

No. 743,761.

PATENTED NOV. 10, 1903.

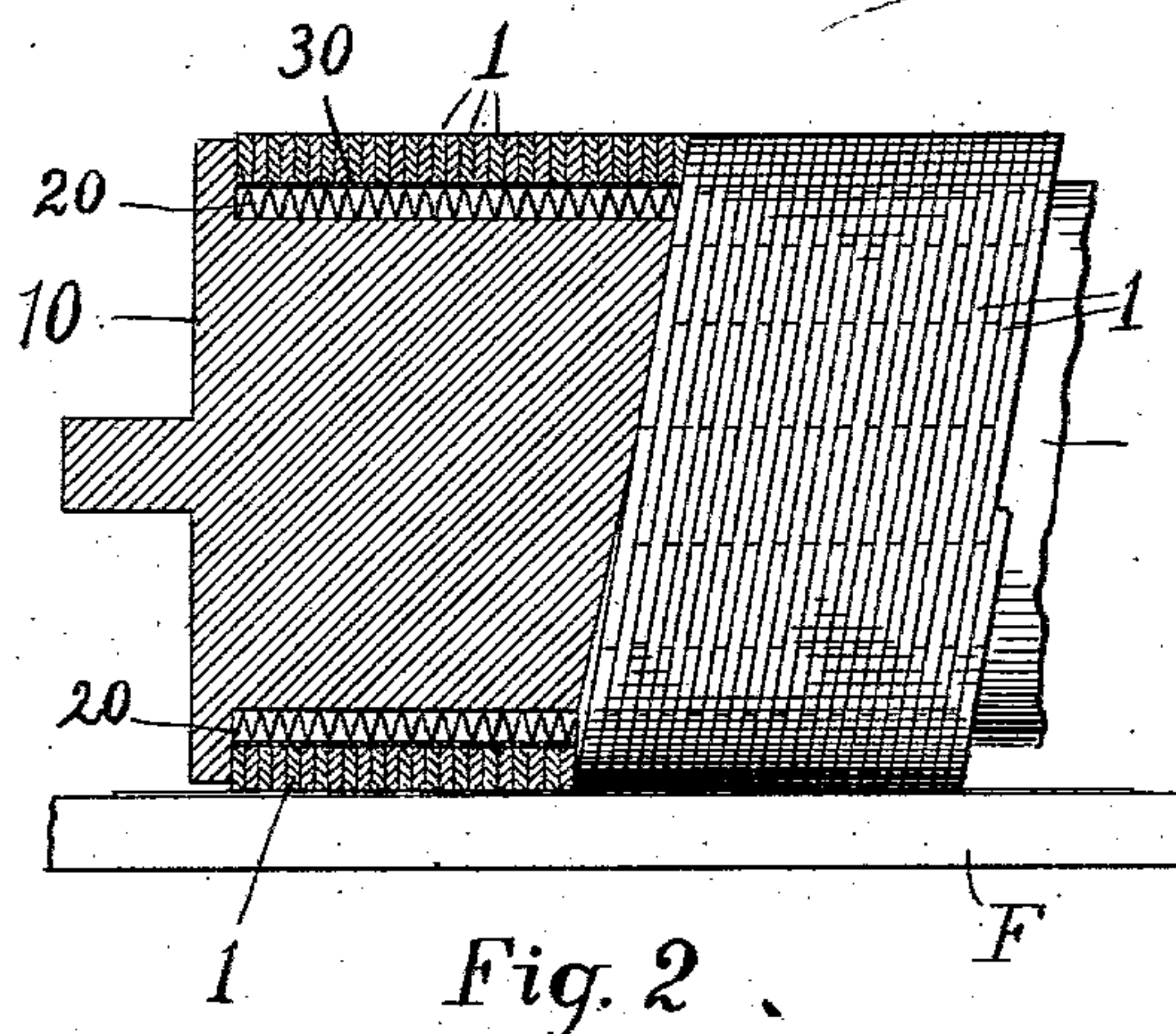
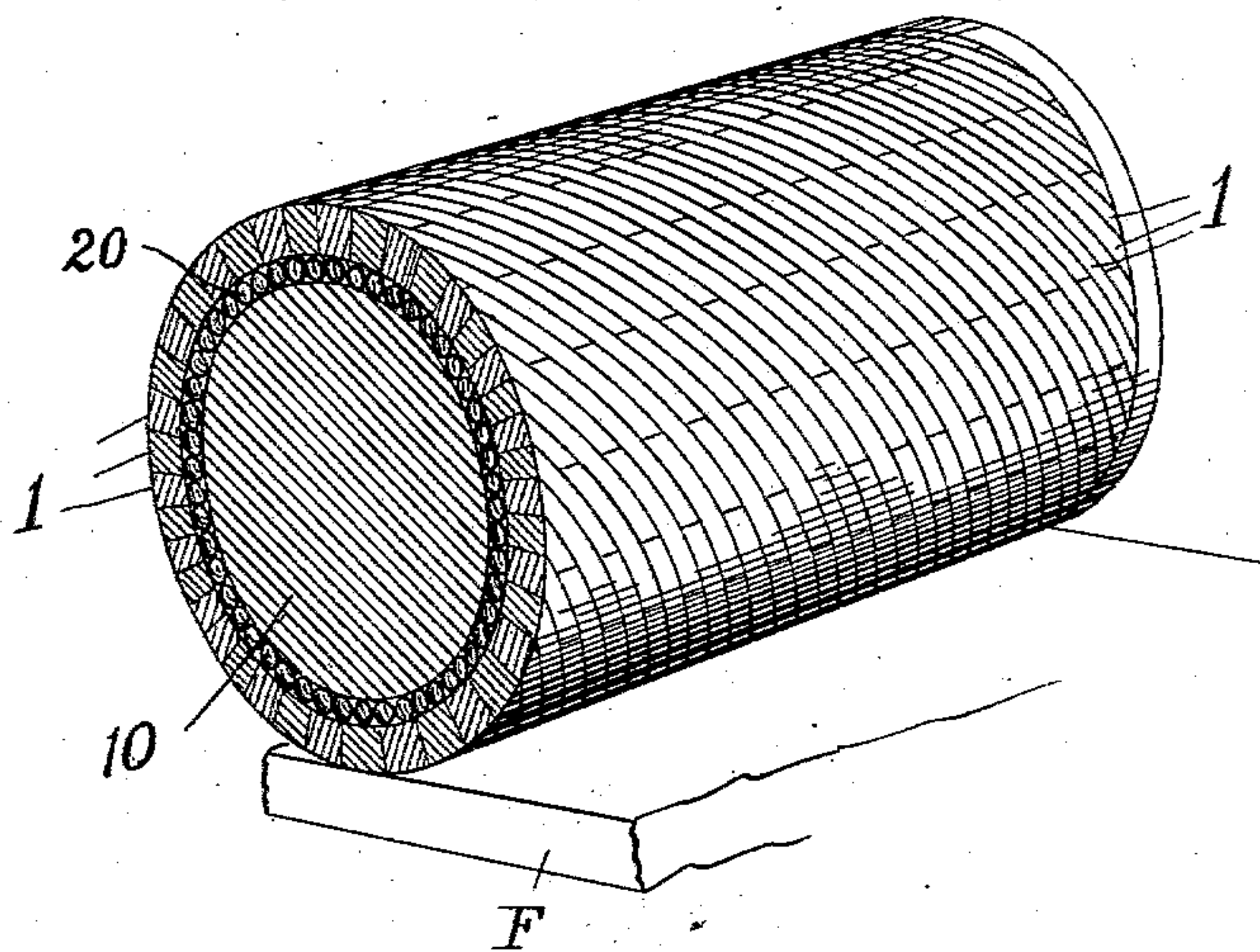
M. L. SEVERY.
PRINTING PRESS.

APPLICATION FILED APR. 30, 1900.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses;

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John O. Empster

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His Attorneys

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2 SHEETS—SHEET 2.

NO MODEL.

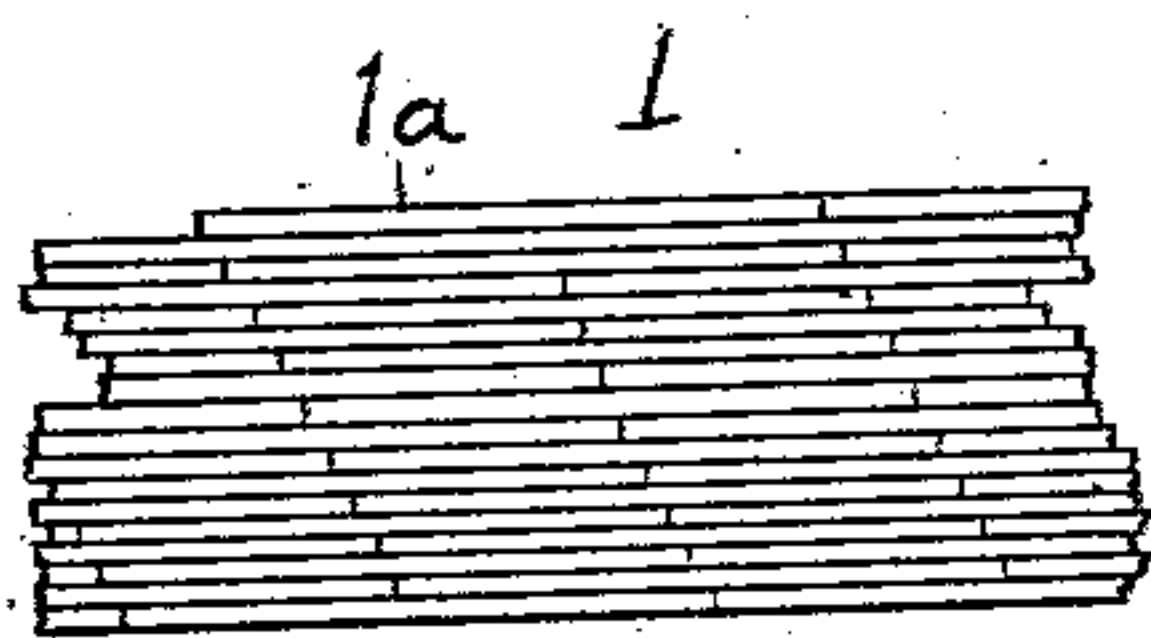


Fig. 5

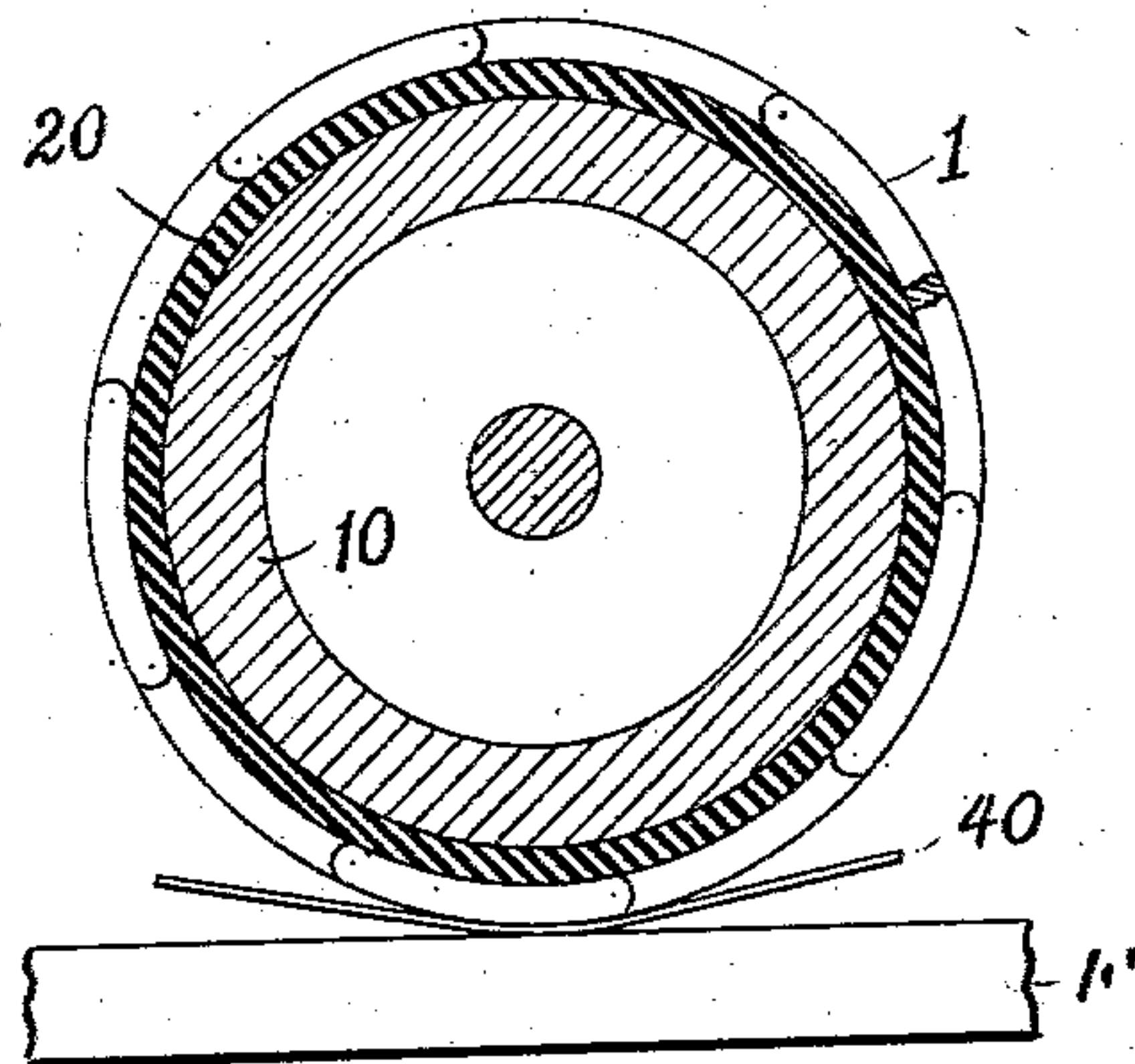


Fig. 3

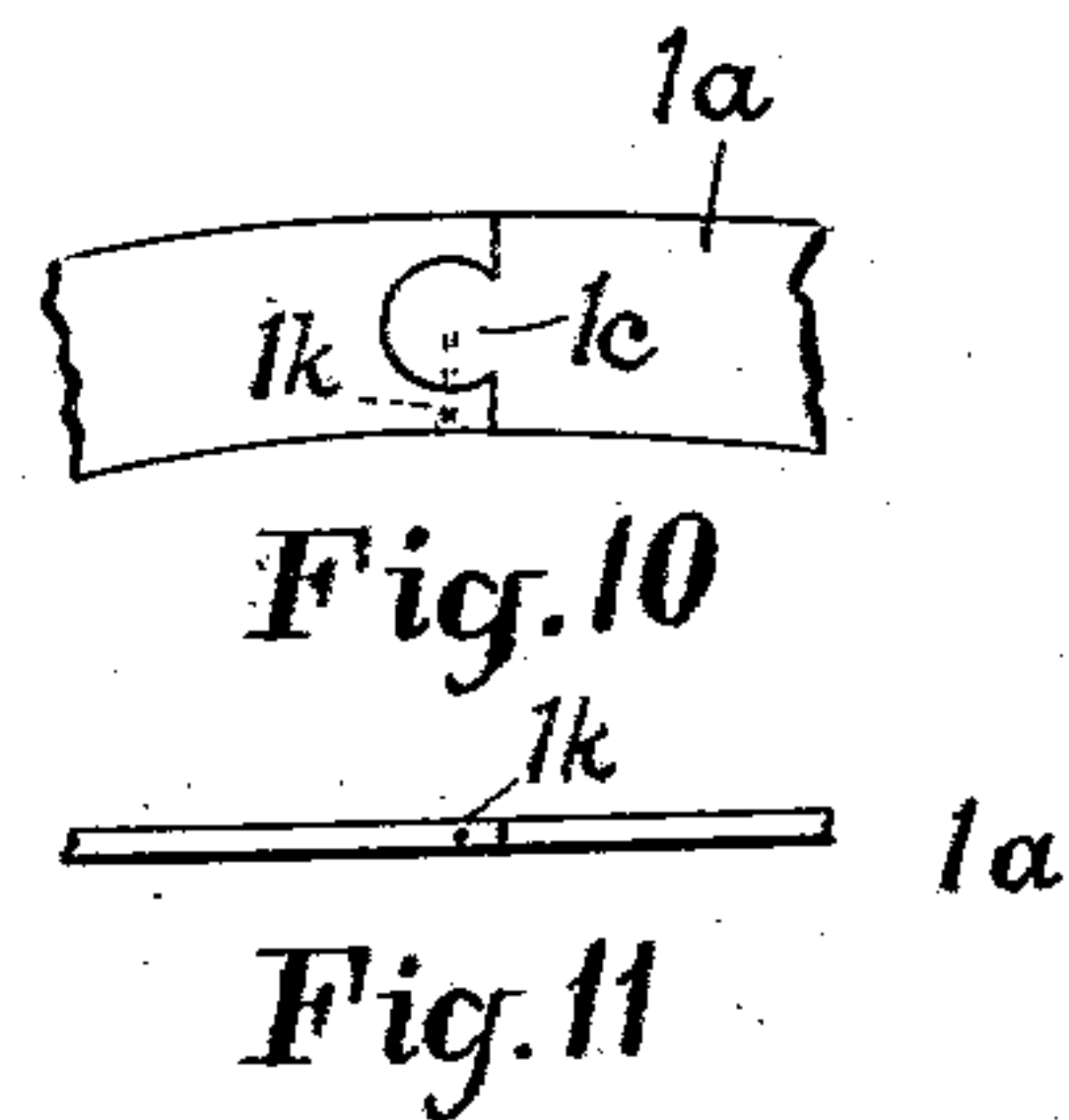


Fig. 10

Fig. 11

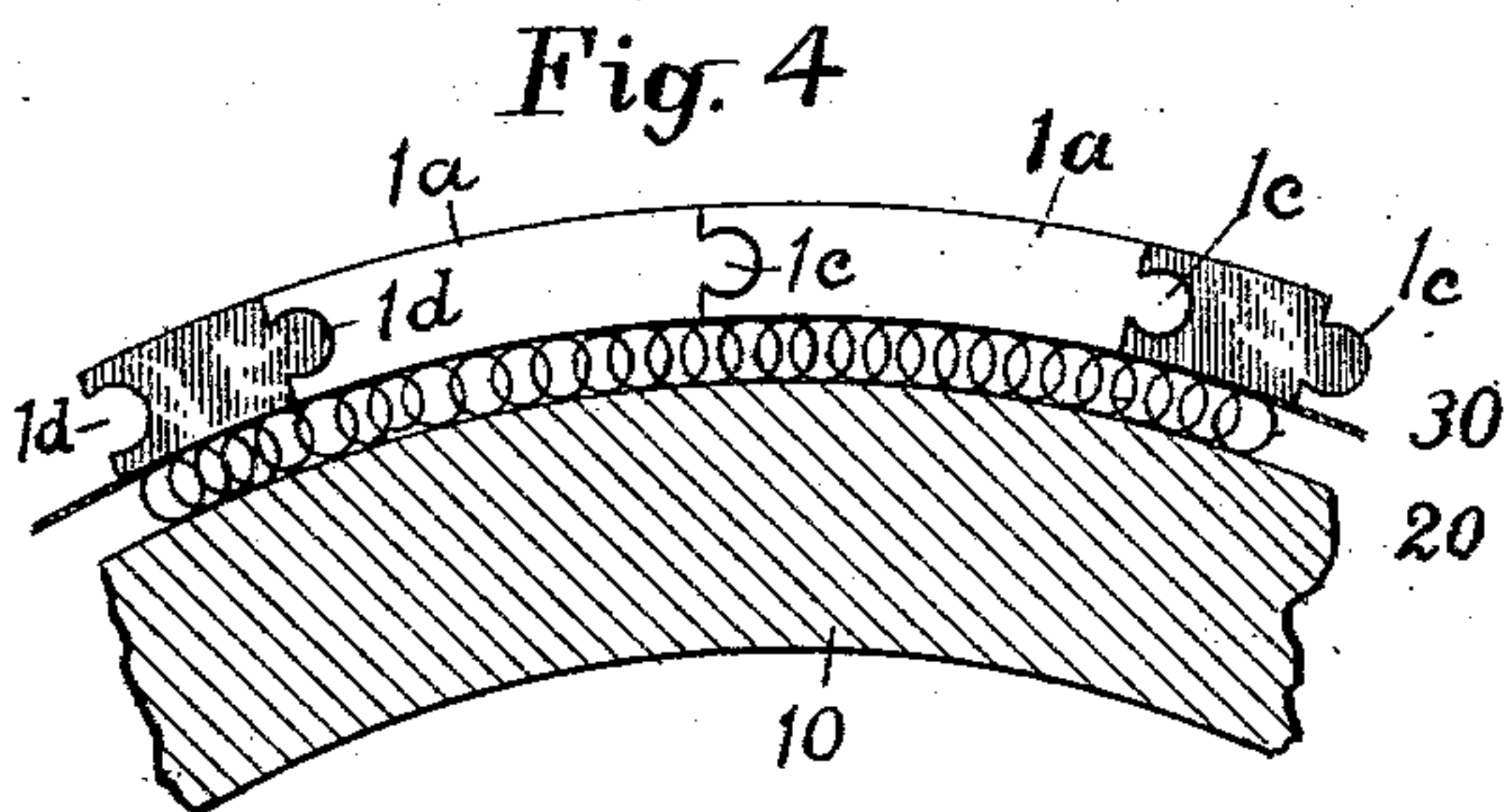


Fig. 4

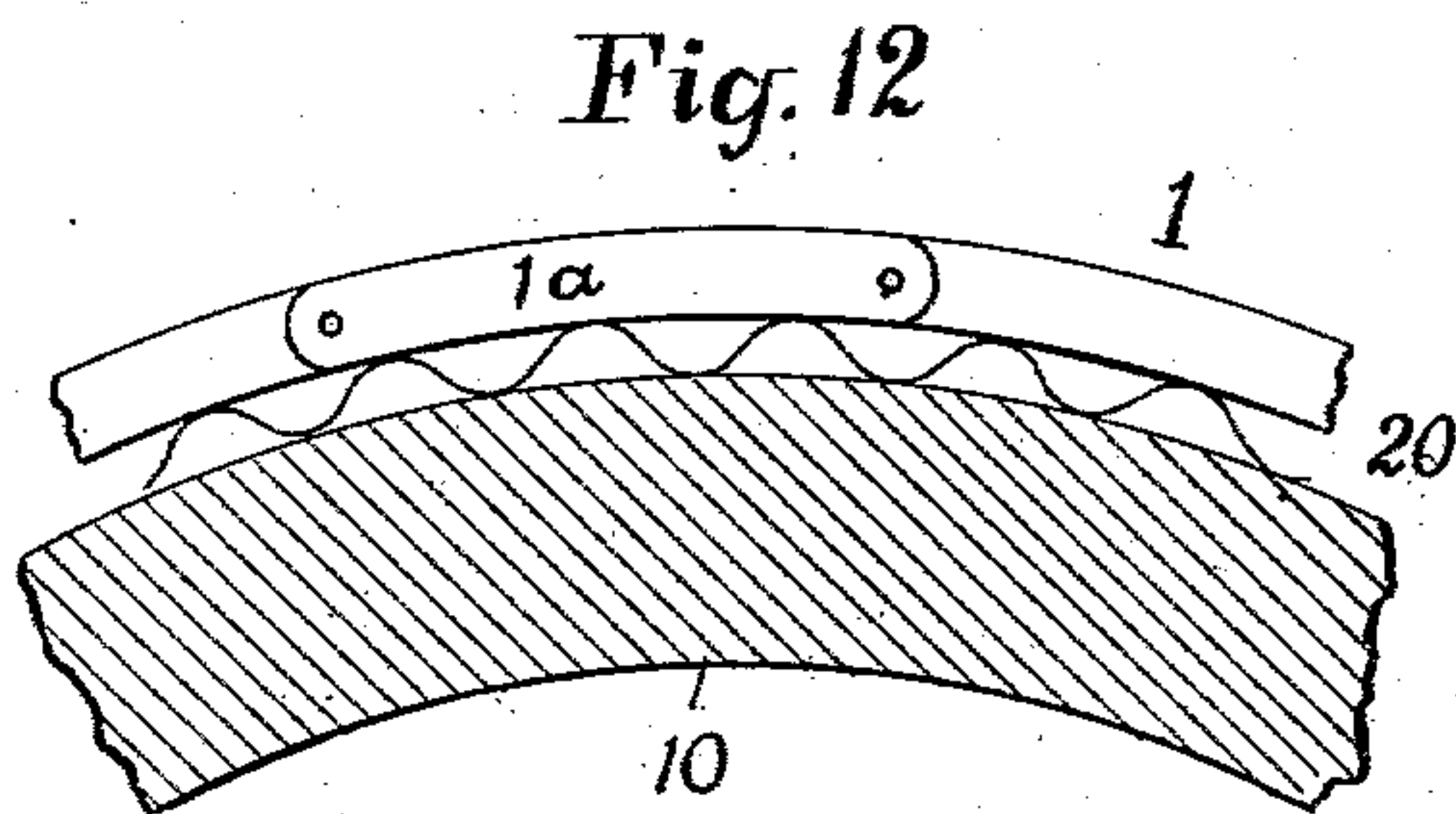


Fig. 12

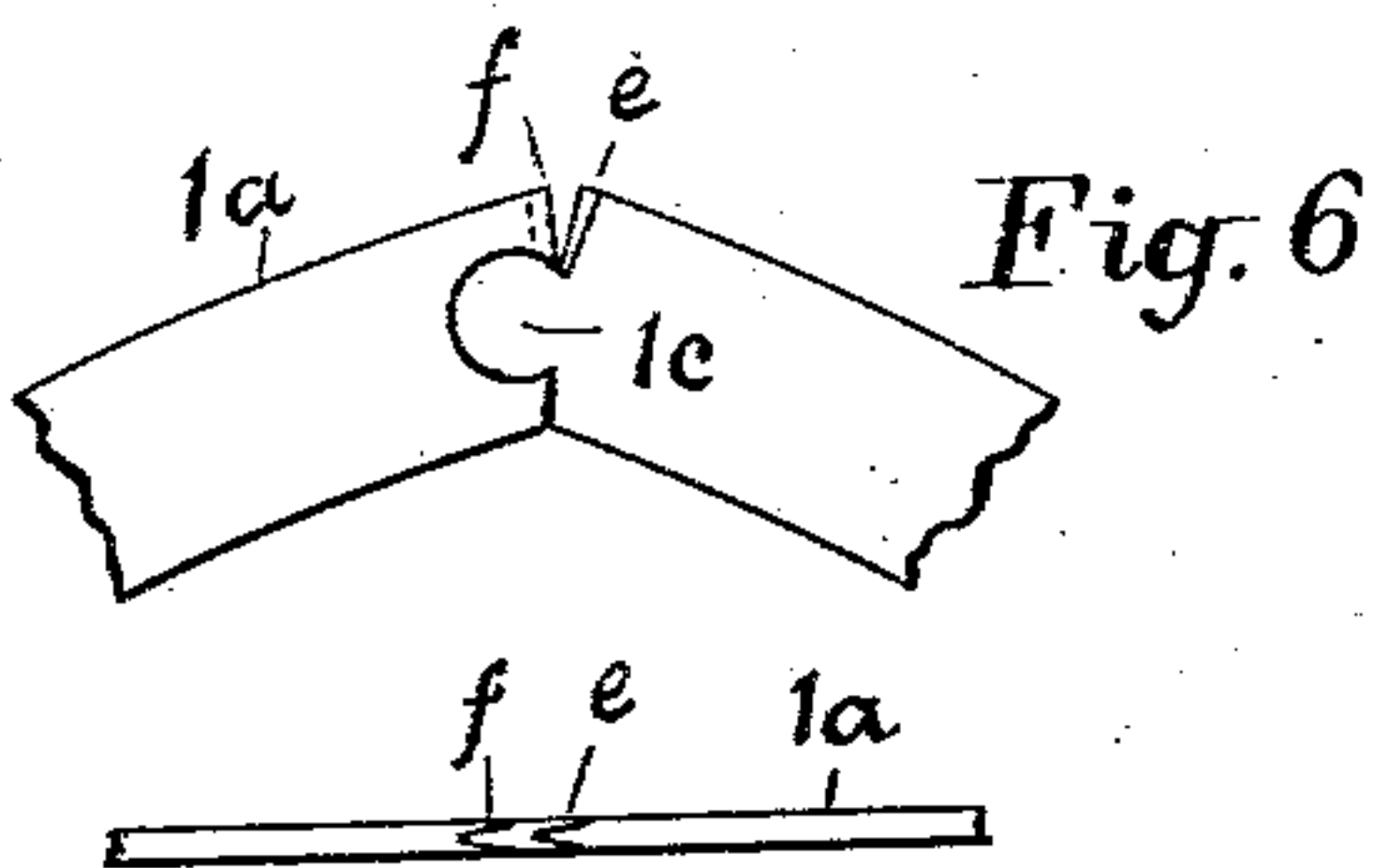


Fig. 6

Fig. 7

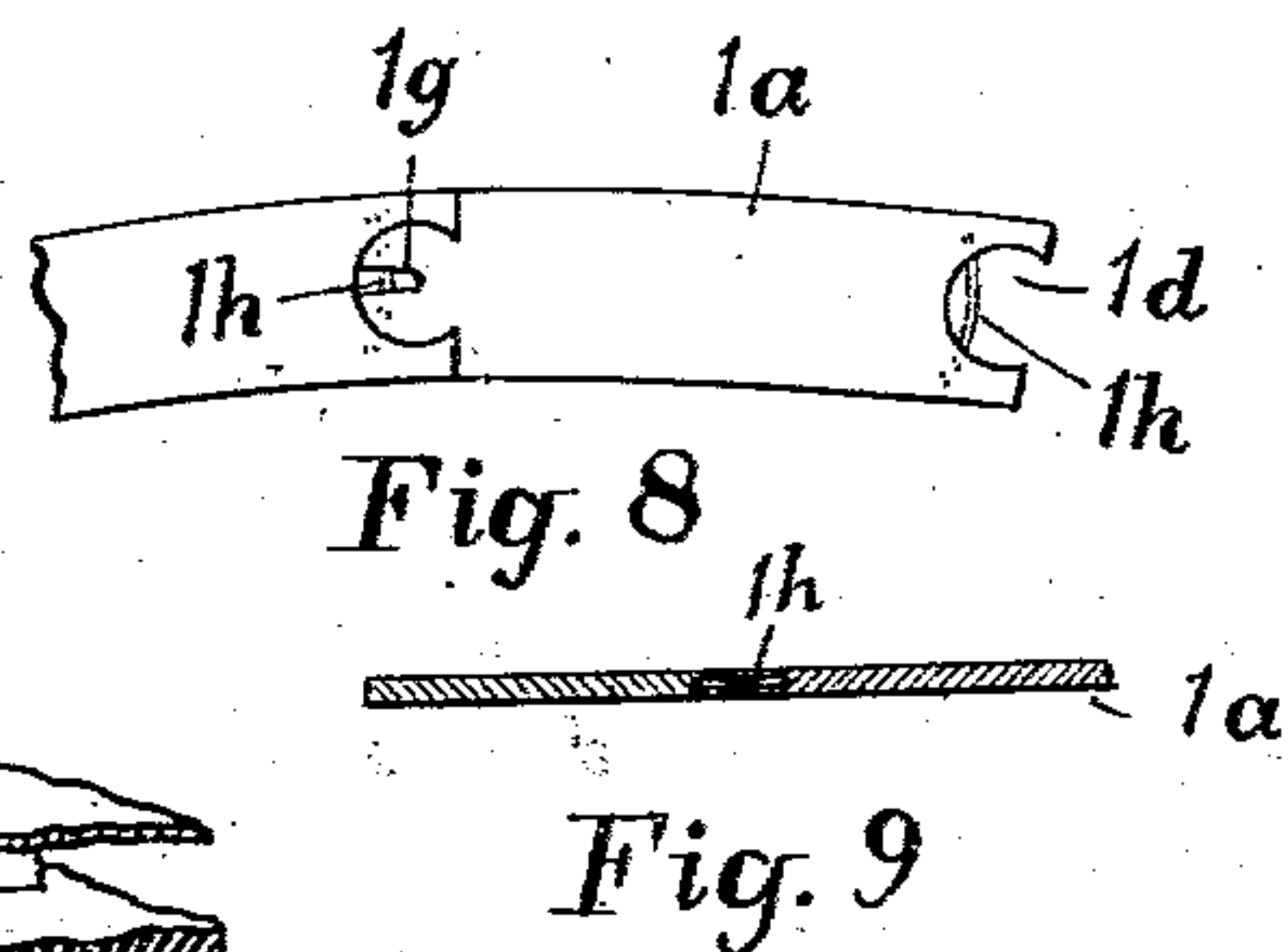


Fig. 8

Fig. 9

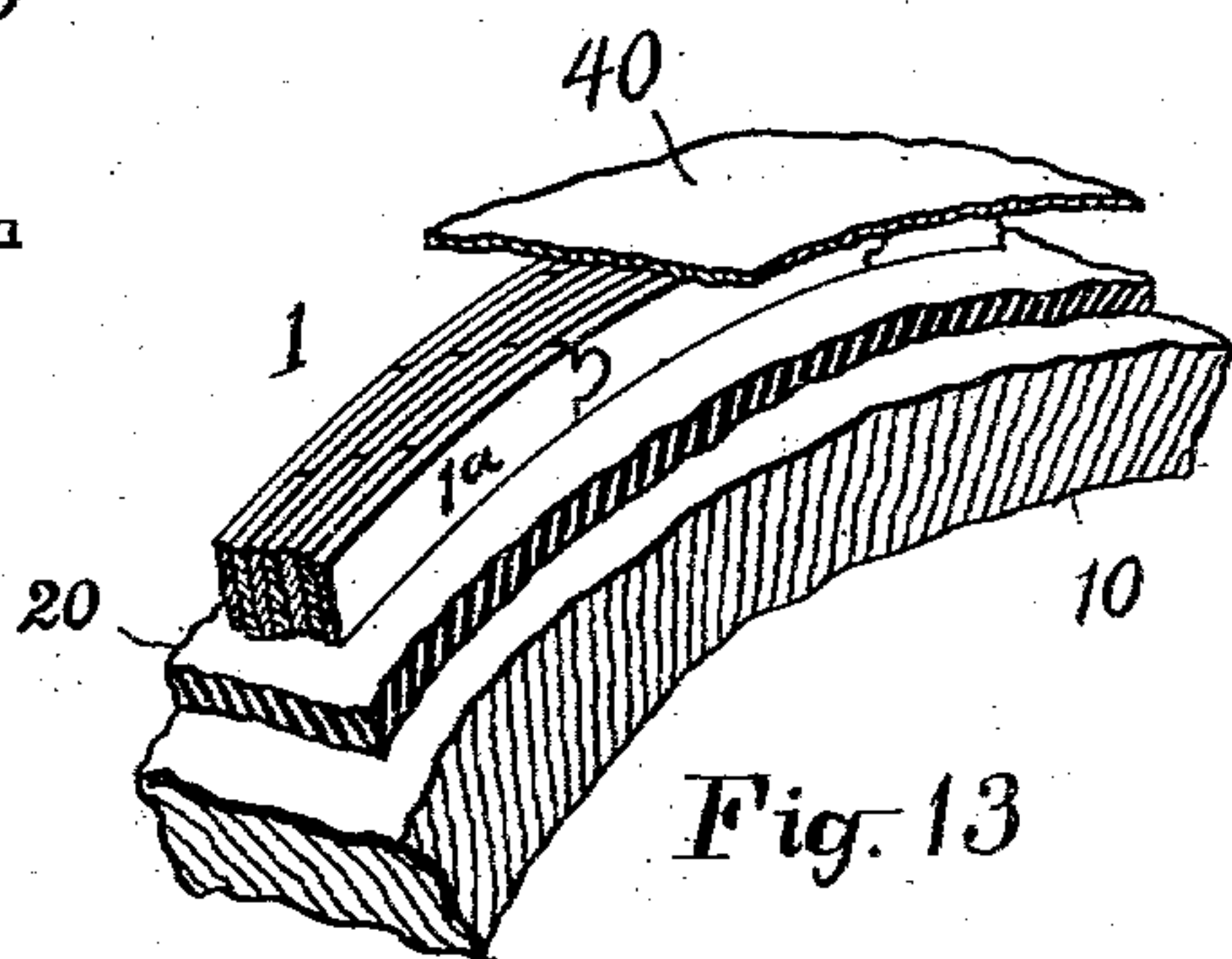


Fig. 13

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UNITED STATES PATENT OFFICE.

MELVIN L. SEVERY, OF ARLINGTON HEIGHTS, MASSACHUSETTS, ASSIGNOR
TO AUTOMATIC TYMPAN COMPANY, A CORPORATION OF NEW YORK.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 743,761, dated November 10, 1903.

Application filed April 30, 1900. Serial No. 14,929. (No model.)

To all whom it may concern:

Be it known that I, MELVIN L. SEVERY, a citizen of the United States, residing at Arlington Heights, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Printing-Presses, of which the following is a full, clear, and exact description.

In my companion application, designated as "Application B," I have disclosed an impression-surface composed of a series of narrow ribbon-like elements supported upon their edges side by side on an elastic cushion. In this present case I set forth a construction in which such ribbon-like elements (or "trusses," as I have designated them) can be wound helically about a cylindrical impression member without flexure thereof. In order to accomplish this, I have devised a method of forming such element in short sections, each given the proper curvature when made, and provided with means for terminally securing said sections together.

Referring to the drawings forming part of this specification, Figure 1 is a perspective view, partly in section, showing my complete impression member with the spirally-wound trusses thereon. Fig. 2 is a side view of the same, partially sectional. Fig. 3 is a transverse section of the same. Fig. 4 is a detail view, upon a larger scale, showing the truss-sections and means for cushioning them. Fig. 5 is face view of a part of my impression-surface, showing several truss-sections and their staggered arrangement for the purpose of preventing adjacent members from having their points of juncture too near together. Fig. 6 is a side view of the adjacent ends of two truss-sections, showing one means for binding the same together. Fig. 7 is an edge view of the same. Fig. 8 shows another method for securing said ends from lateral displacement. Fig. 9 is an edge view of the same. Fig. 10 shows another means for securing said ends together. Fig. 11 is an edge view of the same. Fig. 12 is a sectional view of a portion of the impression member, showing another cushioning device for the truss; and Fig. 13 is a perspective view of a section of the impression member, cushion, trusses, and bridging-sheet.

As represented in Fig. 1, the helical trusses 1 are wider than they should be, the showing in Figs. 2 and 13 being more nearly correct in this respect. These trusses have imposed between them and the impression cylinder or support 10 a cushion 20, consisting of fine wire coils, (also shown in Fig. 4,) a thin separating-sheet 30 being placed between the trusses and wires to prevent said trusses from cutting down between the coils. The winding being very oblique, as shown, it is necessary to wind several parallel trusses together, as a single truss closely wound about the impression-support would give a scarcely-visible obliquity.

Since the trusses are preferably thin bands or ribbons of spring metal, to wind them on edge about a cylinder is not only quite difficult, but gives them a tendency to lean, for, as is well known, a resilient band thus wound and given sufficient room between the windings will at once lay over flat upon the cylinder. To overcome such tendency and at the same time render it easier to apply the trusses, I divide the same into sections 1^a, each normally curved the required extent, and form such sections with dovetail ends adapted to be engaged one with the other, as shown in Fig. 4, one end of each section being given the dovetail notch 1^d and the opposite end the dovetail projection 1^c, corresponding thereto. By sliding the projection of one section laterally into the notch of the next section the two sections are held from longitudinal separation, and by continuing the operation a truss of any length is built up, this being of course done upon the cylinder during the work of forming the impression-surface.

To prevent lateral disengagement of the sections, a pin, as 1^k in Figs. 10 and 11, may be inserted vertically through the dovetail members, or a resilient bar 1^h may be inserted in a vertical slot communicating with the dovetail notch 1^d and adapted to normally remain therein, as shown in Fig. 8, while the dovetail projection 1^c is given a vertical groove to receive said bar and a transverse slot 1^g, into which a small tool can be inserted for pressing said rod back into its slot to permit the dovetail parts to be laterally engaged, said bar at once springing into said vertical groove and bind-

ing the truss-sections together. Another method is to shorten the under shoulder at the neck of the projection 1^c and to tongue and groove the upper shoulders, as at *e* and *f* in Figs. 6 and 7. The truss-sections are put together at the relative angle shown in Fig 6 and then straightened, thereby bringing said tongue and groove into engagement and holding the parts together.

15 The cushion shown in Figs. 3 and 13 is of soft rubber 20, while that of Fig. 12 is of corrugated sheet-brass or other resilient metal.

The impression-surface formed by the edges of the trusses 1 is preferably overlaid by a tympan-sheet 40, as shown in Figs. 3 and 13.

The advantages in having the trusses 1 helically wound about the impression member are, first, to provide a continuous impression-surface, as it is quite difficult to fit the trusses in place about the cylinder and cushion if made as separate rings; second, the helical arrangement gives the oblique angle which the trusses make relative to the sides of the form, and therefore prevents the trusses from coinciding with the prevailing printing-lines of the form.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

30 1. An impression-surface constituted by a multiplicity of hard, narrow elements terminally united each to its neighbors and having their outer faces coincident with the impression-surface, each element being yieldingly supported and independent of those laterally adjacent, substantially as described.

35 2. An impression-surface constituted by a multiplicity of elongated, separated elements pivotally united and presenting as a whole, independently-yielding lineal areas, substantially as described.

40 3. An impression-surface, a multiplicity of hard, narrow, inflexible elements each loosely joined to its terminal neighbors, in combination with a resilient cushion-support, substantially as described.

4. In an impression-surface, a continuous

resilient element made up of sections pivotally united, substantially as described.

5. An impression-surface constituted by a narrow, elongated resilient element made up of sections terminally united, and a cylindrical resilient support therefor, said element being so wound as to present a continuous surface, substantially as described.

6. The combination with a suitable printing-surface, of a cylindrical support; a cushion thereon constituted by a multiplicity of helical coils of wire; a sheet about said cushion; and a continuous resilient element so wound thereon as to present a continuous surface, substantially as described.

7. The combination with a suitable printing-surface, of a cylindrical support; a cushion thereon; and a continuous resilient element made up of terminally-united sections so wound as to present a continuous surface, substantially as described.

8. In an impression-surface, a hard, narrow, deep, elongated, slightly-resilient element made up of sections terminally united by means of suitable dovetails formed in the respective ends thereof, substantially as described.

9. In an impression-surface, a hard, narrow, deep, elongated, slightly-resilient element made up of sections terminally united by means of suitable dovetails formed in the ends thereof, and means for preventing the displacement of such united ends, substantially as described.

10. In an impression-surface, an elongated element made up of sections terminally united by means permitting of their lateral engagement with each other, substantially as described.

In testimony that I claim the foregoing invention I have hereunto set my hand this 24th day of April, 1900.

MELVIN L. SEVERY.

Witnesses:

LEON M. ABBOTT,
A. B. UPHAM.