

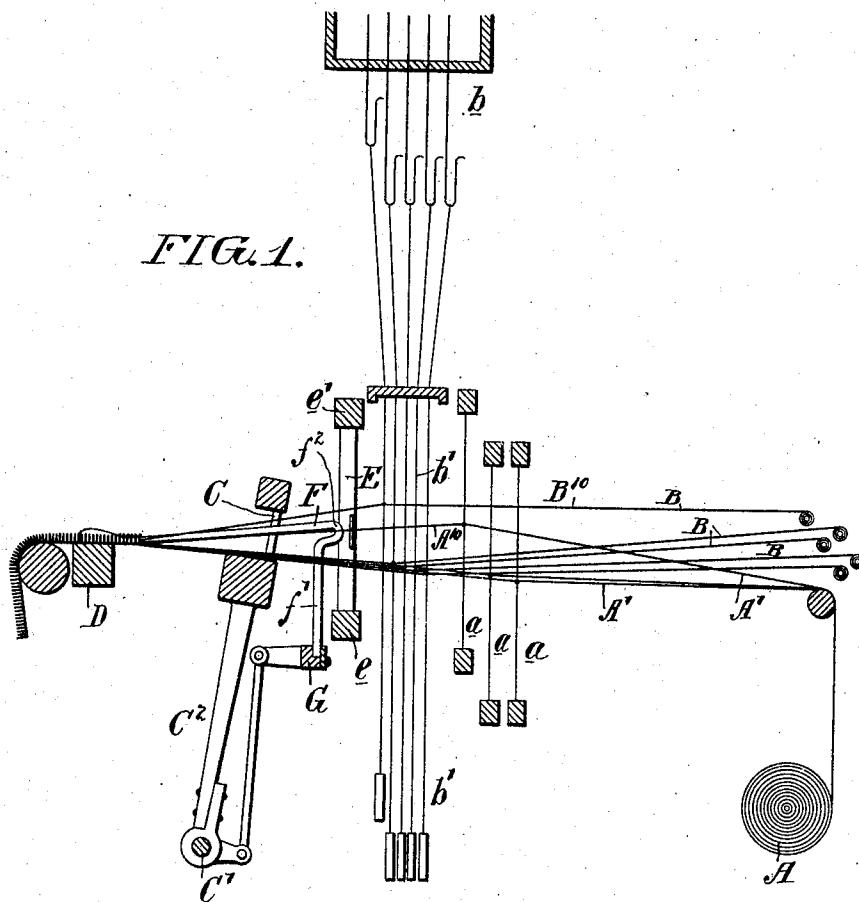
No. 823,698.

PATENTED JUNE 19, 1906.

A. G. & J. H. ROBERTSON.
LOOM FOR WEAVING PILE FABRIC.

APPLICATION FILED MAY 31, 1906.

2 SHEETS—SHEET 1.



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FIG. 2.

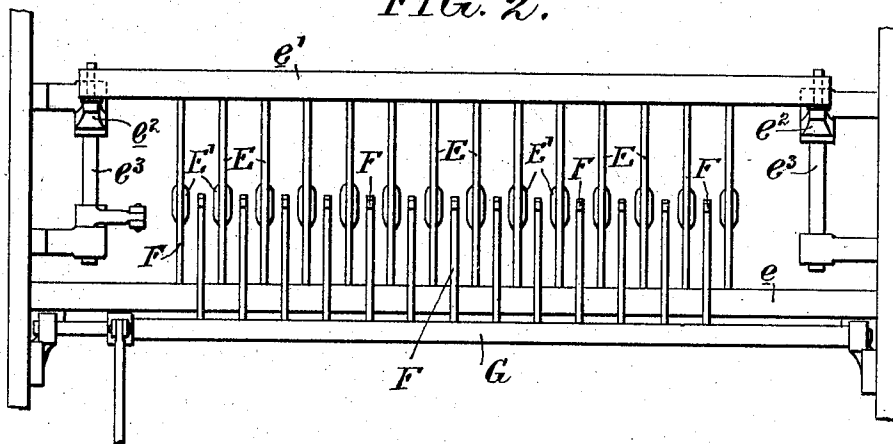


FIG. 3.

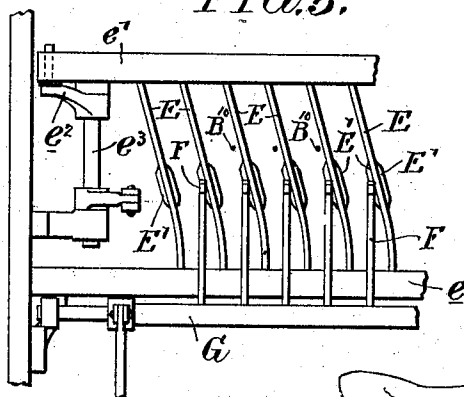


FIG. 4.

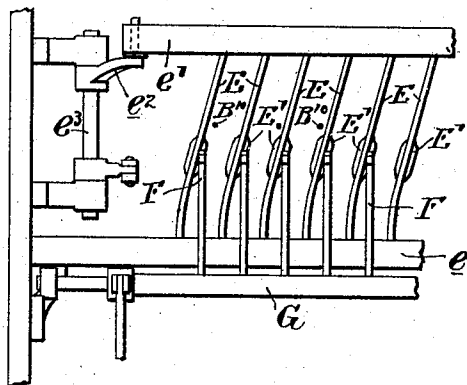
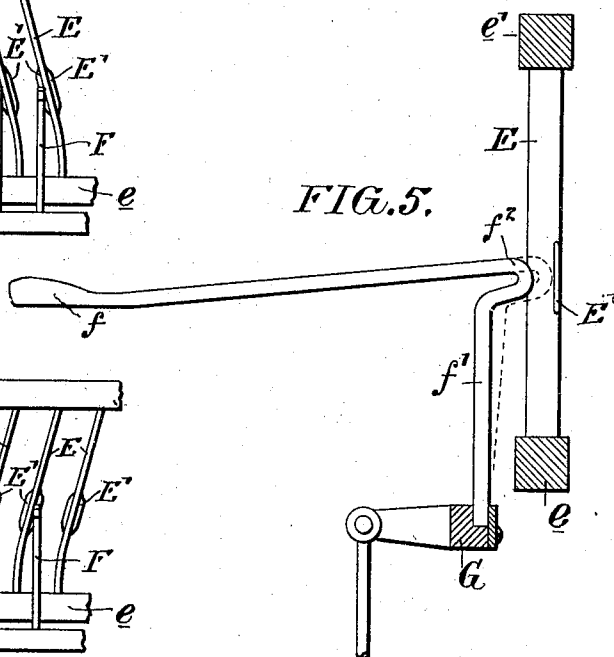


FIG. 5.



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UNITED STATES PATENT OFFICE.

ANDREW G. ROBERTSON, OF PHILADELPHIA, AND JOHN H. ROBERTSON,
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LOOM FOR WEAVING PILE FABRIC.

No. 823,698.

Specification of Letters Patent.

Patented June 19, 1906.

Application filed May 31, 1905. Serial No. 262,978.

To all whom it may concern:

Be it known that we, ANDREW G. ROBERTSON, residing at Philadelphia, in the county of Philadelphia, and JOHN H. ROBERTSON, of Cheltenham, in the county of Montgomery, State of Pennsylvania, citizens of the United States, have invented certain new and useful Improvements in Looms for Weaving Pile Fabric, of which the following is a specification.

Our invention relates to improvements in looms, and particularly to that class of looms used for weaving pile fabric.

The object of our invention is to make certain improvements in the construction of the mechanism for forming the pile, so that said mechanism will perform its function more efficiently than heretofore, and to simplify the construction of the parts.

A further object of our invention is to arrange the parts so that there will be sufficient room between the same to allow the free movement of the warp-threads to prevent crowding.

A still further object of our invention is to construct the parts in such a manner that the pile-threads will be positively carried over the pile-wires, and thus avoid the liability of the pile-threads resting on top of the pile-wires or splitting over the same and damaging the said pile-threads.

A still further object of our invention is to give a slight movement to the pile-wires having knives thereon to insure the said knives cutting the pile-loops.

Referring to the drawings, Figure 1 is a longitudinal sectional view of a portion of a loom, illustrating our invention. Fig. 2 is a transverse sectional view on line 2 2, Fig. 1. Fig. 3 is a partial view similar to Fig. 2, showing the parts in a different position. Fig. 4 is a view similar to Fig. 3, showing the parts in the reversed position. Fig. 5 is a side view of the pile-wire detached.

In the drawings, A represents the usual warp-beam, carrying the binder warp-threads A', and a the heddle-frame for the same. The pile warp-threads are shown at B, controlled by the jacquard b and the harness b'. The above threads all pass through the reed C, carried by the rock-shaft C', and then over the breast-beam D.

Located immediately in front of the harness b' is a row of upright guide-blades E, secured at their lower ends in a cross bar or frame e, which is stationary, and at the top they are secured in a cross-bar e', adapted to receive a transverse reciprocating motion by means of the crank e² and rock-shaft e³, Fig. 2, suitably connected to the driving mechanism of the loom, which is not shown.

Between each upright guide-blade E is a pile-wire F, having a knife f formed on its outer end. (More clearly shown in Fig. 5.) The said pile-wire has a supporting-arm f', which is held in an upright position by being secured in a cross-bar G, pivoted in bearings located at either side of the loom, as shown in Fig. 2. Said cross-bar G is given a slight rocking movement by being connected to the rock-shaft C', carrying the lay C². This movement of the cross-bar will give sufficient movement to the knives f to cause them to readily cut the pile-loops as they are formed over the pile-wires and forced along the same by the reed. This movement of the pile-wires, however, is not sufficient to move the loops f² of the pile-wires beyond the width of the upright guide-blades E.

The warp-threads A' and the pile-threads B pass through the spaces between the upright guide-blades E and normally remain at the lower portion of said spaces to form the bottom of the shed. The warp-threads A' are not raised above the pile-wires, as shown by the warp-thread A¹⁰, which is in the raised position to form the top of the shed.

When it is desired to make a loop over the pile-wire, the pile warp-thread B is raised by the jacquard to a position shown by the pile-thread B¹⁰, the upright guide-blade E will carry the pile-thread over the pile-wire F, and when the position shown in Fig. 3 is reached the pile-thread will be dropped by the jacquard to the space on the opposite side of the pile-wire. A pick is thrown across the loom to secure the pile-thread. The reed then carries the loop into its proper place upon the pile-wire. The same pile-thread is then raised again by the jacquard and dropped when the upright guide-blades are in the position shown in Fig. 4, forming another loop over the pile-wire and bringing the pile-thread back to its original place, and a

pick thrown across the loom thus forming a double pile-loop, which is now the form desired in general classes of work.

The upright guide-blades E are flexible, so that they will readily take the position shown in either Fig. 3 or Fig. 4.

At a point on the upright guide-blades E adjacent the loops f^2 of the pile-wires are projections E' , over which the pile-threads must ride, so that when the upright guide-blades are bearing against the pile-wires the pile-threads in their downward movement will leave the upright guide-blades and pass down on the proper side of the pile-wires.

There are projections E' on either side of the upright guide-blades E, so that upon the return of the pile-threads and the reverse movement of the upright guide-blades said projections upon the latter will insure the pile-threads being directed over the pile-wires into their original places on the other side of the pile-wires.

By having the pile-wires supported on a separate cross-bar from that supporting the upright guide-blades a free space is left between the said upright guide-blades for the warp-threads to pass through and the liability of the threads crowding between the upright guide-blades is thus avoided. This feature is of great advantage, as a great number of upright guide-blades are required in a loom in actual practice, which necessitates them being placed very closely together.

Having thus described our invention, we claim and desire to secure by Letters Patent—

1. In a loom for weaving pile fabrics, the combination of a series of upright guide-blades, a pile-wire projecting from between each of said upright guide-blades, a stationary bar for securing one end of said upright guide-blades and a reciprocating bar for securing the opposite ends of said upright guide-blades, substantially as described.

2. In a loom for weaving pile fabrics the combination of a series of upright guide-blades, a pile-wire having a portion thereof located between each of said upright guide-blades, a stationary bar holding the lower

ends of said upright guide-blades, a reciprocating bar holding the upper ends of said upright guide-blades and means for reciprocating said last-mentioned bar, substantially as described.

3. In a loom for weaving pile fabrics, the combination of a series of upright guide-blades, a pile-wire projecting between each of the same, means for bringing said upright guide-blades in contact with each of said pile-wires, and a projection formed on either side of said upright guide-blades at points adjacent said pile-wires whereby a thread may be guided over said pile-wire, substantially as described.

4. In a loom for weaving pile fabrics, the combination of a series of upright guide-blades, a series of pile-wires located in front of said series of upright guide-blades, each of said pile-wires having a loop extending between each of said upright guide-blades and means for bringing said upright guide-blades in contact with either side of the loop of the pile-wires, substantially as described.

5. In a loom for weaving pile fabrics, the combination of a series of upright guide-blades, pile-wires having loops at their rear ends adapted to enter the spaces formed between the upright guide-blades, a supporting-arm for each of said pile-wires, and a cross-bar in which said supporting-arms are secured located in a different vertical plane from said upright guide-blades, substantially as described.

6. In a loom for weaving pile fabrics, the combination of a series of upright guide-blades, a pile-wire having a knife thereon and located between each of said upright guide-blades, arms forming part of said pile-wires, a cross-bar in which said arms of the pile-wires are secured, and means for rocking said cross-bar, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ANDREW G. ROBERTSON.

JOHN H. ROBERTSON

Witnesses:

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