

(No Model.)

C. W. YOUNG.
GAS BURNER.

No. 379,435.

Patented Mar. 13, 1888.

Fig. 1.

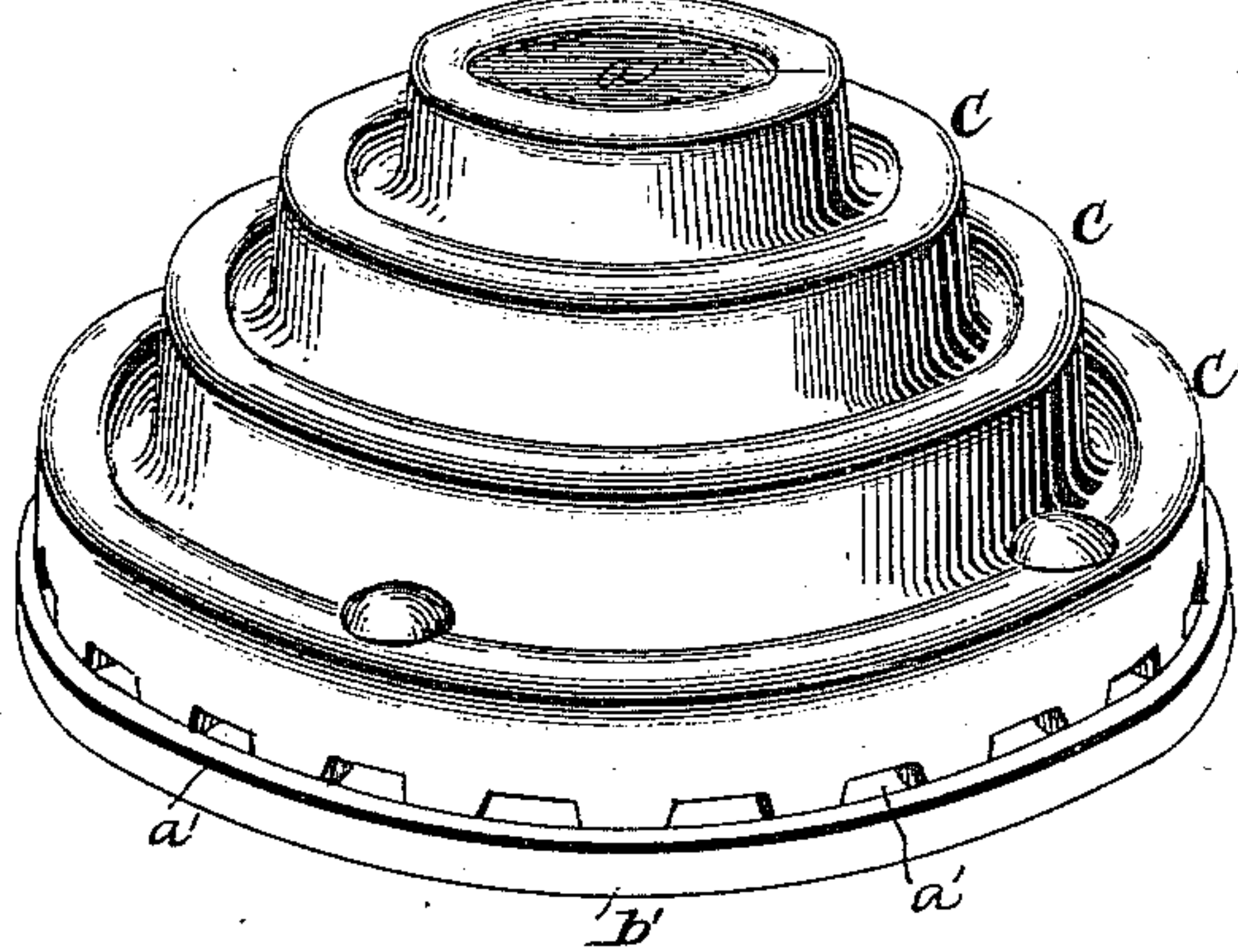


Fig. 3.

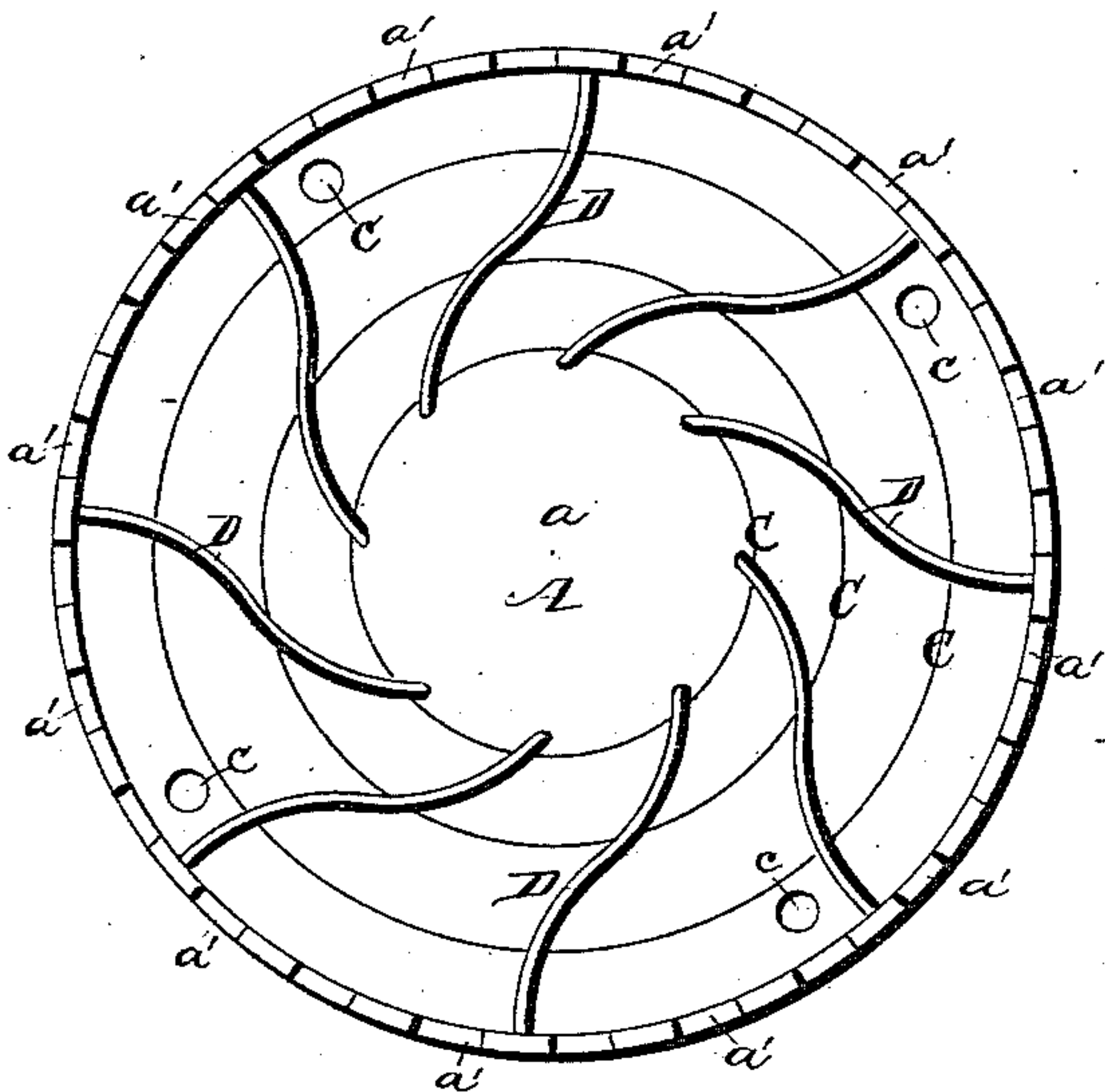


Fig. 2.

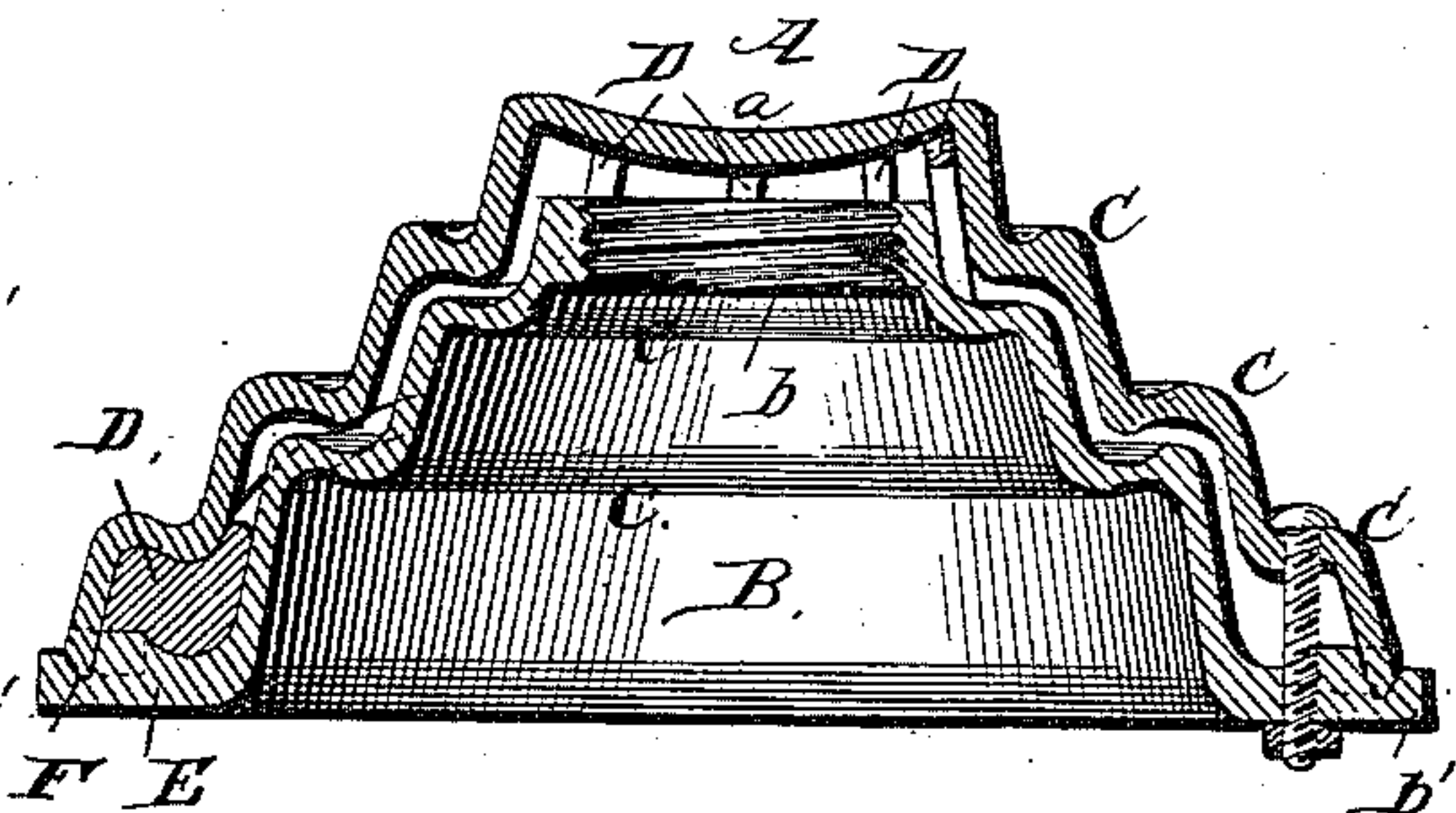


Fig. 4.

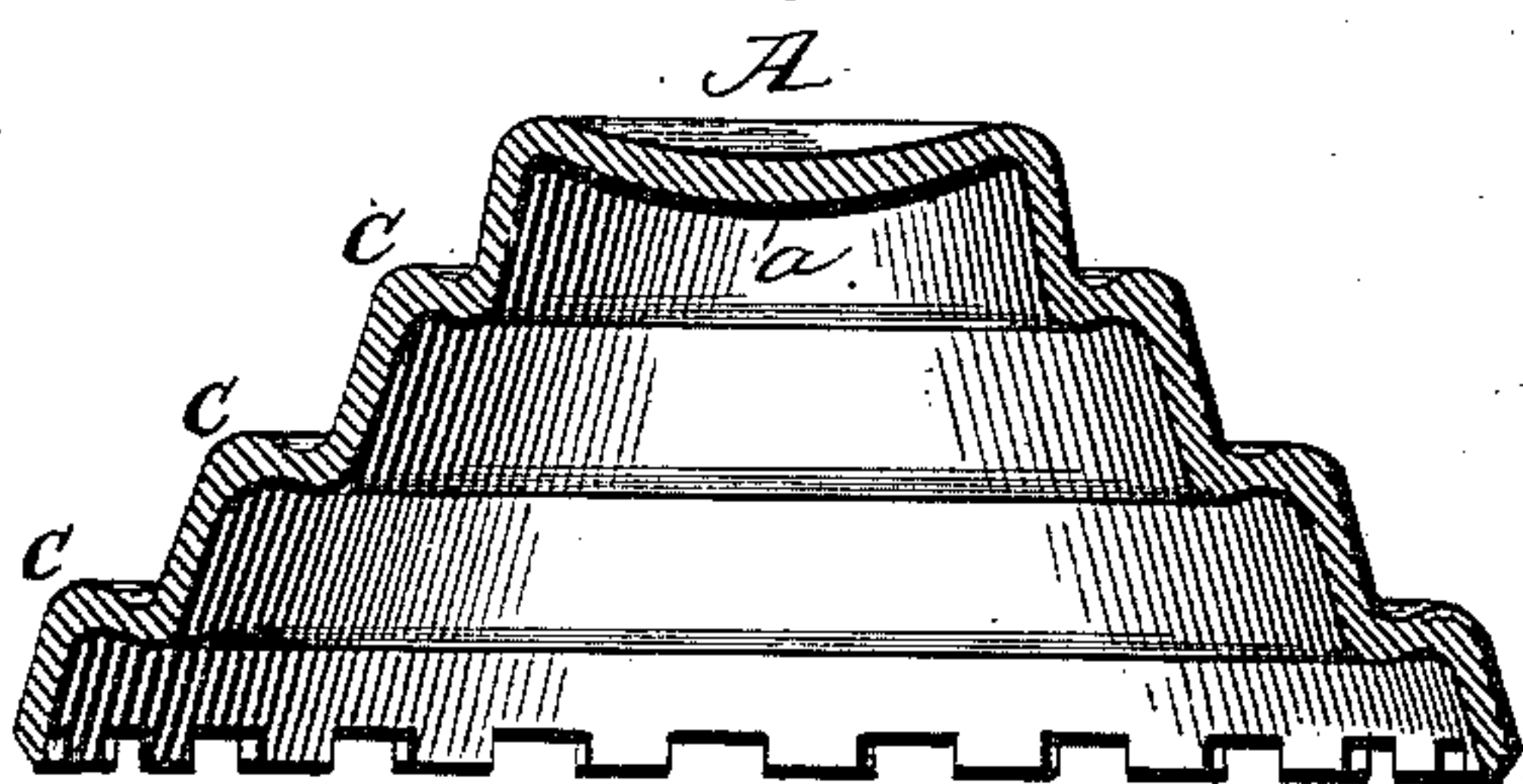
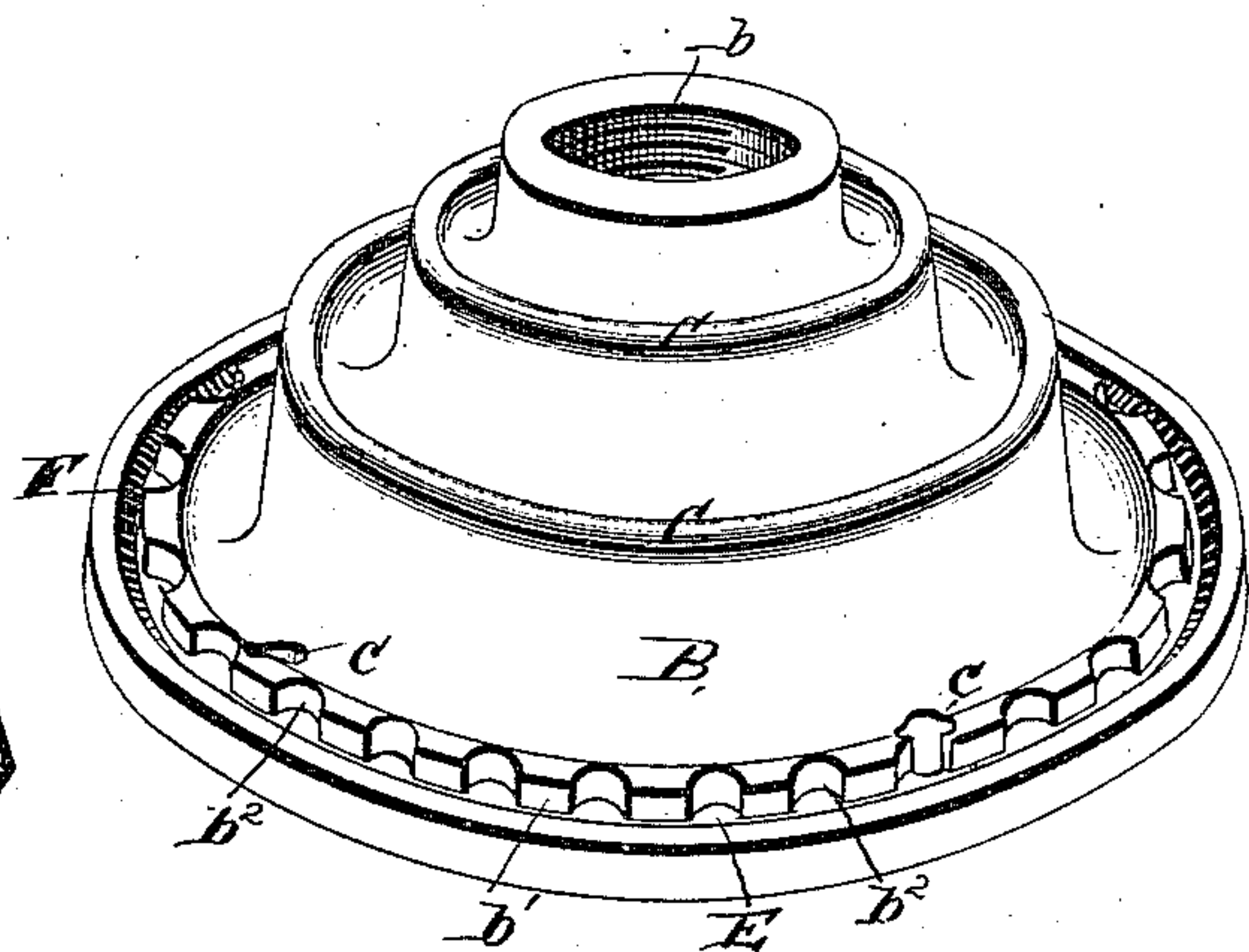


Fig. 5.



Witnesses.

Geo. Hooper,
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Inventor.

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By his Attorneys.

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UNITED STATES PATENT OFFICE.

CHARLES W. YOUNG, OF ERIE, PENNSYLVANIA.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 379,435, dated March 13, 1888.

Application filed October 27, 1887. Serial No. 253,536. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. YOUNG, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented a new and useful Improvement in Gas-Burners, of which the following is a specification.

My invention relates to an improvement in gas-burners; and it consists in the construction and arrangement of the parts thereof, which will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, Figure 1 is a perspective view of my improvement. Fig. 2 is a transverse sectional view thereof. Fig. 3 is a bottom plan view of the top cap. Fig. 4 is a sectional view of a modified form of the burner. Fig. 5 is a detail perspective view of the inside shell of the burner.

A indicates the cap or top shell, and B the lower shell. These parts, as shown in the drawings, are preferably of a truncated conical form, the outer shell having a flat closed top, *a*, and the top portion of the under shell is constructed with an annular opening, as at *b*, and screw-tapped to receive the gas or feeding pipe. Both of the said shells are constructed with circumferential ribs C, which preserve their configuration both on the inside and outside thereof, and the lower rim of the top cap or shell and the rim *b'* of the under shell are formed with openings *a'* and *b''*, which register with each other when the two shells are mounted properly and form eduction-apertures for the gas.

Upon the inside of the top cap A is formed with a series of ribs, D, projecting inwardly therefrom, and which preserve the configuration of the ribs C. These ribs D are curved, as shown, and extend in diverging lines from the top portion of the top shell down to the rim thereof, where they inclose three of the eduction-apertures at the lower portion thereof. In the drawings eight ribs D are shown; but the number thereof may be varied to suit the use and as desirable for a more perfect operation of the burner.

Bolt-holes *c* are formed in the two shells, by which the same may be secured together. The

inner shell, B, is provided at its lower end with a flat outwardly-projecting plate, E, having an annular groove, F, in its upper face near its outer edge, which receives the lower edge or rim of the top or outer shell, thereby assuring the concentric arrangement of the two shells, as clearly shown in Fig. 2.

As shown in Fig. 4, the ribs D are dispensed with and the chamber between the two parts A and B still preserved.

The shells may be constructed either circular, as shown, or elliptical, square, or rectangular, the configuration being determined by the use for which the burner is to be employed. In whatever shape the parts may be constructed the ribbed construction may be preserved and a chamber formed between the two parts. The eduction-apertures may also have various positions other than that shown.

The gas entering the top of the under shell strikes the cap *a* of the outer shell, and is thereby directed into and passes down through the irregular chamber formed between the two sections of the shell, either through the divisional chambers formed by ribs D or the irregular chamber formed by the ribs or corrugations C. When the gas reaches the eduction-openings and is ignited, the flame surrounds the burner and heats the incoming gas before reaching the point of ignition. By the diverging arrangement of the ribs shown in Fig. 3 the gas is allowed to expand as it approaches the lower edge of the outer shell, thereby being more easily heated and ignited. Thus it will be seen that a brighter and more intense flame is produced with an almost entire consumption of the gas.

The burner herein described is intended more especially for burning natural gas, and by its construction avoids explosions and purifies the gas before burning.

The utility of my improvement being obviously apparent, it is unnecessary to further enlarge upon the same herein.

Having thus described my invention, what I claim as new is—

1. The combination of the two conical upper and under sections, A and B, having circumferential ribs or corrugations formed therewith, and eduction-openings at the lower rims

thereof, the upper section having radial ribs formed with the inside thereof, preserving the configuration of the circumferential ribs to engage with circumferential ribs of the under section to form irregular chambers therewith, substantially as described.

2. The closed conical cap-section A, having circumferential ribs or configurations and inner radial ribs preserving the configuration of the said circumferential ribs, in combination with the under conical section, B, having a tapped top opening for the reception of a feeding-pipe, and also constructed with circumferential ribs or corrugations, the said conical sections having eduction-apertures formed at

the outer lower portion thereof by registering openings in each, substantially as described.

3. A gas-burner comprising two shells secured one within the other and both having a corresponding step-like formation, whereby a tortuous chamber is provided between the shells for the passage of the gas, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES W. YOUNG.

Witnesses:

T. J. PARKER, Jr.,

R. S. MOORHEAD.