

No. 774,909.

PATENTED NOV. 15, 1904.

J. COCKER.  
HEAD WIRE FOR CARPET LOOMS.

APPLICATION FILED MAR. 14, 1904.

NO MODEL.

FIG. 1.

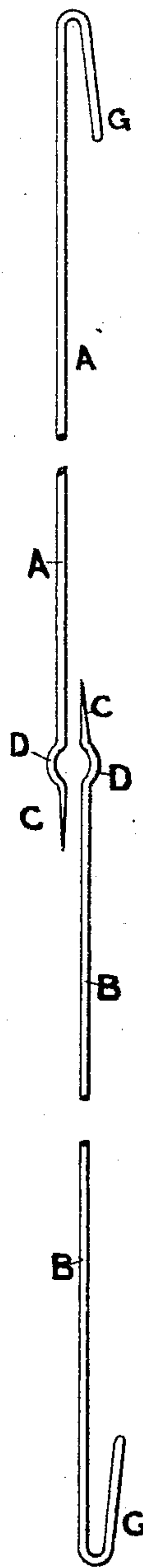


FIG. 2.

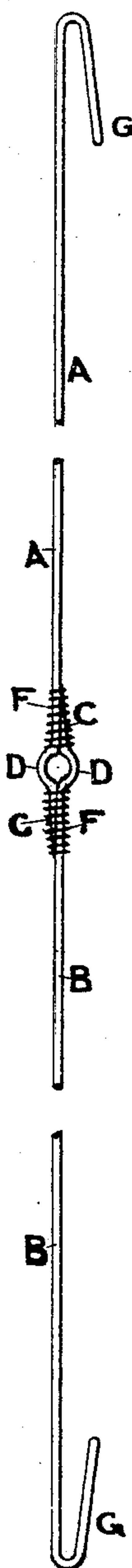


FIG. 3.

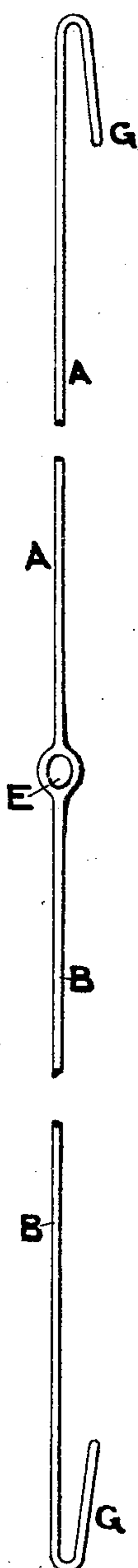


FIG. 5.



FIG. 4.



WITNESSES

*Abner Reed*

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INVENTOR

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# UNITED STATES PATENT OFFICE.

JOHN COCKER, OF HALIFAX, ENGLAND.

## HEALD-WIRE FOR CARPET-LOOMS.

SPECIFICATION forming part of Letters Patent No. 774,909, dated November 15, 1904.

Application filed March 14, 1904. Serial No. 198,108. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN COCKER, a subject of the King of Great Britain, and a resident of Halifax, in the county of York, England, (whose postal address is 17 Pit Hill, Trooper Lane, Halifax, aforesaid,) have invented new and useful Improvements in Heald-Wires for Carpet-Looms, of which the following is a specification.

This invention relates to heald-wires employed in carpet-loom, and is specially designed for use in Brussels looms and back healds in tapestry-loom.

Hitherto the heald-wires upon the back-heald shafts of carpet-loom have been knit together and constructed of brass wire, with mails formed by the strands of wire. This kind of heald-wire has numerous drawbacks. It is apt to lengthen from constant use, buckle and break at the mail or eyelet, and is soon worn out by the constant rubbing or friction of the warp upon same.

It will be readily understood that should a heald-wire buckle at the mail in all probability serious damage or injury to the pattern of the carpet will follow, consequent upon the said wire or mail interfering with or acting upon the adjoining warp-threads as the former is being raised or lowered by the heald-shafts during the operation of the loom. In the case of the wires attached to lingoes the twisted-wire strands of which such wires are formed greatly damage the warp-threads should they rub against them during the operation of the shedding motion. The friction set up by said rubbing causes a considerable quantity of fluff or waste fibers from said warp-threads to accumulate beneath the lingoes which should go to make the carpet. Further, all the wires and mails being knit together, considerable time and labor is taken up in changing or reducing the number of wires and mails, according to the width or quality of carpet to be woven.

The object of my invention is to construct heald-wires for the back-heald shafts of carpet-loom of greater strength and durability than hitherto, such as will not deteriorate either from varying temperatures or long

standing when not in use and which by their smooth exterior will reduce the friction upon the warp-threads to a minimum, and so prevent the accumulation of fluff by removing the cause, the result being a better quality of carpet.

My improved heald-wire is also mounted free or loose upon the heald-shafts, so that should one or more wires be disarranged or moved out of their correct position by the weaver in making some alteration, adjustment, or examination of the adjacent mechanism of the loom the wire or wires adjusts itself or themselves in a direct line with its desired position in the reed or slay at the next beat up of the loom. In this manner the strain upon the warp is reduced to a minimum, a more even shed is obtained, and the tension is uniform throughout. Also with the said wires being loose upon their shafts any wires not required can be easily detached, secured together, and moved to one or each end out of the way. Additional wires can be employed or placed in position with equal facility.

Figure 1 shows my improved heald-wire in sections or in the first stage of manufacture. Fig. 2 shows my improved heald-wire in the second stage of manufacture. Fig. 3 shows my improved heald-wire in the finished state. Fig. 4 is an end view of a section of my improved wire shown at Fig. 3. Fig. 5 shows my improved heald-wire for use with lingoes.

My improved heald-wire is constructed of hardened and tempered steel and of a desired length and strength, with hooks or eyes formed at the ends to suit the different heald-shafts or lingoes, as required. In order to form the mail or eyelet in such wire, I preferably form or construct said wire of two sections or pieces A and B and bend the same at one end of each section in a suitable manner, the continuation or short piece C from each bend D being in alinement with the straight part of each section and is chamfered, so as to splice or bed properly and not unduly thicken the wire at this part. When the two sections A and B are brought together, the bend in one section should be directly opposite the bend in the



other section, so forming the desired eyelet or mail E. The two sections are then spliced together at this part by being wrapped with suitable steel wire, band, or collar F upon  
5 each side of the mail. The whole is then brazed to form a smooth, durable, and permanent eyelet and joint. The wires when in use are mounted upon the heald-shafts by means of the hooks G, which move or slide upon the  
10 said shafts and adjust themselves as desired, according to the tension put upon them by the warp, while any wire or wires not required are simply detached and placed at one end of said shafts out of the way until again required.  
15 The wires and mails when finished being one piece of hardened and tempered steel uniform in thickness with a smooth surface throughout they are inextensible, and should they be temporarily bent on some account or other  
20 their elasticity causes them to resume their

normal condition immediately upon being released.

What I claim as my invention, and desire to secure by Letters Patent, is—

A heald formed of sections of wire each 25 having a curved portion and a tapering end portion, the end portion of each said section being secured by fine-wire bands to the main portion of the other section with the said curved portions arranged opposite each other 30 and forming an eye, and the said fine-wire bands being brazed to the said sections so as to form a smooth surface.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN COCKER.

Witnesses:

ABM. REED,

W. E. GREENWOOD.