

W. H. ROWE & A. F. RIETZEL.

BEEL.

APPLICATION FILED JUNE 11, 1909.

1,056,455.

Patented Mar. 18, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

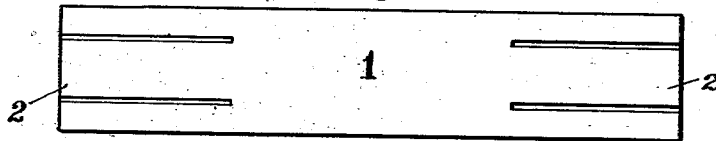


Fig. 3.

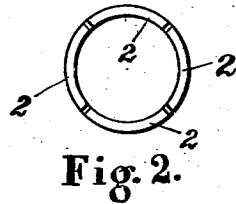
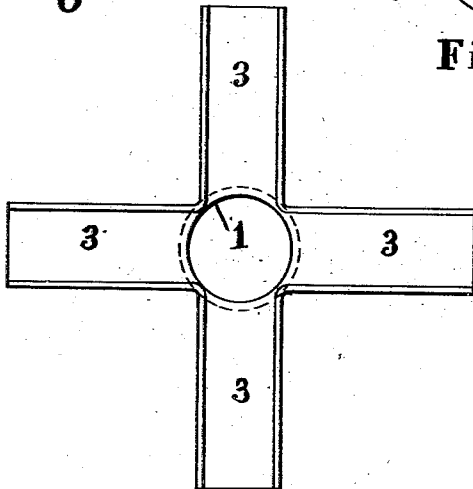


Fig. 2.

Fig. 6.

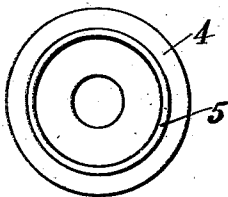
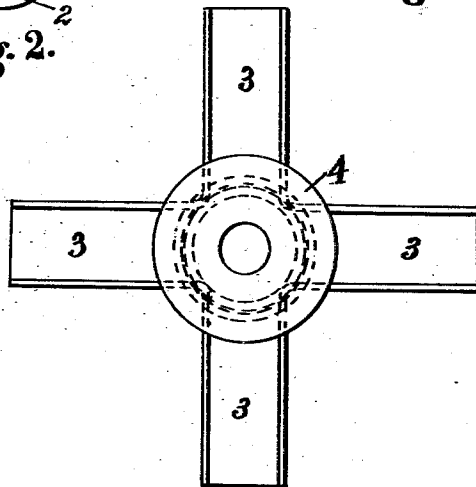


Fig. 4.

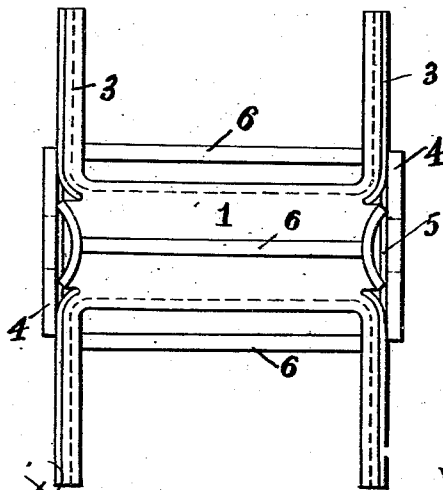


Fig. 7.

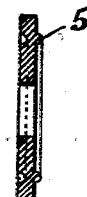


Fig. 5.

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W. H. ROWE & A. F. RIETZEL.

REEL.

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2 SHEETS-SHEET 2.

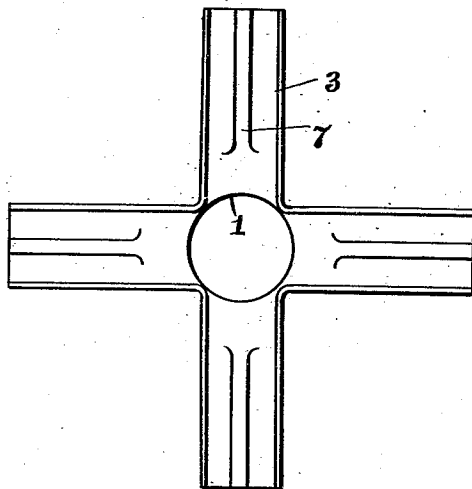
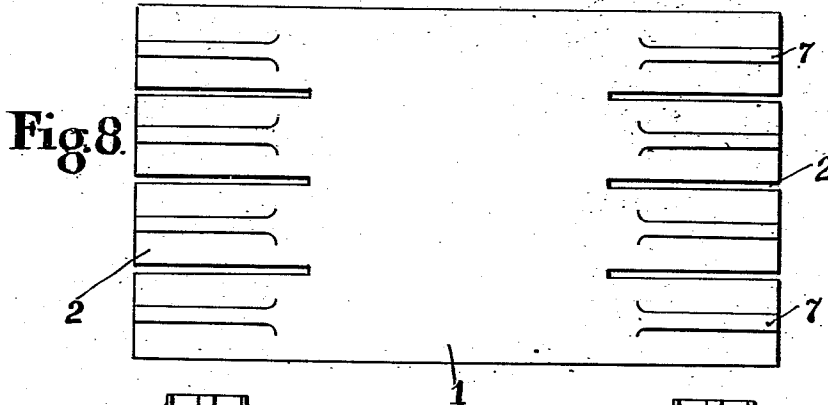


Fig. 11.

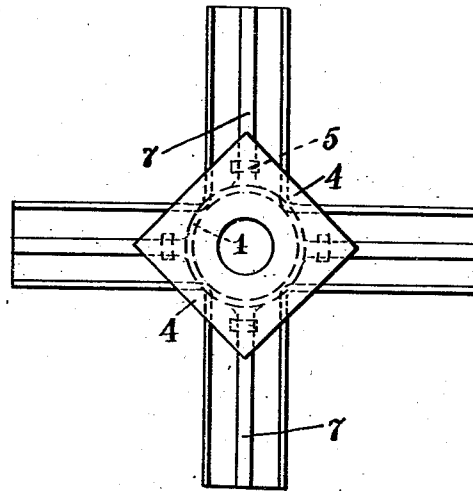


Fig. 14.

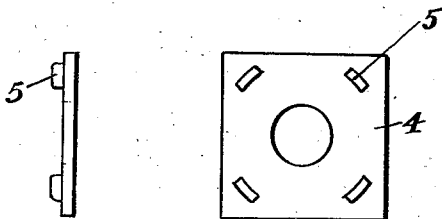


Fig. 12.

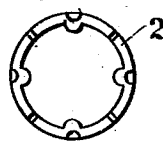


Fig. 10.

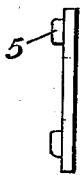


Fig. 13.

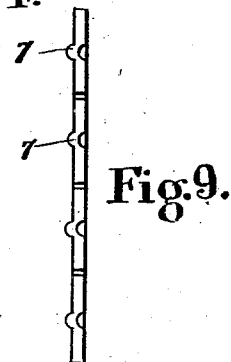


Fig. 9.

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WALLACE H. ROWE, OF PITTSBURGH, PENNSYLVANIA, AND ADOLPH F. RIETZEL, OF WESTERLY, RHODE ISLAND; SAID RIETZEL ASSIGNOR TO SAID ROWE.

REEL.

1,056,455.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed June 11, 1909. Serial No. 501,512.

To all whom it may concern:

Be it known that we, WALLACE H. ROWE, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, and ADOLPH F. RIETZEL, a citizen of the United States, and a resident of Westerly, in the county of Washington and State of Rhode Island, have invented certain new and useful Improvements in Reels, of which the following is a specification.

Our invention relates to the construction of reels for holding barbed or other wire or for other purposes.

The object of our invention primarily is to provide a reel which shall be stronger, cheaper and lighter than the wooden reels customarily employed for holding and shipping metal wire and which shall also have the advantage of being indestructible by fire and of withstanding abuse in handling and shipping.

Reels for holding and shipping wire as now customarily constructed are made from wood and owing to the constant increase in the cost of wood such reels, instead of being made solid as was the practice originally, have gradually been reduced to a skeleton form thus weakening their construction and causing them to collapse frequently when handled full of wire.

Reels constructed according to our invention also have the advantage that they may be made of uniform weight whereas wooden reels as ordinarily made for shipping wire, even though of the same standard size and style, will vary in weight a number of pounds. This difference in the weight of wooden reels used for shipping wire is objectionable for reasons well-known to those engaged in the business of manufacturing and dealing in barbed or other wire under prevailing business conditions.

Our present invention relates to the construction of a reel made of metal and in such manner that it may be manufactured

from metal tubing or sheet metal and so as further to permit the utilization of the process of electric welding in its manufacture.

To these ends our invention consists in the novel construction of metal reel herein described in connection with the accompanying drawings and in the details of construction as more specifically claimed in the annexed claims.

In the accompanying drawings Figure 1 is a plan of a piece of metal tubing as prepared for constructing a metal reel. Fig. 2 is an end view of the section of tubing. Fig. 3 is an end view of the reel as made from said prepared section. Fig. 4 shows a form of strengthening plate or flange that is preferably used in completing the reel. Fig. 5 is a transverse central section through the plate, Fig. 4. Fig. 6 is an end view of the reel showing the metal plate applied to the skeleton reel shown in Fig. 3. Fig. 7 is a plan of the complete reel and shows also the employment of rods welded between the arms for increasing the diameter of the drum or body. Fig. 8 shows a sheet metal blank prepared for constructing a reel. Fig. 9 is an end view of said plate. Fig. 10 shows the blank bent up to form the body or drum portion of the reel. Fig. 11 shows the skeleton of the reel after bending up of the ends of the tube shown in end view in Fig. 10. Fig. 12 is a plan of a strengthening plate or flange that may be applied and electrically welded to the end of the skeleton reel illustrated in Fig. 11. Fig. 13 is an edge view of the plate shown in Fig. 12. Fig. 14 is an end view of the complete reel.

Referring to Fig. 1, a piece of tubing of the desired length has its end slit, as shown, to divide the ends of the tube into segments which are bent radially outward to form reel arms or wings. The portion 1 of said tube forms the drum or body of the reel which may be given, if desired, a larger diameter by the employment of rods welded in place, as will be presently described. In

this construction it will be noted that the parts of the tube that form the arms or wings retain their original shape which operates as a rib to stiffen the arms. The projected edges of said arms afforded by the segments also serve as welding projections for use in the electric welding process of uniting or welding a strengthening plate or flange to said arms. Such a strengthening plate or flange is indicated at 4. It may be and preferably is provided with a circular ridge or rib 5 formed or provided in any suitable way on one face thereof and adapted to engage upon the projected edges of the arms 3. By providing a circular or uninterrupted projection 5 it is obvious that the plate will engage the arms by such a welding projection in any circumferential position in which it may lie when applied to the skeleton reel end shown in Fig. 3.

While it would be within our invention to use a welding projection to form one of the parts alone we prefer to employ it upon both. The office of this welding projection, as well understood by those skilled in the electric welding art, is to provide a contact area of limited extent in which the flow of current and the heating will be localized and at which point the welding will be effected when the parts are assembled between welding electrodes and pressure is applied to force the parts together. As also well understood in the art, the shape of said electrodes would be such as to accommodate the particular shape of the parts to be welded and while affording sufficient area to apply current to said parts will likewise be of such shape as to effectually apply pressure over the welding points or projections. As will also be well understood by those skilled in the art, the welding projections may take various shapes while, as already stated, being provided upon either or both of the parts. When it is desired to enlarge the circumference of the drum portion 1, rods 6 may be interposed between the arms 3, as shown in Fig. 7, and welded in position between them, the ends of the rods 6 being suitably prepared by pointing or otherwise before being put in place and the slight spring of the arms being sufficient to allow them to yield in the operation of completing the weld under the compression applied to the outer sides of the reel arms over the rods. In performing this operation it is obvious that various forms of clamping devices may be utilized and that the welding might be simultaneously effected at both ends of the rod 6 at once, or that they might be welded first at one end and then at the other. It is obvious further that the provision of a welding projection of slight area is facilitated

owing to the fact that the projection 5 lies across the projection afforded by the edges of the bent up segments 3. The plate 4 forms in effect a metal hub of the reel and may have, as indicated, a central perforation to form a journal bearing for the reel.

In Fig. 8 a piece of sheet metal is shown as provided with slits 2 and intermediate ribs 7 between the slits. These ribs are preferably formed so that when the plate is bent into the form of the tube, as shown in the end view Fig. 10, they will project within the tube. After the formation of the plate into the form shown in end view Fig. 10 or prior thereto, if desired, the ends of the plate are bent outwardly to form wings or arms 3. The ribs 7 in this instance form alone or in conjunction with the edges of the wings welding projections to which the strengthening plate 4 may be welded. In this instance the plate 4 has cooperating welding projections 5 formed on it in any desired way and at such points that they will match with or engage the ribs 7 while the portions of the plane face of said plate, unprovided with projections, will lie against or engage the edges of the arms 3. In this instance the edges 3 may serve alone as welding projections at such points of engagement, although as will be obvious, the welding may be effected alone at the points where projections 5 engage ribs 7. In the latter instance the welding would be started with the edges of the arms untouched by the surface of plate 4 but with projections 5 and ribs 7 engaged. On the application of the heating current and pressure the parts would yield and the work would be completed with the surface of the plate abutted upon the edges of the arms or wings.

What we claim as our invention is:

1. A metal reel comprising a body portion composed of metal tubing, reel arms or wings projecting radially from the ends of the tubular body portion and integral therewith and forming reel arms, and a metal plate welded on its face to the faces of said wings by welding projections.

2. A metal reel consisting of a tubular sheet metal drum or body portion, radial arms or wings formed by outwardly bent portions of the tube and forming reel arms and a plate welded to the projected edges of the arms.

3. A sheet metal reel constructed of a sheet metal tube whose ends are divided into segments and bent radially outward to form wings or arms with the concave of the segment presented outwardly and a plate welded to the edges of said segment as and for the purpose described.

4. In a metal reel, a body or drum portion of metal having radial metal arms or

wings forming reel arms and a plate welded by a projecting portion to a projecting portion of the arms or wings.

5 5. In a metal reel, a sheet metal body portion and reel arms or wings projecting radially from the ends of the sheet metal body portion and having radial ribs, and a strengthening plate welded by its face to said ribs.

10 6. In a metal reel, a sheet metal body portion and integral reel arms or wings projecting radially from the ends of the sheet metal body portion and having radial ribs, and a plate provided with projections on its
15 face welded to said ribs.

Signed at Pittsburgh, in the county of Allegheny and State of Pennsylvania, this 29th day of April, 1909.

WALLACE H. ROWE.

Witnesses:

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JOHN A. McLEAN.

Signed at Stonington in the county of New London and State of Conn. this 19th day of March, 1909.

ADOLPH F. RIETZEL.

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BELLE MINER.