July 9, 1929. W. B. HARRIS 1,720,272

HARNESS CORD FOR LOOMS

Filed Oct. 5, 1927

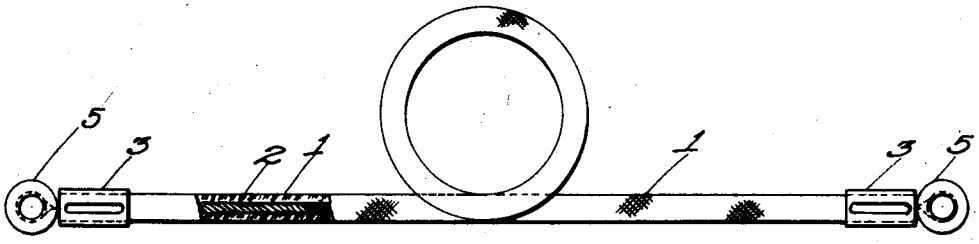


Fig. 1.

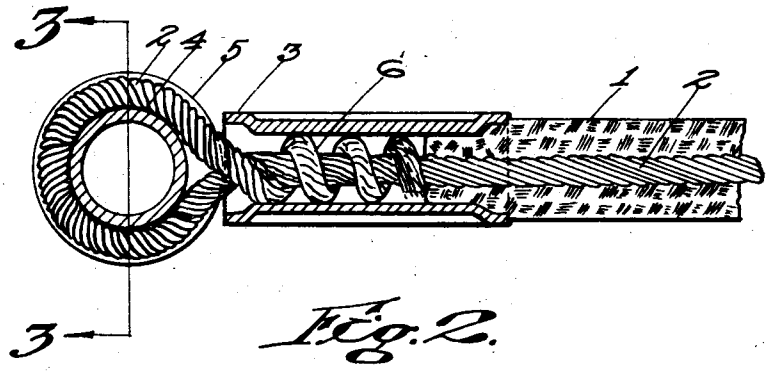


Fig. 2.

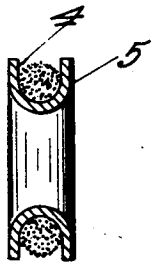


Fig. 3.

Inventor:
Warren B. Harris
By Geo. B. Kennedy Jr.
Attorney

Patented July 9, 1929. 1,720,272

UNITED STATES PATENT OFFICE.

WARREN B. HARRIS, OF MILLBURY, MASSACHUSETTS.

HARNESS CORD FOR LOOMS.

Application filed October 5, 1927. Serial No. 224,148.

The invention relates to the flexible connections, called "harness cords", which are used to transmit the motion of the jacks or levers in a shedding mechanism to the harness frames that control the warp threads in a loom. The invention is especially applicable for use in connection with dobbies, although not limited to such, being also susceptible of use in connection with the vibrator gear head motion, or any other type of harness motion.

The invention comprises a flexible braided cord in the center of which is a core of multi-strand wire. The central wire core extends beyond the ends of the cord, is looped around suitable eyelets and is then secured, as by twisting of the wire upon itself. Metal ferrules cap the twisted or secured ends and desirably are compressed against the wire; the completed article thus has no weak spots as the eyelets are held to the harness cord with the strength of the wire core itself.

Breakage of harness cords in a loom is one of the most frequent causes of warp smashes and damaged goods, entailing a great loss of production and lowering the selling price of the cloth. The use of the harness cord of the invention, therefore, results in a marked increase in the daily profit to be made from a given loom.

In the drawings,

Figure 1 is a view partly in elevation and partly in section of the harness cord of the invention.

Figure 2 is an enlarged sectional view through an eyelet, a ferrule, and one end portion of the cord.

Figure 3 is a sectional view, taken on the line 3—3 of Figure 2.

Like reference characters refer to like parts throughout the drawings.

Referring first to Fig. 1, a harness cord comprises a cord portion proper 1 which is made of braided textile material, and which has a central portion 2 of multi-strand wire, preferably steel. This flexible core of wire greatly increases the strength of the harness cord as a whole, since the tensile pull is taken by it, the surrounding braided portion readily stretching to allow the core to support the load.

The ferrules 3, 3, used with the invention are hollow cylinders of metal, having no turned over ends. In the manufacture of the cord, according to the most advantageous method now known to me, they are slipped over the ends of the cord portion 1 and some of the braided material at each end is then cut away, so that the wire core 2 is laid bare at each end of the cord. The latter is then looped around the grooves 4 provided by annular metal eyelets 5, 5, and then twisted over on itself as shown at 6. The ferrules 3, 3, are then slid down over the portions 6 and compressed thereon, which action effectively prevents untwisting of the wire. If desired, solder can be used to make the connection stronger, but ordinarily this will be unnecessary.

The cord of the invention thus comprises the cord portion 1 whose twisted wire core 2 is looped around eyelets 5, 5, and then secured upon itself, metal ferrules preferably being provided for the purpose set forth. It is immaterial, so far as the invention is concerned, just how the cord is made, but it will be noted that from its nature the cord can be made with a very slight amount of labor. There are no weak spots in the cord, and yet it is highly flexible throughout, and possesses the full strength of the twisted wire which forms the core 2. Notwithstanding this feature, the body of the cord presents an exterior textile surface, and thus it will not excessively wear the pulleys over which it runs as has been the case with cords made entirely of wire.

It should be understood that my invention is not limited to the use of ferrules and eyelets at both ends of the cord, but contemplates the improved setting of an eyelet both singly and in combination with the cord having a wire core, even if the attaching device be used only at one end.

I claim:

1. In a harness cord for looms, multi-strand wire forming a core, a cord of textile material braided about said wire, an eyelet, said multi-strand wire being looped around the grooved periphery of said eyelet, and a ferrule holding the wire upon itself.

2. In a harness cord for looms, multi-strand wire forming a core, a cord of textile material braided about said wire, an eyelet, said multi-strand wire being looped around the grooved periphery of said eyelet and secured upon itself by twisting, and a ferrule over the twisted portion and engaging the cord of textile material to prevent it from untwisting.

WARREN B. HARRIS.

CERTIFICATE OF CORRECTION.

Patent No. 1,720,272. Granted July 9, 1929, to

WARREN B. HARRIS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Lines 97 and 103, claims 1 and 2, respectively, after the word "eyelet" insert the words "consisting of an annular piece having a deeply grooved periphery"; 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 20th day of August, A. D. 1929.

(Seal)

M. J. Moore,
Acting Commissioner of Patents.