Oct. 20, 1936. R. B. HAYWARD 2,058,152

REEL

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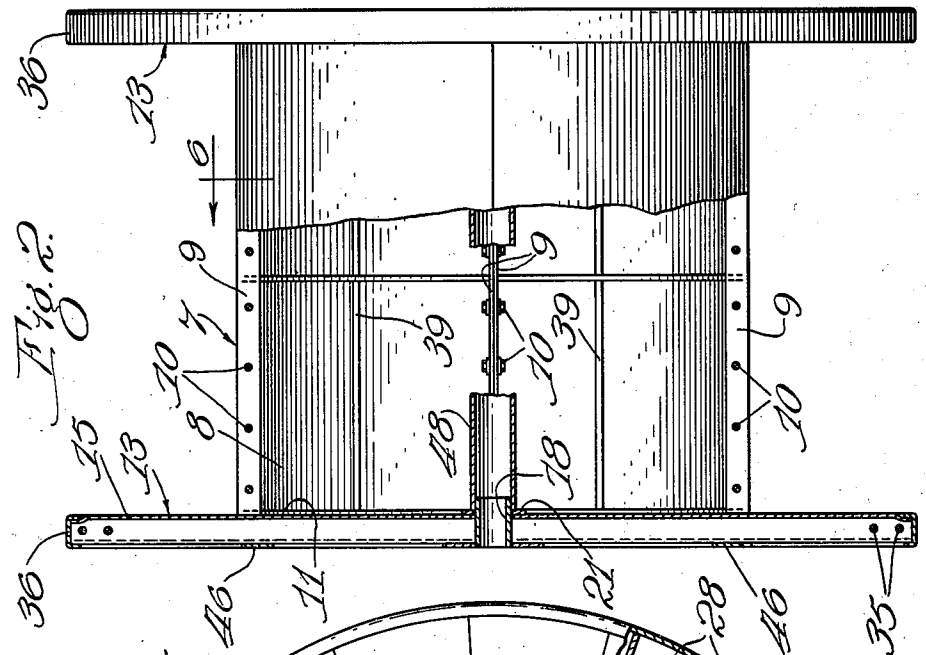


Fig. 2.

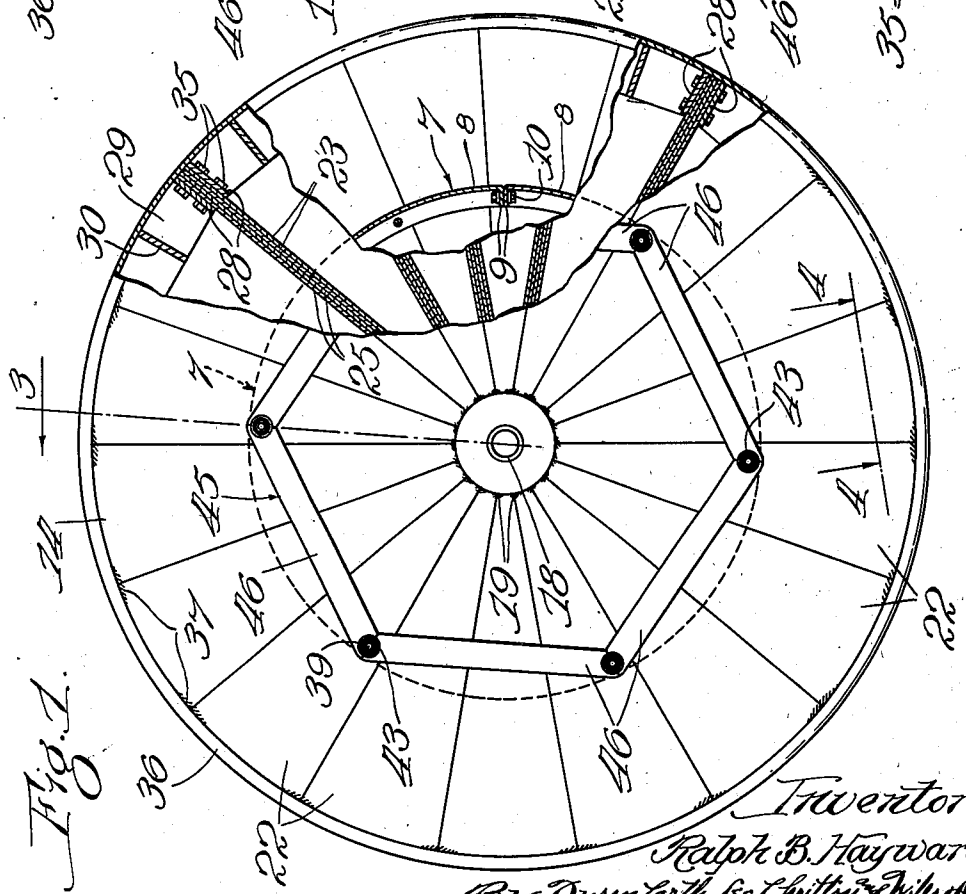


Fig. 1.

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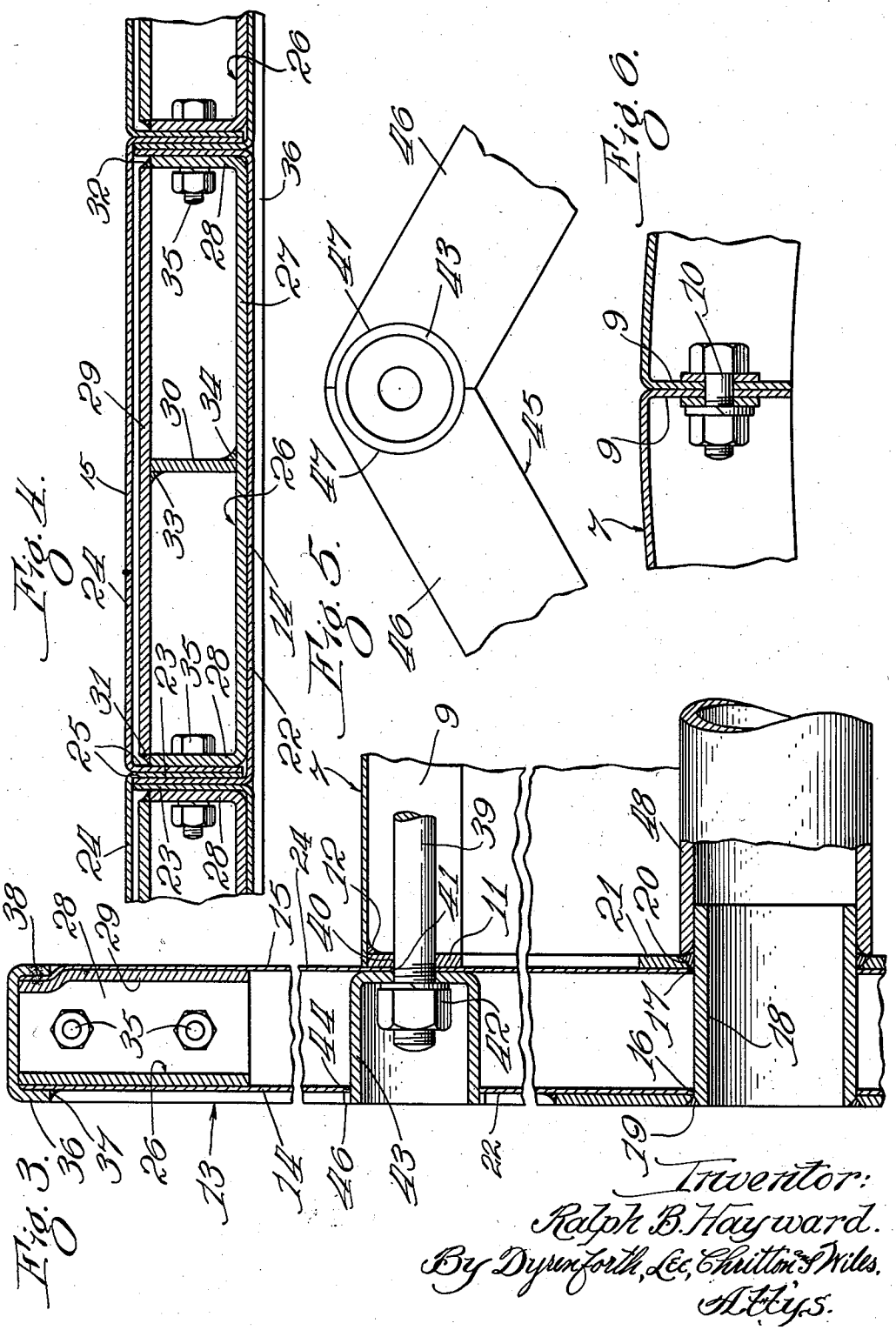


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE

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REEL

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Application February 1, 1934, Serial No. 709,372

15 Claims. (Cl. 242—77)

My invention relates to metal reels provided, for example, for the winding thereon of electric cable, or the like, and certain of my objects, generally stated, are to provide a construction which shall be strong and durable, simple of manufacture, the parts of which may be easily and economically assembled and the structure adaptable for galvanizing throughout.

Referring to the accompanying drawings:

Figure 1 is an end view of a reel constructed in accordance with my invention, certain portions thereof being broken away to disclose details thereof.

Figure 2 is a view in elevation of the reel, viewing it in a direction normal to Fig. 1, with certain portions thereof broken away to disclose details.

Figure 3 is an enlarged broken sectional view taken at the line 3 on Fig. 1 and viewed in the direction of the arrow.

Figure 4 is an enlarged fragmentary sectional view taken at the line 4—4 on Fig. 1 and viewed in the direction of the arrows.

Figure 5 is an enlarged fragmentary face view of bracing means cooperating with the tension rods connecting together the heads and hub of the reel; and

Figure 6, an enlarged fragmentary sectional view taken at the line 6 on Fig. 2 and viewed in the direction of the arrow.

Referring to the particular illustrated embodiment of my invention, the reel as shown comprises a hub-portion 7 shown as formed of a drum comprising arcuate sections 8 having inwardly extending flanges 9 at their longitudinal edges adjacent ones of which flatwise oppose each other and are engaged by bolts 10 for holding the sections together, the ends of the sections 8 extending slightly beyond the flanges 9 to receive a ring 11 shown as welded to the sections 8 at 12 preferably continuously about the outer periphery of the ring 11.

The reel shown also comprises heads represented generally at 13 and each comprising an outer sheet-metal member 14 and an inner sheet-metal member 15 spaced therefrom, the members 14 and 15 being centrally apertured, as represented at 16 and 17, respectively, to receive an arbor tube 18 secured in place, as for example by welding these parts together, and to a ring 21 encircling the tube 18 and fitting flatwise against a face of the member 15, as indicated at 19 and 20.

The member 14 comprises an annular series of sheet metal segments 22 secured together as hereinafter described and forming, in effect, a sectional disk, the radial edges of each segment throughout its length having inwardly extending flanges 23 shown as formed integrally with the body portion of the segment 22.

The member 15 likewise comprises an annular series of sheet metal segments represented at 24 to form, in effect, a sectional disk, the radial edges of each of the segments throughout their length having inwardly extending flanges, represented at 25 and shown as formed integrally with the body of the segment.

In the assembled positions of the members 14 and 15 the pairs of inwardly extending flanges at the adjacent edges of the segments of one of these members lap the corresponding flanges at the adjacent edges of the segments of the other of these members, as shown in Figs. 1 and 4 whereby the two pairs of radial flanges adjacent each joint between the segments form strengthening ribs, the flanges of which they are composed extending substantially entirely across the space between the members 14 and 15.

Each head also comprises an annular series of radial stiffening gussets 26, forming stiffening supports, located adjacent the periphery of the head in the spaces between the ribs formed of the flanges 23 and 24.

The gussets shown and formed of thicker material than that forming the segments 24 are each formed of a side plate 27 having radial flanges 28 at its radial edges, integral therewith, a separate opposite side plate 29 spaced from the plate 27 and a radially disposed spacer plate 30, all of these parts being rigidly secured together to form box-like structures as by welding them as indicated at 31—34.

Bolts, represented at 35, and extending through the ribs, formed of the sets of flanges 23 and 25, and through the adjacent flanges 28 rigidly secure together the segments 22 and 24 and the gussets 26.

Each head 13 is shown as provided with a tread portion 36 formed of a channel ring into which the outer ends of the segments 22 and 24, together with their flanges 23 and 25 and the gussets 26, extend and to which they are secured as by welds indicated at 37 and 38.

The heads 13 and hub portion 7 are secured together by tie-rods, shown as bolts 39, which extend through openings 40 and 41 in the ring 11 and the segments 24, respectively, and through openings in embossed washers 43 which extend through openings 44 in the segments 22, the heads and nuts provided on these bolts at their oppo-

site ends engaging with the washers 43 on the heads 13, respectively, as illustrated of the nut 42 in Fig. 3.

The washers 43 are connected together at their outer ends, which extend outwardly beyond the members 14, by similar bolt bands, the one thereof at one head being shown at 45, which bear flatwise against the members 14, each of these bands being shown as formed of a series of end-to-end disposed bars 46 containing arcuate recesses 47 at their ends at which they fit about the ends of the washers 43 and to which they are welded, these bands, which are thus rigid with the washers 43, and are indirectly connected to the tie rods 39, bearing against the outer faces of the heads 13 under the tension of these rods.

To afford the desired rigid spacing of the heads adjacent the arbor tubes 18 a spacer tube 48 telescoped at its ends with the inner ends of the arbor tubes and endwise abutting the inner faces of the members 14, is provided.

As will be understood from the foregoing, the heads while being of comparatively light weight are highly resistant to the various stresses to which they are subjected in use tending to distort them.

While I have illustrated and described a particular construction embodying my invention, I do not wish to be understood as intending to limit it thereto, as the same may be variously modified and altered without departing from the spirit of the invention.

What I claim as new, and desire to secure by Letters Patent, is:

1. A head construction comprising spaced-apart relatively thin disk-like members, spaced apart radial ribs between said members and a series of box-like gussets of relatively thick material and having continuous surrounding wall portions, said gussets being disposed around the peripheries of said members and being located in the spaces between said members and ribs and rigidly secured to said ribs.

2. A head construction comprising a wall portion of relatively thin material, spaced apart radial ribs secured thereto and a series of box-like gussets of relatively thick material having continuous surrounding wall portions, said gussets being disposed around the periphery of said wall portion and located in the spaces between said ribs and rigidly secured to said ribs.

3. A head construction comprising a wall portion formed of segments of relatively thin material having radially extending rib-forming flanges on their radial edges and a series of box-like gussets of relatively thick material having continuous surrounding wall portions, said gussets being disposed around the periphery of said wall portion and located in the spaces between said flanges and secured to said flanges.

4. A head construction comprising disc-like members spaced apart and each formed of segments, and radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation.

5. A head construction comprising disc-like members spaced apart and each formed of segments, radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation, and fastening means engaging said flanges.

6. A head construction comprising disc-like members spaced apart and each formed of segments, radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation, and a series of gussets disposed around the peripheries of said members and located in the space between said members.

7. A head construction comprising disc-like members spaced apart and each formed of segments, radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation, and a series of gussets disposed around the peripheries of said members and located in the space between said flanges and members.

8. A head construction comprising disc-like members spaced apart and each formed of segments, radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation, and a series of box-like gussets disposed around the peripheries of said members and located in the space between said flanges and members.

9. A reel comprising heads having embossed washers, a hub portion, tension rods extending through said washers and connecting said heads and hub portion, and bands at said heads connected with said washers.

10. A reel comprising heads, a hub-portion, tension rods connecting said heads and hub-portion, and bands at said heads operatively connecting said rods together, said bands being formed in sections connected at their ends.

11. A reel comprising heads having embossed washers, a hub-portion, tension rods extending through said washers and connecting said heads and hub portion, and bands at said heads connected with said washers, said bands being formed in sections connected at their ends with said washers.

12. A head construction comprising disc-like members spaced apart and each formed of segments, radial inwardly extending flanges at the radial edges of said segments, the flanges of said segments of said members being disposed in lapped relation, a series of box-like gussets disposed around the peripheries of said members and located in the spaces between said flanges and members, and means rigidly securing said gussets at their ends to said flanges thereby to form with said flanges a rigid skeleton frame.

13. A head construction comprising a wall portion formed of segments of relatively thin material, spaced-apart radial ribs comprising radially extending flange portions on the radial edges of said segments, and a series of box-like gussets of relatively thick material and having continuous surrounding wall portions, said gussets being disposed around the periphery of said wall portion and located in the spaces between said ribs and secured to said ribs to form a still skeleton construction.

14. A head construction comprising a wall portion of relatively thin material, spaced-apart spoke-forming radial ribs secured thereto, a relatively small hub portion from which said ribs extend radially outwardly and to which the ribs are secured, and a series of box-like gussets of relatively thick material and having continuous surrounding wall portions, said gussets being disposed around the periphery of said wall portion and located in the spaces between said ribs and secured to said ribs.

15. A head construction comprising a wall por-

tion of relatively thin material, spaced-apart spoke-forming radial ribs secured thereto, a relatively small hub portion from which said ribs extend radially outwardly and to which the ribs are secured, and a series of box-like gussets of relatively thick material and having continuous surrounding wall portions, said gussets being disposed around the periphery of said wall portion and located in the spaces between said ribs and secured to said ribs, said gussets having cross webs between their ends, said cross webs being secured at opposite ends to the opposing side walls of the gussets.

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