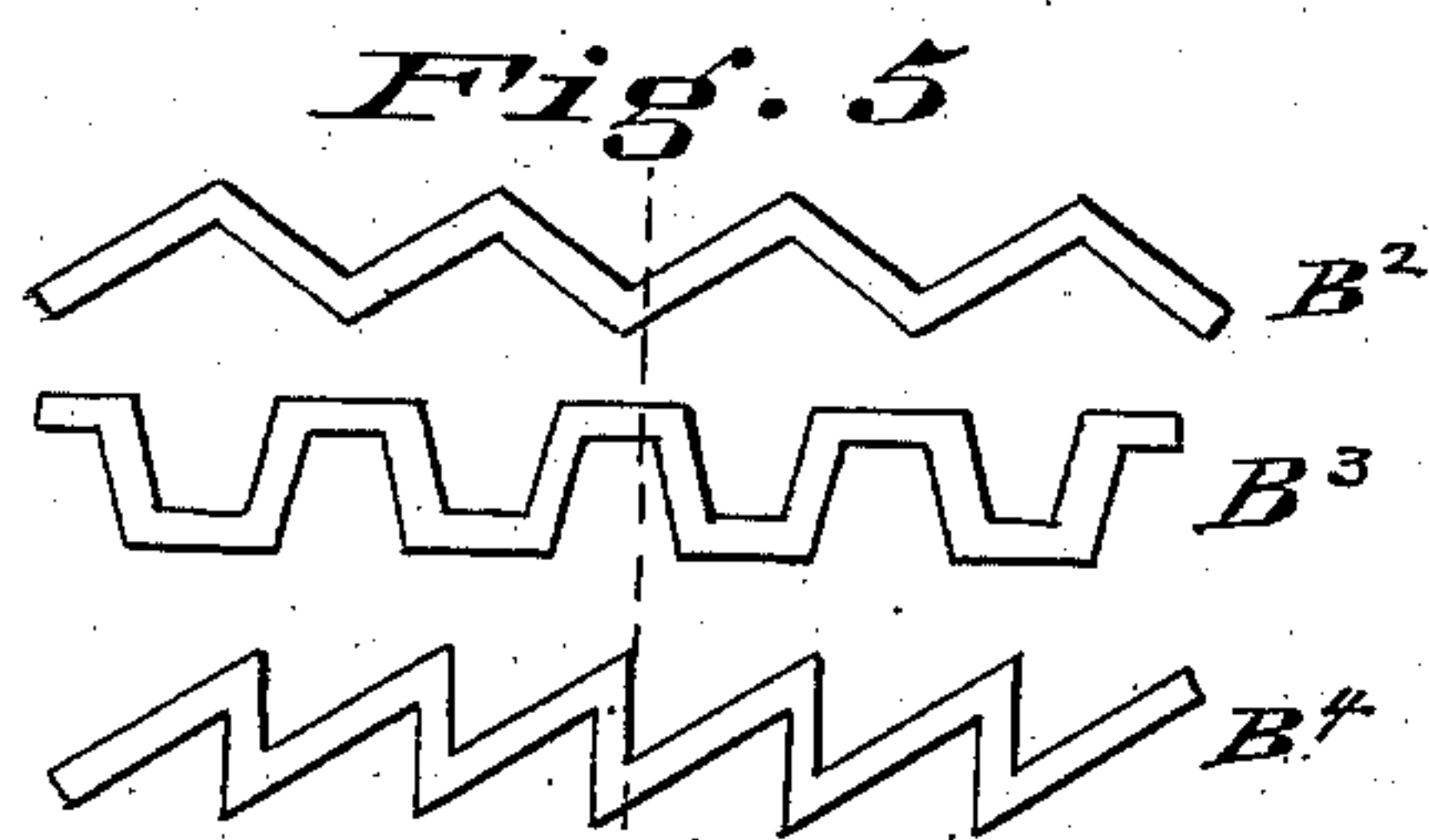
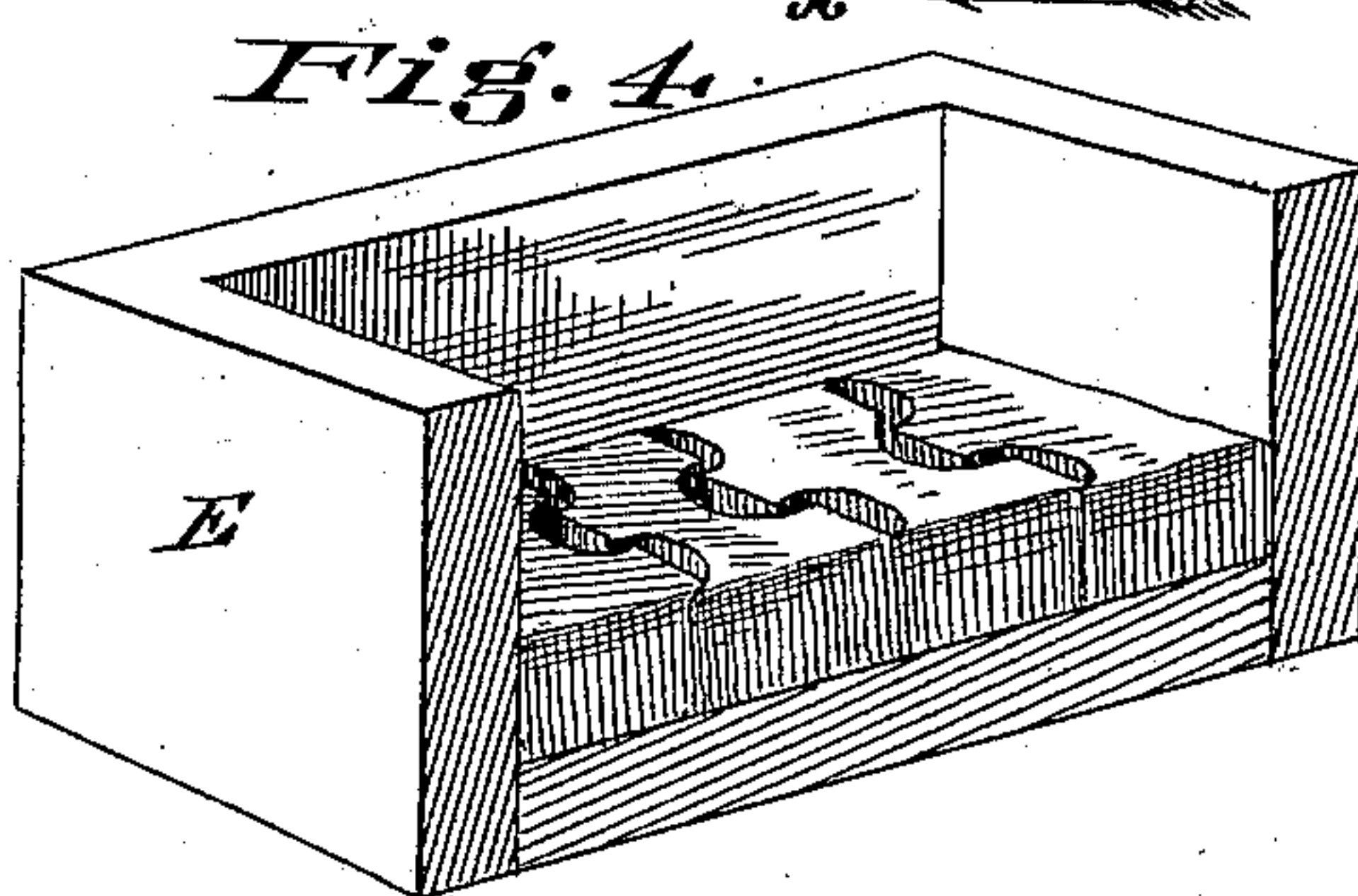
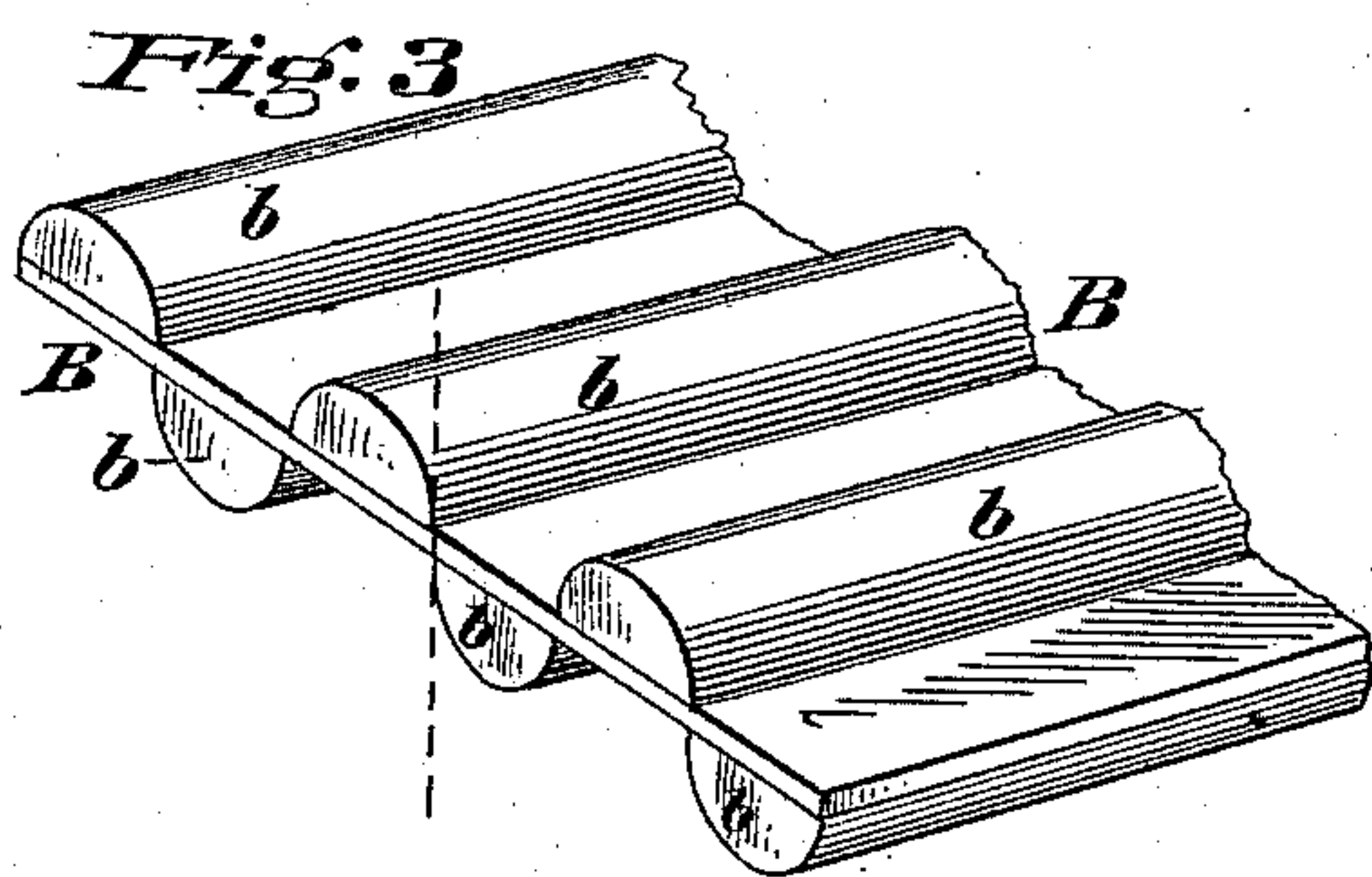
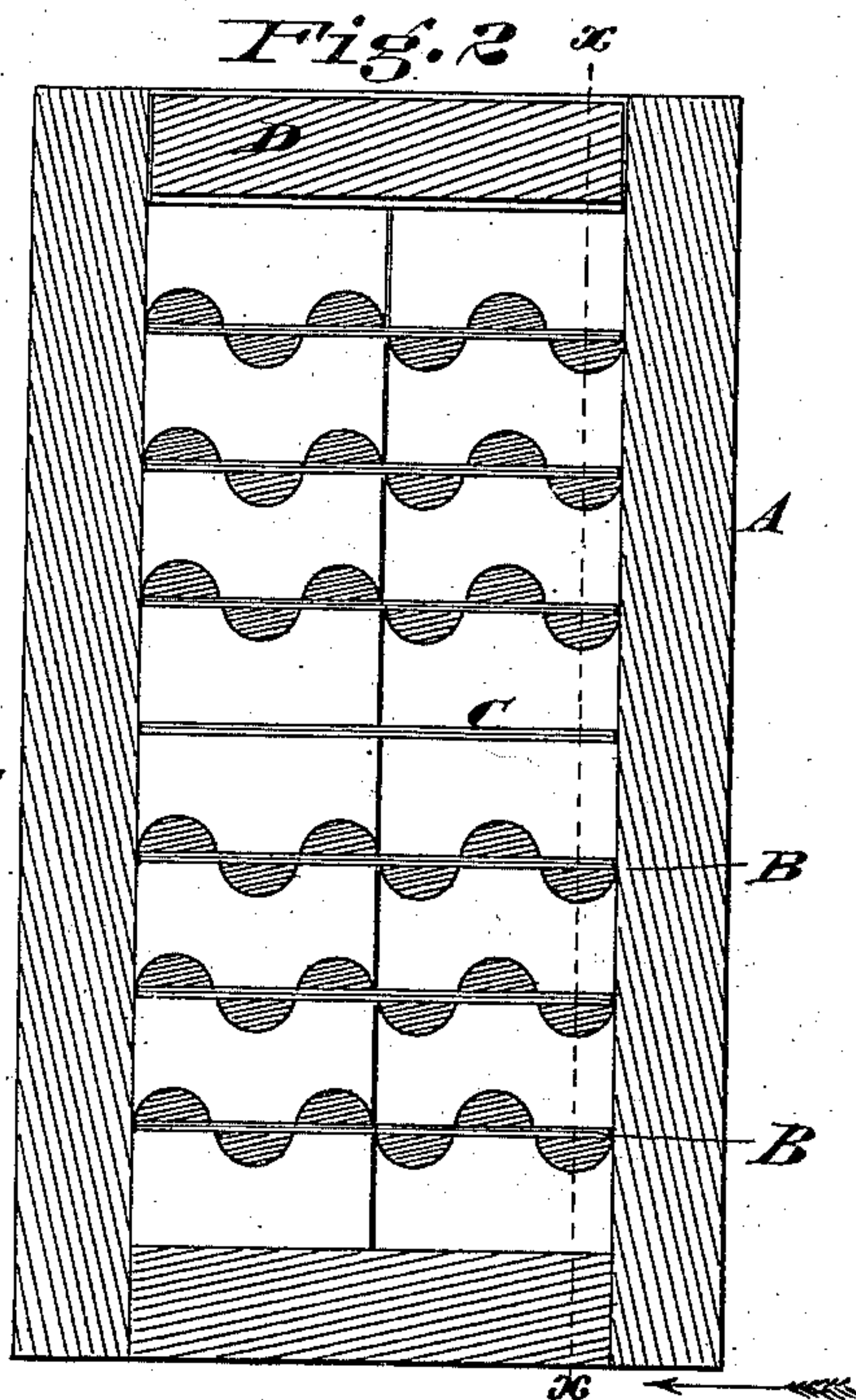
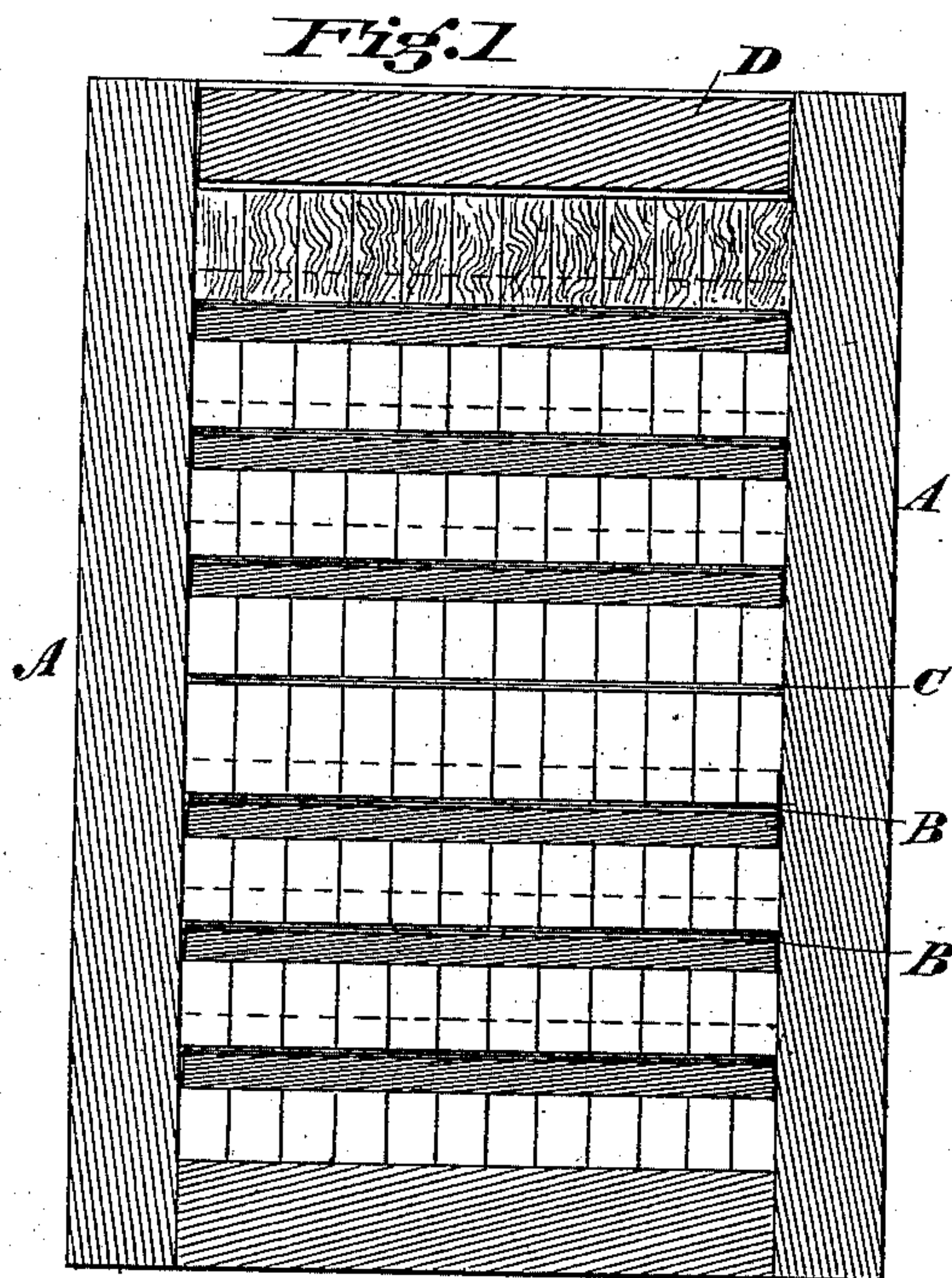


P. J. SORG.  
 Manufacture of Plug-Tobacco.

No. 222,090.

Patented Nov. 25, 1879.



Attest

Edgar Cross  
 John C. Jones

Inventor  
 Paul J. Sorg  
 by Hosea & Ellsworth  
 Attorneys



# UNITED STATES PATENT OFFICE.

PAUL J. SORG, OF MIDDLETOWN, OHIO.

## IMPROVEMENT IN THE MANUFACTURE OF PLUG-TOBACCO.

Specification forming part of Letters Patent No. **222,090**, dated November 25, 1879; application filed September 23, 1878.

*To all whom it may concern:*

Be it known that I, PAUL J. SORG, of Middletown, Butler county, and State of Ohio, have invented a new and useful Improvement in the Manufacture of Plug-Tobacco; and I do hereby declare the following to be a full, clear, and exact description of the same, which will enable others skilled in the art to which my invention relates to make and use it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of the mold filled with plugs undergoing the shaping process. Fig. 2 is an end view of the same. Fig. 3 is a perspective view of a portion of a shaping-plate. Fig. 4 is a sectional view of the "mill" or mold with a plug in position to undergo lateral pressure. Fig. 5 shows a variety of contours which may be given to the shaping-plates.

Similar letters refer to similar parts.

In the manufacture of plug-tobacco and particularly of those plugs composed of a number of smaller pieces or plugs pressed together, it has been customary for manufacturers to give to the integral plugs a variety of irregular or fanciful shapes. Various modes have been resorted to heretofore to attain this object. Plugs have been cut into pieces with irregular corresponding edges, which are placed together, covered by a single wrapper, and pressed. Such plugs, composed of smaller pieces covered by a common wrapper, are subject to this disadvantage that, when broken into their component parts, the separate pieces or plugs present exposed edges of the filling to the atmosphere and consequently soon lose their moisture and fragrance, while if the pieces so cut are separately wrapped and then pressed together into a homogeneous plug the wrapper, being unable to follow the sinuous contour of the small plugs, tends to pucker and overlap when a number are pressed together, so that in breaking apart a ragged and projecting edge of the wrapper is left, besides which much of the wrapper is broken away.

My invention has for its object to improve the process and machinery employed in the manufacture of plugs of tobacco of this character, whereby the desired irregularity of con-

tour is produced by compression, and a neater and more finished appearance given to them, and the disadvantages attending the former methods are obviated, while securing all the advantages of corrugated or curved lines of contact between the integral plugs.

In practicing my process the filler-strip is first cut laterally into rectangular pieces of the requisite size and weight, and wrapped in the ordinary manner. These pieces are then placed side by side upon their severed edges at the bottom of a rectangular box or mold, A, of proper dimensions, completely covering the same.

A shaping-plate, B, corresponding with the horizontal area of the mold, and having an upper and lower surface contour adapted to give the requisite form to the plugs, is then placed over and upon the layer of plugs, and another layer of plugs placed in a similar manner upon the shaping-plate. The layers of plugs are thus built up with shaping-plates between layers intended for the intermediate components of the ultimate plug and smooth flat plates C between those intended for end pieces, until the mold is filled; when a presser-block, D, fitting the mold is placed upon the whole mass and forced down by hydraulic or other pressure until the ribs of the shaping-plates are forced into the tobacco and the tobacco into the grooves of the shaping-plates.

The small plugs readily conform to the contour of the plates, aided by the fibrous character of the filling, the pressure causing some of the fibers to be depressed, while others are elevated according to the contour of the plates, and the ribs and grooves of the plates being properly arranged upon opposite sides, the edges of vertically adjacent plugs when so formed will be fitted to each other, the elevations of one corresponding to the depressions of the other, and vice versa. When this operation is concluded, the pieces are removed and placed in the shaping-molds E in the positions they are to occupy as component parts of the ultimate plug, as shown in Fig. 4, when, by pressure, the pieces are expanded laterally into intimate adhesive union.

For practical purposes I find that a forming or shaping plate, B, consisting of a flat slab of wood or metal, with parallel ribs *b* attached



thereto upon opposite sides, as shown in Fig. 3, answers all requirements. If the ribs are of semicircular section, as shown, the plugs are forced to assume the shape indicated in Fig. 4, having contact-surfaces somewhat unconflexible; but by subsequent pressure in the rectangular shaping-molds E the edges are brought into perfect contact throughout.

Corrugated shaping-plates B<sup>2</sup> B<sup>3</sup> B<sup>4</sup> may be used, however, of any desired outline, as indicated by the sections shown in Fig. 5, and the edges of the plugs so shaped will be exactly conformable, being always parallel whatever may be the contour used.

Having thus described my invention, what I claim is—

1. The process of forming plugs of tobacco from a series of smaller plugs, each separately wrapped, consisting, first, in pressing the edges of the latter into undulated or irregular shapes, and then fitting such plugs together and compressing them into a single large plug, substantially as described.

2. The within-described process of prepar-

ing plugs of tobacco, the same consisting in cutting the filler laterally into rectangular pieces, separately inclosing them in leaf-tobacco, arranging such pieces flatwise side by side, corrugating the edges of said wrapped pieces by the pressure of a suitable shaping-die, and finally fitting such corrugated edges together and compressing them into a single plug, substantially as set forth.

3. A machine for making plug-tobacco with corrugated edges, embodying the combination of a suitable box or mold for receiving the plugs of tobacco, and shaping-plates or dies corrugated on each side, the corrugations on one side alternating with those on the opposite side, substantially as and for the purposes set forth.

In testimony of which invention I have hereunto set my hand.

PAUL J. SORG.

Witnesses:

L. M. HOSEA,

E. A. ELLSWORTH.