Sept. 8, 1931. A. A. BUREAU 1,822,474

REEL

Original Filed Feb. 28, 1927

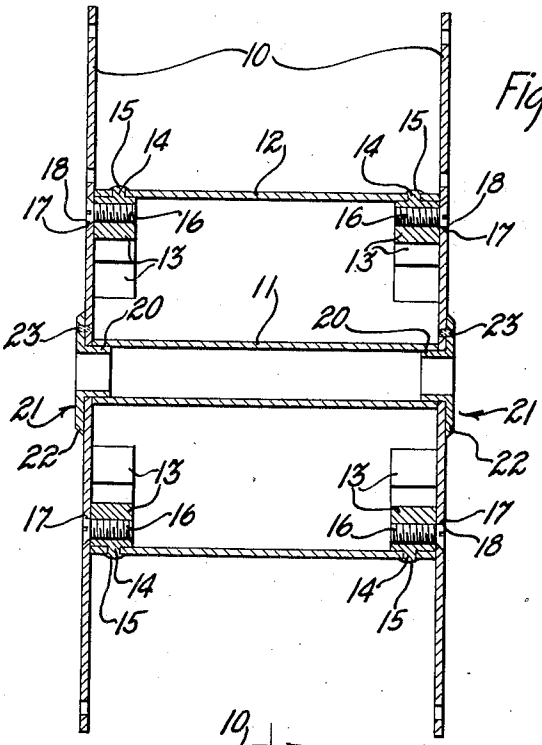


Fig. 2.

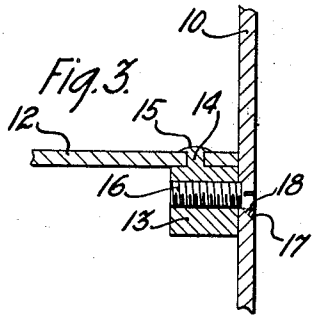


Fig. 3.

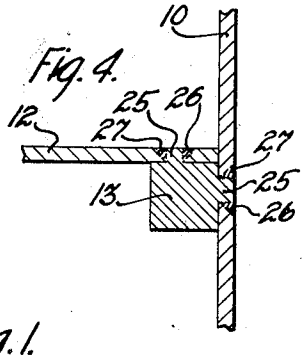


Fig. 4.

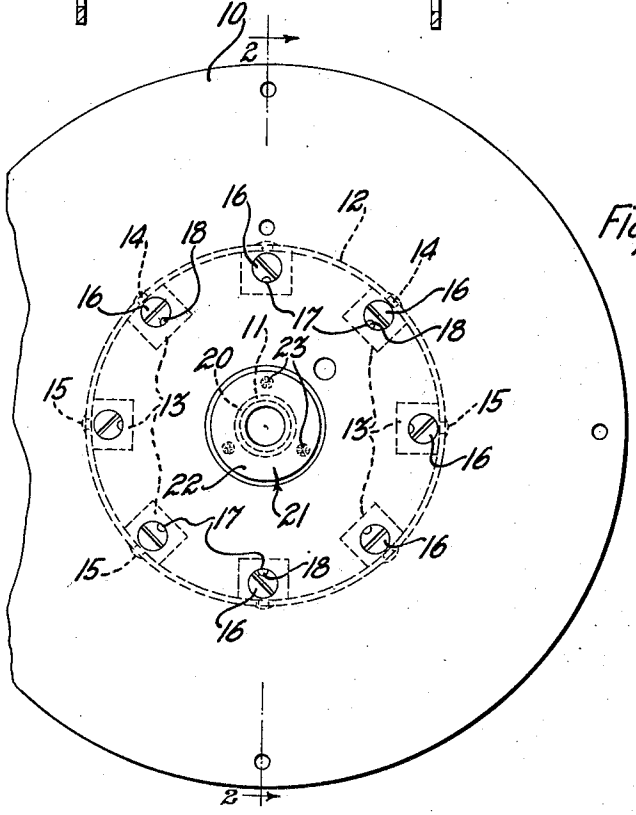


Fig. 1.

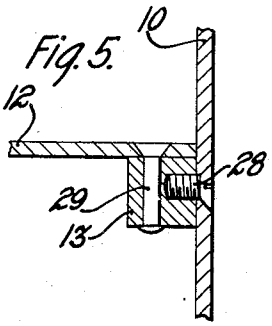


Fig. 5.

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Patented Sept. 8, 1931

1,822,474

UNITED STATES PATENT OFFICE

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REEL

Application filed February 28, 1927, Serial No. 171,441. Renewed April 17, 1930.

This invention relates to reels, and more particularly to metal reels, its object being the provision of a metal reel which is simple and rigid in construction, economical to manufacture and durable in service.

In accordance with the above object, the invention contemplates a reel constructed of metal heads interconnected by an axial tube which is supported at its opposite ends by thimbles or bearing members fixed to the respective heads by welding. Also extending between the heads is a drum which is secured to a plurality of lugs fastened to the inner face of the heads at spaced points.

Other objects and advantages of this invention will more fully appear from the following detailed description taken in connection with the accompanying drawings, in which

Fig. 1 is an end fragmentary view of one form of a reel embodying the features of this invention;

Fig. 2 is a section on the line 2—2 thereof;

Fig. 3 is an enlarged fragmentary view of a portion of Fig. 2 showing one embodiment of the means provided for securing the heads and drum together, and

Figs. 4 and 5 are similar views showing alternative embodiments thereof.

Referring to the drawings in detail, in which like reference numerals refer to similar parts throughout the several views, a pair of steel heads 10 is retained in fixed spaced relation by an axial steel tube 11 and a tubular sheet steel drum 12, the tube and drum each engaging at opposite ends thereof the inner surfaces of the respective heads, the tube 11 also serving to brace the heads against inward thrusts within the area of the drum. The heads 10 are secured to either end of the drum 12 by a series of metal blocks or lugs 13, in the particular embodiment illustrated by eight lugs equally spaced on 45° centers. In the construction illustrated in Figs. 1, 2 and 3 each of the lugs 13 upon one surface thereof is secured to the inner circular surface of the drum 12 by means of an integral projecting portion 14 formed upon the lug, which extends through an aperture provided in the drum and is then riveted thereto as indicated at 15. The lugs 13 are secured to the heads 10 by means of screws 16 provided with countersunk heads, the shank of each of the screws being threaded into an aperture provided in another surface of the lugs with the flat slotted end of the screw being flush with the outer flat surface of the head. A peripheral portion of each of the screw heads is cut away by drilling or any other suitable method to form a pocket or gap 17 between the screw head and the surrounding portion of the reel head 10, which is then filled with fused metal 18 by a welding operation, thereby providing an integral union between the screws and the heads which prevents the screws from working loose during use of the reel.

The steel tube 11 forming the axial tube of the reel is mounted in position between the heads 10 before securing the final head to the drum 12 by supporting it at opposite ends upon the tubular portions 20 of a pair of thimbles or bearings 21 supported in axial apertures provided in each of the heads, outer circular flanges 22 upon the bearings being spot welded to the outer surfaces of the heads as indicated at 23—23.

In the alternative embodiments illustrated in Figs. 4 and 5, the lugs 13 are secured in the case of the construction shown in Fig. 4 to the drum 12 and heads by means of projecting portions 25 formed upon the surfaces of the lugs 13 which engage the inner surfaces of the heads 10 and drum 12 and extend into countersunk apertures 26 provided in the heads and drum and lie flush with the outer surfaces thereof. The annular space around the portions 25 is filled with fused metal 27 by a welding operation, thus integrally securing the respective parts together. In the embodiment illustrated in Fig. 5 countersunk screws 28 and rivets 29 are provided with the omission of the welding operation as described in connection with the construction shown in Figs. 1, 2 and 3 with respect to the screws 16.

A reel embodying either one of the alternative constructions as hereinbefore described has great rigidity and requires a minimum of maintenance.

What is claimed is:

1. A reel comprising a pair of heads, a member positioned therebetween and abutting at either end the inner surfaces of the heads, and a plurality of separate and individual means positioned in spaced relation in the inner angle formed by the abutting surfaces of the heads and said member and secured to the adjacent surfaces of the heads and of said member for uniting the several elements into an assembled reel.

2. A reel comprising a pair of heads, means cooperating at each end with the inner surfaces of the heads for maintaining the heads in spaced relation, said means being apertured at spaced points, a plurality of radially disposed lugs positioned in the inner angle formed by the cooperating surfaces of the heads and the spacing means and having a plurality of surfaces secured to the heads and to the spacing means, and means projecting from said lugs into said apertures for uniting the spacing means to said lugs.

3. A reel comprising a pair of metal heads, a drum therebetween and engaging at either end the inner surfaces of the heads, a plurality of lugs, each abutting upon one surface thereof the inner peripheral surface of the drum at either end thereof and upon another surface the inner surfaces of the respective heads, the surfaces of the lugs abutting the surface of the drum formed with projecting portions entered in apertures provided in the drum and riveted thereto, screws cooperating with the surfaces of the lugs abutting the heads, the screws provided with countersunk heads having a portion thereof removed to form a pocket between the screw head and the reel head, and a filling of fused metal within the pocket.

4. A reel comprising a pair of heads, means cooperating at each end with the inner surfaces of the heads for maintaining the heads in spaced relation, means secured axially upon each head and extending beyond the inner surface of the head for rotatably mounting the reel, a member engaging the last mentioned means and abutting the inner surfaces of the heads for bracing the heads against inward thrusts, and means secured to the inner surfaces of the heads and the spacing means for uniting the several elements into an assembled reel.

5. A reel comprising a pair of metal heads, a drum therebetween and engaging at either end the inner surfaces of the heads, a flanged bushing secured axially upon the outer surface of each head with a reduced portion thereof extending inwardly and beyond the inner surface of the head for rotatably mounting the reel, a tube supported at either end upon the inner portions of the bushings and abutting the inner surfaces of the heads for bracing the heads against inward thrusts, a plurality of lugs each abutting upon one surface thereof the inner peripheral surface of the drum at either end thereof and upon another surface, the inner surfaces of the respective heads, the surfaces of the lugs abutting the surface of the drum formed with projecting portions entered in apertures provided in the drum and riveted thereto and the surfaces of the lugs abutting the heads secured thereto by screws threaded into the lugs, the screws provided with countersunk heads having a peripheral portion thereof removed to form a pocket between the screw head and the reel head, and a filling of fused metal within the pocket for uniting the several elements into an assembled reel.

In witness whereof, I hereunto subscribe my name this 12th day of February, A. D. 1927.

ARTHUR ALFRED BUREAU.