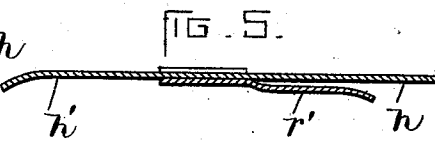
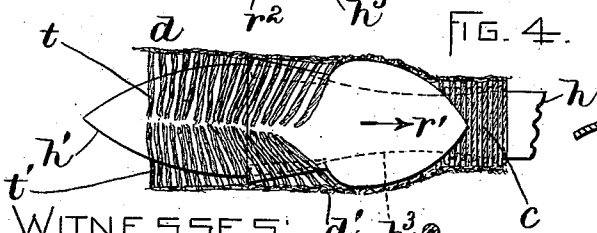
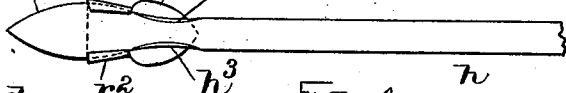
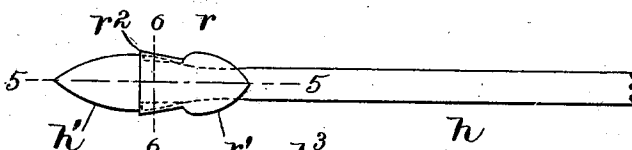
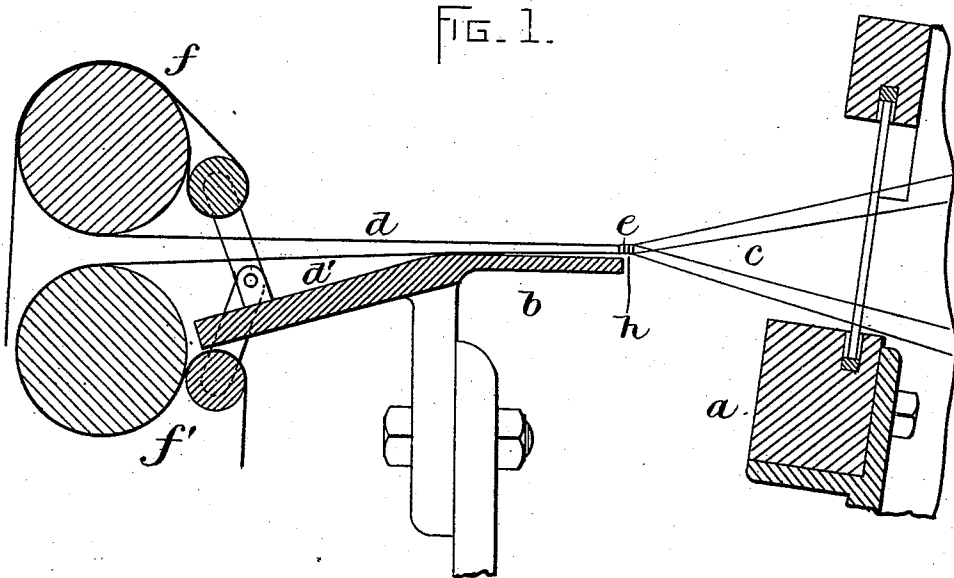


(No Model.)

R. E. MURPHY.
PILE WIRE FOR LOOMS.

No. 537,220.

Patented Apr. 9, 1895.



WITNESSES:

A. D. Hanson
Polih Abell.



INVENTOR:

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UNITED STATES PATENT OFFICE.

ROBERT E. MURPHY, OF LOWELL, ASSIGNOR OF ONE-HALF TO THE MASSACHUSETTS MOHAIR PLUSH COMPANY, OF BOSTON, MASSACHUSETTS.

PILE-WIRE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 537,220, dated April 9, 1895.

Application filed November 10, 1894. Serial No. 528,383. (No model.)

To all whom it may concern:

Be it known that I, ROBERT E. MURPHY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pile-Wires for Looms, of which the following is a specification.

This invention relates to an improvement in the wires used in looms for weaving pile fabric, and is particularly adapted for use in those looms which weave two pieces of pile fabric simultaneously.

The invention consists in certain novel features of construction and arrangement of parts which will be fully hereinafter described and particularly pointed out in the claims.

Reference is to be had to the accompanying drawings, and the characters marked thereon, which form a part of this specification, like characters designating like parts or features, as the case may be, wherever they occur.

In the drawings, Figure 1 is a sectional end view of a portion of a loom showing the breast-beam, the lay, the relative position of the two sets of warp-threads, and a series of wires in position between the two pieces of fabric. Figs. 2 and 3 are front and rear views respectively of my improved wire and its shield. Fig. 4 is a view showing the knife part of the wire in position between the two pieces of fabric to cut the warp-threads to form the pile or plush. Figs. 5 and 6 are longitudinal and cross-sectional views respectively, on the lines 5—5 and 6—6 of Fig. 2.

This invention relates particularly to those looms that weave simultaneously two pieces of pile fabric. In such looms, as is well known, the pile or plush sides of the two pieces of fabric face each other and are held together during the process of weaving, by the warp-thread of each piece being woven about the wire until the wires are withdrawn. When the wires, as heretofore constructed, are withdrawn to cut the warp-threads and thus form the pile or plush, the cutting head of the wire, if made broad enough to hold the threads taut enough to cut them, frequently cuts the body of the fabric; and when the heads of these wires are made narrow to avoid this difficulty, it frequently happens

that some of the warp-threads are not stretched taut enough to cut. By using my improved form of wire, both these difficulties are overcome. The warp-threads are held taut over the cutting part of the wire, while at the same time the body of the fabric is protected by a shield from said cutting part.

The lay *a*, the breast-beam *b*, the warp-threads *c*, the sets of rollers *f f'*, the two pieces of plush fabric *d d'*, and the arrangement of said parts are the same as is usual in looms of the kind referred to. I lay no claim to these parts, they being shown merely to show the relation of my invention therewith.

e represents approximately the place where the wires are inserted in the fabric and withdrawn in the usual way.

My improved form of wire consists of the shaft-portion *h* having an enlarged spear-shaped head *h'* the edges of which are made blunt. Near the base of said head the sides of the wire are formed with cutting edges, as at *h^s*. A shield *r* is firmly secured to the base part of the head *h'* by pinching the edges *r^s* of said shield upon said head *h'* or in any other desired manner. The shield is made with a spear-shaped head *r'* having blunt edges. This head is bent outwardly a short distance away from the shaft-part *h*, said spear-shaped head *r'* being adjacent the cutting edges *h^s*. The wires are inserted in the usual way, the warp-threads of the upper piece *d* of the fabric extending around the lower side of said wire and bound to the fabric *d* by the weft in the usual way. The loops of the lower piece of fabric *d'* will engage the upper side of said wire. Now, when the wire is withdrawn, the loops of the warp that have been woven about the wire pass between the shaft and the spear-head *r'* of the shield, as shown in Fig. 4, the head *r'* serving to force the two pieces of fabric apart and hold the warp loops of the upper and lower pieces of fabric taut about the lower and upper cutting edges *h^s* respectively of the wire.

In Fig. 4, the symbols *t t'* designate the warp loops after they have been cut, the wire being supposed to be moving in the direction of the arrow.

From the foregoing, it will be seen that by my invention the fabric is entirely protected from the cutting edges of the wire, while the warp loops are at the same time drawn taut over said cutting edges, thus insuring the cutting of said loops without injury to the body of the fabric.

Having thus explained the nature of my invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all the modes of its use, what I claim, and desire to secure by Letters Patent, is—

1. A pile wire for looms comprising in its construction a shaft having a spear-head, cutting edges on said shaft adjacent the base of said head, a shield secured on said head and provided with a head r' offset from said shaft

and adjacent to said cutting edges, substantially as and for the purpose described.

2. A pile wire comprising in its construction a shaft provided with a head, cutting edges on the base of said head, and a shield secured to said head adjacent to said cutting edges constructed to force apart two pieces of pile fabric and to permit the warp-threads to pass between said shield and shaft and over said cutting edges, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of November, A. D. 1894.

ROBERT E. MURPHY.

Witnesses:

A. P. SAWYER,
RYLAH FIRTH.