

No. 719,601.

PATENTED FEB. 3, 1903.

H. B. MORRIS.
CHAIR SEAT.

APPLICATION FILED MAY 3, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.

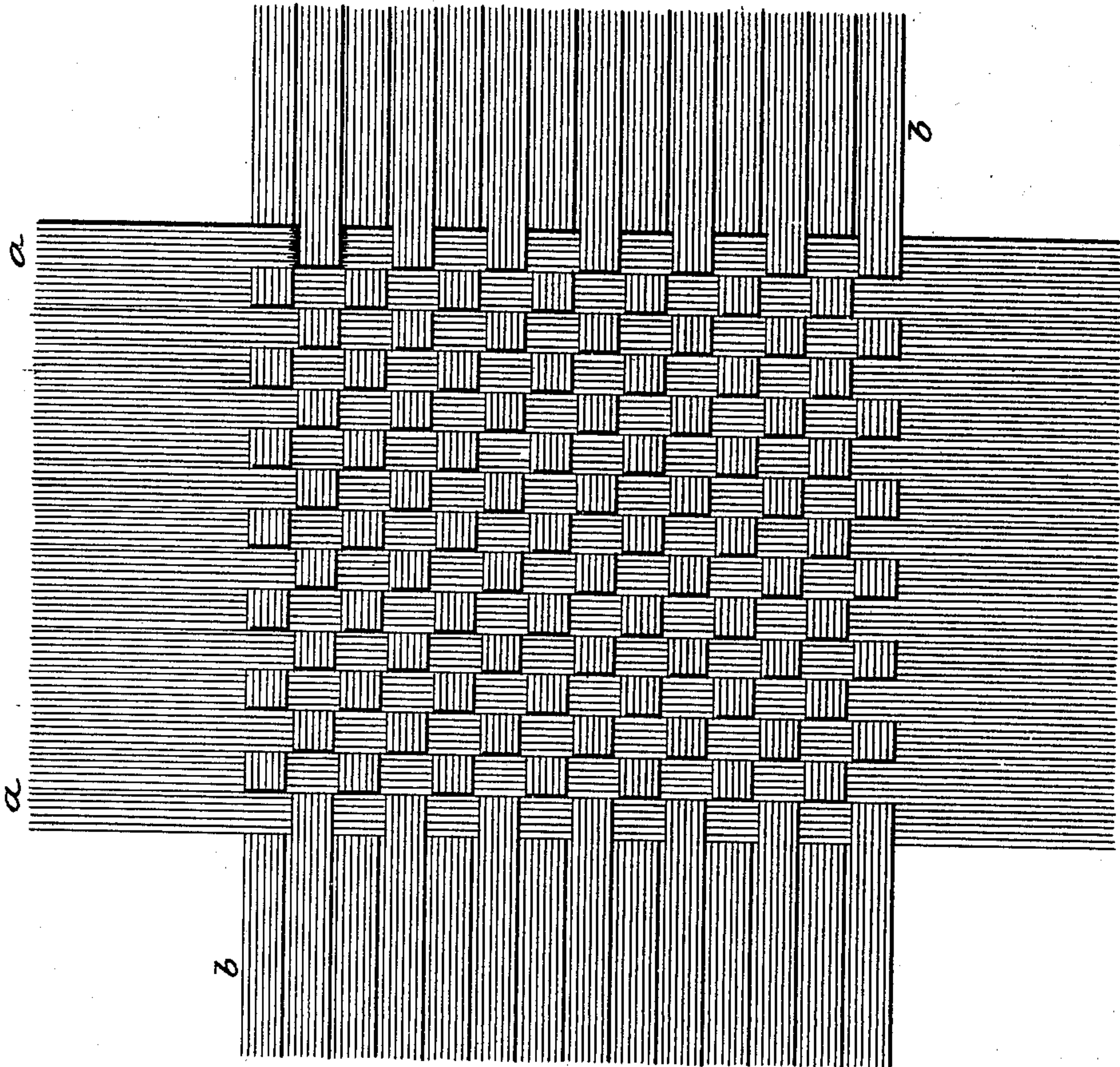
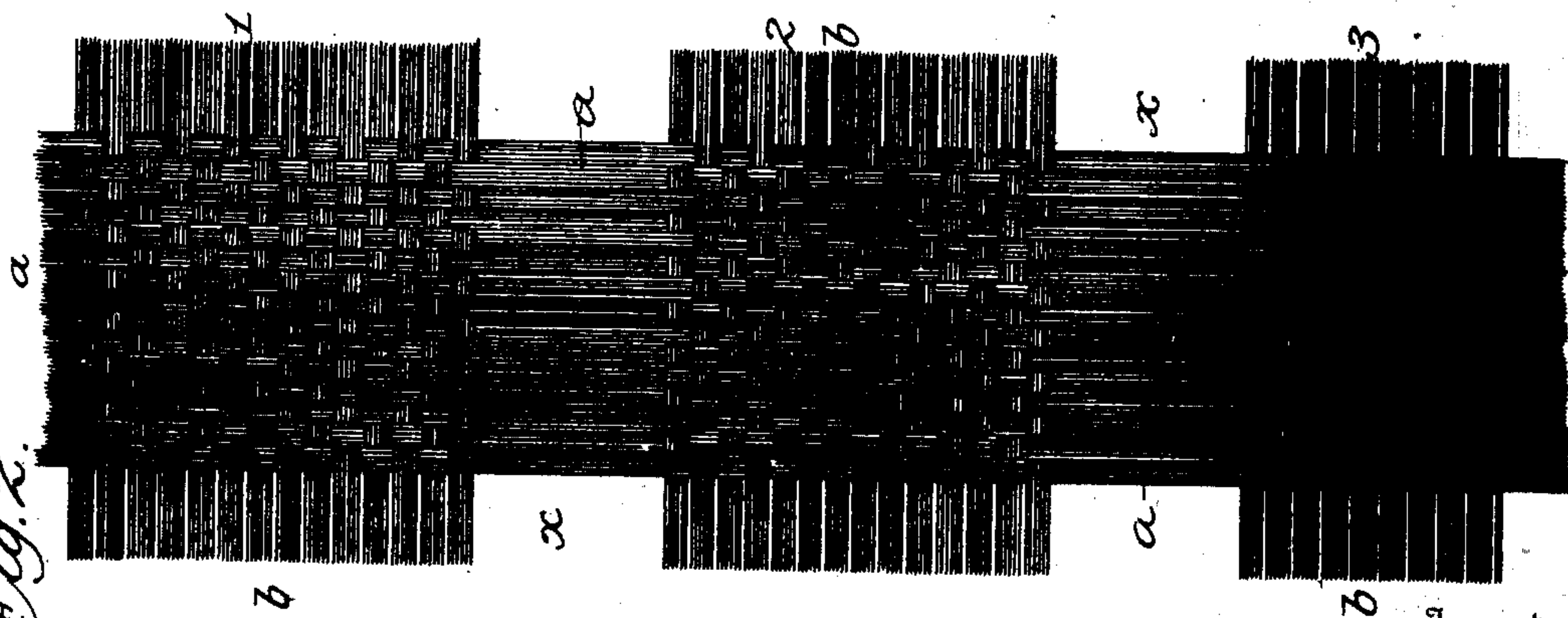


Fig. 2.



Witnesses

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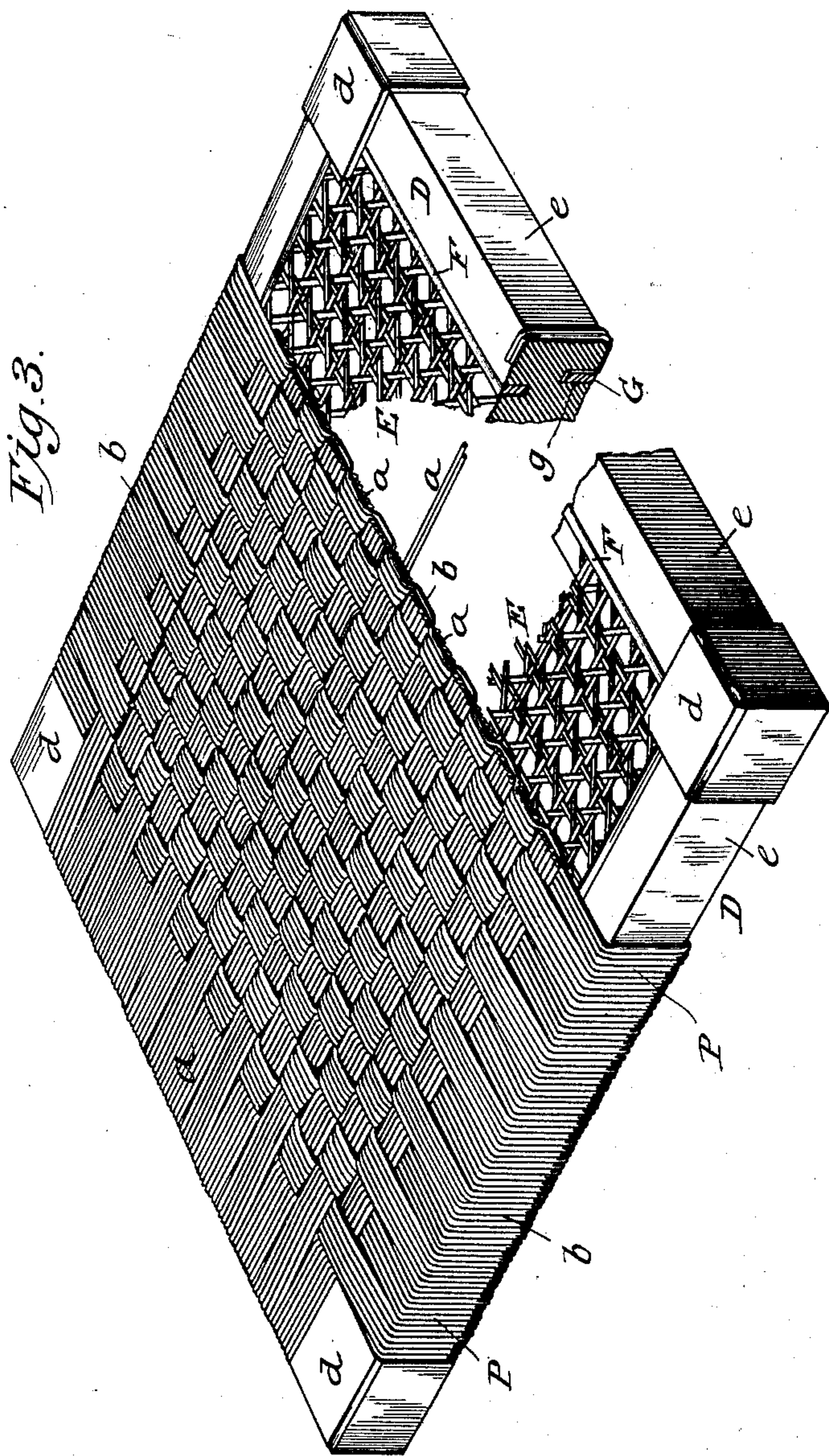
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3 SHEETS—SHEET 3.

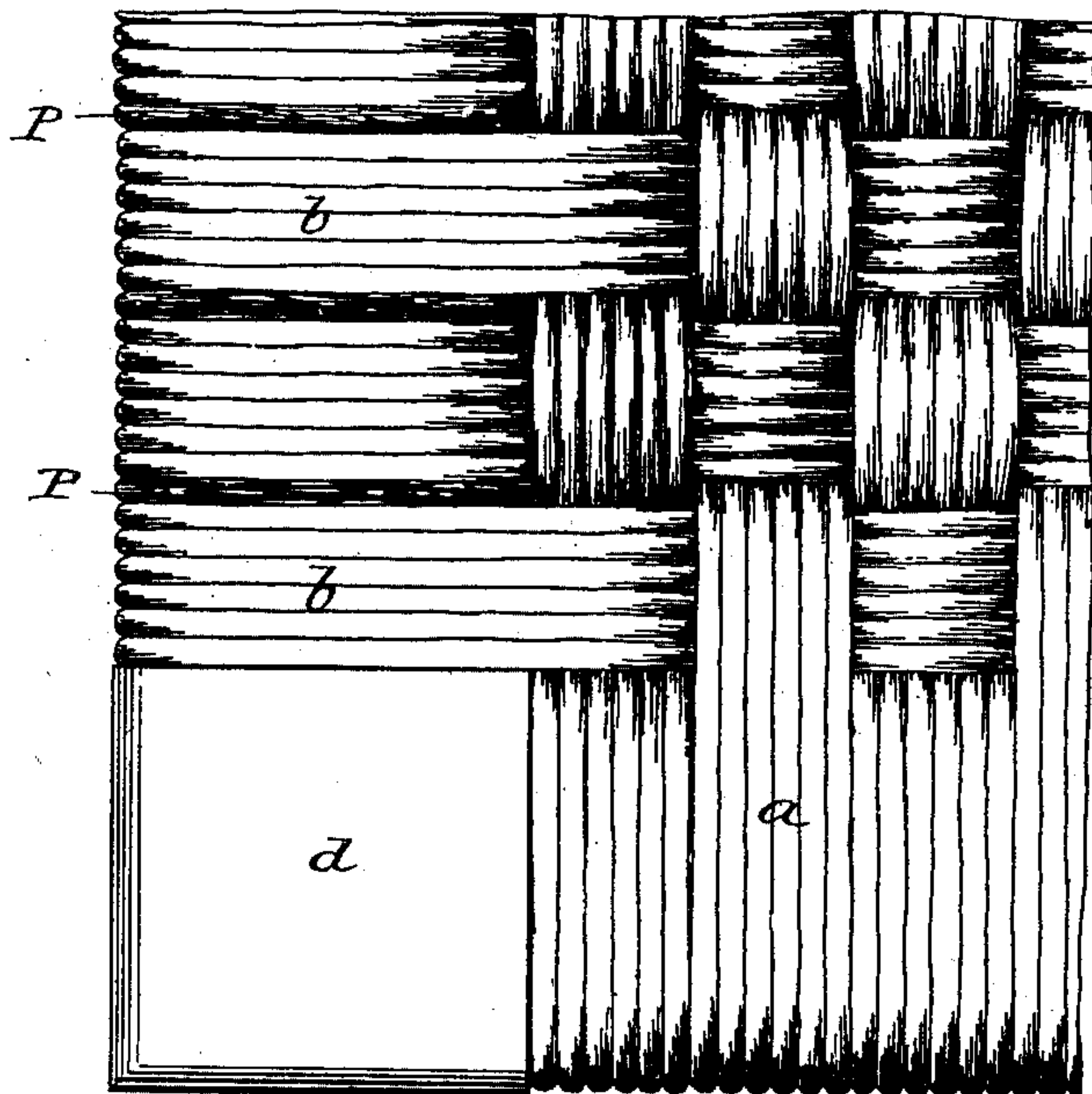


Fig. 4.

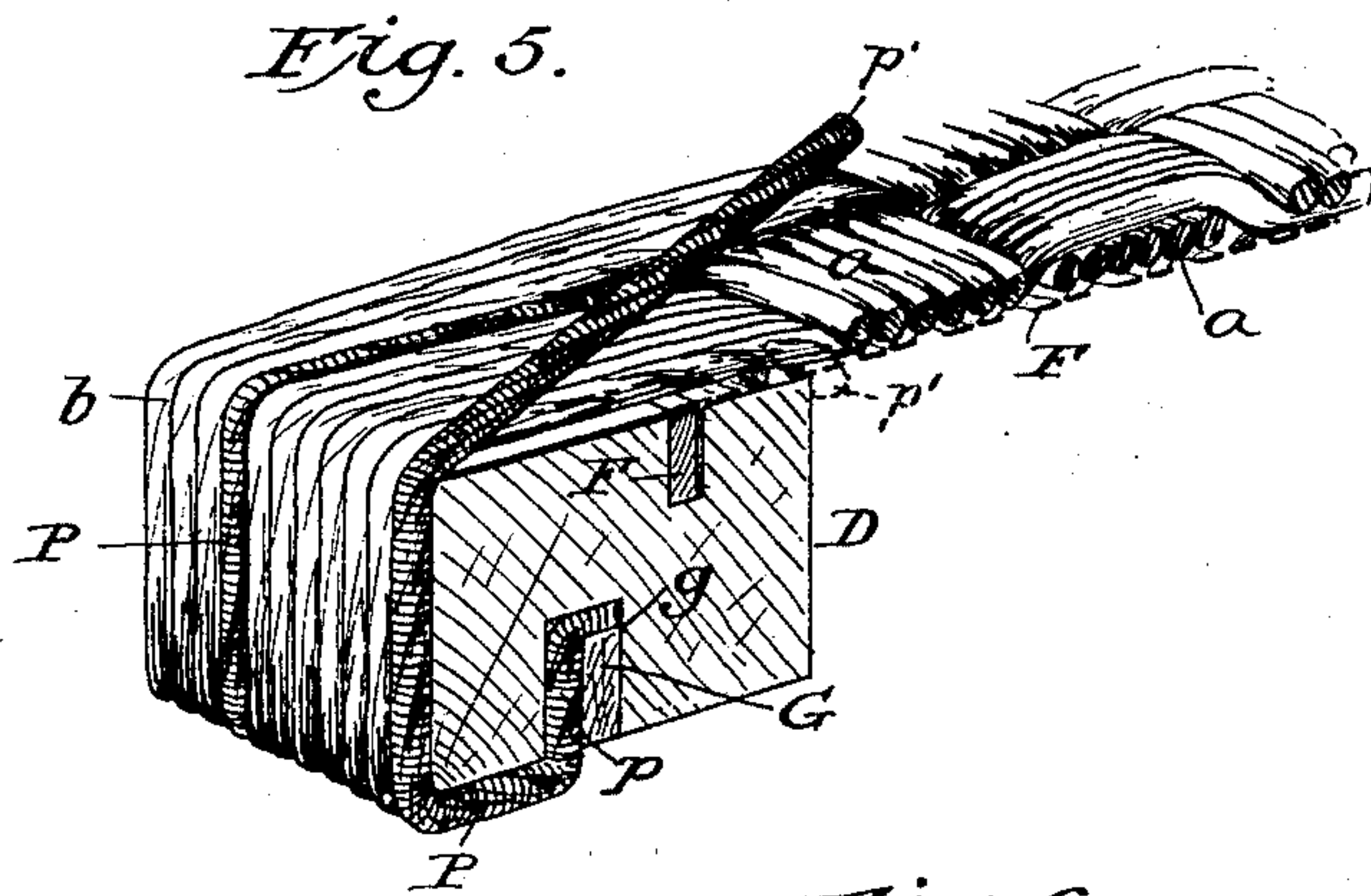


Fig. 5.

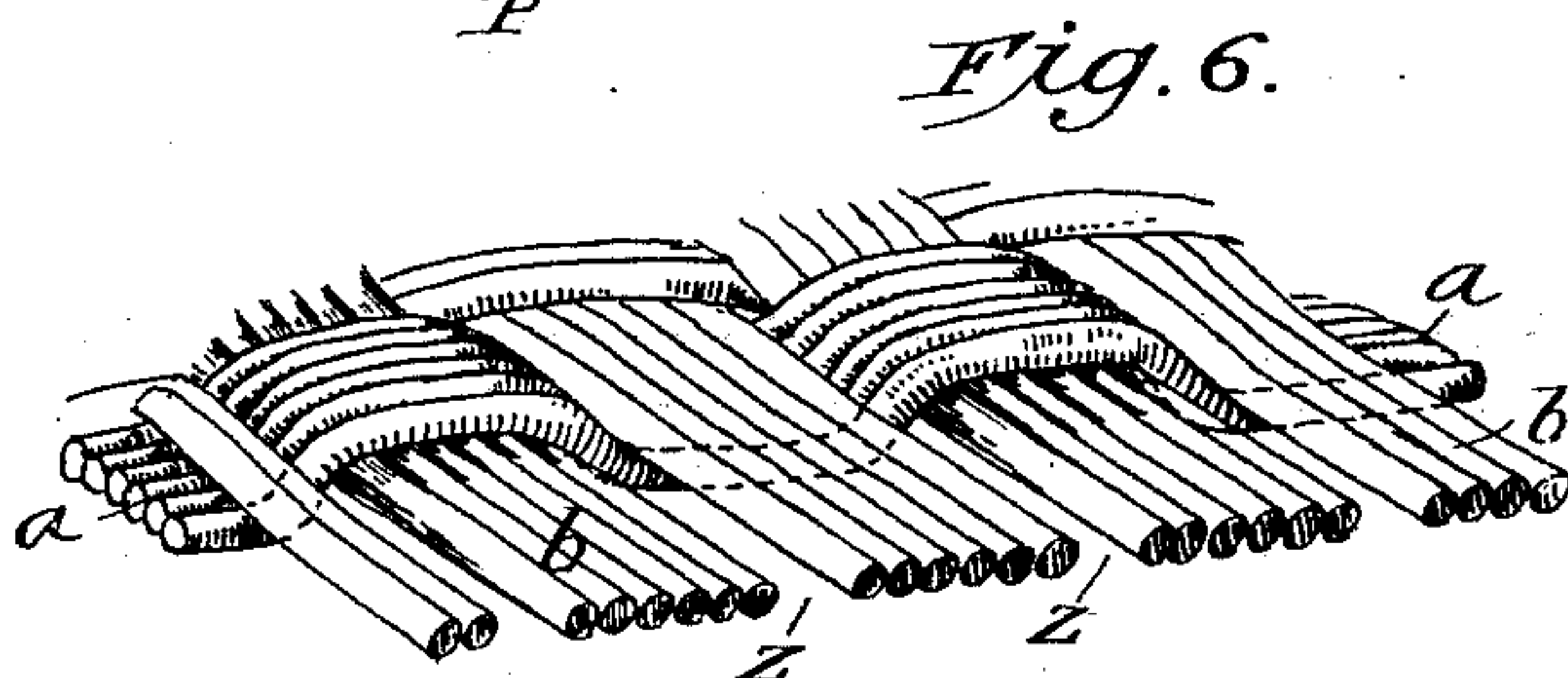


Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY B. MORRIS, OF MICHIGAN CITY, INDIANA.

CHAIR-SEAT.

SPECIFICATION forming part of Letters Patent No. 719,601, dated February 3, 1903.

Application filed May 3, 1902. Serial No. 105,853. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. MORRIS, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Chair-Seats, of which the following is a specification.

The object of my invention is to produce a chair-seat that is both strong and durable and ornamental.

In my United States Patent No. 672,102 of April 16, 1901, I have shown a chair-seat made of twisted paper cord colored to resemble natural flag or rush and wound upon a seat-frame. In that patent the cord is so wound as to form three layers or thicknesses of fabric, one above the other, the top surface of the seat having four triangular sections each composed of parallel strands of different lengths, the apexes of the triangles being at the center of the seat. According to my present invention I provide a seat in which the strands of paper are woven to form a plaid and a single layer of the paper fabric is employed, being reinforced, however, by a sheet of cane-cloth or other suitable strengthening material. The reinforcing fabric is secured to the top of the seat-frame by splines or other suitable fastenings, while the paper fabric is secured to the bottom of the frame, the strengthening fabric being thus completely covered by the paper fabric. The paper fabric is woven in a suitable loom in such manner as to form a plaid portion of just the right size to fit over the opening in the seat-frame, while the ends of the warps and fillings projecting from the edges of the fabric are left unwoven and of suitable length to be drawn over the frame-pieces and secured to the under sides thereof.

In the accompanying drawings, Figure 1 is a plan view of a piece of fabric made in accordance with my invention in proper form to be applied to a chair-seat frame. Fig. 2 is a diagram illustrating the manner in which the fabric is woven in a loom. Fig. 3 is a perspective view of a chair-seat including the fabrics and the frame embodying my invention, some of the parts being broken away in order to better illustrate other parts. Figs. 4, 5, and 6 are on an enlarged scale. Fig. 4 is a detail plan view of one corner of a chair-

seat made in accordance with my invention. Fig. 5 is a detail perspective view illustrating the manner in which the seat-frame is covered. Fig. 6 is a detail perspective view illustrating the manner in which the fabric is woven.

In weaving the fabric a series of sets of twisted paper cords are employed for the warps and these are shedded by properly-formed heddles, and a series of sets of similar strands are employed to form the fillings, these latter being inserted in a manner obvious to those skilled in the art of weaving. Preferably each warp and each filling consists of six strands of cord; but I do not wish to confine myself to this number. It is not found desirable to use a single strand for each warp or weft, because the cord being of comparatively large diameter and somewhat stiff a close mat cannot well be produced and also because a much more pleasing effect is produced when the plaid is formed of wide stripes. The weaving is made as close as possible, the filling being beaten up so as to be tightly held by the warps, thus producing a firm and closely-woven fabric with practically no openings, as indicated in Fig. 1, where *a* indicates the warps and *b* the wefts or fillings. When weaving the fabric, I preferably take the warps from reels containing paper cords of indefinite length, while the fillings are composed of short cords of the same length, as indicated in Fig. 2. The loom is so operated as to form squares of the plaid fabric, each of the correct size to cover a single chair-seat. Between each square unwoven portions *x* are left, so that when the fabric is cut up unwoven warp-strands of the correct length may be left projecting from the woven fabric. The unwoven strands, it will be observed, project to the same extent at each side of the woven fabric, and the unwoven warp-strands are so cut as to project from the woven fabric to the same extent as the weft, all of which is clearly indicated in Figs. 1 and 2. In Fig. 2 the woven portions 1 and 2 are completed, while the portion 3 is only partially made. The unwoven portions at the four edges of the fabric are designed to be drawn around the rails of the seat-frame. The paper cords are woven before any waterproofing material or varnish is applied to them, and the fabric, or at least

the projecting unwoven ends thereof, is preferably moistened, so that it may be more readily drawn around the frame and be caused to lie more closely thereon.

5 It will be observed that the frame D has corner-blocks *d*, which are slightly larger in cross-section than the middle portion of the frame-pieces, forming recesses *e* on the outer vertical sides of the seat to receive the unwoven portions of the fabric. When the fabric is applied to the frame and the unwoven ends thereof are drawn around the rails of the seat, the cords will be received by the recesses, which are of the right depth to cause the cords to lie substantially flush with the surfaces of the corner-blocks. In this way the cords are prevented from slipping and are made to lie close together.

Before applying the fabric to the seat-frame I secure to the top of the frame a reinforcing or strengthening piece of material E. This may be open-mesh cane-cloth, such as illustrated, or it may be other suitable material. Preferably it is secured in place by splines F, entering grooves in the top of the frame and cemented therein by glue. The precise manner which I preferably employ of securing the reinforcing fabric to the frame is clearly illustrated in Fig. 3. After the reinforcing fabric is thus applied I apply the plaid fabric of the form shown in Fig. 1. I first cause the woven portion to register with the opening between the corner-blocks, and then I draw the loose or unwoven ends at both ends of the warps and wefts tightly around the rails of the frame within the recesses *e*. The extreme ends of the warps and wefts are then inserted in grooves *g* in the under side of the frame, in which they are held by splines G and suitable cementing material. The grooves *g* are out of line with the top grooves in order that the frame may not be unduly weakened, as it might be if the grooves were in line with each other. The paper fabric completely covers the strengthening or reinforcing fabric E, and the rails of the frame between the corner-blocks are practically filled by the loose or unwoven ends of the fabric. After the frame is thus covered the paper fabric is treated with waterproofing material and finished in the manner described in my patent of April 16, 1901, above mentioned, or in the manner described in my application for patent, Serial No. 105,852, filed May 3, 1902. The varnish applied to the fabric not only renders it waterproof, but also more hard and durable. The strands are caused to adhere to each other both in the plaid portion and also particularly in the unwoven portion.

In weaving the fabric the unwoven ends of the warps cannot always be made to lie close together. Inasmuch as the cords are of comparatively large diameter and somewhat stiff they cannot be bent so abruptly as finer cords could be, and hence it often occurs that there

is a space Z (see Fig. 6) left between the sets of strands, which sometimes appears after the fabric is applied to the seat-frame. Fig. 6 clearly indicates why this vacant space occurs. Of course this space is not observable and does not appear in the woven portion of the fabric, as such space is covered by other strands and is not always observable in the unwoven portions of the warps, because the loose ends of the warps, as well as the loose ends of the fillings, may be generally distributed, so as to avoid the appearance of any pronounced gap or opening and may yet lie closely enough together for all practical purposes. In order, however, to cause the strands to all lie closely together around the rails of the frame, I sometimes employ short supplemental pieces of cord P, which may be arranged between the several sets of warps in the manner indicated in Figs. 4, 5, and 6. These short strands are attached at the same time that the woven fabric is applied, the ends *p* being inserted in the grooves *g* and splined in at the same time that the ends of the warps are secured. The upper outer ends *p'* of the strands P are merely tucked into the fabric at the upper inner edge of the frame-rails in the manner indicated in Fig. 5. After the seat is waterproofed or varnished and finished it will be found that the short pieces *p* are so securely cemented to the fabric that there is no danger of their becoming detached or disarranged. I desire to say that I do not consider the use of the strands P essential at all times and do not wish to limit my invention to the use of such strands.

I have described the fabric as being made of paper cord produced in the manner described in my patent of April 16, 1901; but some features of my invention are applicable to seats made of other material, and I do not wish to limit all of my claims to the use of such material.

In the manufacture of chair-seats of rush or flag or of splint the weaving has been performed while applying or securing the material to the frame of the chair, and it has been customary to produce a double thickness of the material, which is caused to cover the top surface of the frame and to be then carried around the rails of the frame and across the under side thereof. So far as I am aware no one before me has produced a coarse fabric resembling either of the materials above mentioned and adapted for use in a chair-seat by weaving the same in a loom. It is also new with me, so far as I am aware, to provide the woven portion of a fabric for covering chairs with unwoven ends adapted to be secured to the under side of the rails of the frame, in contradistinction to being carried entirely across the under side of the frame in such manner as to completely cover it with the woven fabric.

The manner of weaving to form a plaid with wide stripes is the one preferred; but

my invention is not thus limited, and, as before stated, the invention is not restricted in some of its aspects to the use of paper cord.

It is obvious that substantially the same construction may be employed to form the back as well as the seat of a chair. It will be observed that the covering for the back or seat of the chair is a woven fabric, each warp and weft of which may be regarded as being made up of a plurality of comparatively thick threads lying side by side, and the fabric as a whole is rather thick and heavy and cannot be splined to a frame in the same manner as a thin fabric; but by providing unwoven portions consisting of the prolonged individual warp and weft threads I am enabled to spline the fabric to the under side of the frame neatly and securely.

I claim as my invention—

1. A chair seat or back, comprising a frame and a covering therefor consisting of a woven fabric, each warp and weft of which is composed of a plurality of threads lying side by side, said fabric having at both ends of the warps and wefts unwoven portions consisting of the prolonged individual warp and weft threads which are arranged close together side by side, passed around the outer edges of the rails of the frame and splined to the under side thereof.

2. A chair seat or back, comprising a frame and a covering therefor, consisting of a woven fabric, each warp and weft of which is composed of a plurality of threads of twisted paper lying side by side, said fabric having

at both ends of the warps and wefts unwoven portions consisting of the prolonged individual warp and weft threads which are arranged close together side by side passed around the outer edges of the rails of the frame and splined to the under side thereof.

3. A chair seat or back, comprising a frame having recesses between the four corners in its outer vertical sides, and a covering for the frame consisting of a woven fabric each warp and weft of which is composed of a plurality of threads lying side by side, said fabric having at both ends of the warps and wefts unwoven portions consisting of the prolonged individual warp and weft threads which are arranged close together side by side in said recesses and are passed around the outer edges of the rails of the frame and splined to the under side thereof.

4. A chair seat or back, comprising a frame and a covering therefor consisting of a woven fabric having unwoven portions at both ends of the warps and wefts, drawn tightly around the edges of the frame and secured to the under side thereof and short supplemental cords secured to the under side of the frame wound around the outer faces of the rails of the frame and terminating close to the outer edges of the woven portions of the fabric.

In testimony whereof I have hereunto subscribed my name.

HENRY B. MORRIS.

Witnesses:

HARRY W. MILLER,
ARTHUR N. GITTINGS.