April 23, 1929. W. H. SOMMER 1,710,384

REEL

Filed May 11, 1928

FIG. 1.

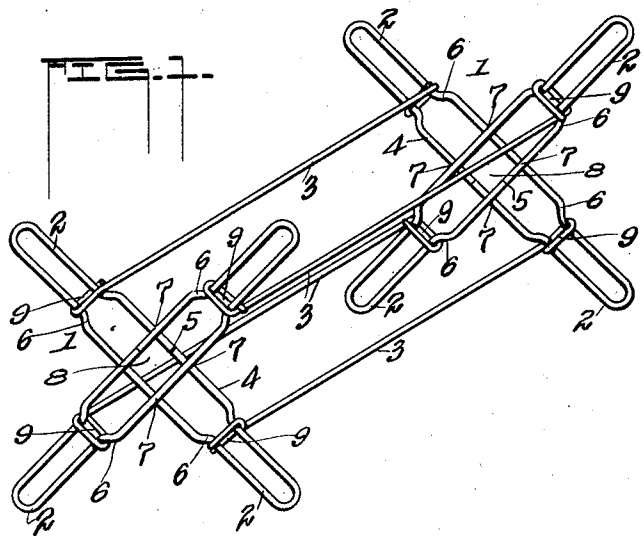
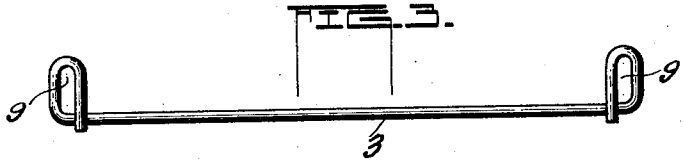


FIG. 3.



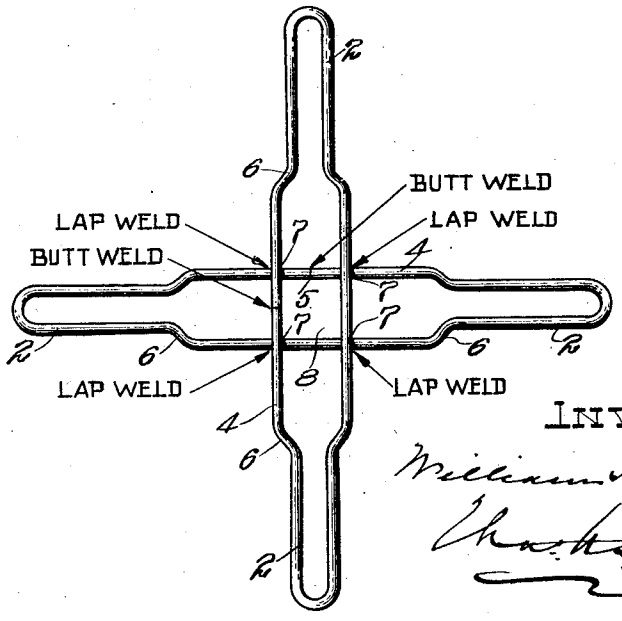


FIG. 2.

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Patented Apr. 23, 1929. 1,710,384

UNITED STATES PATENT OFFICE.

WILLIAM H. SOMMER, OF PEORIA, ILLINOIS.

REEL.

Application filed May 11, 1928. Serial No. 276,950.

This invention has reference to reels and relates particularly to that type of reel on which is wound barb-wire, altho it is useful for holding plain wire, or like material.

The invention has for its principal object to construct a reel of the character referred to entirely of wire, and including end members and tie-rods. Such a reel being light and inexpensive to make, and yet sufficiently strong to serve the purposes intended.

The invention has for a further object to provide a reel, the end members of which each comprise elongated looped wire lengths, the ends of which are "butt-welded", presenting in effect members of continuous wire stock and such members laid transversely across each other to provide arms for the connection of the tie-rods; the intersections of the wire forming the respective members being preferably united by "lap-welding" the same together.

That the invention may be more fully understood reference is had to the accompanying drawings forming a part of the description, illustrating a preferred embodiment of the invention in which:

Fig. 1 is a perspective view of a reel embodying my invention;

Fig. 2 is a view of one end of the reel showing the wire constituting each member "butt-welded" and the "lap-welding" of the respective members to each other, where they intersect, and

Fig. 3 is a view illustrating one of the tie-rods.

Like characters of reference denote corresponding parts thruout the figures.

The reel includes when assembled end members 1, 1 each formed with a plurality of radially disposed arms 2, the respective arms of which are connected by the spacing tie-rods 3. The wire from which the respective end members are made, and the wire used for forming the tie-rods may be of any gauge suitable to give sufficient strength to the structure for such purposes as the reel may be intended for use, and the diameter and length of the reel will of course be determined by the size of the end members 1 and the length of the tie-rods 3.

In the preferred form each end member 1 is made from two preferably elongated looped members which are placed at right angles across each other, as shown in Fig. 2 so that each end member is formed with the plurality of arms 2 to which are connected the tie-rods 3. For convenience each elongated looped member in an end member is designated 4 and comprise a wire bent into the form of an elongated loop as shown, with the meeting ends of the wire "butt-welded", as at 5, presenting in effect one continuous piece of wire stock. Said elongated looped members at points suitably removed from their opposite ends are formed with shoulders 6 producing the reduced end portions constituting the arms 2 over which are slipped the looped ends of the tie-rods to be described, said looped ends of the tie-rods engaging the shoulders 6 and the resiliency of the metal of the arms acting to prevent the outward movement of the tie-rods.

In the construction of an end member 1 a pair of elongated looped members comprising the wires 4 are laid cross-wise of each other as shown in Fig. 2 so as to produce a symmetrical figure substantially star-shaped and where the wires of respective looped members cross each other they are "lap-welded" as at 7, not only producing in effect a unified structure but strengthening the frame work thereof. The crosswise arrangement of the elongated looped members of the end members 1 produce the axially disposed openings 8 which provide a journal bearing for the insertion of a spindle, not shown, which may serve to support the reel when winding and unwinding the barb-wire, plain-wire or other material.

Referring to the tie-wires 3 each are formed at their opposite ends with loops or eyes 9. Such loops or eyes are formed by bending the ends of the tire-wires at right angles and in the same plane and then inturning or bending back the ends of said loops or eyes, so as to cross the main body of the tie-rods as shown in Fig. 3. In the assembling of the reel and to connect the respective arms 2 of the opposite end members 1 the loops 9 are slipped down over the arms 2 to the point of engagement with the shoulders 6 thereof, as previously explained. The inturned portions of the loops or eyes will lie next adjacent to the wire which may be wound on the reel, and such wire when brought into engagement with the inturned ends of the loops or eyes will act as a lug to prevent the opening up of such inturned ends of said tie-rods.

I am aware that it is not new in the art to construct a reel of the character herein referred to entirely of wire, nor is it new to provide such a reel of looped end members which

are laid cross-wise of each other and the wires forming such end members where they intersect, "lap-welded" to each other. Such a reel is disclosed in a patent granted to me October 7, 1924, No. 1,510,750, but in my former patent the meeting ends of each looped member overlap for a short distance and these lapped portions cross the single wire of the other cross members and the two such lapped ends are "lap-welded" to a single cross wire. Such a structure, I have found presents certain disadvantages which tend to weaken the structure and practically makes the same unfit for the rough uses to which such reels are put, both in reeling the wire and when unreeling in the field. In the practice of welding the lapped ends of one member to the single wire of the other member, it has been found that one of the lap portions will produce a good weld, while the other will not and it is with some difficulty, if not practically impossible to keep the welding machine in shape to meet this condition, with the result there is a marked breaking at these points in the structure, if not a separation which will break down in actual use. In the present structure these disadvantages are entirely overcome and obviated and a strong and permanent "lap-weld" is assured. Also by "butt-welding" the looped end members there is the advantage that each member presents in effect one continuous piece of wire stock, when "butt-welded", and when the respective crossed looped members are united by welding the welds are formed by single wires crossing each other, which can thereby be made permanent.

What I claim is:—

A wire reel including pairs of transversely related end members, each member comprising a wire looped on itself and the ends "butt-welded", and the wire of each member where it crosses and intersects the wire of the other member being "lap-welded" thereto, and wires connecting opposite terminal ends of corresponding end members.

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