

No. 721,371.

PATENTED FEB. 24, 1903.

C. H. HIGGINS.
OIL BURNER FOR STOVES.
APPLICATION FILED MAR. 31, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

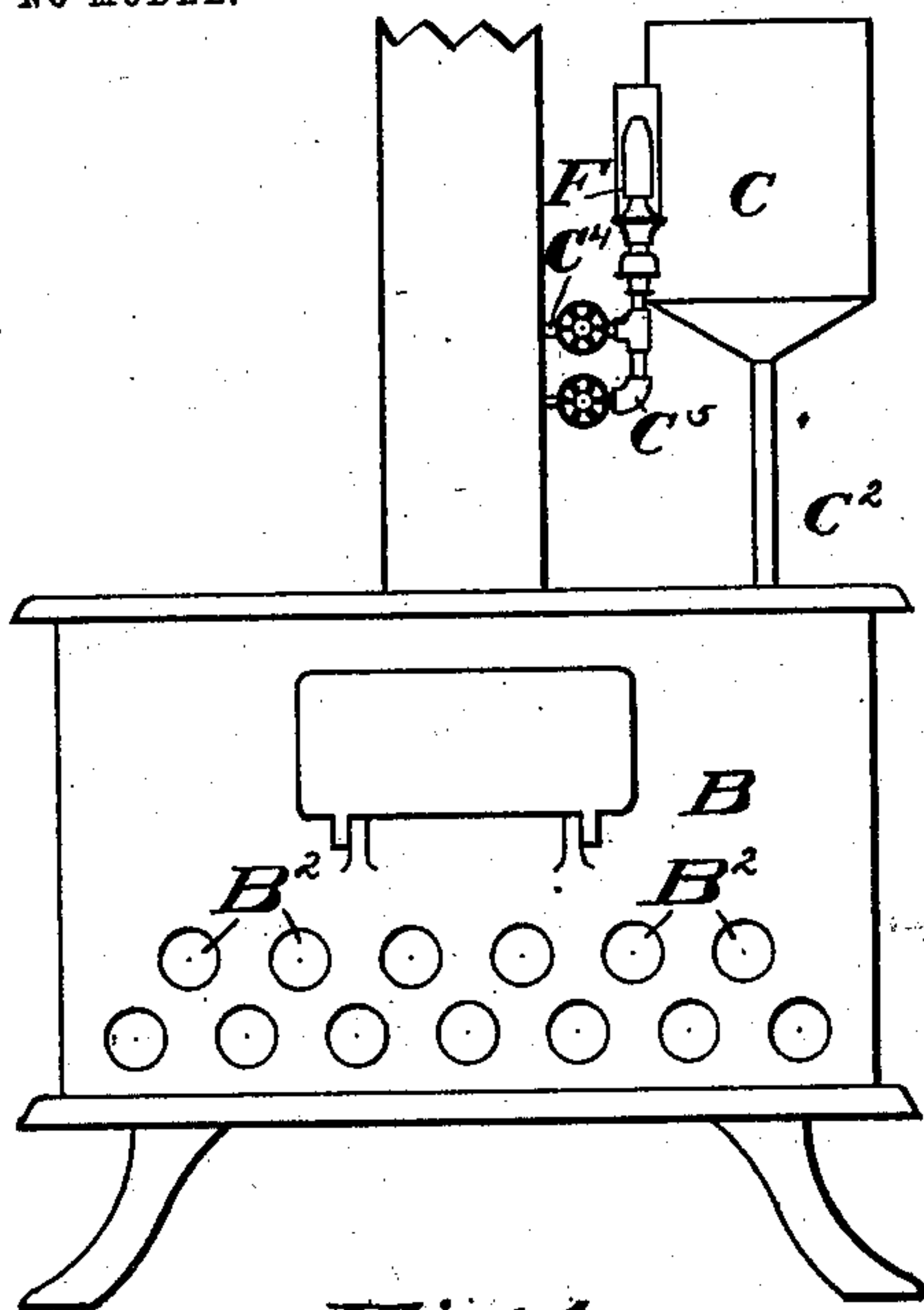


Fig. 1.

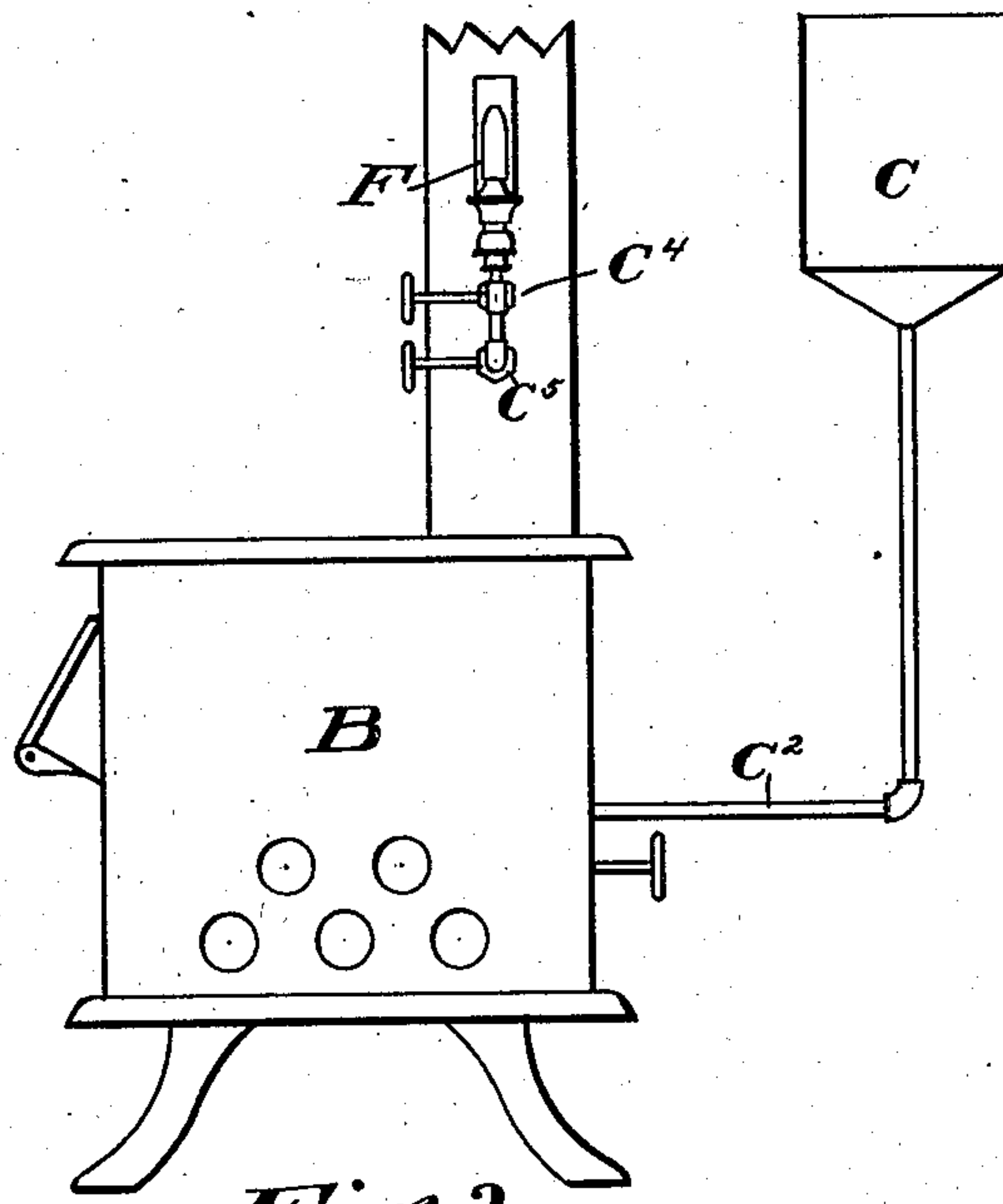


Fig. 2.

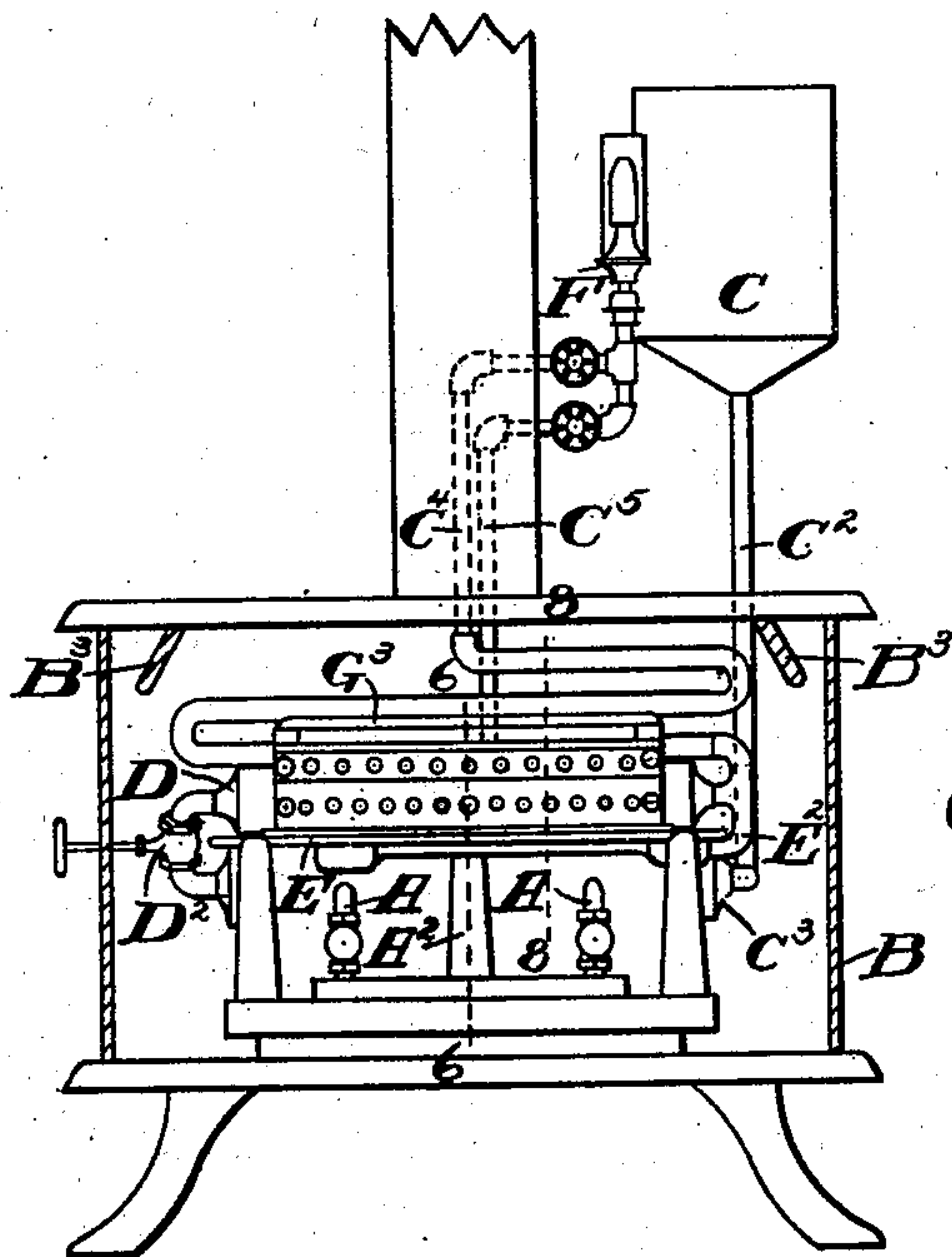


Fig. 3.

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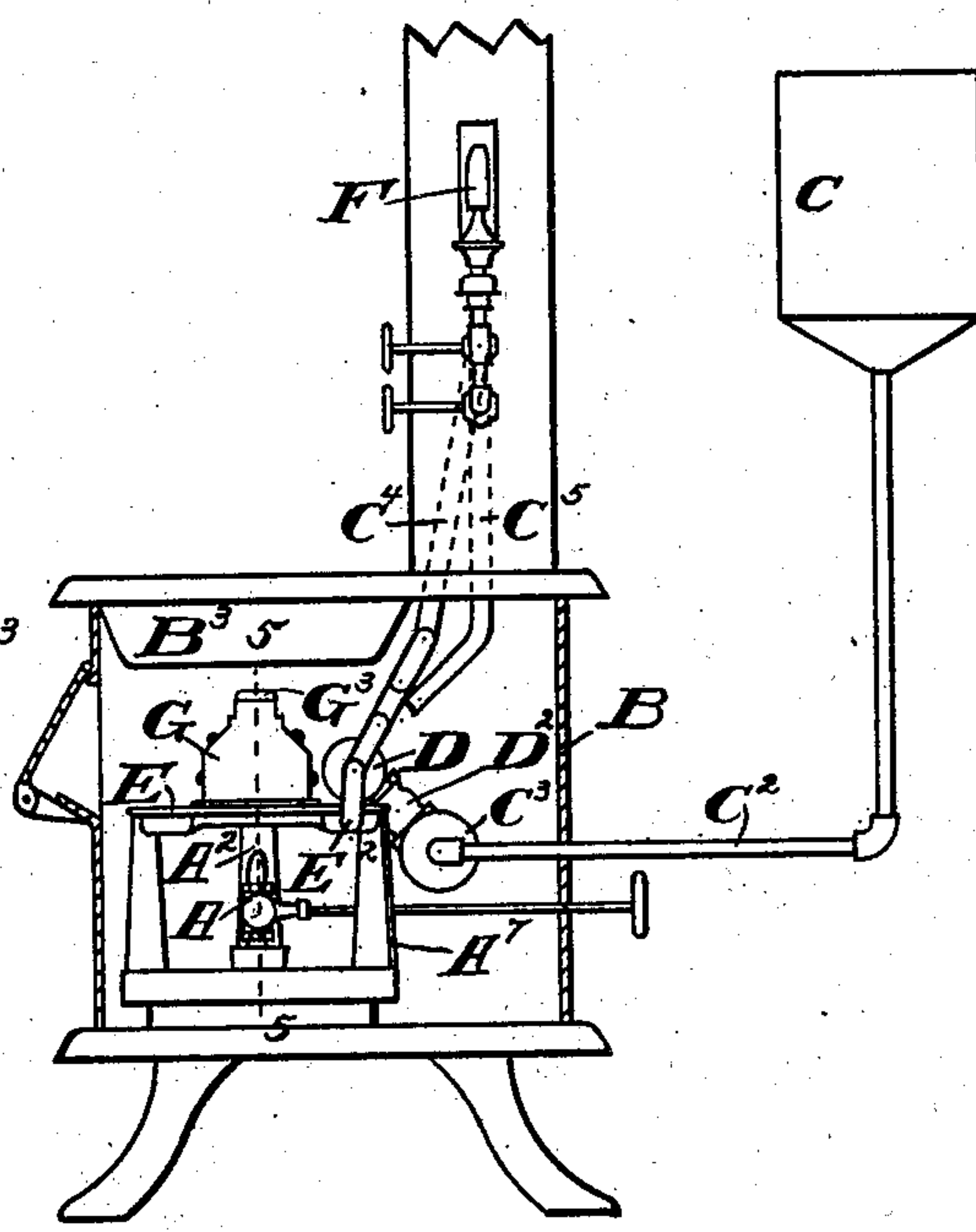


Fig. 4.

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2 SHEETS—SHEET 2.

NO MODEL.

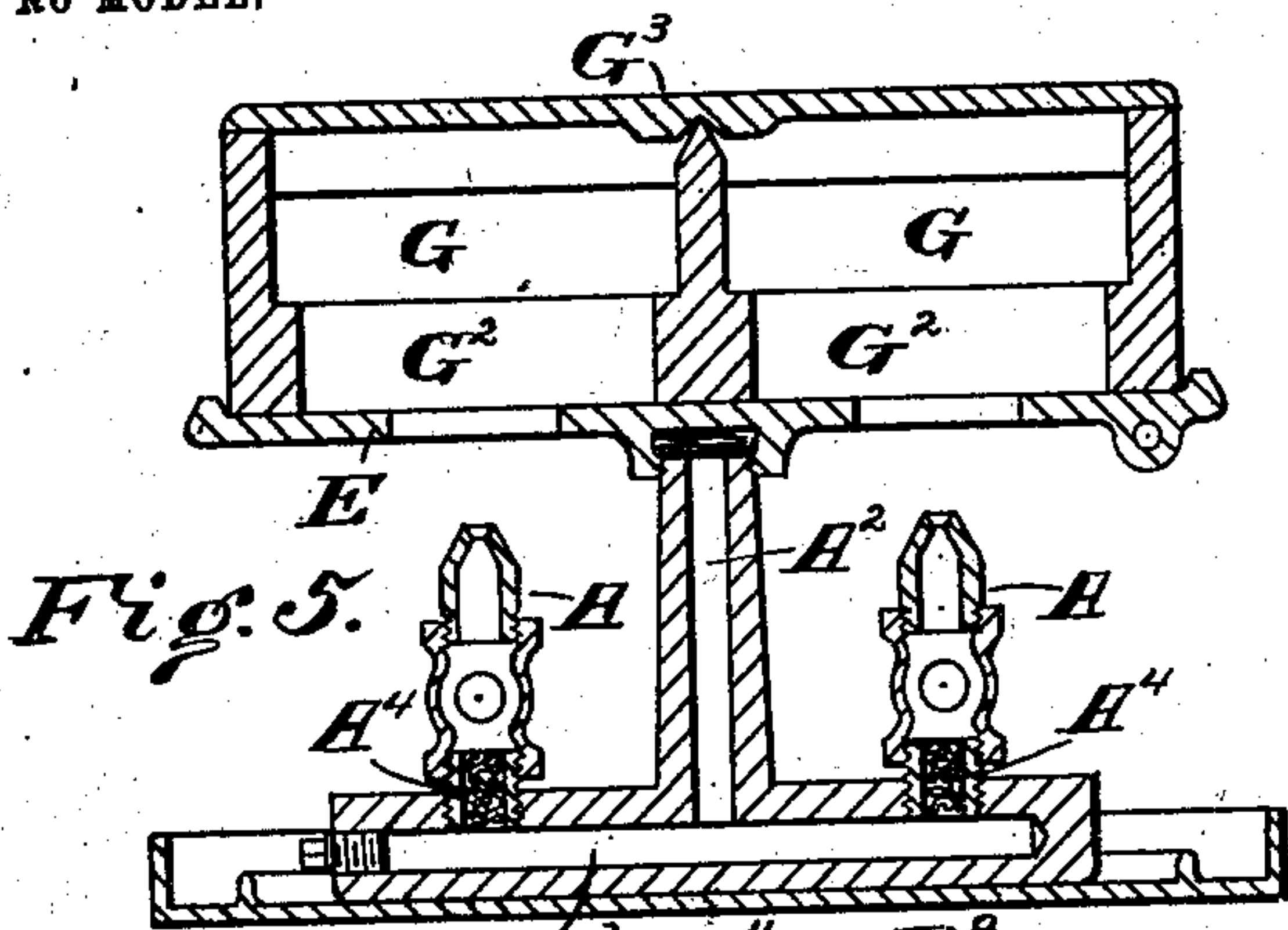


Fig. 5.

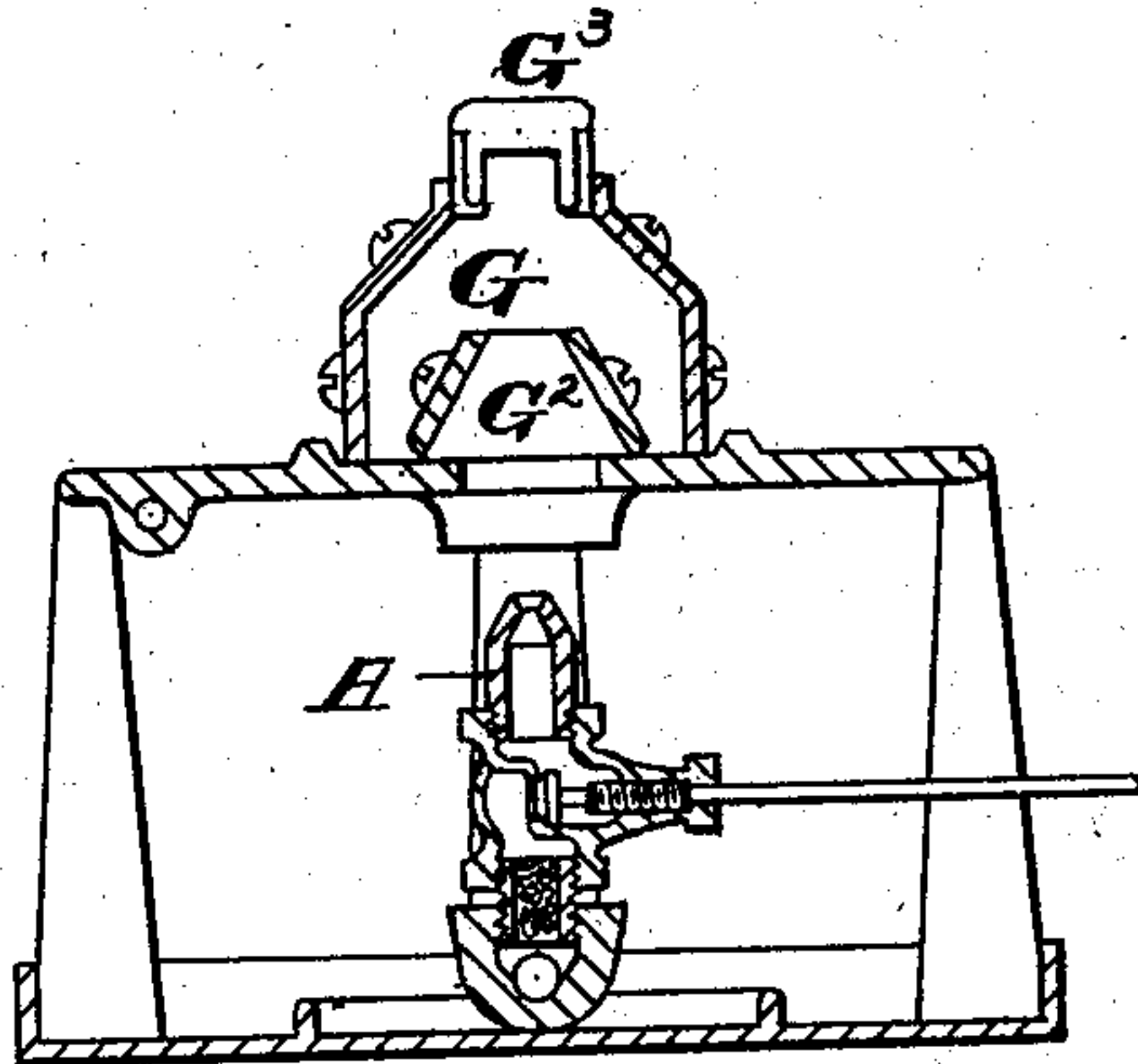


Fig. 6.

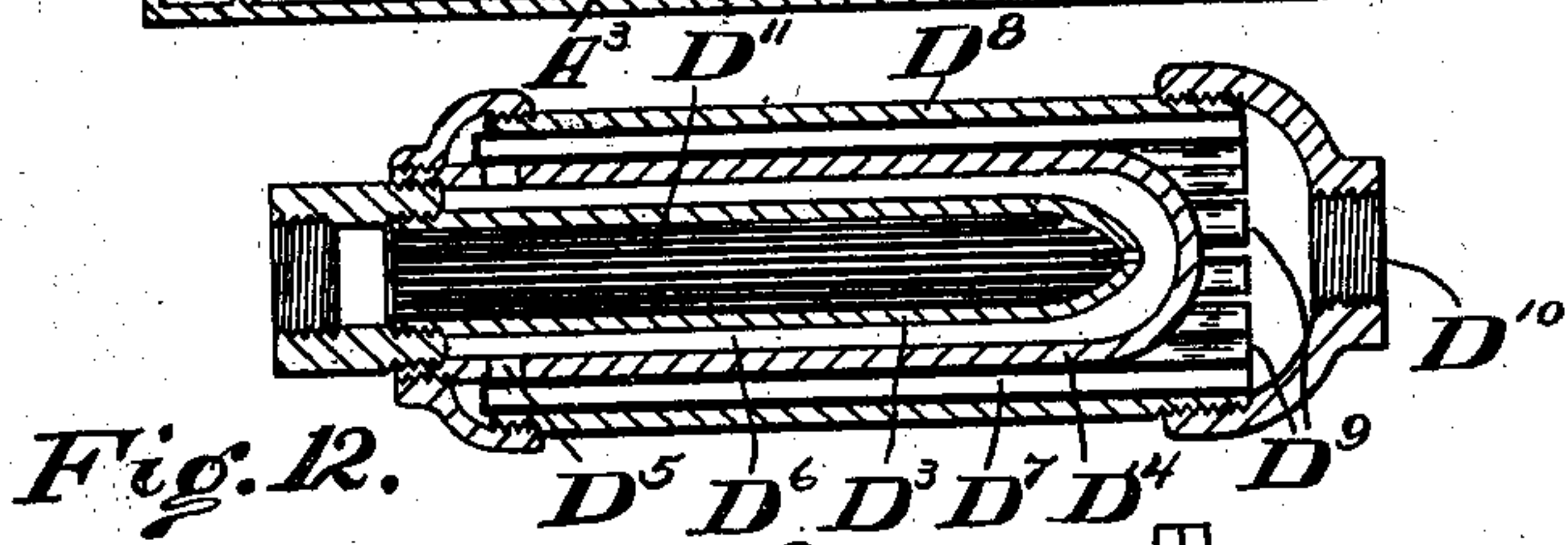


Fig. 12.

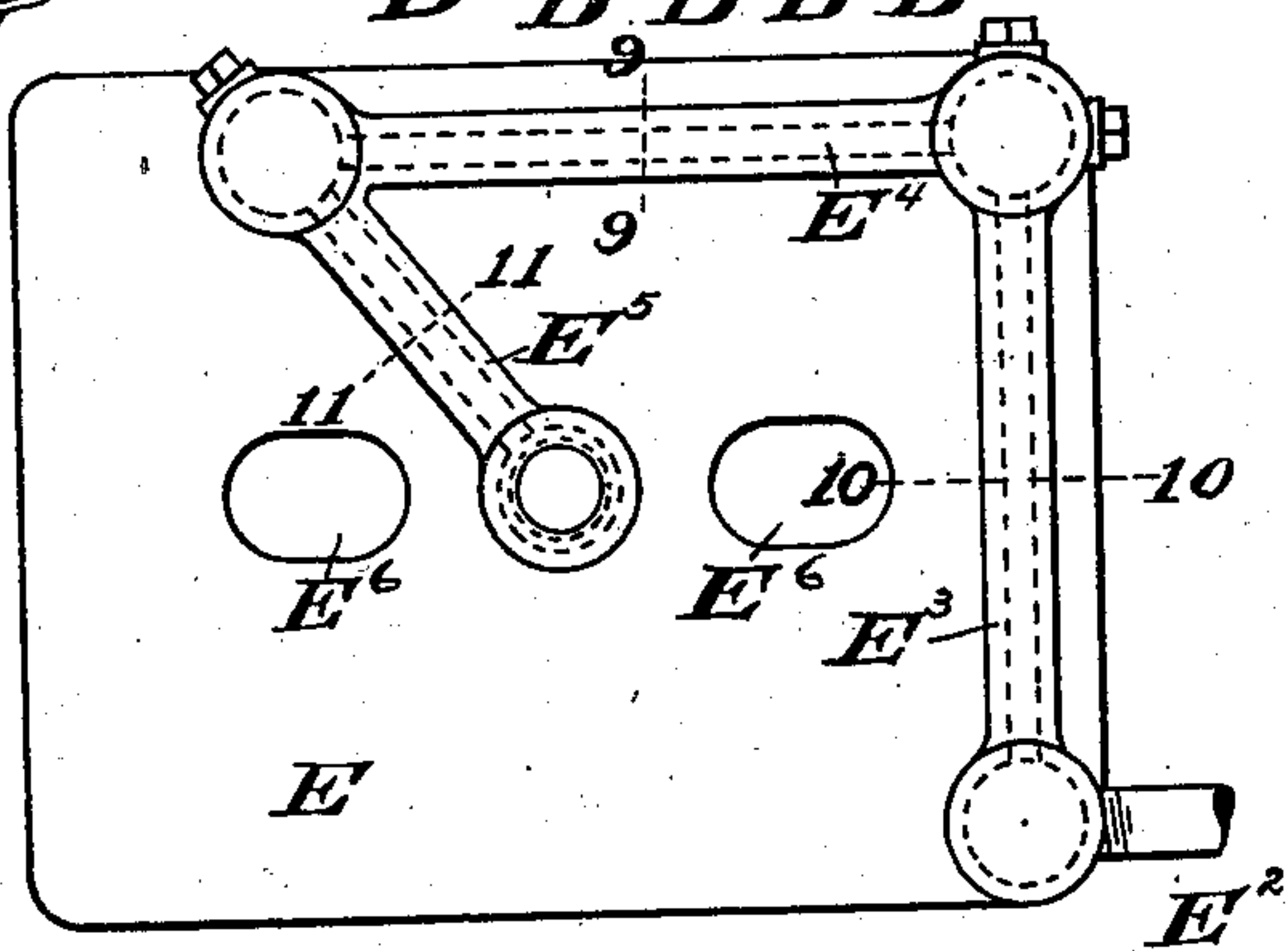


Fig. 7.

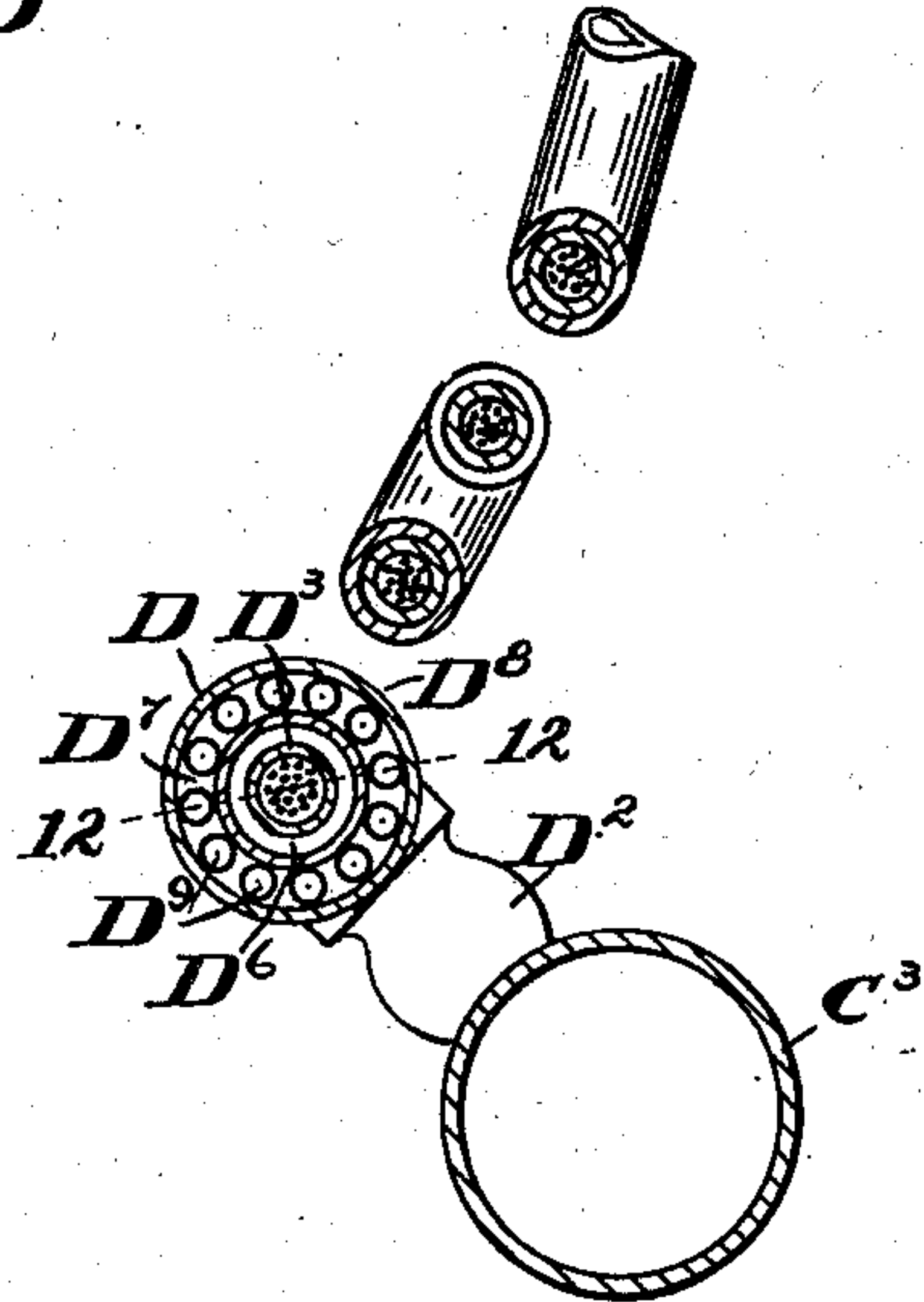


Fig. 8.

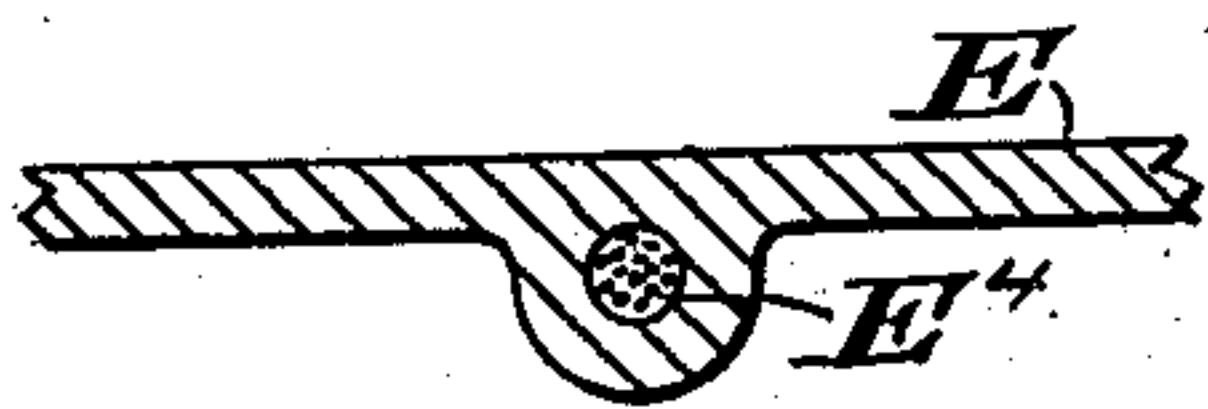


Fig. 9.

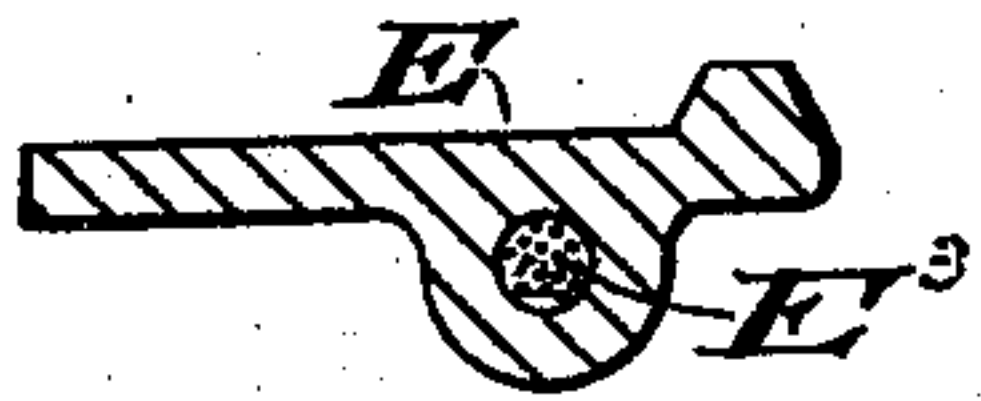


Fig. 10.

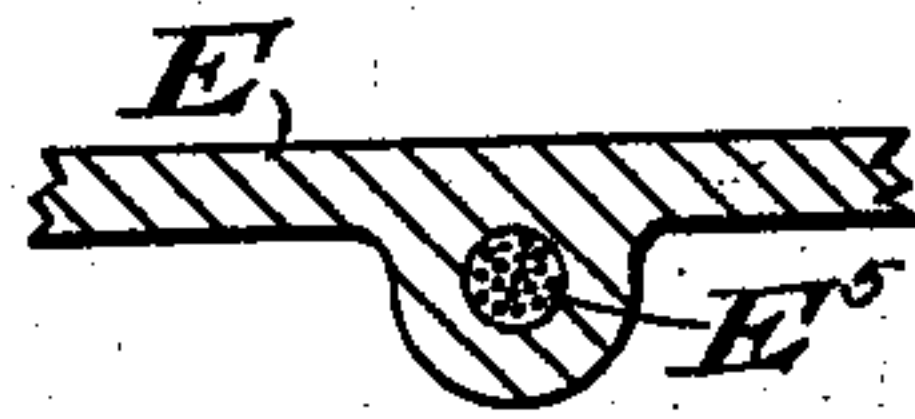


Fig. 11.

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UNITED STATES PATENT OFFICE.

CHARLES HENRY HIGGINS, OF CINCINNATI, OHIO.

OIL-BURNER FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 721,371, dated February 24, 1903.

Application filed March 31, 1902. Serial No. 100,711. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY HIGGINS, a citizen of the United States of America, and a resident of 636 East Sixth street, in the city of Cincinnati, (post-office address 1209 Sycamore street, in the city of Cincinnati,) in the county of Hamilton and State of Ohio, have invented an Improvement in Oil-Burners for Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to oil heating-stoves; and it has for its object the improvement in the construction of such devices whereby they are simplified and rendered more efficient.

The novelty of my invention consists in the combination and subcombination of the parts, as will be hereinafter set forth, and specifically pointed out in the claim.

In the accompanying drawings, Figure 1 is a front view of my oil heating-stove. Fig. 2 is a side view of Fig. 1. Fig. 3 is a front view, the same as Fig. 1 with the front plate removed, showing the interior construction. Fig. 4 is a side view, the same as Fig. 2 with the side plate removed, showing interior construction of the stove. Fig. 5 is a section on line 5 5, Fig. 4. Fig. 6 is a section on line 6 6, Fig. 3. Fig. 7 is a view of the lower side of the plate E. Fig. 8 is a section on line 8 8, Fig. 3, through the piping alone. Fig. 9 is a section on line 9 9, Fig. 7. Fig. 10 is a section on line 10 10, Fig. 7. Fig. 11 is a section on line 11 11, Fig. 7. Fig. 12 is a section on line 12 12, Fig. 8.

Similar letters of reference indicate like parts throughout the several drawings.

My oil heating-stove consists of a burner A, incased in a suitable inclosure B and supplied with oil from the reservoir C through the pipes C² C³, vaporizer D, and plate E. The burner F, used as a light, is also supplied with gas from the vaporizer D through the pipe C⁴. The pipe C⁵ is a drain-pipe to carry away any residue of oil that might collect in the pipe, which is conducted back to the burner and consumed. The pipe C³ is an ordinary pipe much larger in diameter than the supply-pipe C². Between this pipe C³ and

the vaporizer D is placed a valve D² to regulate the flow of oil from the pipe C³ to the vaporizer D.

The vaporizer D is constructed as follows: The vaporizer D has a small inner tube D³, filled with small copper wires D¹. The tube D³ has a small opening at the extreme end from where oil is admitted. There is an enlarged pipe D⁴ surrounding this inner pipe D³, provided with small openings D⁵ at the opposite end, from which the volatilized oil passes from the small tube D³. An outer shell incases the above-mentioned tubes D³ D⁴, and the space between the outer shell D⁸ and the inner tube D⁴ is filled with small tubes D⁹. The small opening from the pipe D³ permits the oil to pass into the pipe D⁴, which being larger than the pipe D³ leaves a space D⁶ between pipes D³ and D⁴. The only exit from this space D⁶ is by means of small openings D⁵. This arrangement compels the oil to travel the entire length of the pipe D⁴, thereby exposing it to as much surface as is possible. From the pipe D⁴ the oil or gas passes out into the space D⁷, which is between the pipe D⁴ and outer shell D⁸. This space is filled with round tubes D⁹, which take up the space. The oil or gas travels forward through the tubes D⁹ and space D⁷ until it reaches the exit D¹⁰, from which it passes into the plate E at the point E², passing through the copper-wire-filled tubes E³, E⁴, and E⁵; when it enters the vertical tube A², passing down to the horizontal tube A³, from which it enters the burners A. The nipple A⁴, which connects the burner A onto the tube A³, is filled with fine copper wire bent into an irregular form. The flame from the burners A passes up into a combustion-chamber G. The entrance to the combustion-chamber G is provided with a cone-shaped aperture G² to compel the flame to impinge on the top plate G³. The air to support the combustion is supplied through the openings B² in the front plate of the stove and through openings E⁶ E⁶ of the plate E. The upper interior corners of the inclosure B have plates B³ B³, placed on an angle, to prevent the accumulation of soot in the corners of the stove. Behind the burners I have placed a plate A⁷, which extends slightly above the burners, so as to force the draft to carry the flame up through the combustion-chamber.

The operation of my stove is as follows: The oil from the reservoir passes down through the pipe C² to the larger pipe C³, from C³ to the vaporizer D, through the plate E down
5 through A² and A³ to the burners A A. When the oil is lighted, the heat from the burners heats up the plate E and vaporizer D, which volatilizes the oil, converting it into gas.

The object of the vaporizer D is to subject
10 the oil to contact with as great a heated surface as possible and also to collect any residue of oil that might be formed, thereby preventing the clogging of the burner.

What I claim, and desire to secure by Letters Patent of the United States, is—

15 The combination in an oil-stove of an oil-

reservoir, a vaporizer, having a small inner tube filled with small copper wires, with a small opening at the extreme end from where oil is admitted, an enlarged pipe surrounding
20 this inner pipe provided with small openings at the opposite end from which the volatilized oil passes from the small tube, an outer shell incasing the above-mentioned tubes, the space
25 between the outer shell and the largest inner tube being filled with small tubes, substantially as described.

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Witnesses:

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