

(No Model.)

2 Sheets—Sheet 1.

E. M. BERGNER.
REED FOR LOOMS.

No. 595,596.

Patented Dec. 14, 1897.

FIG. 1.

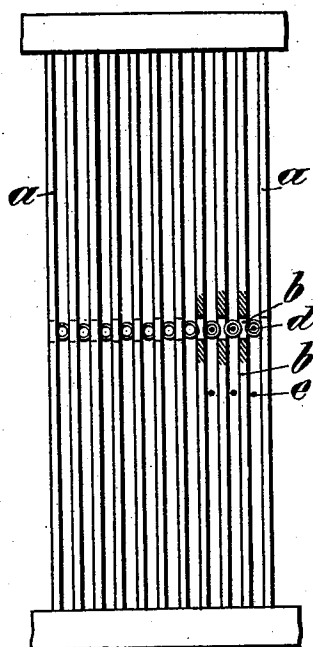
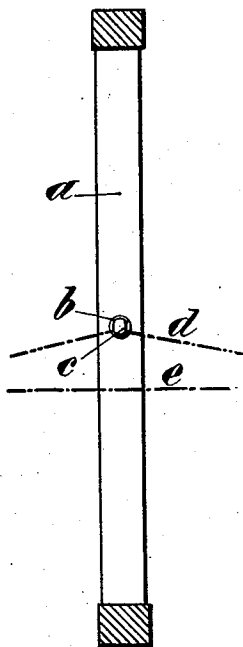


FIG. 2.



Witnesses:
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By Briesen & Knautz
his Attorneys.

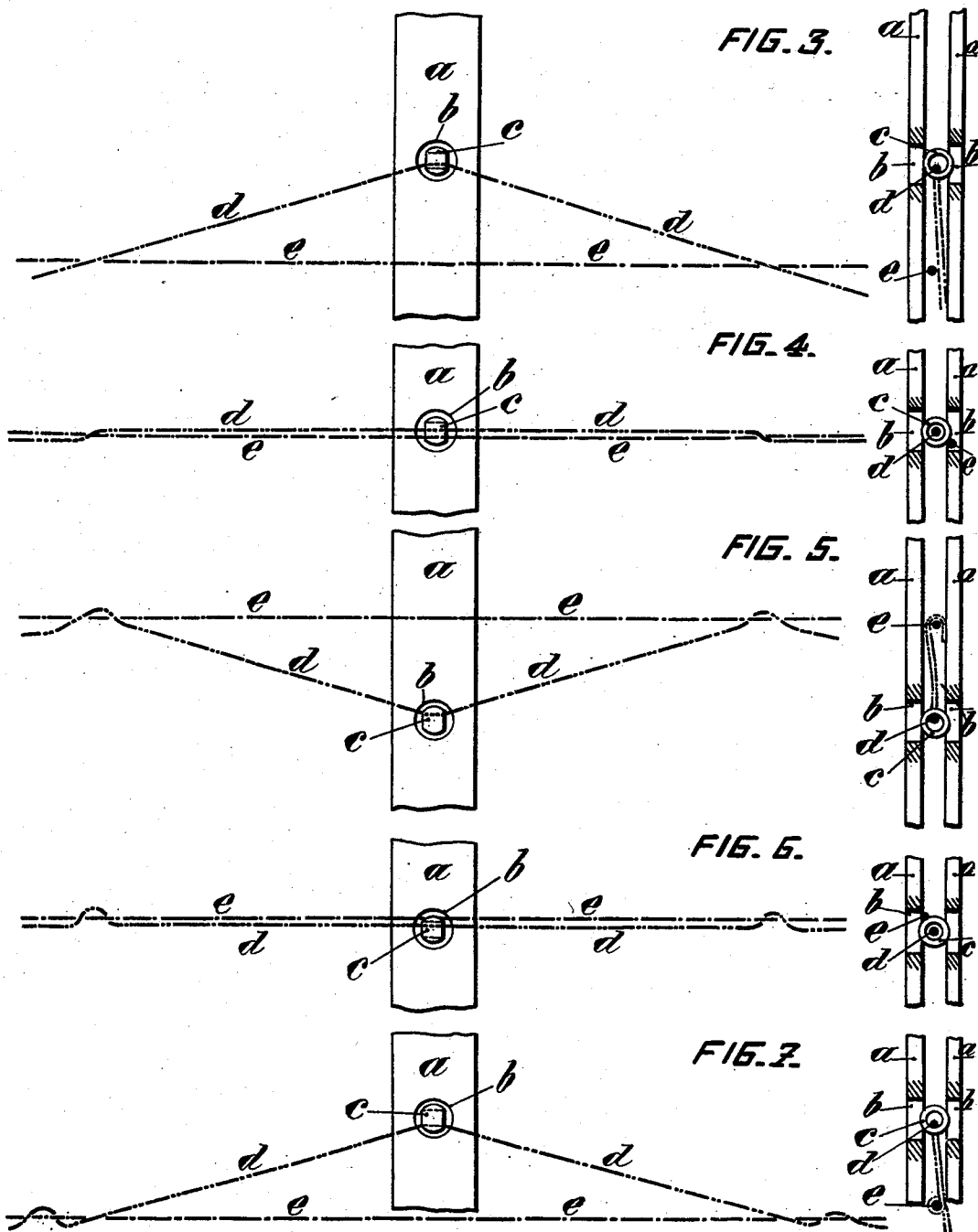
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UNITED STATES PATENT OFFICE.

EDMOND MAURICE BERGNER, OF PARIS, FRANCE.

REED FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 595,596, dated December 14, 1897.

Application filed March 18, 1897. Serial No. 628,148. (No model.) Patented in France July 17, 1896, No. 258,158, and in Germany July 27, 1896, No. 91,324.

To all whom it may concern:

Be it known that I, EDMOND MAURICE BERGNER, of the city of Paris, France, have invented an Improvement in Reeds for Looms, (for which I have obtained Letters Patent in France for fifteen years, dated July 17, 1896, No. 258,158, and in Germany for fifteen years, dated July 27, 1896, No. 91,324,) of which the following is a full, clear, and exact description.

This invention relates to an improved reed, having for its object to produce the entwining together of two or more warp-threads.

Reference is to be had to the accompanying drawings, forming part of this specification, which illustrate a device embodying my invention, Figure 1 being a partial front elevation, and Fig. 2 a cross-section, of the reed. Figs. 3, 4, 5, 6, and 7 are detail views showing in elevation and section the action of the reed for effecting the twisting of the threads.

The same letters of reference denote like parts in all the figures.

The dents *a* of the improved reed have central holes *b*, which may be formed by drilling, wherein perforated spherical thread-guides formed by beads *c* are loosely supported, one between each two adjacent dents *a*, the beads being of slightly-larger diameter than the space between the dents and capable of rotating about their axes and being all at the same height. Through each bead is passed a warp-thread *d*, the other warp-thread *e* passing between the dents of the reed either above or below the beads *c*. The beads *c* may be made of metal, glass, or other suitable material. The dents *a* are spaced according to the nature of the work to be done and are fixed to top and bottom bars *f*. The reed thus constructed may be mounted in a batten capable of moving both up and down and laterally. Thus arranged, supposing the warp-threads to be in the position shown in Fig. 3, the winding of the threads *d*, which pass through the beads *c*, about the free threads *e* may be effected by moving the batten to the left and then lowering it, as in Figs. 4 and 5, the reed being then returned to the right and afterward raised, as in Figs. 6 and 7, so as to be returned to its initial position. This operation is performed as many times as it is desired to make turns of threads *d* about threads *e*. To untwist the threads, the operation is performed in the inverse direction.

In order that the threads shall not remain twisted at the side opposite the operator, it is necessary that as many turns should be made to the right as to the left. For example, if it is required to make a fabric presenting meshes of a certain size these meshes would be produced by causing the threads to make a certain number of turns—four turns, for instance; but it is then necessary that the fabric which follows each mesh should contain four shoots of weft, so as to enable the warp-threads to be brought back to their initial position.

Another reed of the kind required for making the ground or middle portion of the fabric may be used with the reed described, if desired, the twisted warps being designed for making a border to the fabric.

It is to be understood that my improved reed, which enables a new mode of intertwining of the threads to be carried into effect, may be applied in any suitable manner to any loom.

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

1. The herein-described reed for looms whereby to effect the twisting together of warp-threads, said reed consisting of a series of equally-spaced apertured dents in combination with perforated spherical warp-thread guides loosely held in the apertures of the dents so as, while guiding or retaining the warp-threads which pass through them, they may turn freely and give passage between them and the dents to the other warp-threads passing between the same dents as specified.

2. The herein-described reed for looms whereby to effect the twisting together of warp-threads, said reed consisting of a series of recessed dents spaced apart in combination with annular warp-thread guides interposed between adjacent dents and entering the recesses in the said adjacent dents so as to retain one set of warp-threads in the annular guides and to give passage to the other set of warp-threads past the said guides, substantially as and for the purposes set forth.

The foregoing specification of my improvement in reeds for looms signed by me this 27th day of February, 1897.

EDMOND MAURICE BERGNER.

Witnesses:

J. ALLISON BOWEN,
M. H. SIGNET.