Aug. 26, 1947. F. W. VON WEHRDEN 2,426,538

SLING AND END FITTING THEREFOR

Filed Sept. 28, 1944

Fig. 1.

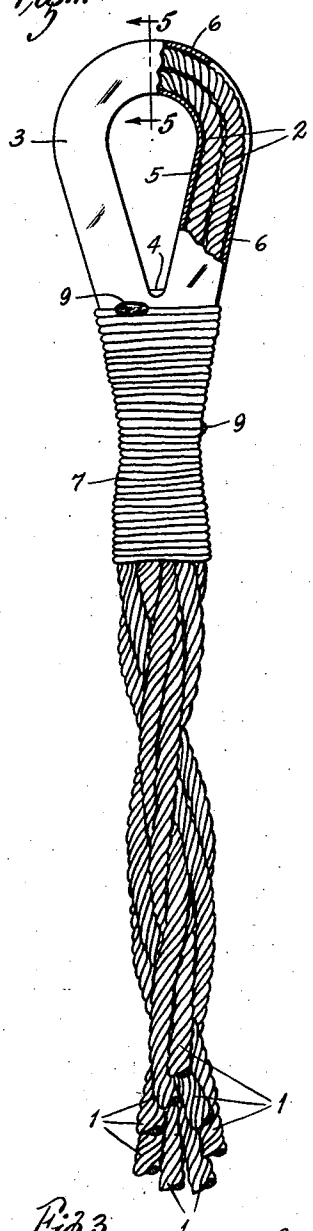


Fig. 2.

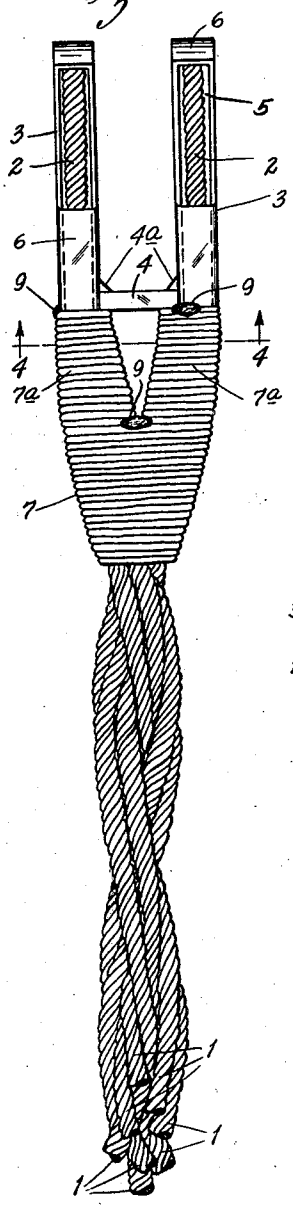


Fig. 4.

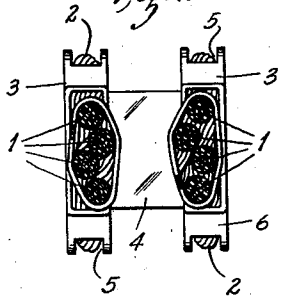


Fig. 5.

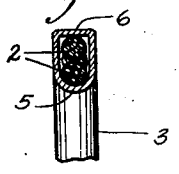
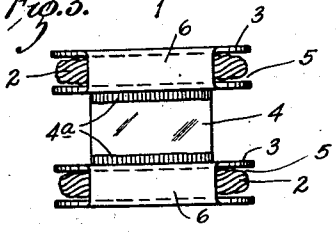


Fig. 3.



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Patented Aug. 26, 1947 2,426,538

UNITED STATES PATENT OFFICE

2,426,538

SLING AND END FITTING THEREFOR

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Application September 28, 1944, Serial No. 556,277

10 Claims. (Cl. 287—81)

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This invention relates to the end fitting constructions of slings, particularly braided or plaited wire rope slings. It has for its principal object to provide a shackle or clevis-type end fitting construction for the above type of sling that is strong and durable, light in weight, simple and economical and is readily assembled from rope thimbles of standard size and shape. The invention consists in interconnecting two rope thimbles in spaced relation to form a shackle or clevis-type end fitting and in providing the braided or plaited wire rope sling with end loops that fit around the respective thimbles. It also consists in the parts and combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a side elevational view of a plaited or braided wire rope sling provided with an end fitting construction embodying my invention, the view being taken from one side face of the fitting,

Fig. 2 is a side elevational view of the sling and end fitting construction, the view being taken from one side edge of the fitting,

Fig. 3 is an end elevational view of the sling and end fitting,

Fig. 4 is a cross-sectional view on the line 4—4 in Fig. 2; and

Fig. 5 is a cross-sectional view on the line 5—5 in Fig. 1.

In the accompanying drawing, my invention is shown embodied in a wire rope sling comprising eight braided or plaited strands 1 terminating at the end of the sling in four loops 2. The sling is provided with a shackle or clevis-type end fitting comprising two forged, cast or pressed metal eyes or thimbles 3 of well known form that are permanently connected together in spaced parallel relation at their inner ends by a metal cross or bridge piece 4 that fits between and is welded, as at 4a, to the opposing side faces of said thimbles.

Each of the thimbles 3 has an external groove or channel 5 therein; and the four end loops 2 of the sling are separated or divided into two pairs with the two loops of each pair seating one upon the other in the external groove of each thimble. As shown in the drawing, the channels of each thimble are bridged or covered, as at 6, at the outer and inner ends thereof so as to retain the end loops 2 of the sling in said grooves.

Near the end fitting, the braided strands 1 are bound together with a wire serving 7, which is divided and wrapped, as at 7a, around each pair

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of end loops 2. The serving is anchored in place preferably by means of welds 9.

The hereinbefore described sling and end fitting construction have several important advantages. The two end thimbles are rigidly connected together in proper spaced relation by the combined spacer and strut member welded therebetween, thereby forming a shackle or clevis-type end fitting of strong, simple and economical construction. The size of the built-up end fitting construction may be varied by using thimbles of different sizes; and the spacing of the thimbles may be varied by using connecting plates of different lengths. The end loops of the sling cooperate with the thimbles of the end fitting to divide the load therebetween; and the loops are in tension and thus tend to hold the thimbles under compression against strains which tend to spread or distort them. The end loops of the sling are equally divided between the two thimbles of the shackle or clevis-type end fitting; and the serving wire operates to hold the divided pairs of loops in proper spaced relation before entering the end fitting and to prevent wear or scuffing of these portions of the sling. The hereinbefore described construction eliminates the heavy and expensive forged or cast one-piece clevis-type end fittings heretofore employed; and it also eliminates the zinc-filled socket constructions heretofore required for anchoring the sling to such end fittings.

What I claim is:

1. In combination, a rope, and an end fitting therefor, said end fitting comprising a plurality of thimbles rigidly connected together in spaced relation, said rope terminating at one end in a plurality of loops, each positioned about one of said thimbles.

2. In combination, a wire rope and an end fitting therefor, said end fitting comprising a pair of thimbles rigidly connected together in spaced relation, said wire rope terminating at one end in two loops, each positioned about one of said thimbles.

3. In combination, a braided wire rope sling and a shackle-type end fitting therefor, said end fitting comprising two thimbles rigidly connected together in spaced relation, said braided wire rope terminating at one end in two loops, one positioned about each of said thimbles.

4. In combination, a braided wire rope sling and a shackle-type end fitting therefor, said end fitting comprising two thimbles and a bridge piece rigidly connecting said thimbles together in spaced relation, said braided wire rope terminating at one end in two pairs of loops, the loops

of one pair being positioned about one of said thimbles and the loops of the other pair being positioned about the other of said thimbles.

5. In combination, a braided wire rope sling and a shackle-type end fitting therefor, said end fitting comprising two exteriorly grooved thimbles and a bridge piece welded to said thimbles and rigidly connecting them together in spaced relation, said braided wire rope terminating at one end in two pairs of loops, the loops of one pair being positioned one over the other in the external groove of one of said thimbles and the loops of the other pair being similarly positioned in the external groove of the other of said thimbles.

6. In combination, a braided wire rope sling and a shackle-type end fitting therefor, said end fitting comprising two thimbles and a bridge piece rigidly connecting said thimbles together in spaced relation, said braided wire rope terminating at one end in two pairs of loops, the loops of one pair being positioned about one of said thimbles and the loops of the other pair being positioned about the other of said thimbles, and a wire serving for binding pair of loops together adjacent to said end fitting.

7. An end fitting for a rope sling comprising a pair of separately formed, similarly positioned rope thimbles rigidly connected together with portions thereof disposed in spaced apart parallel relation.

8. A shackle-type end fitting for a rope sling comprising two separately formed, similarly positioned rope thimbles having non-communicating external peripheral rope grooves therein and a separate cross-member rigidly connecting said thimbles together in spaced apart relation.

9. A shackle-type end fitting for a braided wire rope sling comprising a pair of separately formed, similarly positioned rope thimbles, and a cross member welded to and rigidly connecting said thimbles in spaced apart parallel relation.

10. A shackle-type end fitting for a braided wire rope sling comprising a pair of separately formed, similarly positioned thimbles, and a cross member welded to and rigidly connecting said thimbles together with portions thereof disposed in spaced apart relation, each of said thimbles having an external peripheral groove therein disposed in non-communicating relation to the groove in the other thimble and adapted to receive an end loop of said sling.

FREDERICK W. von WEHRDEN.

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Certificate of Correction

Patent No. 2,426,538. August 26, 1947.

FREDERICK W. VON WEHRDEN

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Column 3, line 24, after "binding" insert *each*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 30th day of December, A. D. 1947.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.