

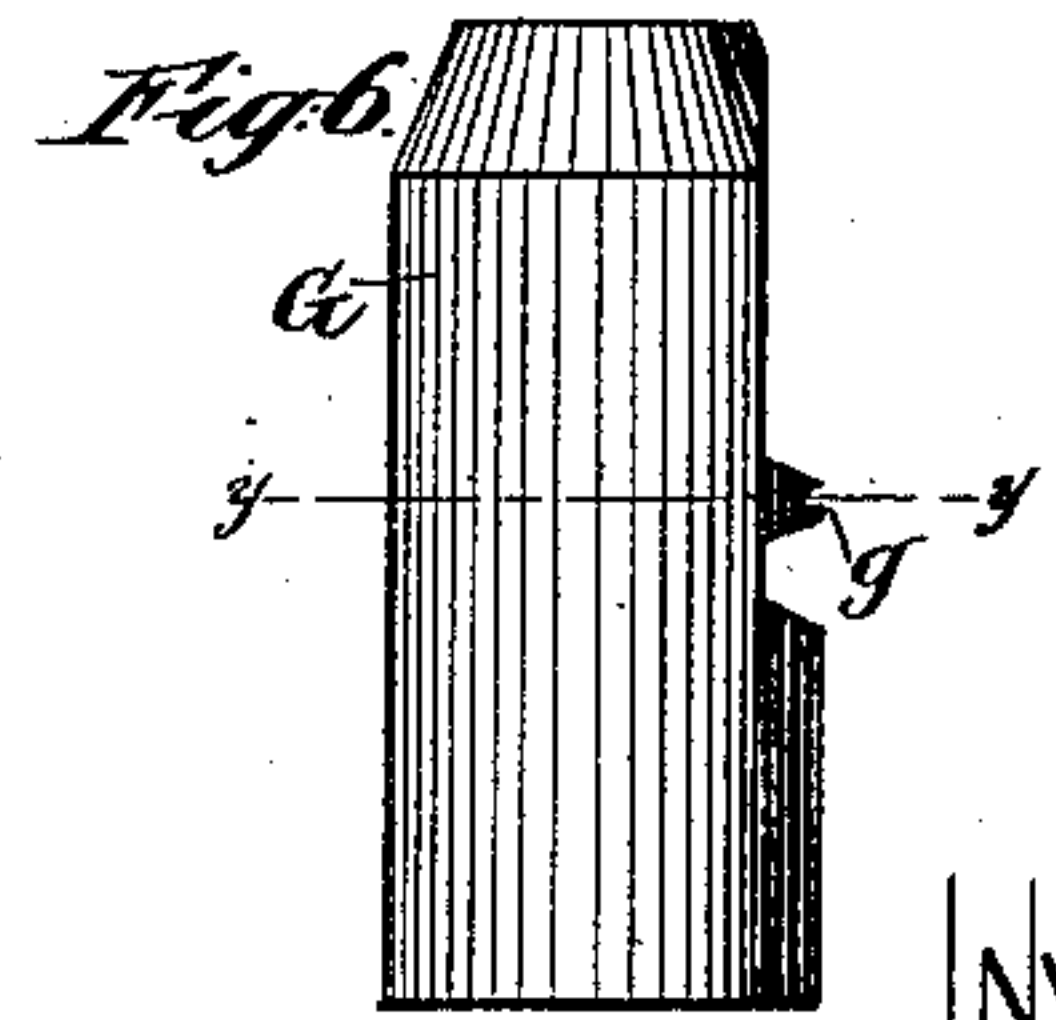
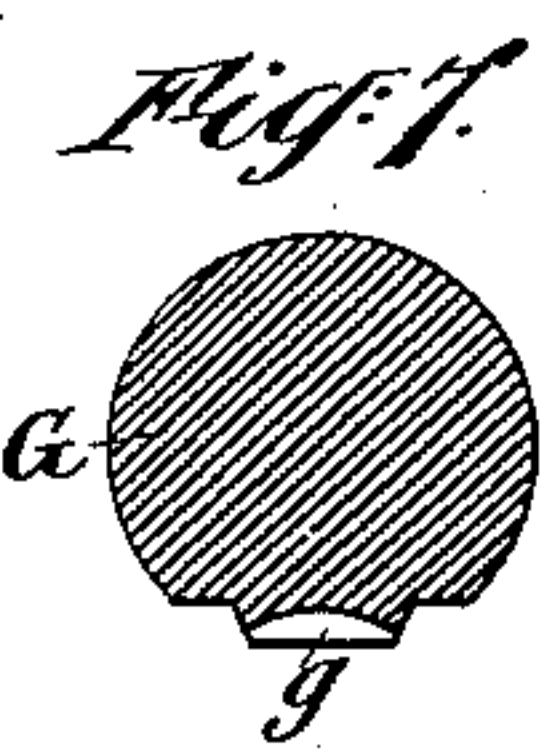
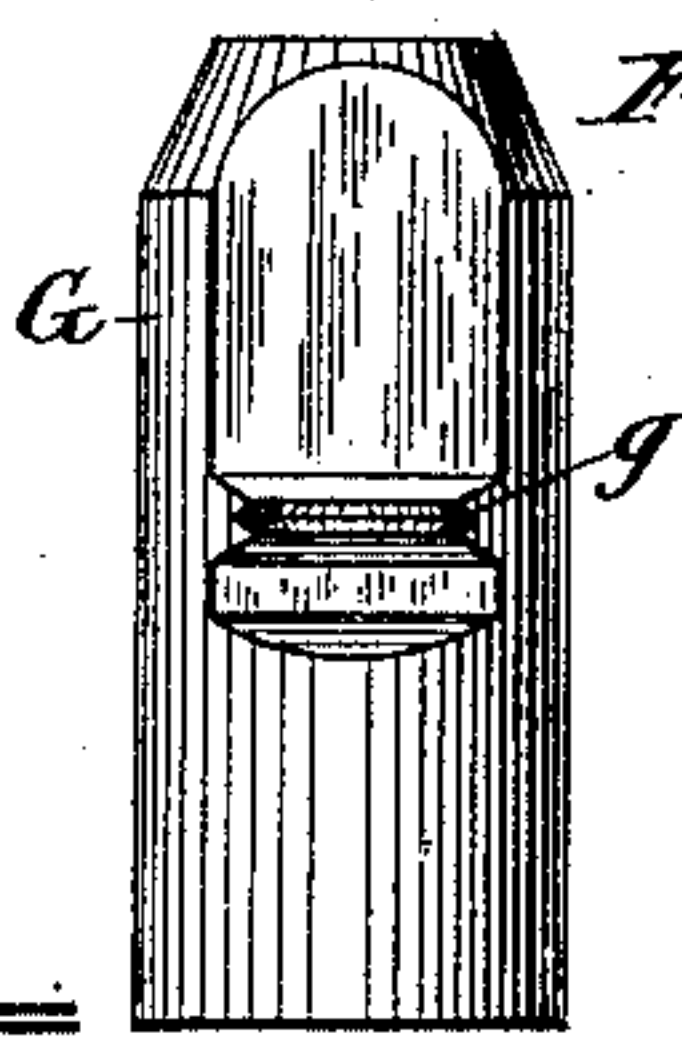
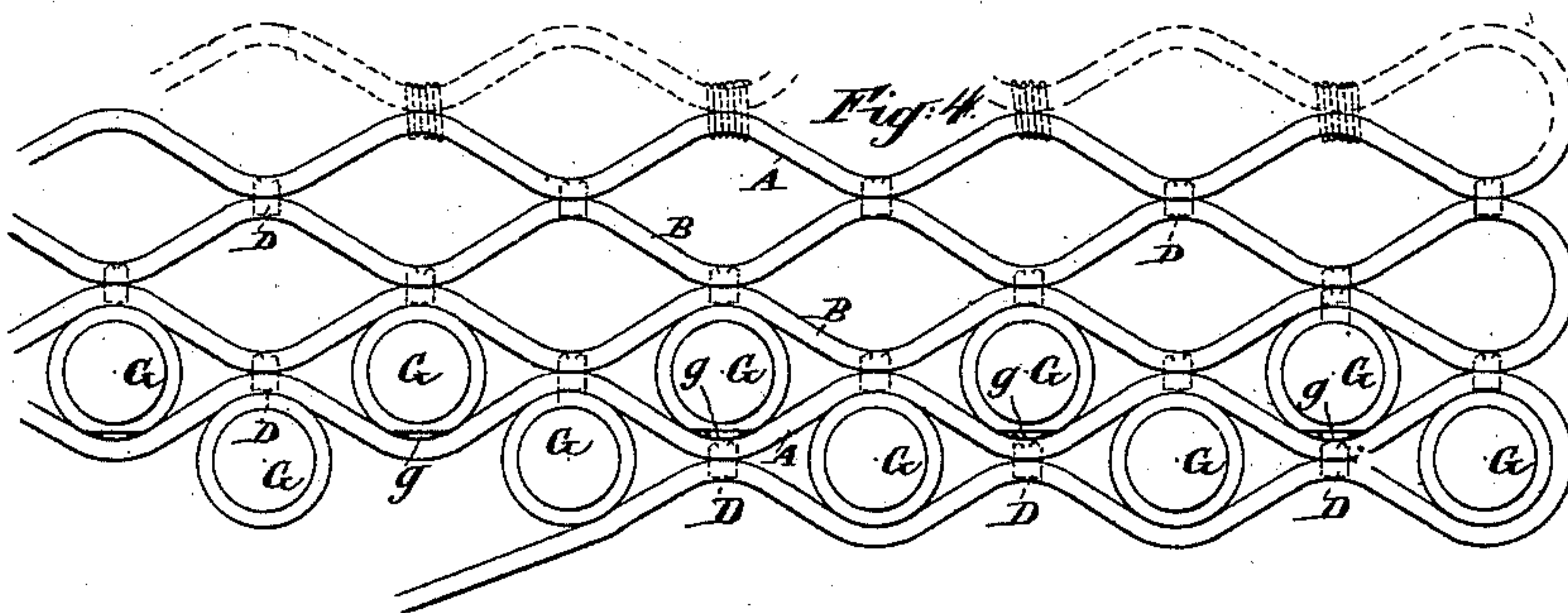
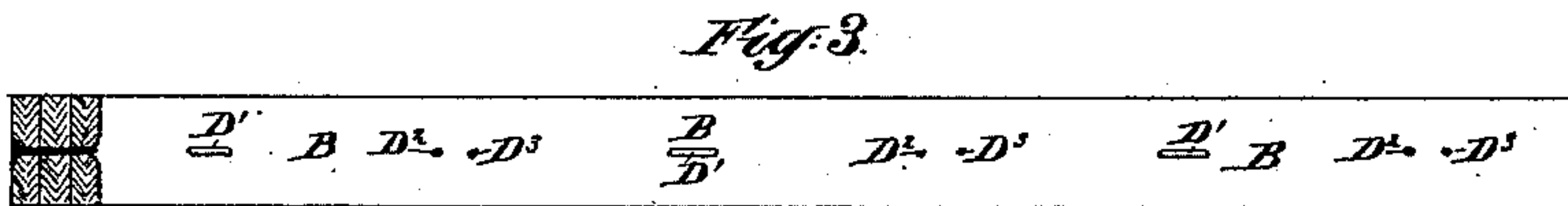
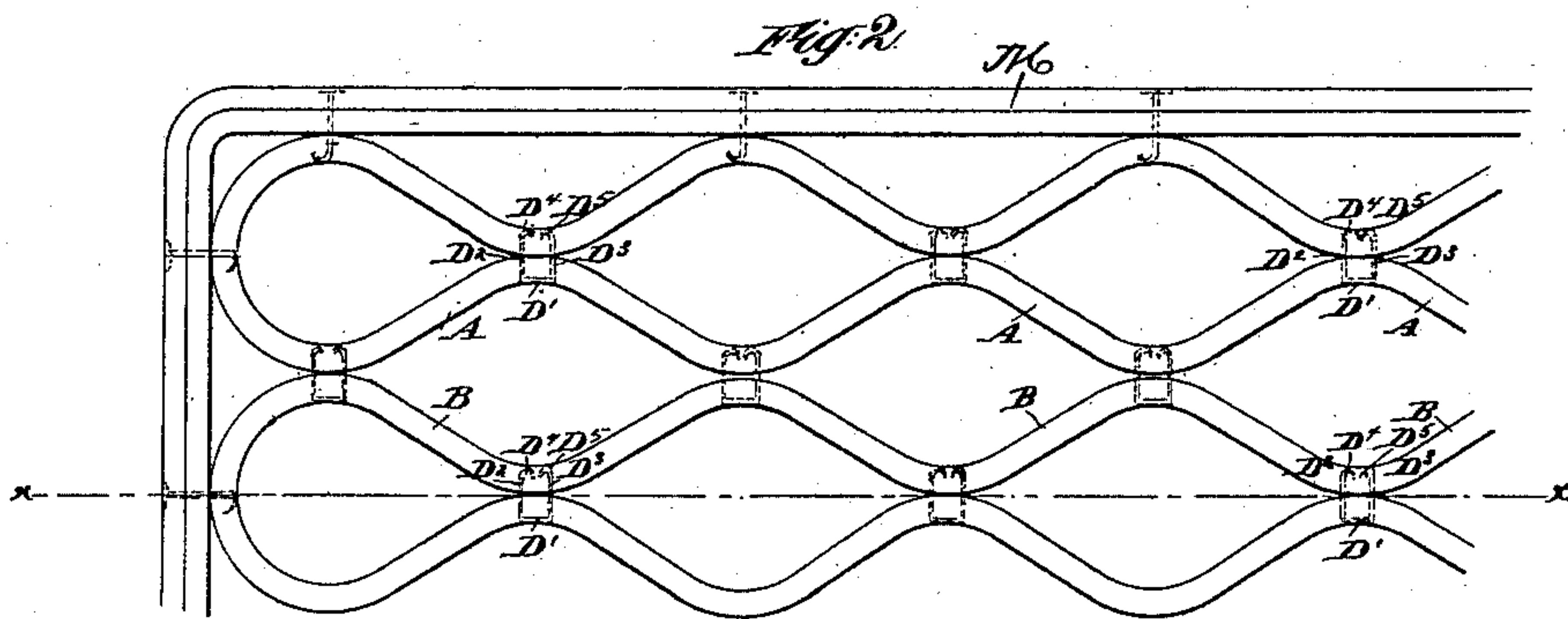
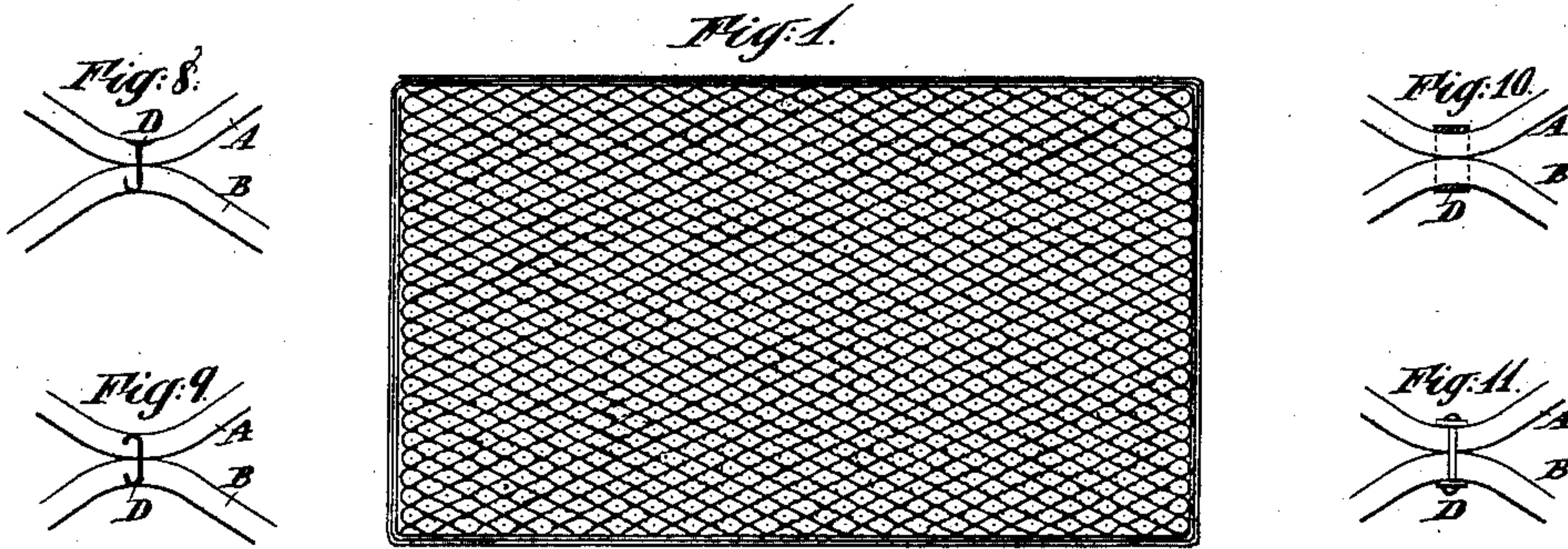
(No Model.)

F. GREENLAND.

MAT.

No. 333,942.

Patented Jan. 5, 1886.



WITNESSES=
Charles H. Seale,
M. F. Boyle

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UNITED STATES PATENT OFFICE.

FRANK GREENLAND, OF BROOKLYN, NEW YORK.

MAT.

SPECIFICATION forming part of Letters Patent No. 333,942, dated January 5, 1886.

Application filed June 18, 1884. Serial No. 135,271. (No model.)

To all whom it may concern:

Be it known that I, FRANK GREENLAND, of Brooklyn, Kings county, in the State of New York, have invented certain new and useful
5 Improvements in Mats, of which the following is a specification.

The invention applies to open-work mats of coir or other suitable material.

10 Instead of stitching, I secure the parts by metallic fastenings.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

15 Figure 1 is a plan view of the mat complete. The remaining figures are on a larger scale. Fig. 2 is a plan view, and Fig. 3 a section on the line *x x* in Fig. 2. Fig. 4 is a plan view showing a portion of the mat in place on the
20 several pins or posts which serve in its construction. Figs. 5, 6, and 7 represent a pin detached. Fig. 5 is a front elevation; Fig. 6, a side elevation, and Fig. 7 a cross-section on the line *y y* in Fig. 6. Figs. 8, 9, 10, and 11
25 show modifications of the metallic fastenings employed. Each is a plan view showing a single joint or junction of two parts of a single strand or rope.

30 Similar letters of reference indicate like parts in all the figures where they occur.

A A and B B designate a continuous strand of the coir rope or other tough fibrous material which is to form the body of the mat, which strand is extended one or more times
35 around the edge, as seen at M, to constitute a strong protection for the exposed portion. I use a single rope without cutting; but I will distinguish one portion from another by the two letters A and B.

40 D D are metallic fastening-staples, certain portions being designated, when necessary, by additional marks, as D' D².

D' is the head of the staple—the part which receives the force of the percussion when the staple is driven by a hammer. D² and D³ are the legs or parallel portions thereof, and D⁴ D⁵ the clinched ends of these legs. The staples are forced through the two portions A and B, and strongly engage them together by the aid
45 of the turned or clinched ends D⁴ D⁵.

To make the mat, the parts A and B are

held temporarily in the properly-waved conditions, and the several staples are driven through the points of junction, and the ends D⁴ D⁵ are clinched by being forced against
55 suitably-inclined surfaces of steel, the points of the staples being received in a curved recess, *g*, in the side of the pin G, which is properly shaped to receive the points of the staples and bend them inward. The rope is
60 quite elastic. A strong blow, or a series of gentler ones, applied to the head D' of the staple causes the points of the staple to be so received in the concavity *g* that the staple will be effectively clinched, and the bent ends D⁴ D⁵ will be sunk well in the goods. 65

I have represented the coir rope as flat and as held in the mat, resting with one edge on the floor and presenting the opposite edge upward. I prefer this construction; but this
70 feature is not absolutely essential.

Modifications may be made.

I can apply two of the staples D at each of the junctions of the parts A and B.

The meshes of the mat may be finer, requiring the staples or other metallic fastenings to be applied nearer together. 75

Some of the benefits of the invention may be realized by other forms of metallic fastenings, such as winding brass wire or other
80 suitable incorrodible metal around the junction, instead of driving pointed staples through said junction. Such is shown as a fastening for a portion of a strand indicated in dotted lines in Fig. 4. 85

I have shown nails having large heads as the means for securing the edging to the body of the mat; but staples of sufficient length may serve with nearly equal success.

Nails may be employed as the fastenings D
90 in lieu of the staples.

The staples may be made of wire cut off diagonally, so as to form proper points; or they may be made from strips of sheet metal.

The metal of the staples D, or other metallic
95 fastenings, may be copper, brass, bronze, or various metals or alloys. I prefer for general practice soft iron; but hard iron or low steel may be used.

Fig. 8 shows a nail put through and clinched. 100

Fig. 9 shows a wire or headless piece of metal clinched at each end.

Fig. 10 shows a clip of sheet metal fitted tightly around the two strands.

Fig. 11 shows a rivet with a washer or clinch-ring at each end.

5 I claim as my invention—

The open-work mat described, composed of a continuous strand of flexible fibrous material bent to form points of contact at regular intervals to form a body, and having a border
10 or edge formed of parallel lines of said strand, the points of contact in the body and points

of contact between the body and the border being secured by metallic fastenings, substantially as shown and set forth.

In testimony whereof I have hereunto set 15 my hand, at New York city, this 16th day of June, 1884, in the presence of two subscribing witnesses.

FRANK GREENLAND.

Witnesses:

CHARLES R. SEARLE,
WM. C. DEY.