Oct. 28, 1952 J. G. IMPARATO 2,615,219

DRUM RING CLAMP

Filed Jan. 20, 1950

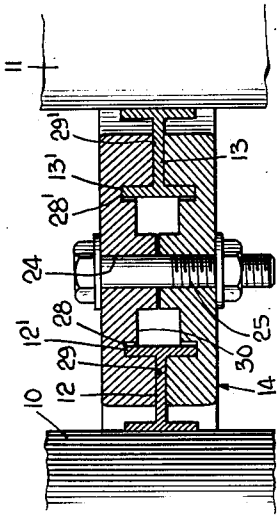


Fig. 2.

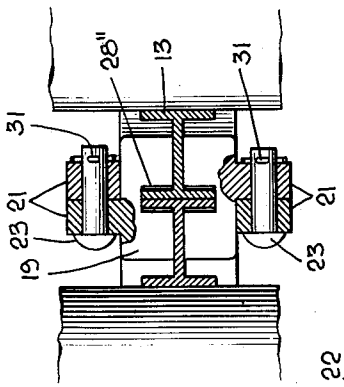


Fig. 3.

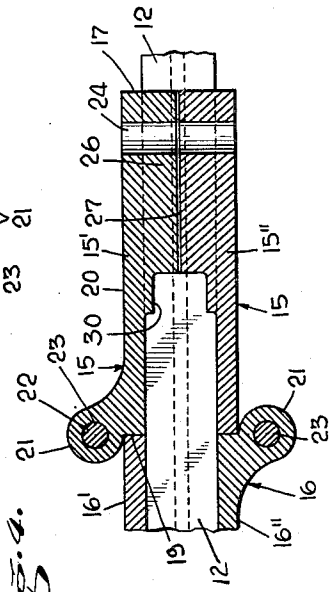


Fig. 4.

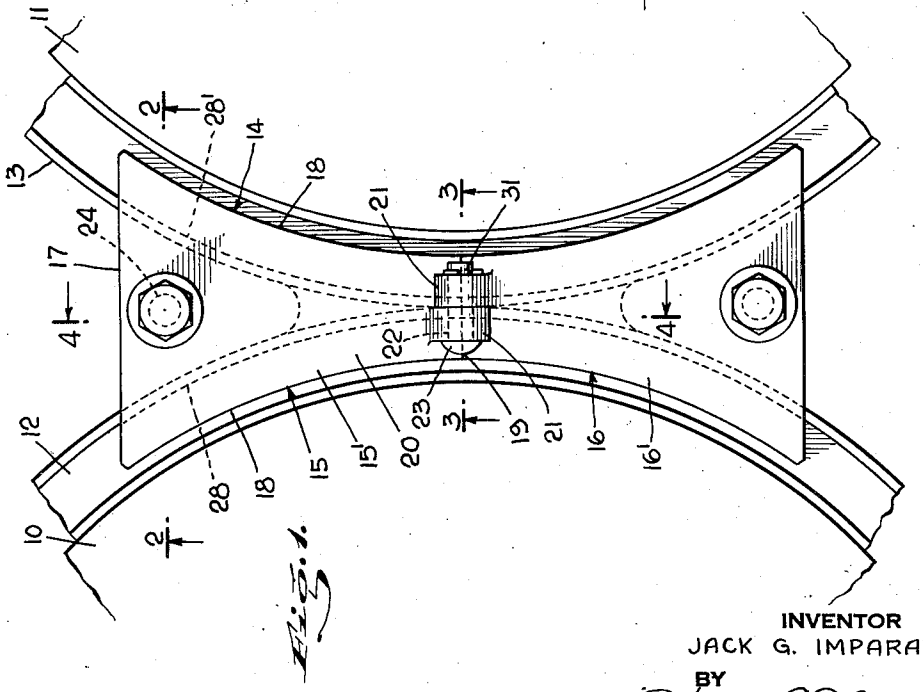


Fig. 1.

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## DRUM RING CLAMP

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2 Claims. (Cl. 24—81)

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This invention relates to clamps adapted for use in coupling a plurality of closely arranged drums to maintain the drums in assembled relationship to each other against relative shifting when stored on any conveyance of transportation, such as ships, freight-cars, trucks and the like. More particularly, the invention deals with a clamp formed from a single clamp member which can be used in pair or multiple pairs, the clamps having means to couple adjacent pairs together in predetermined uses thereof.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a diagrammatic edge view of parts of two drums, indicating ring portions of the drums and showing a clamp arranged thereon, wherein two pairs of clamps are coupled together.

Fig. 2 is a section on the line 2—2 of Fig. 1 indicating parts of the drums in elevation.

Fig. 3 is a section on the line 3—3 of Fig. 1 with parts of the construction broken away; and

Fig. 4 is a partial section on the line 4—4 of Fig. 1 omitting part of the construction.

My present invention deals with clamps of the general type and kind disclosed in my prior application, Serial Number 86,569, filed April 9, 1949, and, more particularly, my invention deals with a clamp structure, wherein two or more identical clamp members can be assembled to form what may be termed "single" or "double" clamps.

In the drawing, I have indicated at 10 and 11, portions of two drums having circumferential rings on the periphery thereof, as at 12 and 13 respectively, the rings being of I-beam cross-sectional form, as more clearly seen in Fig. 2 of the drawing. These rings are welded or otherwise secured to the periphery of the drums and are usually disposed at spaced intervals on the drum, but only one set of the rings are illustrated in the accompanying drawing.

The rings 12 and 13 have upwardly and downwardly extending flanges 12', 13' which are adapted to be engaged by the clamp, generally identified by the reference character 14. In illustrating one use of the invention, I have shown the clamp 14 composed of two pairs of clamp members, one pair being generally identified by the reference character 15 and the other pair by the reference character 16 in Fig. 1 of

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the drawing. As each clamp member employed in each pair is of the same construction, the brief description of one will apply to all. However, in considering Fig. 4 of the drawing, the separate clamp members are identified by the reference characters 15', 15'' and by 16' and 16'' so that, for purposes of description, the clamp members 15', 16' can be regarded as the upper and the members 15'' and 16'' can be regarded as the lower.

Each clamp member is generally of a more or less triangular formation having a straight wide outer edge portion 17, curved side edge portions as at 18 and a narrow flat inner edge portion 19. The upper surface 20 of the clamp is generally flat except for a raised bearing portion 21 at the narrow end 19, the raised bearing portion being apertured, as indicated at 22 for the reception of a coupling pin 23. The outer wide end portion 17 of the clamp member has a vertical aperture arranged centrally with respect to said edge portion, as seen at 24, and this aperture is adapted to receive a clamp bolt 25.

Considering Fig. 4 of the drawing, it will appear that the inner or lower surface of the clamp plate adjacent the end portion 17 thereof and in the region of the aperture 24 has an enlarged body portion 26, the inner or lower surface 27 of which is adapted to come into close proximity with the corresponding surface on the companion member 15'' of the pair of clamp members, or plates. The inner surface of the member 15 has curved grooves or recesses 28 and 28' which open outwardly through the flat contracted end 19, as seen at 28'' in Fig. 3 of the drawing and, otherwise, are parallel to the curved edge portions 18 and these grooves are adapted to receive the flanges 12', 13', as clearly seen in Figs. 2 and 3 of the drawing. Sufficient clearance will be allowed in the grooves to freely receive the flanges.

Outwardly of the grooves 28, 28', the surfaces 29, 29' of the member 15' are raised sufficiently to compensate for the thickness of the ring, but to enable the plate to have a clamp engagement upon the ring along these surfaces. Other inner surfaces of the plate are recessed, as generally indicated by the reference character 30 to lighten the weight of the plate member as much as possible.

In the above description, the references have been applied primarily to the plate member 15'. However, as all of the other plate members, namely 15'', 16' and 16'' are of the same construction, like references will designate like parts

on these other plate members, thus the reference character 21 is applied to the projecting apertured bearing portion of the plate member 16' in Fig. 1 and to the corresponding member 21 of the plate member 16'' in Fig. 4.

The coupling pins 23 can be held in place in any desired manner, as for example, the cotter pins 31, so as to quickly couple and uncouple the bearings 21 of the respective plate members 15', 16' and 15'', 16'' as will be apparent.

By virtue of this construction, a single plate member is formed by dies, whether it be by stamping, forging or casting and two or four of these plate members can be assembled to produce a half or a double clamp, which ever is desired to be used in a given assemblage. In other words, the plate members 15', 15'' alone could be used as a pair to clamp adjacent drums together but, where added strength and rigidity is deemed advisable or necessary, the other pair 16', 16'' can also be employed and pinned together by the coupling pins 23. In the latter use, it will be apparent that the plate members 15', 16' can be first coupled together, as also the plate members 15'' and 16'' and then the two members so joined or coupled together by the bolts 25.

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

1. A clamp device for use in securing drums having rings on the peripheral surfaces thereof in retaining adjacent drums against displacement, said clamp comprising two pairs of substantially V-shaped plates of the same general size and contour, said plates having registering grooves on adjacent surfaces thereof diverging from one narrow end of the plate to the other wide end thereof, the last named end portion of each plate being apertured to receive a clamp bolt, said plate adjacent the bolt being of greater thickness than at side edges of the plate beyond the limits of said grooves, said grooves converging at the narrow end of the plate, said narrow end



portion of the plate having an outwardly projecting apertured member, said apertured member extending beyond said end portion of the plate to register the aperture of the member of one plate with the aperture of the member of a companion plate in a pair, and a coupling pin passed through said registered apertures in securing the plates together.

2. A clamp of the class described, comprising two pairs of substantially similar triangular plate-like members, each member having a narrow end and a wide end, grooves opening through one surface of said member paralleling side edges of said member, said grooves converging at the narrow end of said member, the wide end portion of said member being fashioned centrally thereof to receive clamping means for clamping said pairs of said members together for engagement with a support arranged therebetween, the thickness of said member adjacent said last-named means being greater than the thickness of the member at the side edge portions thereof, an apertured portion projecting outwardly and beyond the narrow end portion of said member and adapted to register with an apertured portion of a companion member of a pair, and means coupling said apertured portions in uniting each pair of members.

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