

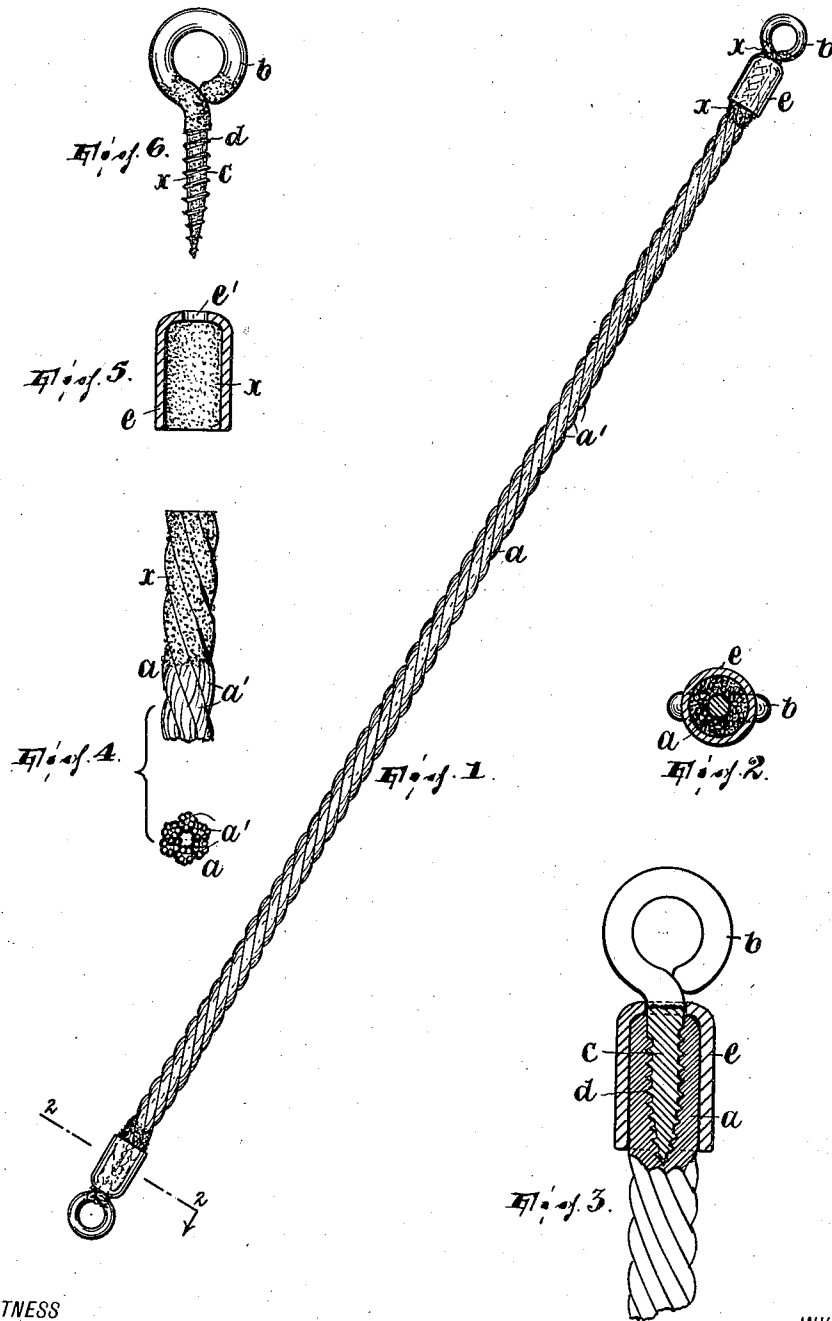
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FLEXIBLE CONNECTION

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FLEXIBLE CONNECTION.

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To all whom it may concern:

Be it known that I, JOHN BAKER, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Flexible Connections, of which the following is a specification.

This invention contemplates a flexible connection designed to be used particularly in running contact with the peripheries of pulleys and in place of the usual ropes, which as now constructed soon fray out and break apart in consequence of the constant friction and bending incident to their travel over the pulleys. Where such devices are used in looms, for example, to transmit up and down motion to the harness elements it is necessary frequently to stop the operation of the loom in order to repair or replace them. The object of the invention is to provide a flexible connection suitable for this purpose, and to that end to equip the device with coupling terminals which shall be secured to the strands forming the connection in a substantial and durable way and so as to give the device a neat and finished appearance.

In the drawing,

Fig. 1 is an elevation of the improved connection;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 shows an end portion of the connection with the coupling terminal in section, the ends of the strands being shown in section as a unit rather than individually, to avoid confusion;

Fig. 4 is a side elevation and transverse section of the group of strands; and

Fig. 5 is a longitudinal section of the ferrule and Fig. 6 a side elevation of the attaching member.

a designates a group of intertwisted strands. In the present case this group comprises strands arranged in minor groups or sets *a'* with such sets or groups twisted together to form the group *a*. The strands are composed of wire, so that the group of twisted strands *a* form a wire cable.

The attaching member may consist of an eye *b* having a shank *c* which is provided with one or more shoulders *d*. In the present case the shoulder is one extending spirally around the shank from its free end upwardly, being in fact a thread on the shank. The attaching member has its shank extending longitudinally and centrally into

the end of the group of strands, as best shown in Fig. 3, and the strands stand pressed inwardly against the shank of the attaching member so that its shoulder *d* becomes locked with the strands, pressed against the shank as stated, in a way to prevent the shank from being withdrawn from the group of strands.

To maintain the pressure of the strands against the shank there is a ferrule *e* of metal which embraces and exerts constricting pressure on the strands. In the present case this ferrule is in the form of a cap having a hole *e'* in its free or outer end large enough to admit the shank of the attaching member, but this is immaterial.

Once the strands are interlocked with the shouldered shank of the attaching member by being pressed circumferentially against the latter and held in that relation by the ferrule *e* it will be practically impossible to withdraw the shank except, possibly, after protracted flexing of the device when in use.

I preferably assemble the parts by the following method: First the ferrule is slipped over the end of the group of strands, being made to fit the same quite snugly. Then the shouldered shank *c* of the eye *b* is driven into the end of the group of strands, being passed through the hole *e'* in the ferrule; if the shoulder of the shank is in the form of a screw thread the shank, as shown in Figs. 3 and 6, is screwed into the end of the group of strands. In any event, it is best after the parts have been assembled to cement them together. The ferrule and eye *b* are of metal, as well as the strands, and they are all cemented together by means of solder; and to this end the end portion of the group of strands, the interior of the ferrule and the shank are all before assembling treated with a flux, indicated at *x* in Figs. 4, 5 and 6, and then, after assembling, solder is applied thereto. The cementing prevents any possibility of the assembled parts loosening, even after protracted manipulation of the device when in use.

Having thus fully described my invention, what I claim is:

1. A flexible metal connection comprising intertwisted flexible strands, an attaching member having a shouldered metal shank extending longitudinally of and embedded in one end portion of the group of strands, and a metal ferrule embracing said end portion and holding the same constricted and there-

by pressed inward against the shank, said end portion being soldered to the shank and the ferrule being soldered to said end portion.

- 5 2. The method of forming a flexible connection having an attaching terminal which consists in applying a flux to the end portion of a group of intertwisted metal strands and to the interior of a metal ferrule adapted
10 when fitted over said end portion to confine the same against expansion and then fitting

said ferrule over said end portion, then applying a flux to the shouldered metal shank of an attaching member and forcing such shank into the thus-confined end portion of said group longitudinally thereof, and finally applying solder to the surfaces of said end portion, shank and ferrule having the flux applied thereto.

In testimony whereof I affix my signature.

JOHN BAKER.