No. 763,363. PATENTED JUNE 28, 1904.

H. H. BROWN

GAS STOVE.

APPLICATION FILED NOV. 30, 1903.

NO MODEL.

Fig. 1

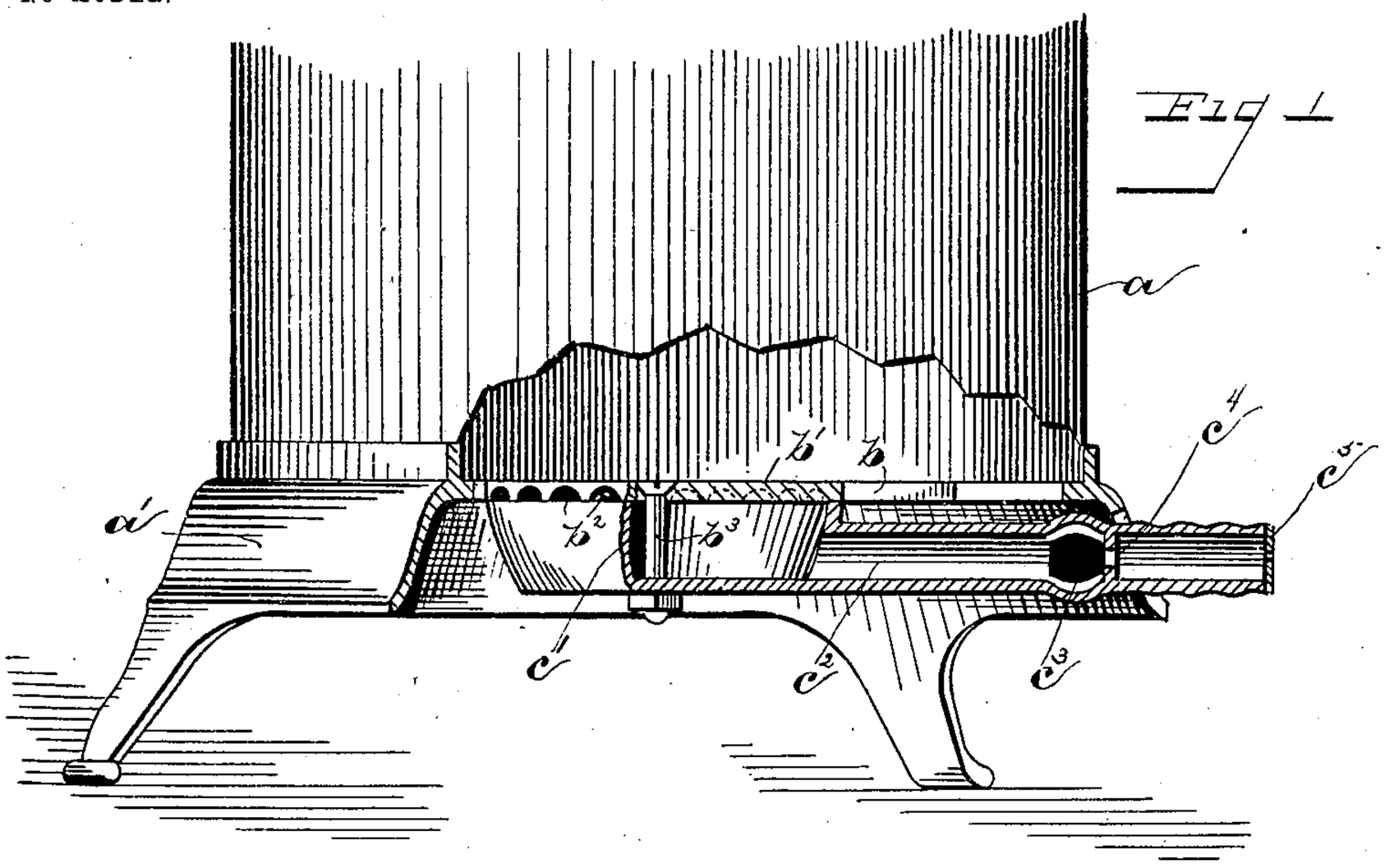


Fig. 3

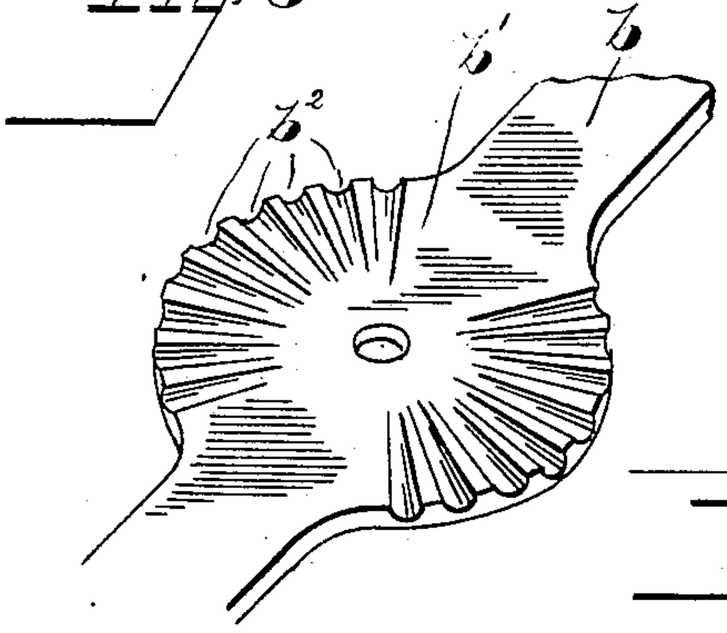


Fig. 2

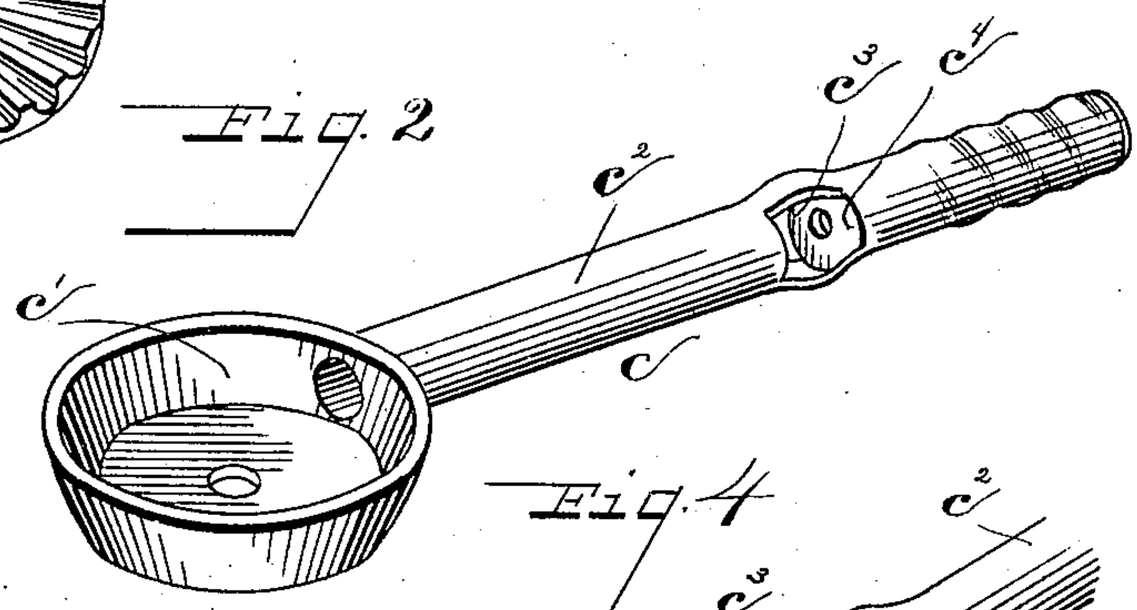
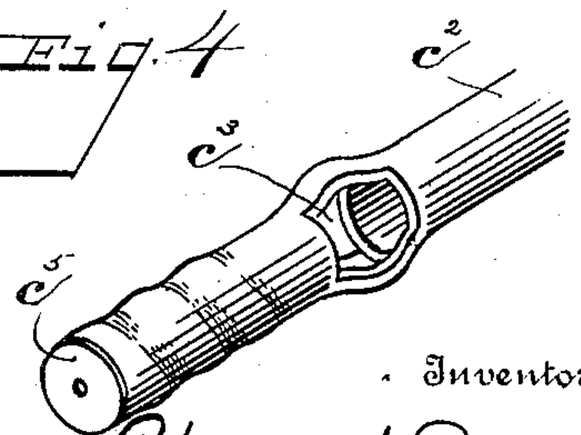


Fig. 4



Witnesses

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No. 763,363. Patented June 28, 1904.

UNITED STATES PATENT OFFICE.

HENRY H. BROWN, OF WASHINGTON COURT-HOUSE, OHIO, ASSIGNOR TO THE WONDER MANUFACTURING COMPANY, OF WASHINGTON COURT-HOUSE, OHIO, A CORPORATION OF OHIO.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 763,363, dated June 28, 1904.

Application filed November 30, 1903. Serial No. 183,115. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. BROWN, a citizen of the United States, residing at Washington Court-House, in the county of Fayette and State of Ohio, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

My invention relates to improvements in gas-stoves; and the object of my invention is to provide a simple and cheap construction for the burner and mixer of a gas-stove which can be readily adapted to varying conditions of use.

Gas-stoves for ordinary heating purposes are used both with natural and artificial gas. Natural gas is, as a rule, of a higher pressure, and consequently requires a smaller aperture to supply the gas. Artificial gas is of a lower pressure, as a rule, and consequently requires a larger aperture. Burners as ordinarily made for gas-stoves are supplied with mixers to suit the different conditions under which they work. The mixer in which the air and gas is mixed for artificial gas differs from that which is employed for natural gas. It has been common to employ adjustable mixers in which the orifice may be adjusted to suit varying conditions; but they have usually been unsatisfactory, either because of the skill required in adjusting them or because of the expense.

In my improved stove I employ a burner and mixer combined formed substantially of one piece, which is normally set for gas of the higher pressure, but which when desired to be used with gas of a lower pressure can readily be converted to this use. This I accomplish by providing two diaphragms, the one having the smaller aperture for the higher pressure being made of soft metal, which can be readily punched out by the use of almost any tool and which when punched out permits the free use of the other aperture for the gas of lower pressure.

In the drawings, Figure 1 is a side elevation, partly in section, showing a portion of a stove to which my improved burner and mixer is applied. Fig. 2 is a perspective view of the mixer and lower part of the burner, which is preferably cast integral. Fig. 3 is a detail view of the lower portion of the stove which forms the burner-support and also the upper cap for the burner. Fig. 4 is a perspective view in detail of the end of the mixer, showing the small perforation in the soft metal for the higher pressure.

Like parts are represented by similar characters of reference in the several views.

In the drawings, a represents an ordinary heating-stove having a base a', which is cast integral with a cross-bar b, having at the center an enlarged portion b', on the other side of which is a series of notches b^2.

c is the combined burner and mixer, having at one end an enlarged cavity c', which is adapted to fit up against and be attached to the lower side of the cap b' and form, with the depressions b^2, the burner proper. From this burner-reservoir c' extends a tube c^2, preferably cast integral with the burner c' and having the sides cut away, as shown at c^2, to form the openings for the air-supply and having a perforated diaphragm c^4, also cast integral and adjacent to the air-openings to form the mixer proper. The tube portion is preferably extended outwardly and may be of any desired construction at the outer end which will permit it to be coupled up to the gas-supply either by means of a hose and an ordinary slip connection or it may be screw-threaded and connected up in any well-known manner. This extended portion, however, is provided with a diaphragm c^5, preferably at the outer end, which diaphragm is made of soft metal, such as sheet-copper, and this diaphragm is provided with a small orifice suitable for gases of a higher pressure. The diaphragm may be applied in any desired manner, either by casting directly in the tube or by soldering or otherwise.

It will be understood that the burner or gas-supply portion is formed of one piece c, and this when bolted to the cross-bar b by the bolt b^3 forms the burner proper.

When assembled and set out for use, the diaphragm c^5 with the smaller aperture is intact.

The stove is connected up in the usual way and adapted for gases of higher pressure. If desired to be used with gases of lower pressure, the thin soft-metal diaphragm is removed by an ordinary punch or any other tool, which brings the second and larger orifice c^4 into position for use by removing the first and smaller-aperture diaphragm.

It will be seen that the construction thus described is not only very simple and effective, but it is also extremely economical for manufacture, and experience has demonstrated that it is very effective in use.

Having thus described my invention, I claim—

1. The combination with the burner, of a burner-reservoir, a mixer cast integral therewith, a gas-passage, a perforated diaphragm therein, and a second diaphragm of softer material having a smaller aperture also in the gas-passage, substantially as and for the purpose specified.

2. The combination in a stove of a base, a cross-bar cast integral therewith and provided with depressions, a burner-reservoir, a mixer cast integral therewith and provided with air and gas openings, and a soft-metal diaphragm arranged in the gas-passage in front of said mixer, said soft-metal diaphragm being adapted to be destroyed to bring the main-mixer gas-opening into operation, substantially as specified.

In testimony whereof I have hereunto set my hand this 27th day of November, A. D. 1903.

HENRY H. BROWN.

Witnesses:
HUGH JONES,
FRANK M. ALLEN.