L. W. GILL.

REEL.

APPLICATION FILED MAR. 25, 1913.

1,105,028.

Patented July 28, 1914.

Fig. 1.

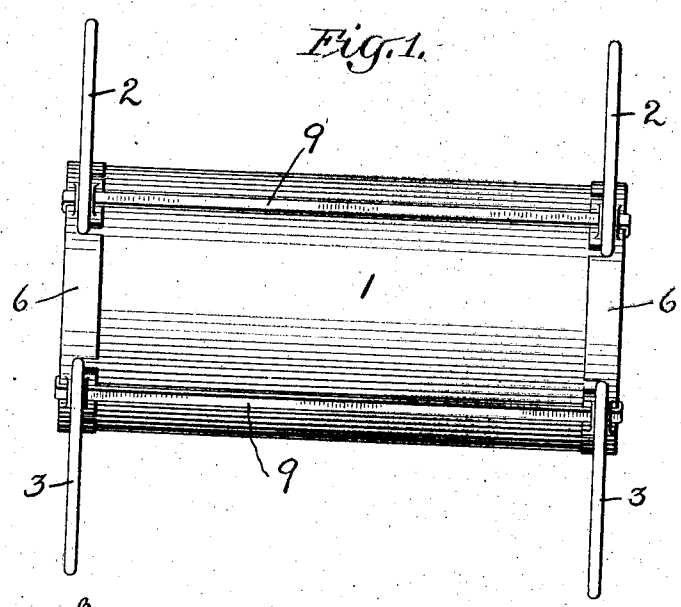


Fig. 3.

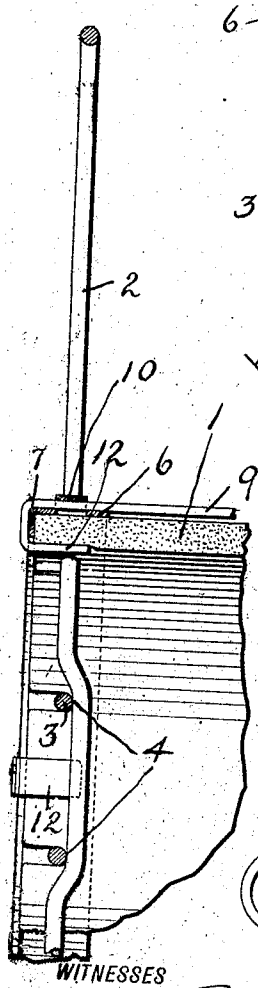


Fig. 2.

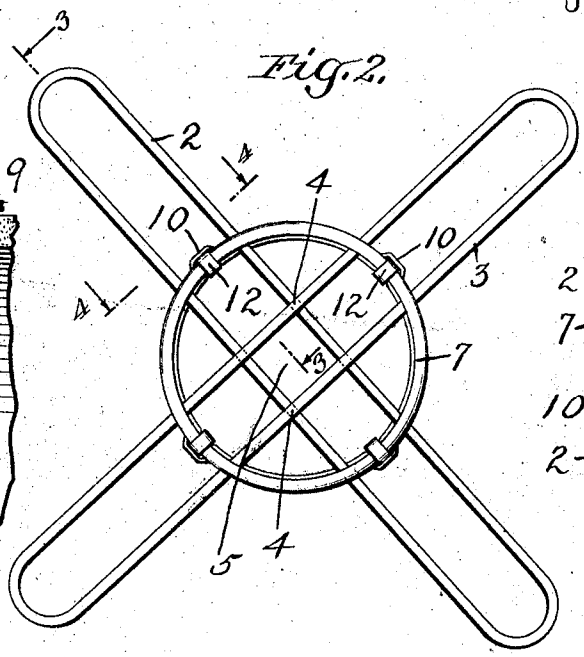
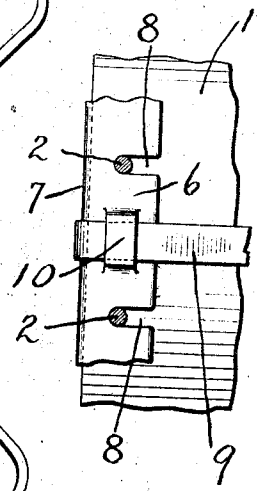


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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REEL.

1,105,028. Specification of Letters Patent. **Patented July 28, 1914.**

Application filed March 25, 1913. Serial No. 756,630

To all whom it may concern:

Be it known that I, LEWIS W. GILL, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Reels, of which the following is a specification.

My invention relates to the construction of reels for holding and shipping barbed or other wire or for other purposes and particularly relates to a form of reel made up of a combination of paper or other fibrous non-metallic material and metal.

The main object of my invention 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 practically indestructible by rough handling and shall not be liable to collapse even when heavily loaded.

A further object of the invention is to provide reels of such construction that they will all be of a uniform weight when constructed of the same material and size, as the wooden reels which have heretofore been most commonly employed in practice will vary greatly in weight even under a uniform size.

To these ends the invention consists in the novel construction of reel hereinafter more particularly described and then specified in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a reel constructed in accordance with this invention in one of its forms. Fig. 2 is an end elevation of the same. Fig. 3 is an enlarged section taken on the line 3—3 Fig. 2, parts being broken away. Fig. 4 is an enlarged section taken on the line 4—4 Fig. 2, and shows a portion of the reel in side elevation.

The body of the reel consists preferably of a paper, pulp or other fibrous non-metallic cylinder and by preference is a paper cylinder 1 formed of a number of layers of paper superimposed on each other, preferably by spinning, and compressed into a solid mass, the various layers being united by a suitable cement, glue or paste whereby a very rigid wall is attained. The specific manner of forming the cylinder forms no part of my invention and further description is deemed unnecessary. By employing a body of paper as described, great strength combined with cheapness is attained as well as greatly reducing the weight over wooden, metallic or even skeleton metal reels.

The arms for the reel of which, as is usual, there is one at each end of the body, are each made preferably of two endless wire loops 2 and 3. The loops are arranged to intersect each other at the center of the cylindrical body 1 and at such points of intersection 4 are welded to each other, preferably by the electric welding process, now well known. By this construction the radiating loops forming the reel arms are rigidly secured together and at the same time form a bearing 5 for the usual supporting spindle. It will be understood that the invention is not limited to constructing the arms of wire as other shapes of metal might be employed as desired.

6 indicates a metal band or hoop located at each end of the cylindrical body 1 and fitting tightly around the periphery thereof. The band 6 is provided with an inwardly projecting flange 7 which seats on the raw edge of the paper cylinder 1 and forms an annular end plate to protect the edge of the paper and prevent mutilation. The band 6 may be on either the outer or inner periphery of the cylinder so that the end plate 7 may project either inwardly or outwardly therefrom or a band may be provided on both the inside and outside and united by an end plate 7. The bands 6 are preferably provided with recesses 8 for the reception of the wires of the reel arms which wires enter similar recesses or depressions formed inwardly from the ends of the cylinder 1.

9 indicates stay members disposed longitudinally of the cylindrical body 1 and by preference disposed on the outside thereof. The said stay members preferably consist of flat strips spaced apart around the cylinder 1 and preferably disposed so that their ends are located between the wires of each loop of the reel arms. The ends of the stay members 9 are bent over the annular end plates 7 and are bent down as at 12 against the inner side of the cylinder, whereby the end plates, hoops and reel arms held thereby are firmly fastened to the body, the end plates and stays forming a retaining and a reinforcing framework for the paper body 1. Preferably the stays 9 are secured to the bands or hoops 6 in any desired man-

ner, a convenient and suitable way being illustrated at 10 (Fig. 4) in which the stay passes through an eye struck up from the material of the band and which is then clenched down on it. If desired additional stay members might be provided between the reel arms. By disposing the stay members as shown, they take the direct strain from the arms 2, 3, which strain when the reel is wound is outward.

By constructing the reel as shown, the cross arms are first formed and welded and then placed on the ends of the cylinder 1. The bands 6 are then slipped over and the stay members 9 applied and clenched over the end plates 7. It will be understood that the reel may be assembled in various different ways and various modifications in the construction and formation of the parts may be resorted to without departing from the spirit of this invention as expressed in the appended claims.

What I claim as my invention is:

1. A reel comprising a cylindrical body of non-metallic fibrous material like paper, a retaining framework for said body comprising annular metal end plates and stay members securing said plates to each other and to the body and radiating metal reel arms secured to the body by said plates.

2. A reel comprising a cylindrical body of paper-like material, annular metal end plates seated on the ends of said body, stay members securing said end plates to said body and reel arms comprising radiating members intersecting each other and secured together, said reel arms being secured to the body by said end plates.

3. A reel comprising a cylindrical body of paper-like material, radiating intersecting metal reel arms at each end thereof, metal bands on the outside of said body at each end and having flanges overlapping the edges of said cylinder and means adapted to positively and rigidly secure said bands to the body and fasten the reel arms thereto.

4. A reel comprising a cylindrical body of paper, wire loops crossing each other and secured together forming reel arms, annular metal end plates on each end of the body and adapted to secure said reel arms to the body and stay members adapted to tie said end plates together.

5. A reel comprising a cylindrical paper body, wire loops intersecting each other and secured together at their intersections to form reel arms, metal bands at each end of said body and provided with recesses for engaging the reel arms and stay members adapted to tie said bands together to secure the arms to the body.

6. In a reel, the combination of a cylindrical paper body, wire loops intersecting each other and secured together to form reel arms, metal bands at each end of the body having flanges engaging the edges thereof, said bands being provided with openings through which the reel arms pass and stay rods secured to said bands and adapted to fasten the reel arms to the body.

7. In a reel, the combination of a cylindrical body of paper-like material, radiating wire loops intersecting each other to form reel arms, annular metal end plates at each end of said body and adapted to engage said reel arms and stay members disposed longitudinally on said body and clamping said end plates within the loops of said reel arms substantially as and for the purpose described.

Signed at New York in the county of New York and State of New York this 21st day of March A. D. 1913.

LEWIS W. GILL.

Witnesses:
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K. M. MCMAHON.