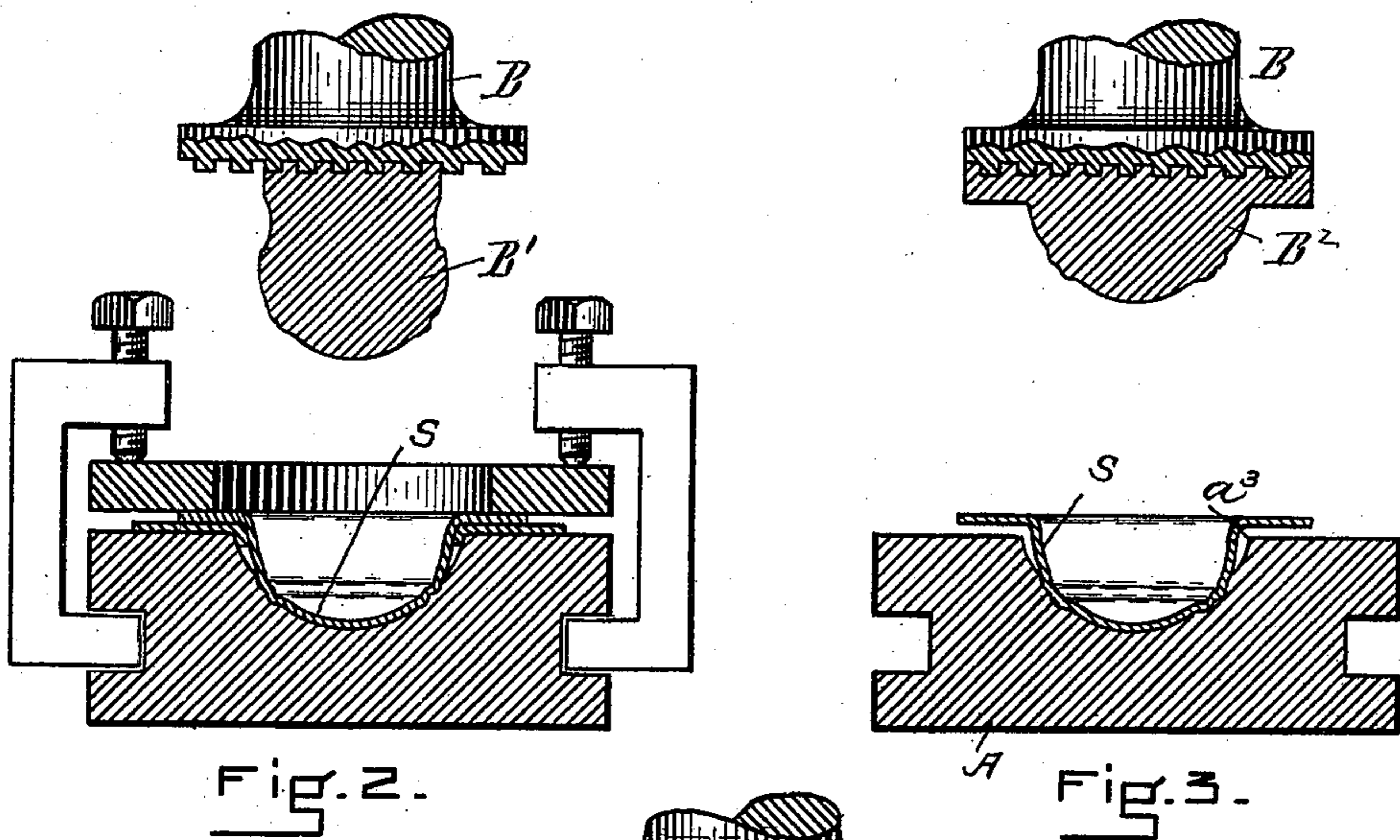
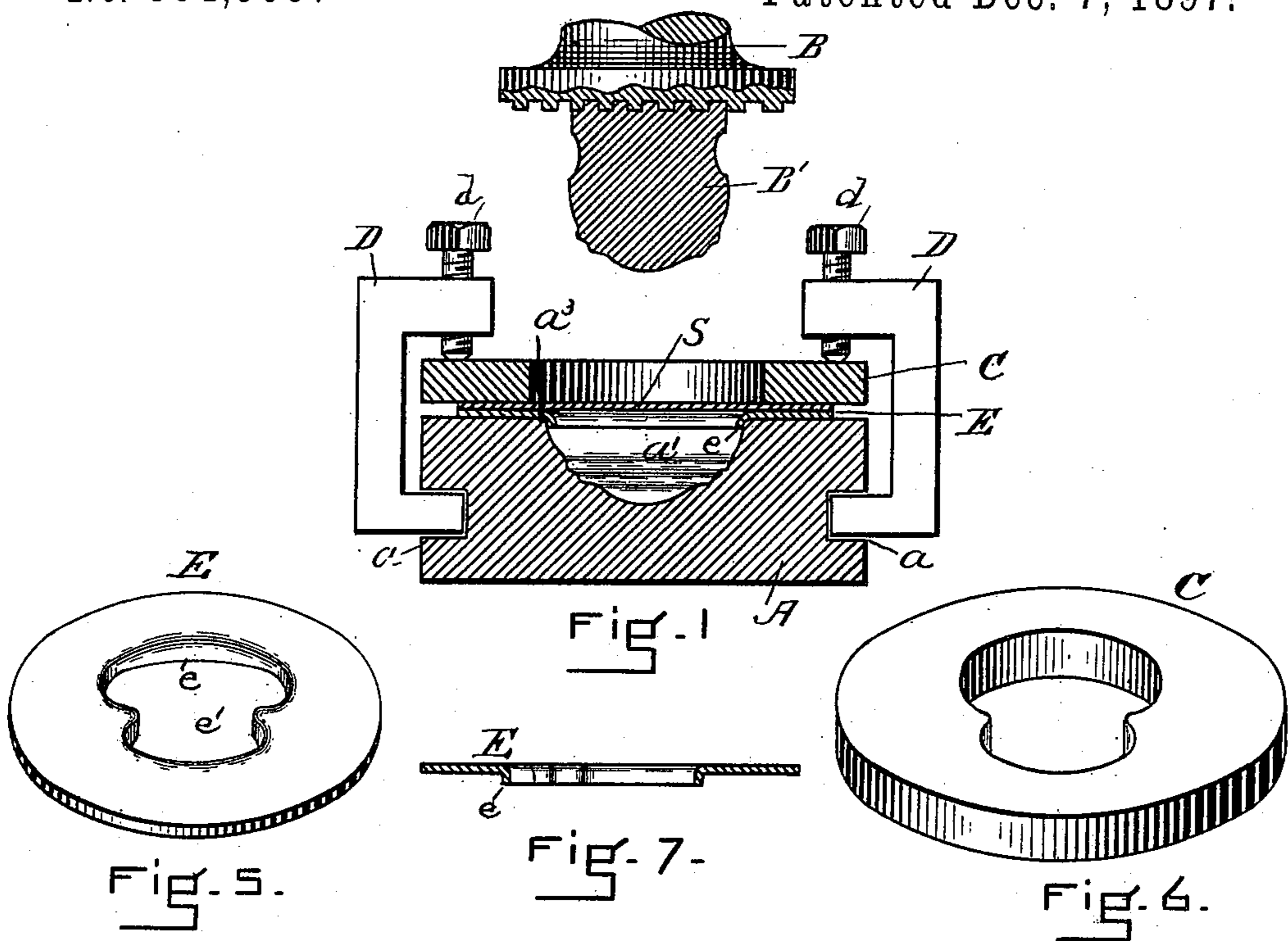


W. McAUSLAND.

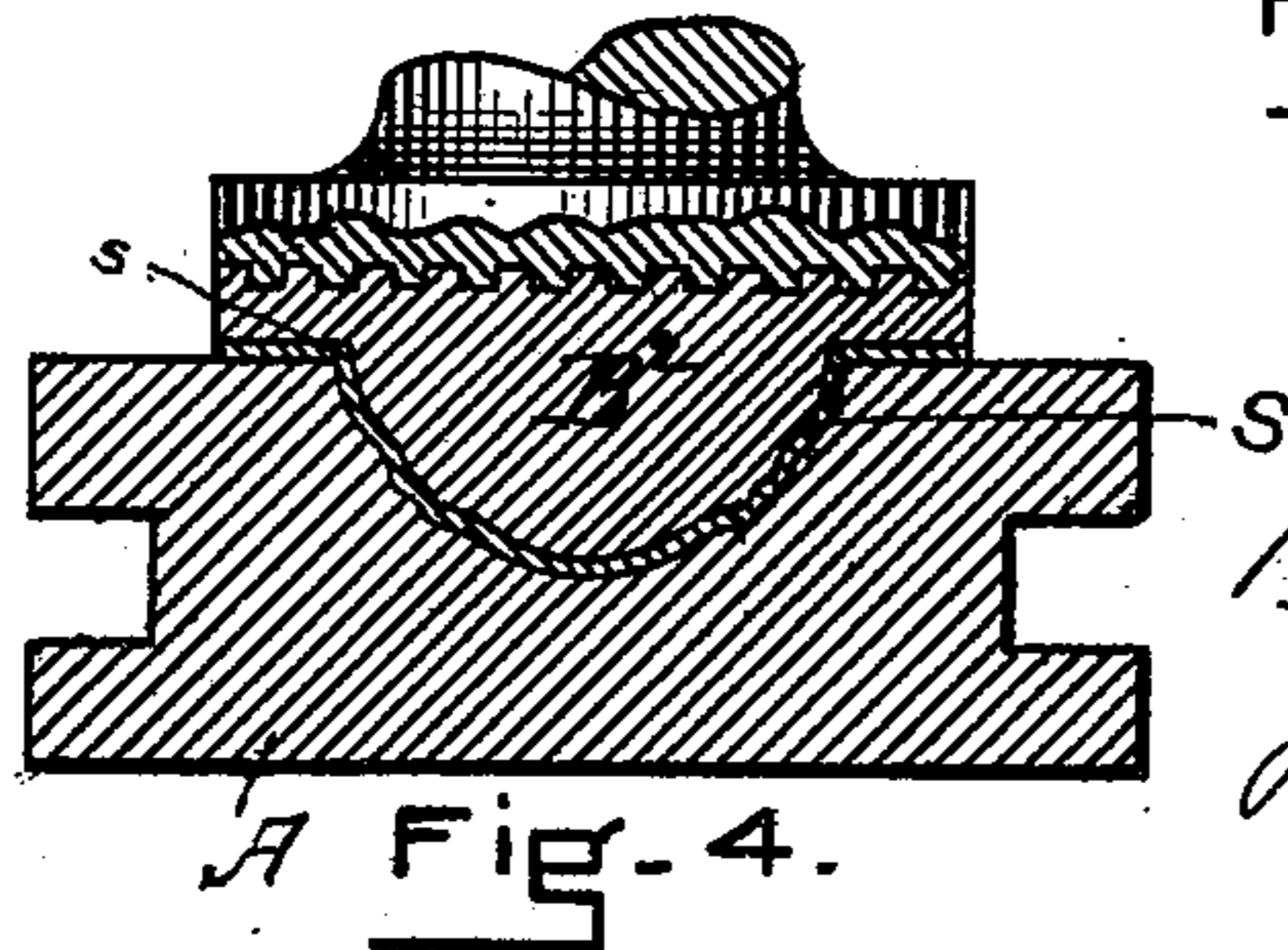
DEVICE FOR STAMPING OR SHAPING METALLIC ARTICLES.

No. 594,960.

Patented Dec. 7, 1897.



WITNESSES
M. L. Barbour
J. H. Holmes



INVENTOR
William McAusland
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Atty.

(No Model.)

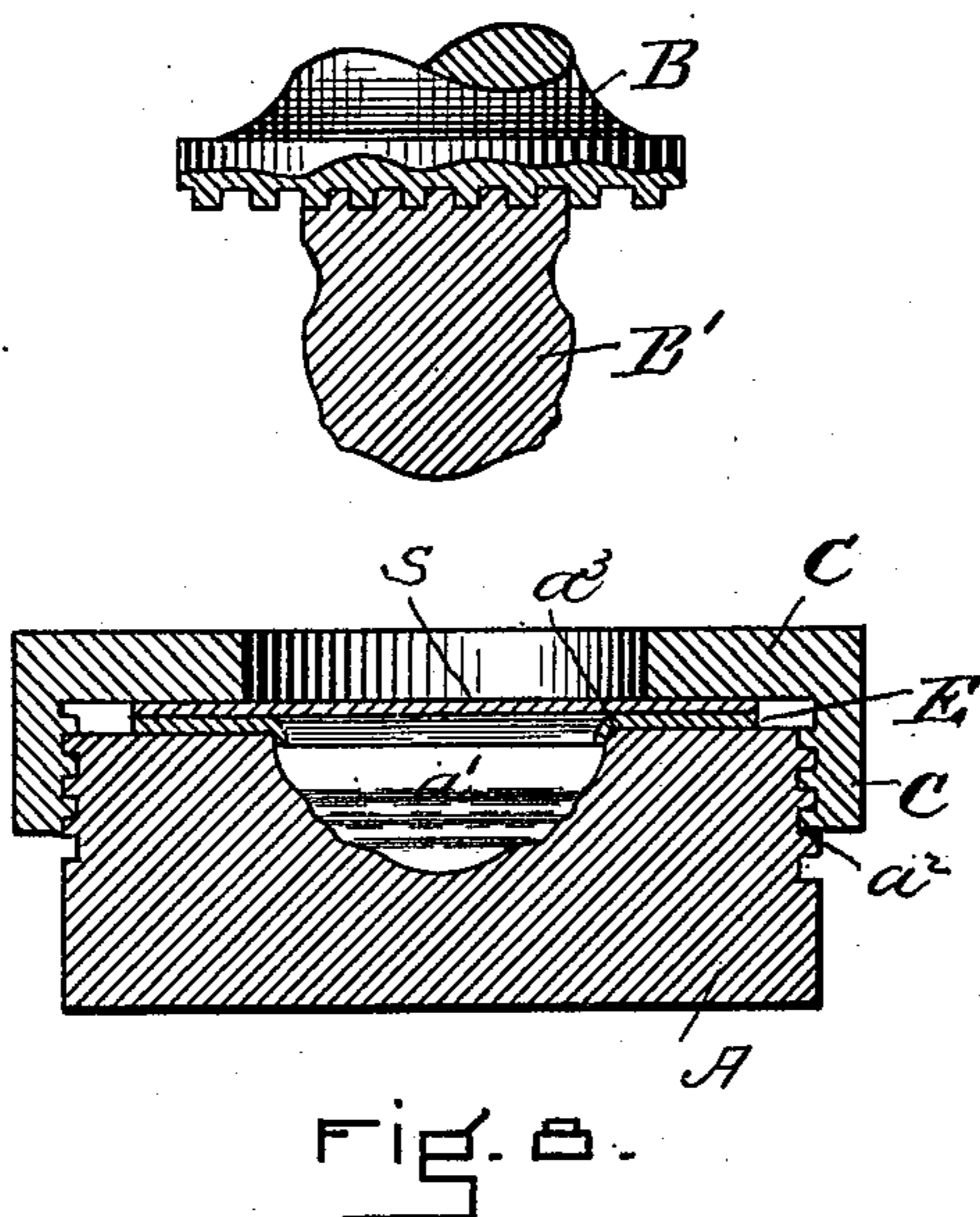
2 Sheets—Sheet 2.

W. McAUSLAND.

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William McAusland
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att.

UNITED STATES PATENT OFFICE.

WILLIAM MCAUSLAND, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE
REED & BARTON CORPORATION, OF SAME PLACE.

DEVICE FOR STAMPING OR SHAPING METALLIC ARTICLES.

SPECIFICATION forming part of Letters Patent No. 594,960, dated December 7, 1897.

Application filed April 30, 1897. Serial No. 634,620. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCAUSLAND, a citizen of the United States, residing at Taunton, in the county of Bristol and Commonwealth of Massachusetts, have invented a new and useful Improvement in Devices for Stamping or Shaping Metallic Articles, of which the following is a full specification.

My invention relates to the manufacture of hollow metallic articles which are stamped or formed up from sheet metal; and it consists in a new and improved device hereinafter described in detail whereby the result is accomplished in a cheap and expeditious manner.

Heretofore in the manufacture of hollow articles from sheet metal the result has been accomplished only after subjecting the blank to a number of operations, each operation or course bringing the article a little nearer to the form desired. Each of these courses requires a piece A and piece B', and each course requires one or more blows, one to form the blank and the others to smooth the flange of the blank, which is crimped or puckered by the first blow. It has been also necessary to anneal the blank after each course. It will be seen that when the article formed has any depth the process is a laborious and expensive one. With my device it is possible to form up an article with but one piece A, as hereinafter described.

Referring to the accompanying drawings, Figure 1 shows in vertical section my device with the blank held in the piece A before being struck the first blow. Fig. 2 shows the same parts after the first blow has been struck and the piece B' withdrawn. Fig. 3 shows the blank in the piece A before being struck the second time, and also the piece B², all in vertical section. Fig. 4 shows the same parts as Fig. 3 after the second blow has been struck. Fig. 5 is a perspective view of piece E. Fig. 6 is a perspective view of piece C, which I preferably make with its center to conform in shape to the piece to be produced. Fig. 7 is a vertical section of piece E. Fig. 8 is the same as Fig. 1 except that another method of securing together the pieces A and C is shown.

In the drawings the piece A is suitably held on the bed of a drop or other press. The pieces B' and B², which are respectively for block-

ing and finishing, are suitably attached to the piece B of the press.

The pieces B' and B² are preferably made of soft metal suitably shaped to the piece A. The piece B' fits the die only at and near the bottom, leaving considerable space around the sides. The finishing-piece B² is made to fit the face and cavity of the piece A accurately, as shown in Fig. 4, so that anything placed in the piece A will be forced into every part of it.

The blank S is held in position on the piece A by the piece C. (Shown in Figs. 1 and 6.) This is held firmly by the pieces D D, which have in their upper ends the pieces *d d* and whose lower ends engage with the hole or annular slot *a* of the piece A, so that they can be readily adjusted or removed. The piece C may also be screwed to the piece A, as shown in Fig. 8, by providing it with the downwardly-projecting internally-threaded flange *c*, which engages with an external thread *a*² on the outside of the piece A. This piece C serves to hold the metal and keep its outer edge from puckering as it is drawn over the edge of the die. By this application of the piece C to an irregular-shaped piece A, I avoid the necessity of flattening the flange of the blank after the first blow has been struck, which would harden the flange and necessitate annealing.

Resting on the face of the piece A, I place before the first or blocking blow the piece E, upon which the blank S rests, the whole being clamped together by a clamp or other suitable device. The piece E lies around the opening of the piece A and has its inner lip *e* turned down so that it projects slightly into the opening, as shown in the drawings, the inwardly-turned lip *e* of the piece E fitting accurately into the piece A all around the edge. This piece E is an important feature of my device, as it presents a smooth rounding edge over which the metal of the blank can be drawn without straining it, as would be the case if it were drawn over the edge *a*³ of the piece A, which is necessarily made sharp in order that the finished article may have a sharp corner *s* between its body and flange after it has been driven home in the piece A by the piece B². The piece E also allows the

blank S to be forced into the piece A by the first blow, as shown in Fig. 2, which shows the blocking force withdrawn after the first blow. It will be seen that the blank touches
5 the piece A only at and near its bottom, but on account of the thickness of metal in the piece E it does not fill the upper part of the piece A. This is better illustrated in Fig. 3, which shows the blank in the piece A after
10 the piece E and piece C have been removed, which is the position it is in before being struck by the piece B².

As described, the finishing force fits the face and cavity of the piece A accurately, so
15 that it forces the blank into the piece A, pressing it into its remotest corners or irregularities and also smoothing out any irregularities or flutings which the blank may have in consequence of the first blow. This result is
20 made possible by the fact that the blank does not completely fill the piece A after the first blow, as hereinbefore described. The finishing force also leaves the corner s sharp, so

that the flange can be trimmed off, as is usually done. 25

What I claim is—

1. A device for shaping hollow metallic articles from sheet metal, consisting of the pieces A, E, and C rigidly connected together
30 in combination with the piece B, all arranged and operated substantially as described.

2. In a device for shaping hollow metallic articles from sheet metal, a piece A and a piece C in combination with a piece E rigidly held between the pieces A and C, all arranged
35 substantially as described.

3. In a device for shaping hollow metallic articles from sheet metal, a die provided with a piece E having its inner edge rounded over
40 substantially as shown and described.

In witness whereof I have hereunto set my hand.

WILLIAM MCAUSLAND.

Witnesses:

LEWIS A. HODGES,
F. L. FISH.