

April 7, 1959

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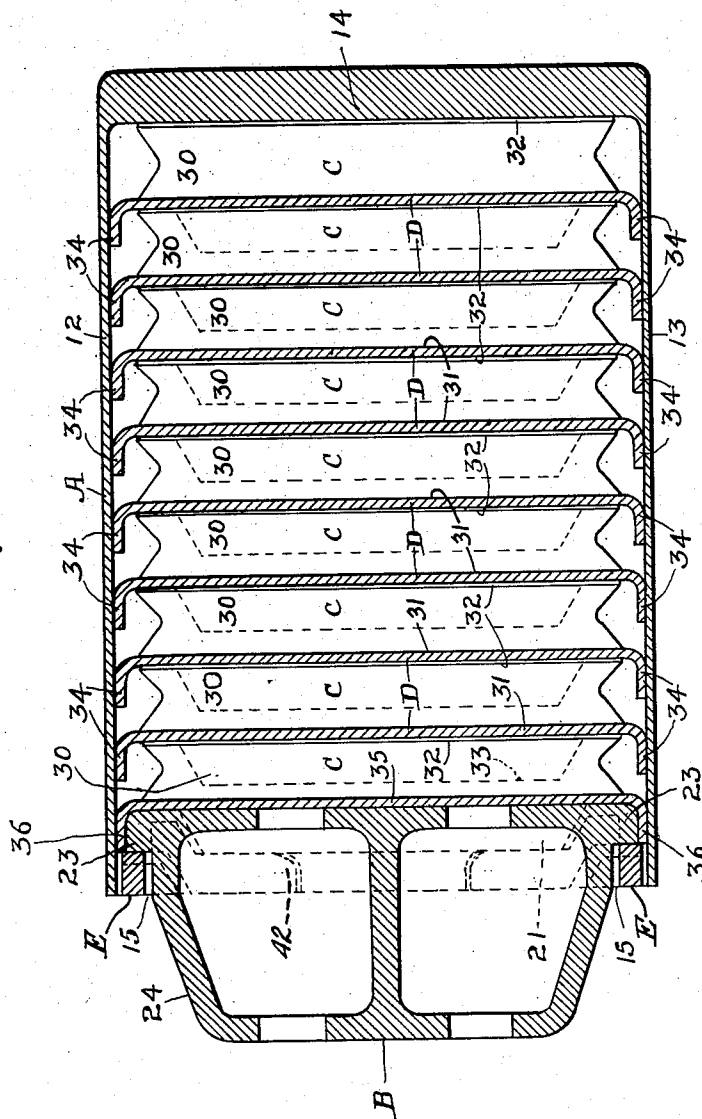
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DRAFT GEARS FOR RAILWAY DRAFT RIGGING

Filed April 4, 1955

3 Sheets-Sheet 1

Fig. 1



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Fig. 2

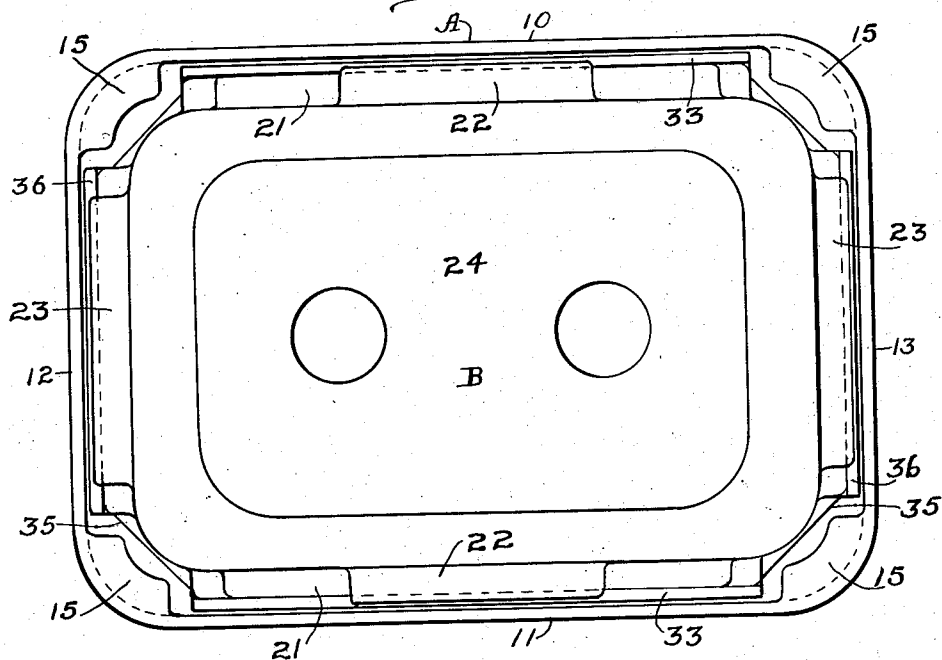
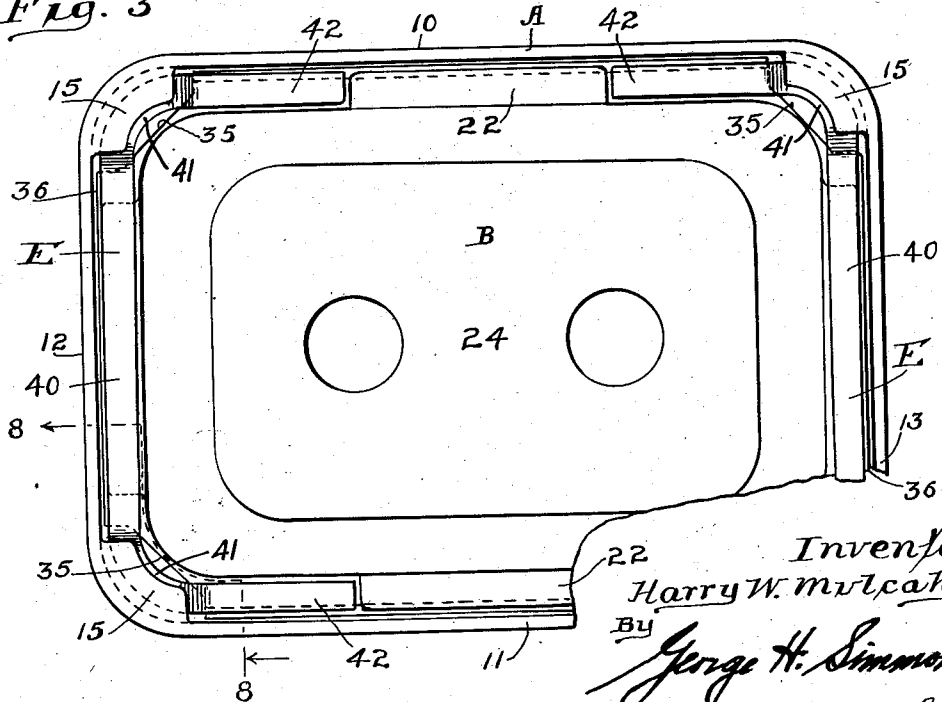


Fig. 3



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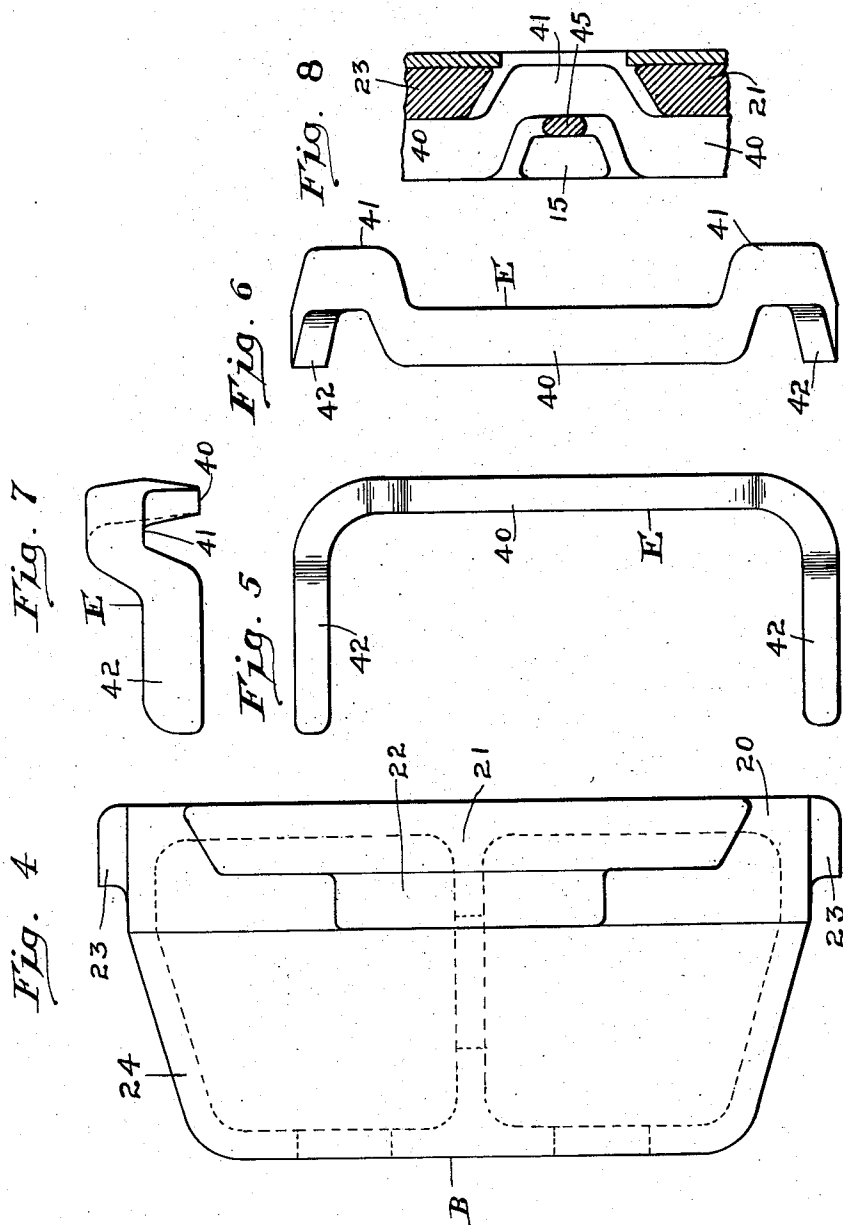
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3 Sheets-Sheet 3



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## DRAFT GEARS FOR RAILWAY DRAFT RIGGING

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Application April 4, 1955, Serial No. 498,907

6 Claims. (Cl. 213—45)

This invention relates to draft gears for railway draft rigging.

It is a main object of the invention to provide an improved device for maintaining a resilient column and operating plunger therefor in the casing of a unitary draft gear.

Another object of the invention is to provide a draft gear casing closed at one end and in which is disposed a resilient column and an operating plunger therefor, together with locking bars carried by the plunger and engaging flanges on the casing to secure the gear together as a unit.

Further objects of the invention not specifically mentioned here will be apparent from the detailed description and claims which follow, reference being had to the accompanying drawings in which a preferred embodiment of the invention is shown by way of example and in which:

Figure 1 is a cross sectional view through the horizontal median plane of the gear, with the rubber pads therein shown in full lines;

Figure 2 is a front end elevational view of the gear with locking bars omitted;

Figure 3 is a view similar to Figure 2, with the locking bars in position;

Figure 4 is a plan view of the plunger;

Figure 5 is an end elevational view of the locking bar;

Figure 6 is a side elevational view of a locking bar;

Figure 7 is a plan view of a locking bar; and

Figure 8 is a fragmentary cross sectional view taken substantially along the line 8—8 of Figure 3, looking in the direction of the arrows.

From the drawings it will be seen that the gear of the present invention consists of a casing A, plunger B, a resilient column comprising a plurality of units C, integral aligning followers D; and a pair of locking bars E for securing the gear together as a unit.

The casing A, which is of rectangular cross section, comprises top and bottom walls 10 and 11 respectively, and side walls 12 and 13 connecting the top and bottom walls together. These walls are relatively thin. An integral rear wall 14, which is appreciably thicker than the top, bottom and side walls, closes the rear end of the casing.

Located at each of the four corners of the open end of the casing is a locking flange 15 that projects inwardly of the casing and extends substantially diagonally across the corner.

The plunger B consists of a rectangular base 20, having flangelike bosses 21 at its top and bottom sides, which bosses 21 merge with upwardly extending (to the left in Figure 4) smaller lugs 22. At the ends of the rectangular base portion 20 are bosses 23 which correspond in height to bosses 21. It will be noted from Figure 2 that bosses 21 and 23 are of such outward dimension as to fit within the walls of the casing, and noted further that these bosses 21 and 23 are cut away at the corners of the base to clear the flanges 15 on the casing. The

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plunger also includes a forwardly extending portion 24 that projects outwardly of the casing when the plunger is in place therein.

Each of the resilient units consists of a rubber pad 30 bonded between the platelike portion 31 of a follower D and a second plate 32. Followers D contain top and bottom flanges 33, which extend forwardly from the plate portion 31 alongside the plate 32 and rubber pad 30 of the adjacent unit C. Side flanges 34 are similarly disposed. Flanges 33 and 34 engage the walls 10, 11, 12, and 13 of the casing A. It will be noted that the flanges 33 and 34 do not extend to the corners of the followers D, thereby enabling the followers to clear the flanges 15 upon the casing during assembly therein.

The locking bars E, which are two in number, are of generally C-shape configuration and comprise a central section 40 adapted to lay over the end bosses 23 on the plunger base 20, depressed corner sections 41 adapted to fit under the flanges 15 on the casing, and end sections 42 adapted to fit over the bosses 21 and abut against the smaller lugs 22 on the top and bottom of the plunger base 20.

In assembling the gear, the casing is disposed open end up and the resilient column members C and followers D are inserted therein. Front follower 35 is of such dimension that its flanges 36 form a press fit with the outer surfaces of bosses 21 and 23 on the plunger base 20. Pressure is applied to the column to force the plunger inwardly of the casing and locking bars E are then inserted in place and secured to the plunger in convenient manner as by spot welding. Pressure is then relieved from the plunger and the resilient column C expands until portions 41 of the locking bars engage flanges 15 on the casing, this engagement arresting outward movement of the plunger and securing the gear together as a unit.

The unit thus formed is adapted to fit in the yoke and pocket of a railway draft rigging, and in order to shorten the overall length of the unit so as to permit its insertion in the yoke and pocket, temporary blocks 45 may be inserted between the flanges 15 and locking bar portion 41 prior to release of pressure from the plunger. These blocks, which may conveniently be composed of wood or soft metal, will disintegrate and fall out during normal operation of the gear in service.

Having thus complied with the statutes and shown and described the preferred embodiment of my invention, what I consider new and desire to have protected by Letters Patent is pointed out in the appended claims.

I claim:

1. In a draft gear for railway draft rigging, a metallic casing of rectangular cross section closed at its rear end and open at its front end; a flange at each corner of the casing extending inwardly at the open end thereof; a resilient column within the casing; a plunger projecting forwardly from the open end of the casing; a rectangular base on said plunger having diagonal corners, said base fitting in said casing for sliding movement therein against said resilient column; and a pair of locking bars fixed upon the plunger base and extending behind said flanges to hold the gear together as a unit.

2. A gear as specified in claim 1, in which the rectangular base of the plunger includes flangelike portions projecting forwardly from the inner face of the base, which portions extend across the shorter sides of the base and part-way across the longer sides of the base and are interrupted at the corners of the base.

3. A gear as specified in claim 2, in which the locking bars are disposed forwardly of the flangelike portions of the plunger base and rearwardly of the flanges at the corners of the casing.

4. A gear as claimed in claim 3, in which the locking bars are fixed upon the plunger base by welding.

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5. In a draft gear for railway draft rigging, a metallic casing of rectangular cross section closed at its rear end and open at its front end; a flange at each corner of the casing extending inwardly at the open end thereof; a resilient column within the casing; a plunger projecting forwardly from the open end of the casing; a rectangular base on said plunger having diagonal corners, said base fitting in said casing for sliding movement therein against said resilient column; and a pair of locking bars fixed upon the plunger base and extending behind said flanges to hold the gear together as a unit, each locking bar consisting of an elongated central section having ends merging into retaining portions which are generally U-shaped and partly extend in the same plane as the central section and also extend transversely to said plane, said U-shaped portions merging into straight terminal sections extending transversely of said plane, whereby the U-shaped retaining portions are adapted to lie to the rear of and embrace the casing corner flanges whereas the central section and the terminal sections lie adjacent to the edges of the casing walls at the open end of said casing.

6. In a draft gear for railway draft rigging, a metallic

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casing of rectangular cross section closed at the rear end and open at the front end; a flange at each corner of the casing extending inwardly at the open end thereof; a resilient column within said casing composed of a plurality of units; stabilizer followers in said column, each comprising a rigid platelike portion to one face of which a unit is bonded and rigid flanges on the four sides of the platelike portion engaging the walls of the casing to stabilize the column; a plunger projecting from the front end of the casing; a rectangular base on said plunger, the flanges on the front one of said followers having press fit with the base of the plunger to secure the plunger to the follower; and a pair of locking bars fixed upon the plunger base and extending behind said corner flanges on the casing to hold the gear together as a unit.

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