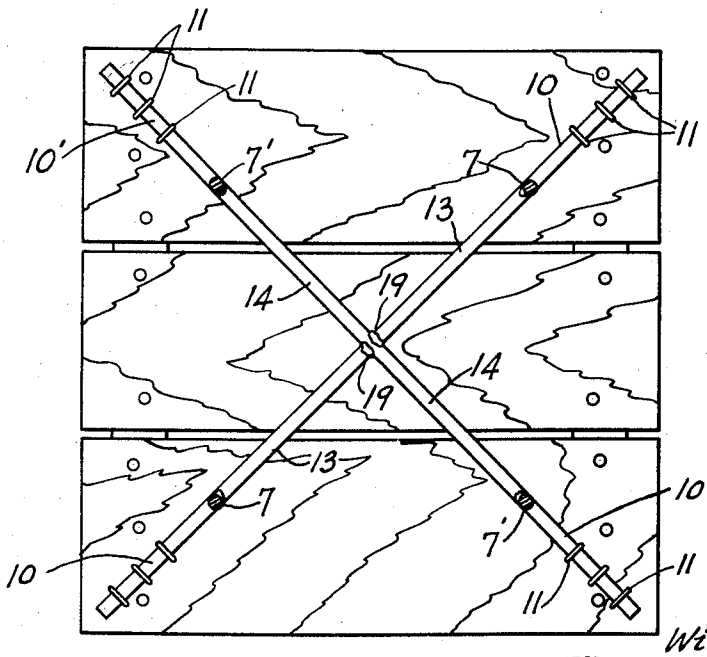


Fig. 3.

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SHIPPING RACK FOR WIRE COILS

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Application March 9, 1955, Serial No. 493,253

3 Claims. (Cl. 211—49)

My invention relates to a rack for supporting a plurality of coils of wire in axially adjacent side by side relation.

My invention more particularly relates to a rack of simple construction for use in the shipment of wire coils comprising a base member, or pallet, and a frame mounted in fixed position on said base member, or pallet, to extend substantially perpendicularly to one face thereof, said frame receiving coils of wire thereon in side by side relation so that the coils are substantially coaxially arranged and are side by side in the direction of the axis of said coils.

An advantage of my invention is that wire coils can be shipped to users thereof from the place of manufacture without such damage to the wire as is common with ordinary methods of shipment. This is accomplished by mounting the coils of wire on the rack in such a position that the same will be firmly supported and will be held against relative movement both with respect to each other and with respect to the rack. Furthermore by providing a base member, or pallet, that is rectangular the racks can be stacked in a transport vehicle, such as a freight car, in a manner that the same will not have any tendency to shift or roll relative to each other.

Another advantage in my improved rack structure is that the coils of wire can be readily moved from one location to another in a building or other similar place by engaging under the pallet, or base member, with the lifting means of a lift truck, providing for easy transportation of stacks of coils of wire from one location to another in a place of storage or in a place where the wire is to be used.

In the use of the shipping rack it is placed with the coils of wire mounted thereon, in a horizontal position with the base member at one end thereof and the length of the frame extending laterally from the base member when placed in a transport vehicle, such as a freight car, and is placed with the longitudinal axis of the frame extending vertically when it is moved from one location to another by means of a lift truck.

The relative size of the coil receiving portion of the rack and the base member, or pallet, is such that with the coils of wire in position on the rack the base member will have its sides substantially tangent to the outer surface of the coils of wire on the rack so that when said racks are placed in position in a transport vehicle with the base members extending vertically and with the straight marginal edges of the same in engagement with each other the base members will act as means for positioning the racks in the transport vehicle and due to their polygonal character the base members will prevent any rolling action of the racks with the coils of wire thereon.

More specifically my invention comprises a rack comprising a base member and a frame member mounted in fixed position on the base member to extend from one face thereof, said frame being made of rods bent so as to each have a pair of substantially parallel legs and a transverse portion between said legs with foot portions at the extremities of the legs fastened to the base member, said

transverse portions intersecting and being welded to each other at their intersection in fixed position, and bracing means being provided at intervals along the length of said rods that extend from one of the legs of a pair to the other leg of the same pair and are welded thereto with bracing members intersecting at the mid-portions thereof and being welded together to provide a rigid brace that holds the legs of the frame from movement relative to each other in any direction. A strong mounting is thus provided for the coils of wire that are placed on the rack. This is very important in a device of this character because, when the rack is filled with coils of wire mounted thereon, a load of considerable weight is put on the frame.

Other objects and advantages of my invention will appear as the description of the drawings proceeds. I desire to have it understood, however, that I do not intend to limit myself to the particular details shown or described, except as defined in the claims.

In the drawings:

Fig. 1 is a view in perspective of my improved wire coil shipping rack.

Fig. 2 is a top plan view thereof, and

Fig. 3 is a horizontal section thereof taken on the line 3—3 of Fig. 1 in the direction of the arrows.

Referring in detail to the drawings, my improved rack comprises a base member, or pallet, of wood that is made up of a pair of relatively heavy frame members **4** on which are secured a plurality of boards **5** in any suitable manner, as by nailing. Also, if desired, bottom cross members in the form of boards **6** may be provided between the frame members **4**. It will be noted upon reference to the drawings that the base member thus formed of the members **4**, **5** and **6** is of a rectangular character and as shown is square. It will be obvious that the straight side edges of the base member will permit the stacking of one of said base members in a veritcal or edgewise position immediately on top of a lower base member similarly positioned, as is the case when my racks are loaded in a freight car or similar vehicle. Similarly, the vertical side edges of adjacent base members in a horizontal row can be placed in engagement with each other.

Mounted on said base member is a pair of bent rods, each rod being provided with a pair of substantially parallel legs, the leg portions of one of said rods being indicated by the numeral **7** and the leg portions of the other rod being indicated by the numeral **7'**. The leg portions of said rods are connected by transverse end portions **8** and **8'**, respectively. The transverse portion **8'** is offset, as at **9**, to receive the transverse portion **8** so as to place the major portion of the transverse portion **8'** of one rod in the same plane as the transverse portion **8** of the other rod. The legs **7** are provided with outwardly directed foot portions **10** and the legs **7'** with outwardly directed foot portions **10'**, said foot portions **10** and **10'** being located substantially on diagonals of the base member, as will be obvious from the drawings. The foot portions **10** and **10'** are secured in fixed position on the base member by suitable securing elements such as the staples **11**. The transverse portions **8** and **8'** are secured together at their intersections by means of welding, the welds being indicated at **12** in the drawings.

It will thus be seen that the rack comprises a frame mounted on the base member that extends from one face thereof, that is made up of a plurality of legs that are rigidly connected together at one end thereof by the transverse portions **8** and **8'** welded to each other at their intersection, and secured to the base member in fixed position by means of the fastening elements **11** engaging the foot portions **10** and **10'**.

The metal frame is further provided with bracing means between the base member and the end thereof hav-

ing the transverse portions 8 and 8' by means of transverse bracing members comprising the transverse rods 13 welded at their opposite ends to the legs 7 and the transverse rods 14 that are welded to the legs 7', the welds joining the rods 13 to the legs 7 being indicated by the numeral 15 and the welds joining the rods 14 with the legs 7' being indicated by the numeral 16. The spacing of the bracing rods 13 and 14 along the legs of the frame is preferably such that the lowermost bracing members 13 and 14 are connected with the leg portions 7 and 7' closely adjacent the gradually curved bends 17 that connect the leg portions 7 and 7' with the foot portions 10 and 10'. Other bracing members 13 and 14 are located along the legs 7 and 7' between the transversely extending portions 8 and 8' thereof and the above referred to bracing means adjacent the base member. Said bracing members 13 and 14 are placed at substantially corresponding positions on the legs 7 and 7' and thus each rod 13 intersects with a rod 14, said rods intersecting with each other at their mid-portions, said intersections being indicated by the numeral 18 in Fig. 1. The bracing rods 13 and 14 are furthermore rigidly secured together at said intersections by welds 19.

It will be noted that the foot portions 10 and 10' extend outwardly a considerable distance from the leg portions 7 and 7', permitting a coil of wire of considerable thickness to be mounted on the frame with the inner surface of the coil in engagement with the legs 7 and 7' and with the outer surface of the coil substantially tangent to the straight marginal edges of the square base member.

It will be obvious from the foregoing that the two rods that form the main portion of the frame are elongated substantially U-shaped members each having substantially parallel legs integrally connected at one end thereof by means of a transverse portion and provided with foot portions that are fixed to the base member at the other ends thereof. The legs 7 and 7' of said members constituting the longitudinal members of the frame are braced at regular intervals by means of the bracing members 13 and 14, which are rigidly fixed to the longitudinal members 7 and 7' and to each other, thus preventing any movement of the members 7 or 7' relative to each other in any direction.

When the rack is in the position shown in Fig. 1 and has coils of wire mounted thereon, the axis of the wire coils will then be vertical and the rack will be capable of being loaded onto a lift truck by inserting the lift device under the pallet formed by the base member. When the rack is placed in the alternative position, with the base member vertically arranged and the metal frame made up of the rods welded to each other and braced as described extending horizontally from a vertical face of the base member the rack is in the position in which it is placed when loaded in a transport vehicle, such as a freight car. When in this position with the straight bottom edges of the base members of one row or tier of racks, loaded with coils of wire, in engagement with the straight top edges of the base members of the next lower row and with the straight vertical side edges of one base member of a horizontal row of said racks in engagement with the straight vertical side edges of the adjacent base members of said horizontal row, the racks will be held against any vertical or horizontal movement in the plane of the base member and will also be held from rotative or twisting movement about the axis of the metal frame of the rack and thus against any rolling movement of the assembly of coils about the axis of the stacked coils of wire on the rack. Said racks being of a skeletonized character, suitable anchoring means for the wires for holding the coils of wire against axial movement are provided by means of the intersecting end members 8 and 8' and the intersecting cross braces 13 and 14.

What I claim is:

1. A shipping rack for wire coils comprising a polygonal base member and a rigid frame mounted in fixed position on said base member to extend from one face thereof, said frame comprising a pair of rod-like elongated continuous U-shaped members each having substantially parallel legs connected at one end thereof by means of a transverse portion, said transverse portions intersecting at their mid-portions and being fixed to each other against relative movement at said intersection, outwardly directed foot portions at the other ends of said legs, means for fixedly securing said foot portions to said base member with said parallel legs spaced inwardly from the marginal edges of said base member, a bracing rod extending between the legs of each of said U-shaped members at a plurality of spaced locations between the ends thereof, and a bracing rod extending between each of said U-shaped members adjacent said outwardly directed foot portions, each of said bracing rods being fixed at the ends thereof to said legs between which it extends, the bracing rods secured to one pair of legs each intersecting a bracing rod secured to the other pair of legs, said intersecting bracing rods being fixed to each other against relative movement at said intersections, said foot portions being of such length as to space said legs inwardly from said marginal edges of said base member a distance such that wire coils placed on said rack in embracing relation to said legs will lie within the marginal edges of said base member.

2. A shipping rack for wire coils comprising a square base member and a rigid skeleton frame mounted in fixed position on said base member to perpendicularly extend from one face thereof, said frame comprising two rod-like elongated continuous U-shaped members each having substantially parallel legs connected at one end thereof by means of a transverse portion, said transverse portions intersecting at their mid-portions at right angles and being welded to each other at said intersection, outwardly directed foot portions at the other ends of said legs, means for fixedly securing said foot portions to said base member with said parallel legs spaced inwardly from the marginal edges of said base member, and a rod-like bracing member extending between the legs of each of said U-shaped members at a plurality of spaced locations between the ends thereof, each of said bracing members being welded at the ends thereof to said legs between which it extends, the bracing members secured to one pair of legs each intersecting a bracing member secured to the other pair of legs, said intersecting bracing members being welded to each other at said intersections, said foot portions being of such length as to space said legs inwardly from said marginal edges of said base member a distance such that wire coils placed on said rack in embracing relation to said legs will lie within the marginal edges of said base member.

3. A wire coil support comprising a flat rectangular wooden base, a skeleton frame mounted on said base, said frame being formed of a pair of continuous rod-like elongated U-shaped members each having substantially parallel legs and a transverse portion integral with said legs connecting said legs, said transverse portions of said U-shaped members crossing at their centers, diagonally extending rod-like bracing members extending between the parallel legs of each of said U-shaped members between the ends thereof and crossing at their centers and outwardly directed portions on said U-shaped members at the ends of said parallel legs opposite said transverse portions extending perpendicularly to said legs to form foot portions extending outwardly from said frame, and fastening elements securing said foot portions to said base with said foot portions in engagement with the top surface of said base and extending outwardly from said legs toward the marginal edges of said base, said foot portions being located within said marginal edges to dispose said legs inwardly from the marginal edges of said base and being of such length as to space said legs inwardly from said marginal edges of said base

a distance such that wire coils placed on said rack in embracing relation to said legs will lie within the marginal edges of said base.

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