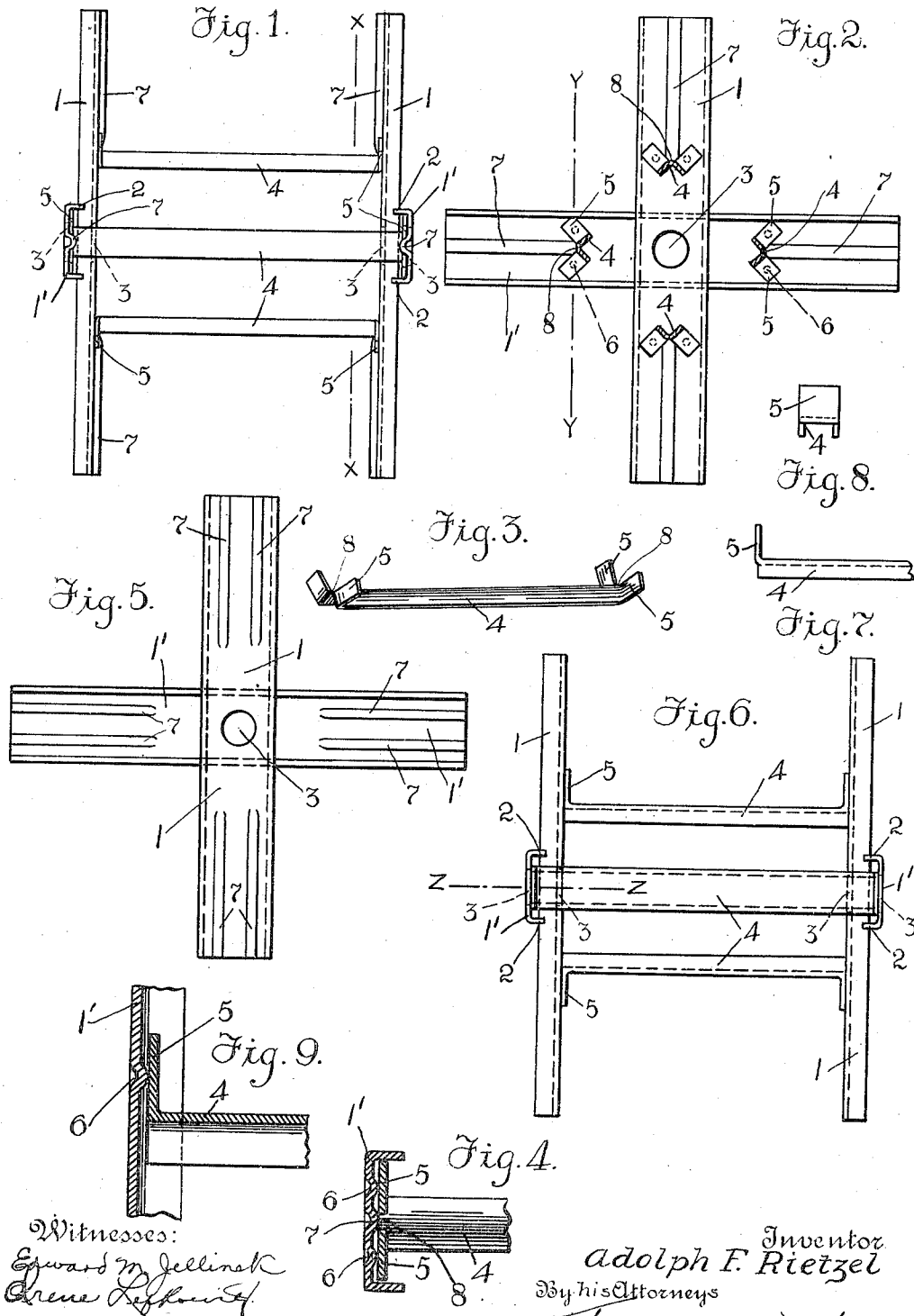


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REEL.  
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1,036,714.

Patented Aug. 27, 1912.



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# UNITED STATES PATENT OFFICE.

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## REEL.

1,036,714.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Charlestown, in the county of Washington and State of Rhode Island, have invented new and useful Improvements in Reels, of which the following is a specification.

My present invention relates to the construction of reels such as used for holding and shipping barbed or other wire or for other purposes and more particularly relates to reels made up entirely of metal.

The object of my invention is to provide a metal reel for holding and shipping barbed or other wire which will be more simple in construction, more readily assembled, stronger and lighter in weight than the skeleton reels heretofore commonly employed and which will further be proof against fire and rough handling as well as being capable of heavy loading without collapse.

A further object is to construct the various parts of sheet metal specially formed so that the reel will be very strong and rigid thereby decreasing the weight without reducing the strength.

The invention consists in the novel construction of metal reel hereinafter more particularly described and then specified in the claims.

In the accompanying drawings forming part hereof, Figure 1 is a plan or side elevation of a completed reel constructed in accordance with this invention. Fig. 2 is a transverse vertical section taken on the line X X Fig. 1. Fig. 3 is a perspective view of one of the bars or lengths which go to make up the reel body in its preferred form. Fig. 4 is an enlarged section on the line Y Y Fig. 2 showing the parts in position before welding. Fig. 5 is an end elevation showing a modification in connection with the reel arms. Fig. 6 is a plan or side elevation of a modified form of reel constructed in accordance with my invention. Fig. 7 is a detached view of a part of one of the bars of the reel body shown in Fig. 6. Fig. 8 is an end elevation of the same. Fig. 9 is a section taken on the line Z Z Fig. 6 and shows the parts before welding.

The side members or arms of the reel are constructed of metal strips 1, 1' provided with ridges or flanges which by preference take the form of trough- or channel-shaped

metal in cross-section. The strips of ridged metal 1, 1' are preferably placed to intersect each other at or about the axis of the reel with the ridges or flanges of one bearing against the ridges or flanges of the other and in this position are welded to each other. The points of intersection of the ridges or flanges form points of localized area at which points the arms 1, 1' are welded to each other by passing an electric current from one to the other and simultaneously applying pressure as will be readily understood by those skilled in the electric metal working art. The said welded portions are indicated at 2, the ridges or flanges of one strip biting to a greater or less extent into the ridges or flanges of the other due to the softening of the metal and the application of pressure in welding. By this construction a very strong union between the arms is obtained, each strip being welded to the other at four separated points about the axis of the reel. Obviously, a generally trough- or channel-shaped bar or strip having the advantages of the form illustrated might be otherwise formed without departing from the spirit of the invention. The strips or arms 1, 1' are also provided with an opening 3 through the base of each channel where the two intersect each other and which provides for the insertion of the usual supporting spindle commonly employed to sustain the reel when winding or unwinding the wire therefrom and, as the base of the channel pieces are spaced apart due to the flanges, a long bearing for the spindle is obtained.

The body of the reel or the drum portion upon which the wire is wound comprises a plurality of bars or lengths of metal 4 disposed about the axis of the reel and parallel thereto, the ends of the bars or lengths of metal being secured to the plates or arms 1, 1'. The said bars 4 are preferably formed by bending the longitudinal edges of a strip of sheet metal to form a bar trough-shaped in cross-section. This trough-shaped bar might take various forms, the preferable one being shown in Figs. 1, 2 and 3 wherein the sheet metal strip is bent into a substantial V shape which requires but a small amount of metal and is very rigid. The bottom of the trough is preferably rounded on its outer periphery and outwardly disposed from the axis of the reel whereby a smooth rounded surface is presented to the

wire to be wound thereon. The ends of the bars 4 are provided with ears or flanges 5 projecting laterally from the longitudinal flanges of the bars and by means of which the bars are secured to the end plates. Preferably these ears are secured by welding them to the face of the plates 1, 1', forming the arms of the reel by means of welding projections of localized area 6. The bars 4 are placed in position with the ears 5 butted against the projections 6 between suitable current-carrying electrodes, the current passing from one to the other and pressure applied to complete the weld, all as well understood in the electric welding art. Obviously, the projections 6 might be formed on either or both of the parts to be welded.

If desired, the arms 1, 1', might be also provided with radially disposed ribs or grooves 7 to stiffen the same and the edge of the bars 4 between the ears 5, which span the ribs, welded direct to the plates as at 8, by means of the projection or localized area afforded by these ribs, although the ribs might stop short of the bars and not be welded thereto.

It will be noted that the bars are welded to the arms at each end at a number of separated points of weld and thereby a very strong union attained and when the edge of the bar is welded to the rib, three points of weld are attained at each end.

If desired, each arm 1, 1', might be provided with a number of ribs 7 as shown in Fig. 5 and the ears 5 welded to the arms by means of the welding projections afforded by these ribs.

In the modification shown in Fig. 6 and the following figures, the trough-shaped bars or lengths of metal 4 forming the reel body or drum take the form of a channel having a base and side flanges, the ears 5 projecting laterally from the base and suitably secured to the reel arms 1, 1', as for instance by welding them to the face of the plate forming the reel arms in a similar manner to that described with reference to the preferred form.

The arms are preferably constructed of channel iron or steel on account of the convenience with which these can be formed or obtained, but it will be understood that other strips might be employed wherein ridges or flanges are provided for readily welding the arms to each other. The term "channel iron" or "channel-shaped" is herein used to indicate any strip of metal provided with suitable ridges or flanges projecting therefrom and by which the crossing arms may be electrically welded to one another at a number of points about the axis of the reel.

What I claim as my invention is:

1. In a metal reel, reel arms consisting of ridged metal strips crossing each other with their ridges in contact and welded to each other by said ridges to form four points of welded union around the reel axis and a reel body comprising trough-shaped bars provided with laterally projecting ears, said bars being secured to said arms by said ears.

2. In a sheet metal reel, reel arms consisting of ridged metal strips crossing each other with their ridges in contact and welded to each other by said ridges to form four points of welded union around the reel axis and a reel body comprising trough-shaped bars provided with one or more laterally projecting ears on the ends thereof, said bars being welded to said arms by said ears.

3. In a metal reel, reel arms consisting of channel-shaped strips of metal crossing each other with their flanges in contact and welded to each other by said flanges, said plates being also provided with a longitudinal rib intermediate its edges and a reel body comprising trough-shaped bars of metal having projecting ears adapted to span said ribs, said bars being welded to said plates by said ribs.

4. In a metal reel, reel arms consisting of channel-shaped strips of metal crossing each other with their flanges in contact and welded to each other by said flanges, said plates being also provided with a longitudinal rib intermediate its edges and a reel body comprising trough-shaped bars of metal having projecting ears adapted to span said ribs and welded to said arms by said ears, said bars being also welded direct on said ribs.

5. In a metal reel, reel arms consisting of channel-shaped strips of metal crossing each other with their flanges in contact and welded to each other by said flanges to form four points of welded union around the reel axis and a reel body comprising trough-shaped bars of metal having laterally projecting ears, said bars being secured to said arms by said ears and the end of the bars.

6. In a metal reel, reel arms consisting of channel-shaped metal strips crossing each other with their flanges in contact and welded to each other by said flanges to form four points of welded union around the reel axis and a reel body comprising V-shaped bars having a pair of laterally projecting ears on each end by which said bars are secured to said arms.

Signed at New York in the county of New York and State of New York this 19th day of January A. D. 1910.

ADOLPH F. RIETZEL.

Witnesses:

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