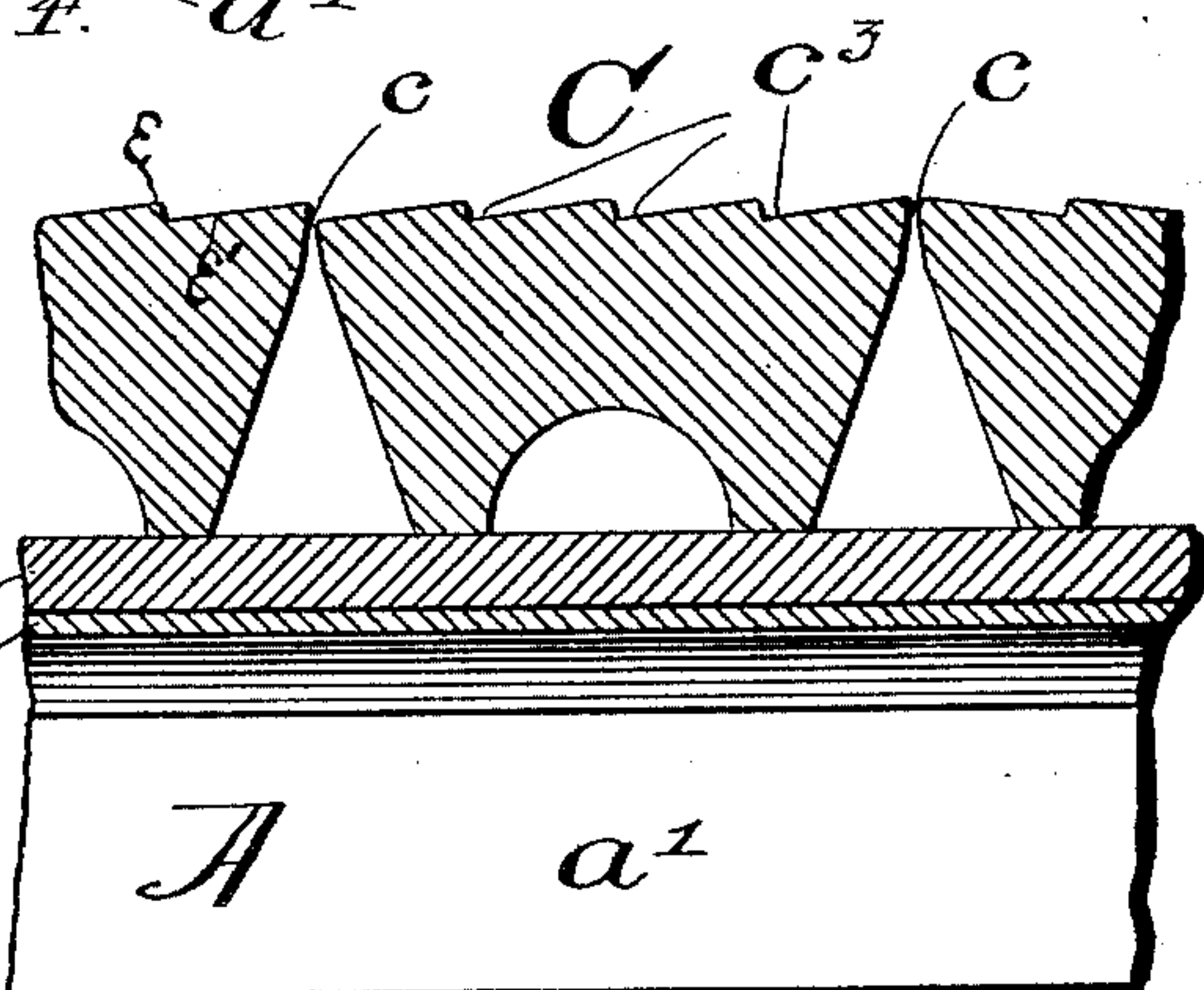
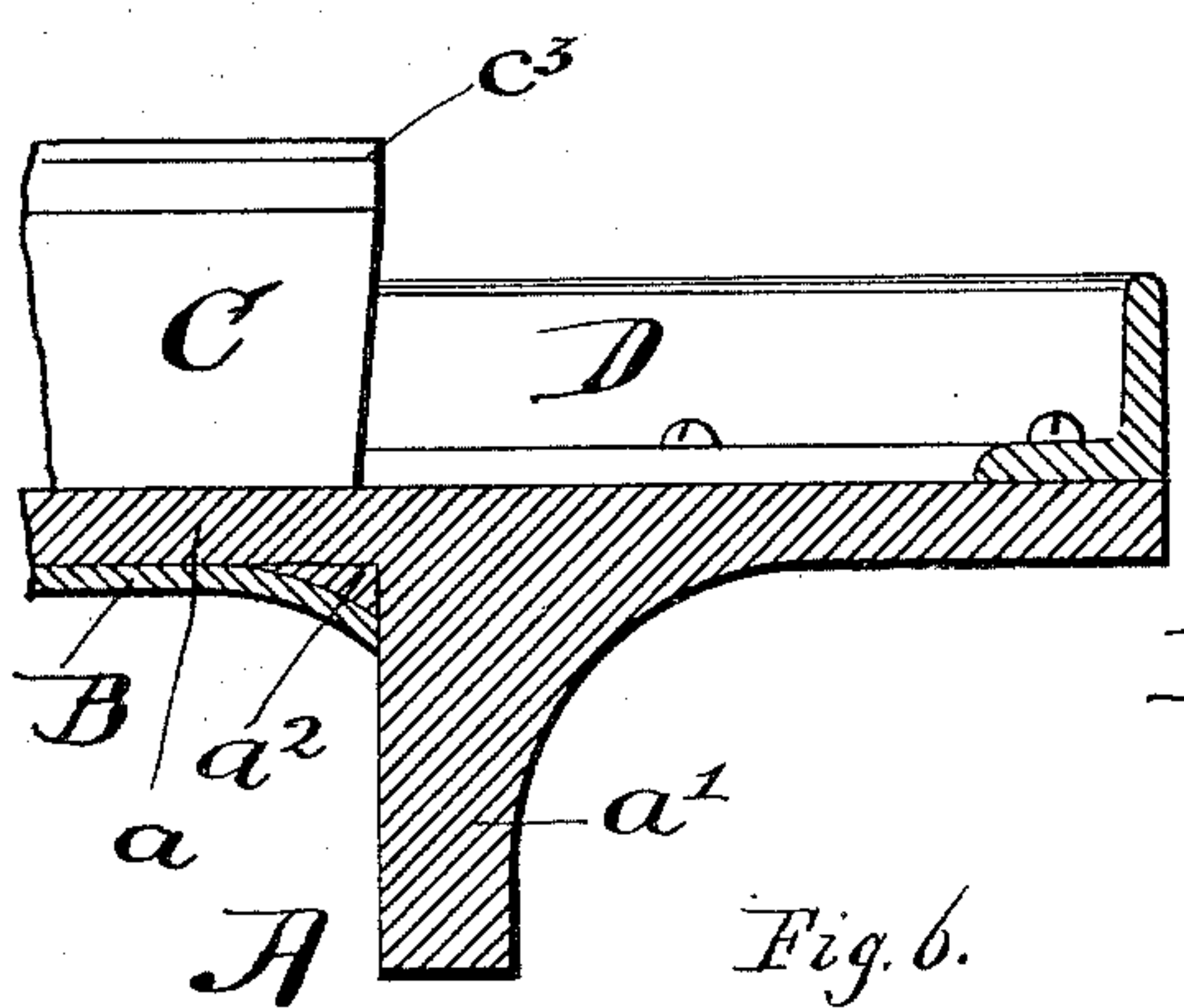
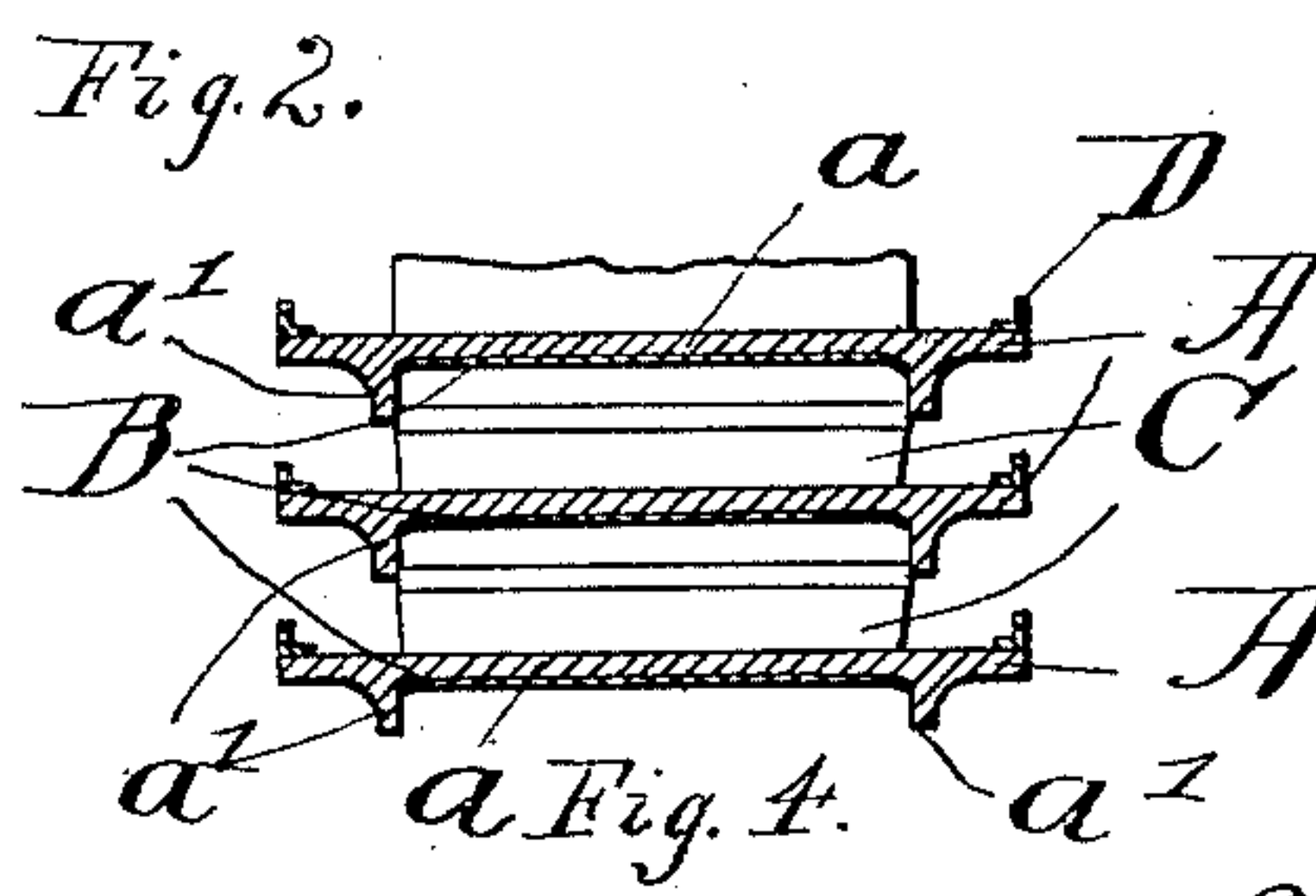
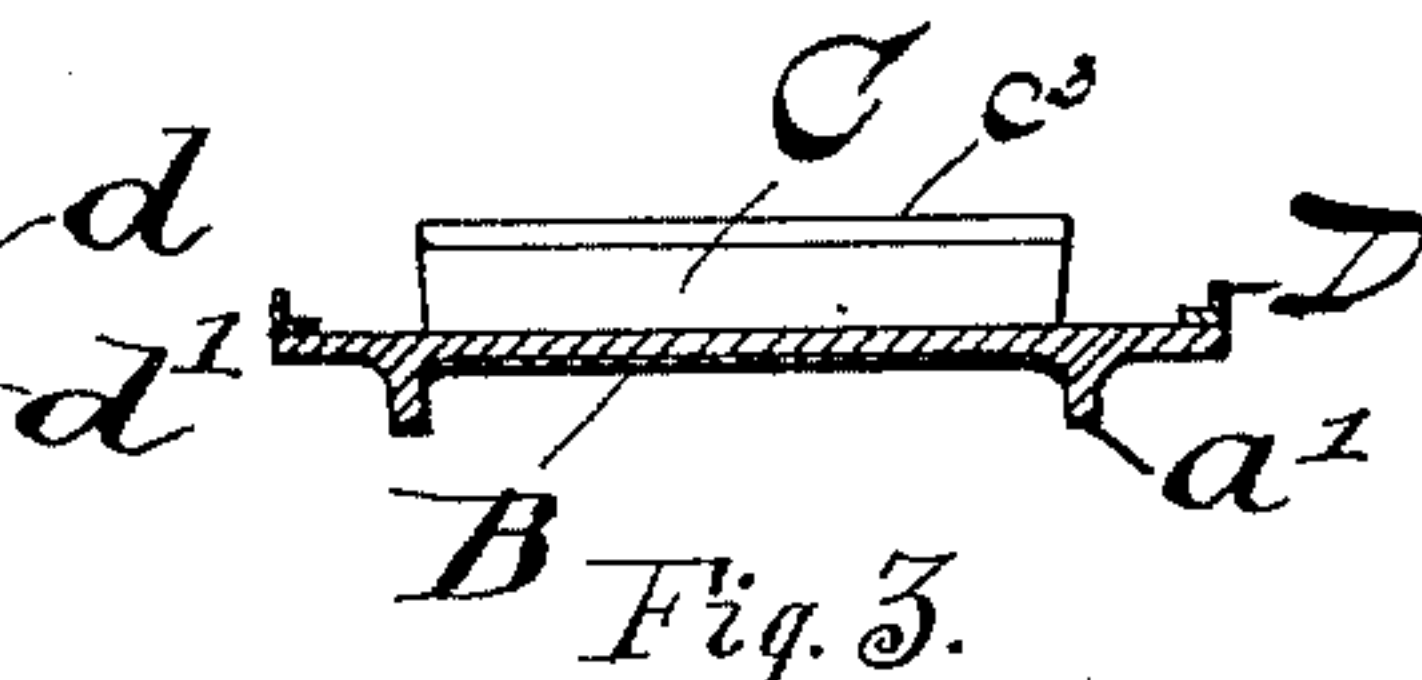
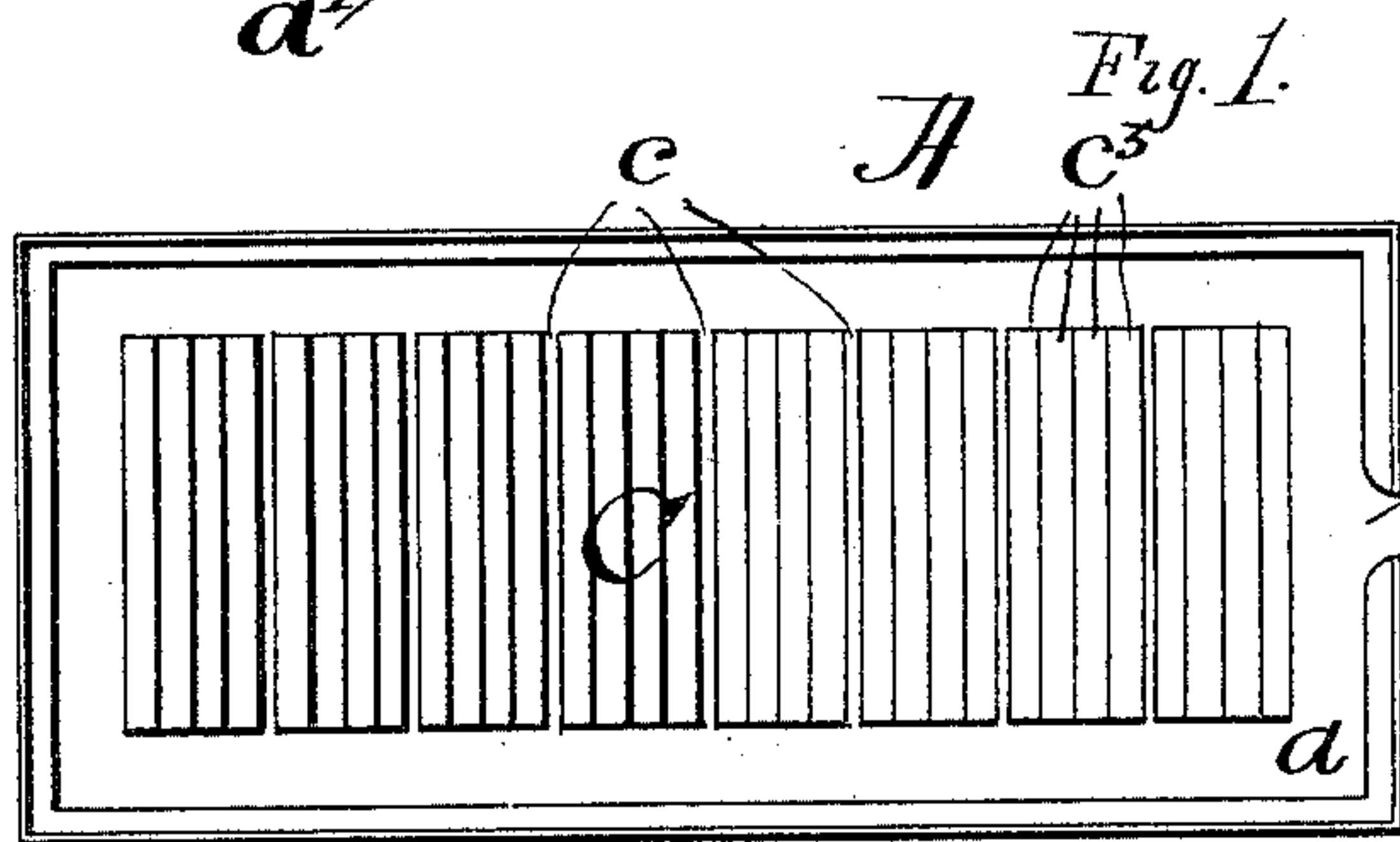
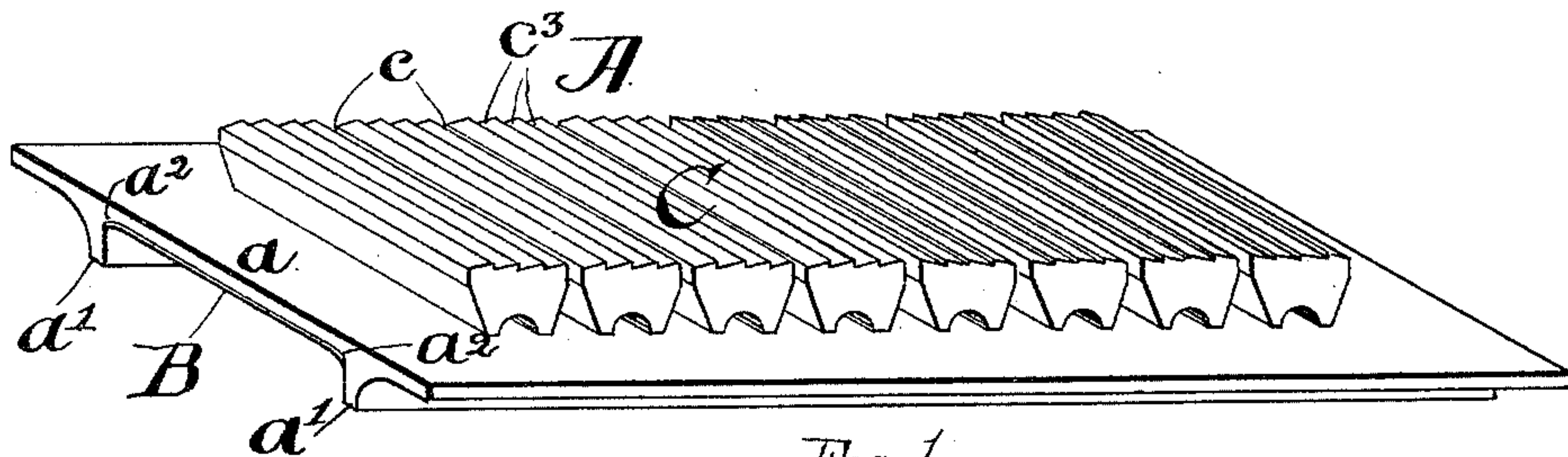


(No Model.)

E. VAN WINKLE.
OIL PRESS.

No. 435,780.

Patented Sept. 2, 1890.



WITNESSES:

Luke P. Hayden.
A. P. [Signature]

INVENTOR:

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BY

Albert A. [Signature]

ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD VAN WINKLE, OF ATLANTA, GEORGIA.

OIL-PRESS.

SPECIFICATION forming part of Letters Patent No. 435,780, dated September 2, 1890.

Application filed May 8, 1890. Serial No. 351,073. (No model.)

To all whom it may concern:

Be it known that I, EDWARD VAN WINKLE, a citizen of the United States, and a resident of Atlanta, in the county of Fulton, State of Georgia, have invented certain new and useful Improvements in Oil-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of specification.

This invention relates to presses for expressing the oil from cotton-seeds and other substances, the object being to so improve the division-plates and boxes thereof as to prevent, as far as possible, any straining or tearing of the press-cloth bag, and also to provide for the easy and perfect outflow of oil from the cake under pressure, to provide for the easy removal of the cake, and to obviate the rapid deterioration of the division-plates, as heretofore experienced.

The details whereby these objects are obtained are hereinafter fully specified, and the parts claimed as new pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the device, showing the dies in place on one of the division-plates, and also showing the construction of said plate. Fig. 2 is a plan showing the parts shown in Fig. 1, and also the upwardly-projecting flange around the outer edge thereof and the oil-duct leading therefrom. Fig. 3 is a sectional view of one of the division-plates, further showing the conformation of the same and the die in longitudinal section, and also the close-grained metallic lining. Fig. 4 is an end elevation of a box, showing the die just entering. Fig. 5 is a section of the division-plate with its lining in longitudinal vertical section, showing thereon two of the dies in cross-section. Fig. 6 is a detail view fully showing the formation of the downwardly-projecting flange of the division-plate integrally with the web thereof, showing incidentally a portion of one of the dies and of the lining and the upwardly-projecting flange around the outer edge thereof.

In the figures like reference-marks indicate corresponding parts in the several views.

The division-plate A, as far as relates to the web a and the downwardly-projecting flanges a' , is made integrally—that is, the flanges and the web are rolled in one piece—by reason of which construction the strengthening-fillet a^2 , (see Fig. 6,) which also assists in forming the cake, may be made in said plate A, which adds great strength at that point, which would otherwise, as is found to be the case in plates as heretofore constructed, be weak at that point and unable to resist for a reasonable length of time the side thrust of the material under pressure. This fillet a^2 also assists in facilitating the removal of the cake after pressure by making the vertical edges thin and reducing the friction thereof to a minimum.

To save the expense of planing or otherwise finishing the interior side of the web a , a plate B, of smooth metal—such as, for instance, rolled sheet brass—is secured thereto, as best shown in Figs. 5 and 6, brass being the preferred metal, inasmuch as it is most easily affixed and offers the least possible resistance to the withdrawal of the bag containing the meal which has been subjected to pressure, which will save the bag to a great extent from wear. The fillet a^2 cannot be inserted to be operative unless the web and flanges are made integrally.

Suitably secured and parallel to each other on the top side of the plate A, as best shown in Fig. 1, are a number of dies C, which form the bottom of the box and in pressing enter between the downwardly-projecting flanges a' , which form the sides of the box, the web A forming the upper part thereof. These dies C are larger on their upper face than at any other point, their sides and ends tapering smaller downwardly, the reason of which will be presently seen. When assembled and secured to the top of the plate A, as shown in Fig. 1, they have between them a small space c . (Best shown in Fig. 5.) This space is to allow for the escape of oil from the bag and should be as large as possible consistent with not straining the bag under pressure where it bridges the said openings. Owing to the inclination of the sides of each of these bars, the opening between them is very much larger at their bottoms, which provides for the free escape of the oil and prevents any clogging of the said

openings and the adhesion of oil to the sides of the dies.

In order that these dies may fit between the flanges a' sufficiently well to prevent the cloth bag from being broken over the top corners thereof or forced into the crack, the length of these dies is equal approximately to the distance between the flanges a' , and in order that there shall be no unnecessary frictional surface in case said ends should contact with said flanges the ends are beveled, as best shown in Fig. 6.

In order that the strain lengthwise of the bag, caused by the movement in that direction of the material contained therein, shall be equable throughout its entire length and not on any particular portion thereof, the upper side of the said dies are corrugated in a peculiar and novel manner. Each corrugation, or, more properly speaking, each indentation, is formed, as best shown in Fig. 5, of inclined sides, one short side and one long side, the short side e standing at nearly a right angle to the long side e' and facing from either of the series of dies toward the center of said series and the long side inclining downwardly in the opposite direction, thereby forming a shallow depression, the short side of which will resist the extension of the bag as soon as sufficient pressure is exerted thereon by the press to cause the material to press the said bag into the depression c^3 , and will also prevent the material in actual contact with the bag from passing toward its ends.

As ordinarily constructed, corrugations or slots in the face of the dies have been necessarily made so deep that the bag is strained by being pressed into them, which depth has been necessary for the reason that otherwise

said corrugations as heretofore used would be inadequate to the functions required of them.

If desired, the outer edges of extreme end dies of the series may be raised above the general level of the tops of the dies to prevent overflow of the oil at the ends.

A flange D is supplied, as shown in Fig. 2, around the outer edge of the plate A, having a gap d therein for the purpose of directing the oil expressed to one outlet d' .

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the plate A and the dies C, seated on said plate, said dies having a corrugated upper surface and inwardly-inclined sides, which, when two of said dies are placed in their proper relative positions, form a space tapering from the bottom, substantially as and for the purpose specified.

2. In an oil-press, the combination of the plate A, provided with the flange D around its edge, the dies C, seated on said plate, each of which having a corrugated upper surface, each indentation having a short side e nearly perpendicular to the horizontal plane of the dies, and a long side e' nearly perpendicular to the short side e , and the said dies being so placed on the plate A that the general slope of the long sides of the indentations will be outward, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

EDWARD VAN WINKLE.

Witnesses:

A. P. WOOD,
S. M. WOOD.