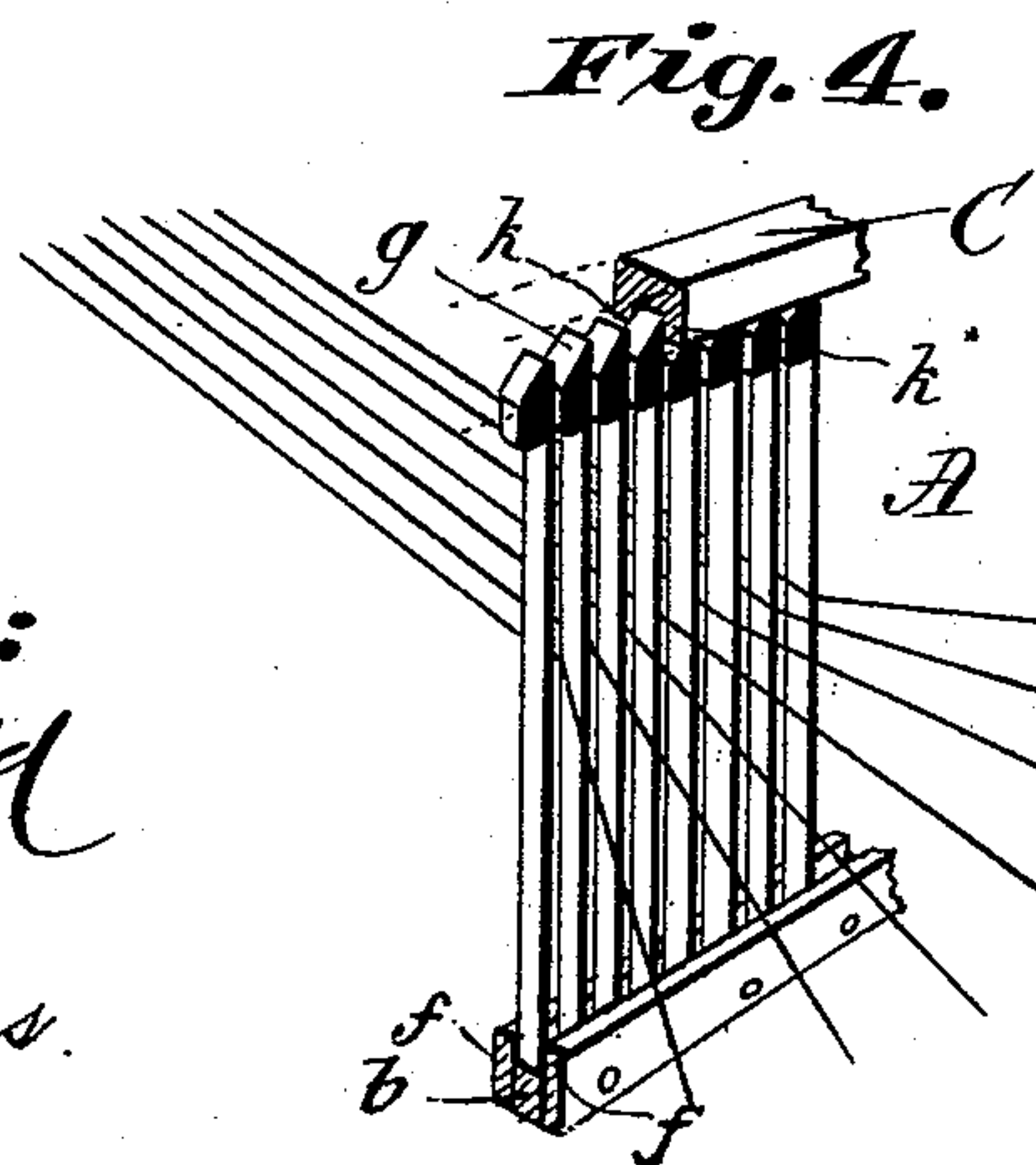
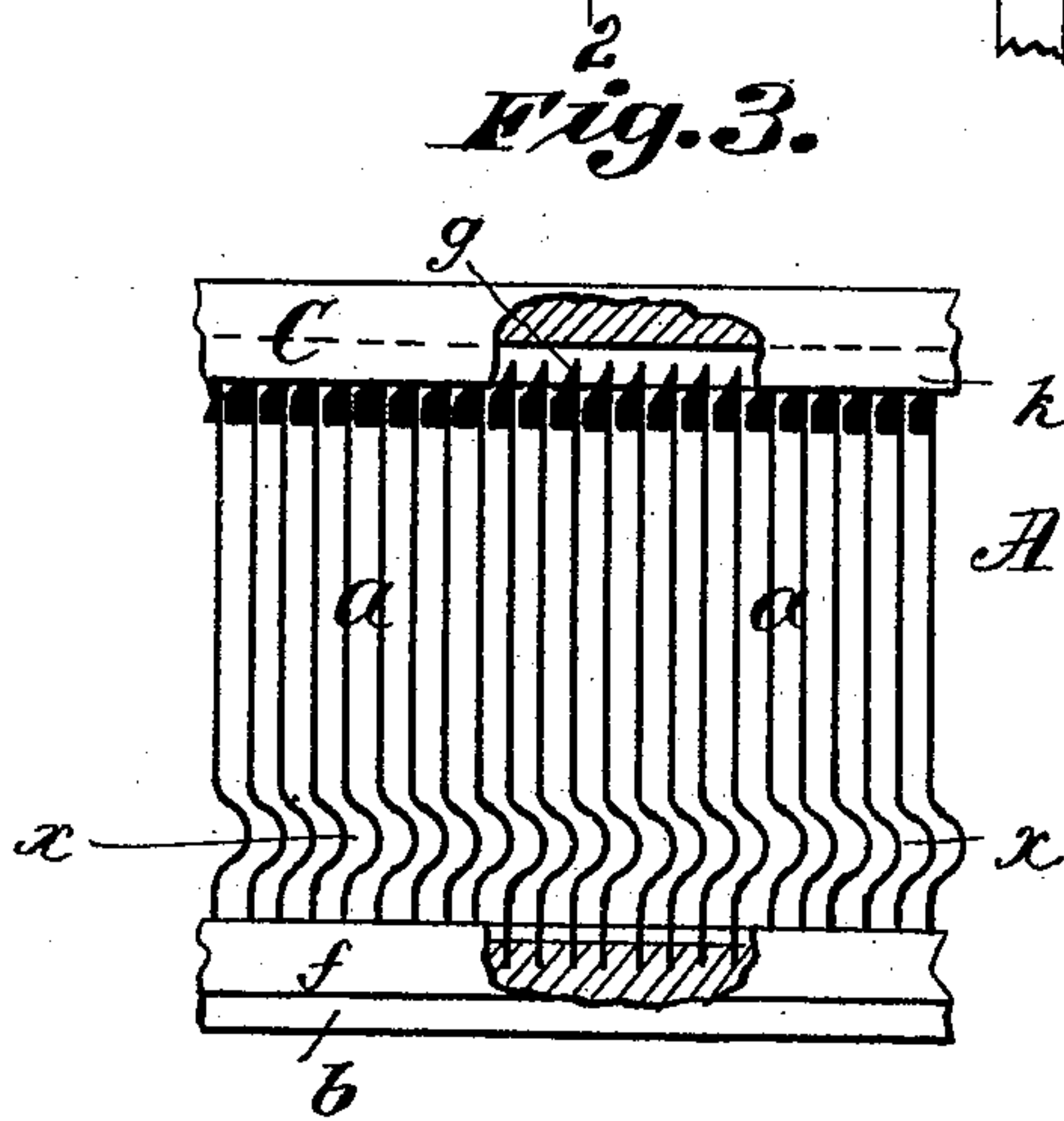
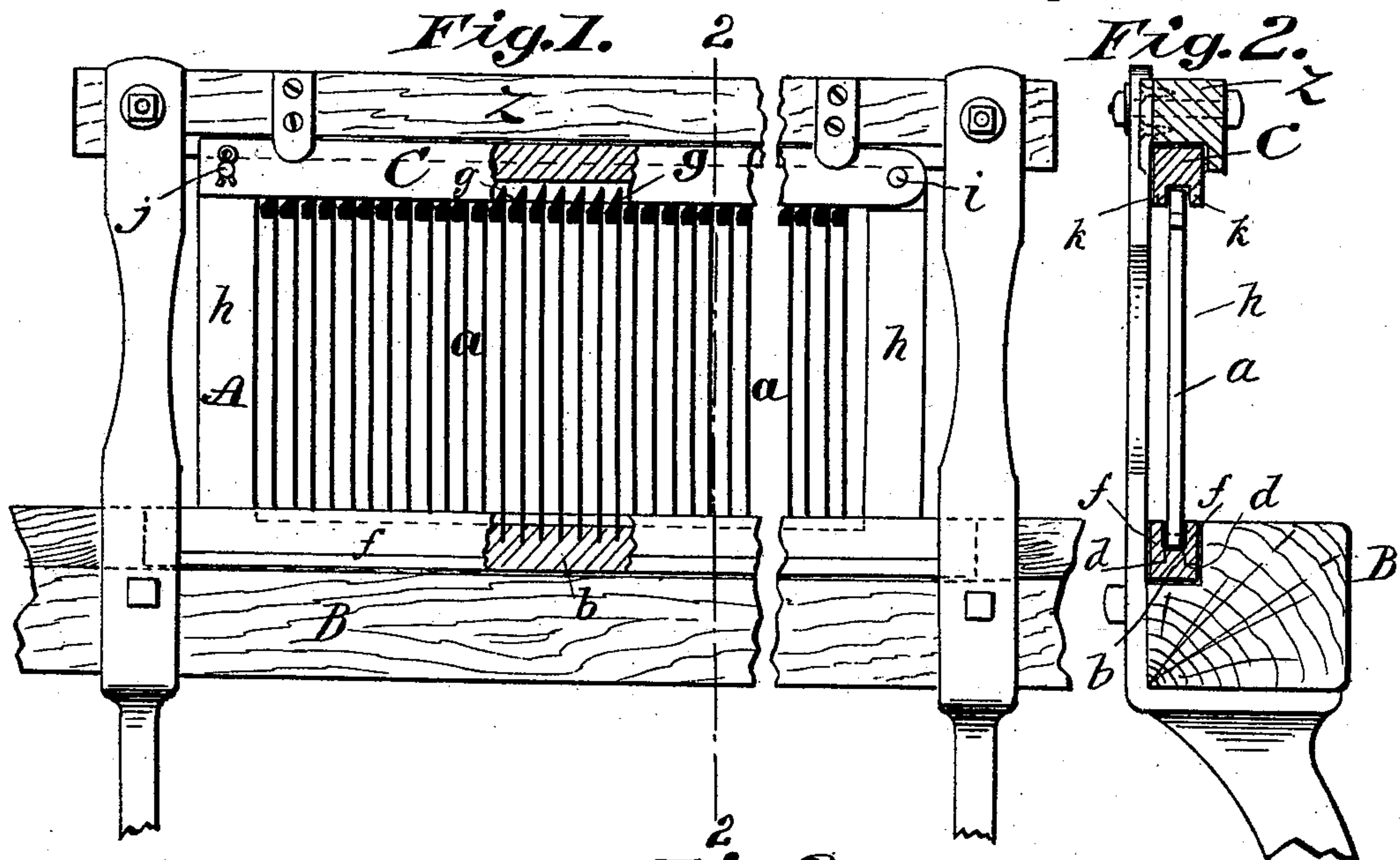


(No Model.)

J. M. SIMONEAU.
REED FOR TEXTILE MACHINERY.

No. 495,435.

Patented Apr. 11, 1893.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH M. SIMONEAU, OF WARE, MASSACHUSETTS, ASSIGNOR TO EDWARD P. MORSE AND HENRY C. DAVIS, OF SAME PLACE.

REED FOR TEXTILE MACHINERY.

SPECIFICATION forming part of Letters Patent No. 495,435, dated April 11, 1893.

Application filed May 19, 1892. Serial No. 433,555. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. SIMONEAU, a citizen of the United States, residing at Ware, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Reeds for Textile Machinery, of which the following is a specification.

This invention relates to improvements in reeds for employment in textile machinery or contrivances.

The improved reed is especially advantageous for the lay of a loom, and is also capable of advantageous employment as a contracting reed for warp yarns.

The objects to be obtained by the invention are,—to impart to the reed-rods or dents capabilities of flexibility in directions laterally of their length and at right angles to the run of the warp yarns, there being no laterally yielding movements, however, in the direction of the run of said yarns, and to impart capabilities for the laying-in of the yarns between the separable ends of the rods instead of "running in" by hook as heretofore usually done.

The invention consists in a reed embodying a suitable frame or support and a series of parallel reed-rods having their lower ends secured to the supporting part of the reed-frame therefor, and otherwise disconnected the one from the other throughout their entire lengths and each provided at its upper extremity with an offset member having an extent laterally approximately the same as,—or very slightly less than,—the space of separation between said rods, and a reed-cap having portions which lie on either side of the reed for preventing lateral deflections of the rods transversely of the plane of the reed, said cap, however, being adapted to permit the yielding movements of the reed-rods in directions coincident with the general plane of the reed.

The invention consists in further features, all substantially as will hereinafter more fully appear and be pointed out in the claims.

Reference is to be had to the accompanying drawings, in which the present improvements in reeds are illustrated.

Figure 1 is a face view of an improved reed applied on the lay of the loom with parts thereof broken out and shown in vertical section. Fig. 2 is a vertical cross section of the

same on line 2—2. Fig. 3 is a view similar to Fig. 1 but showing an additional feature in the formation of the reed-rods. Fig. 4 is a view to illustrate the availability of the improved reed for contracting a series of yarns.

In the drawings, A represents a reed; and the same will be first described in conjunction with the lay of the loom of which B is the lay-beam.

The reed comprises a series of vertical parallel reed-rods, *a*, which at their lower ends are secured to the strip or bar which constitutes the lower member of the reed-frame, said rods having their upper ends free for a flexibility laterally of their lengths, but at right angles to the run of the yarns between them.

As shown the bottom of the reed-frame is constituted by the strip, *b*, which is secured upon the lay-beam having at either side the rabbets, *d, d*, the tongue between said rabbets being penetrated by the lower extremities of the suitably spaced reed-rods for the support and confinement of the latter. The side strips, *f, f*, are applied, as shown, protecting the connection between the rods and the strip, *b*, and, projecting slightly above the top of the intermediate tongue, said strips sustain the reed-rods at their lower extremities against lateral deflection. This particular construction of the lower part of the reed need not, however, be strictly adhered to, it being understood as only necessary to have a suitable support and connection for, and at, the lower ends of the reed-rods.

Each reed-rod has, at its upper end, an offset member, *g*, which has its lateral projection in an extent approximately the same as, though in fact slightly less than the width of the separating space between the reed-rods. Each of said offset members has, preferably, the inclined edge as seen in the drawings, Figs. 1 and 3 particularly, so that the laying-in of the yarns may be more readily accomplished on the removal of the reed-cap, C.

The reed-cap, C, is shown as movably supported by the upright members, *h, h*, and has its one end connected to the one upright by the pivot-bolt, *i*, its other end being confined by the retaining pin, *j*, which passes through such end-portion of the reed-cap, and the other upright. The said reed-cap is channeled, or of an inverted trough-shape, so that it has

portions, k , which lie at either side of the upper extremities of the reed-rods preventing lateral deflection of said rods in the direction of the run of the yarns, but without preventing the yielding of said rods laterally in the direction of the length of the reed-cap.

In Fig. 3 each of the reed-rods is shown as having, near its lower end, a detour or return-bent section, x , whereby the elasticity of the rod is increased, there being, besides the capabilities for lateral deflection of the reed-rods, substantially as described, a further slight endwise yielding, as if the reed-rod were spring supported.

A reed, such as described, is especially adapted for the lay of the loom for the reason that the slight laterally yielding capabilities of the reed-rods permit of the greater freedom of passage of the warp yarns through the reed and especially those yarns, which have knots, lumps, or tufts, which may be formed therein purposely, or be found therein by reason of the impracticability of their avoidance.

The reed, constructed substantially as hereinabove and at large described, is applied in the usual manner upon the lay of the loom, the usual cap, z , of the lay lightly overlying the reed cap.

The slight yielding of the reed-rods, longitudinally of their lengths, is deemed advantageous for the reason that, at the time of the swinging of the lay-beam, there is relative to the length of the yarns, in addition to the movement of the lay and reed-rods along the length of the yarns, also a movement transversely thereof, and coincident with the lengths of the reed-rods, (as also occurs at the time of the changing of the shed,) and the frictional contact which the reed-rods have upon the yarns will not impart so great or sudden strains upon the latter, as would be the case were the reed-rods perfectly rigid.

The manner of use of the present improvement as a contracting reed is indicated in Fig. 4, wherein the respective yarns coming from comparatively widely separated supplies are, by the reed, brought into closer arrangement. The reed indicated by the said view, Fig. 4, is understood as being substantially of the same construction as the reed shown in Fig. 1, the rods having capabilities for the elasticity and deflecting movement from their place of connection and support at their lower ends upwardly throughout their entire lengths, this construction of reed also permitting the advantageous laying-in of the yarns.

I claim—

1. A reed comprising a frame or support, and a series of parallel reed-rods, having their lower ends secured to the supporting part of the reed-frame therefor, and otherwise disconnected the one from the other, throughout their entire lengths, and each provided at its upper extremity with an offset

member having its extent of projection toward the next rod approximately the same as the space or separation between the rods, and a reed-cap having portions which lie on either side of the rod extremities for preventing deflections of the rods transversely of the plane of the reed, said cap, however, being adapted to permit the yielding movements of the reed-rods in directions coincident with the general plane of the reed, substantially as and for the purposes set forth.

2. A reed comprising a frame or support, and a series of parallel reed-rods, having their lower ends secured to the supporting part of the reed-frame therefor, and otherwise disconnected the one from the other, throughout their entire lengths, and each provided at its upper extremity with an offset member having its extent of projection toward the next rod approximately the same as the space of separation between the rods, and also having near its lower end-support a detour or return-bent section, x , and a reed-cap having portions which lie on either side of the rod extremities for preventing deflections of the rods, transversely of the plane of the reed, said cap, however, being adapted to permit the yielding movements of the reed-rods in directions coincident with the general plane of the reed, substantially as and for the purposes set forth.

3. A reed consisting of a frame or support, comprising a lower bar, b , and a series of parallel reed-rods having their lower ends secured to the said bar and otherwise disconnected the one from the other throughout their entire lengths, and each provided at its upper extremity with an offset member, g , substantially as described, and the side strips, f, f , which extend to overlie the lower opposite portions of the reed-rods just above their points of connection with said lower bar, the upright members, and the channeled reed-cap movably supported by said uprights, substantially as described.

4. The combination with the lay-beam of a loom, of a reed frame having a bottom bar and rigidly united upright bars, and a series of parallel separated reed-rods having their lower ends secured to said lower bar and otherwise disconnected the one from the other throughout their entire lengths, and each provided at its upper extremity with an offset member having an extent of projection toward the next rod approximately the same as the space of separation between the rods, and the channeled reed-cap movably supported by the said upright bars and having engagements with the upper ends of the rods, substantially as described, and the lay-cap or bar removably engaged with, and adapted to support the upper portion of the said reed, all substantially as described.

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