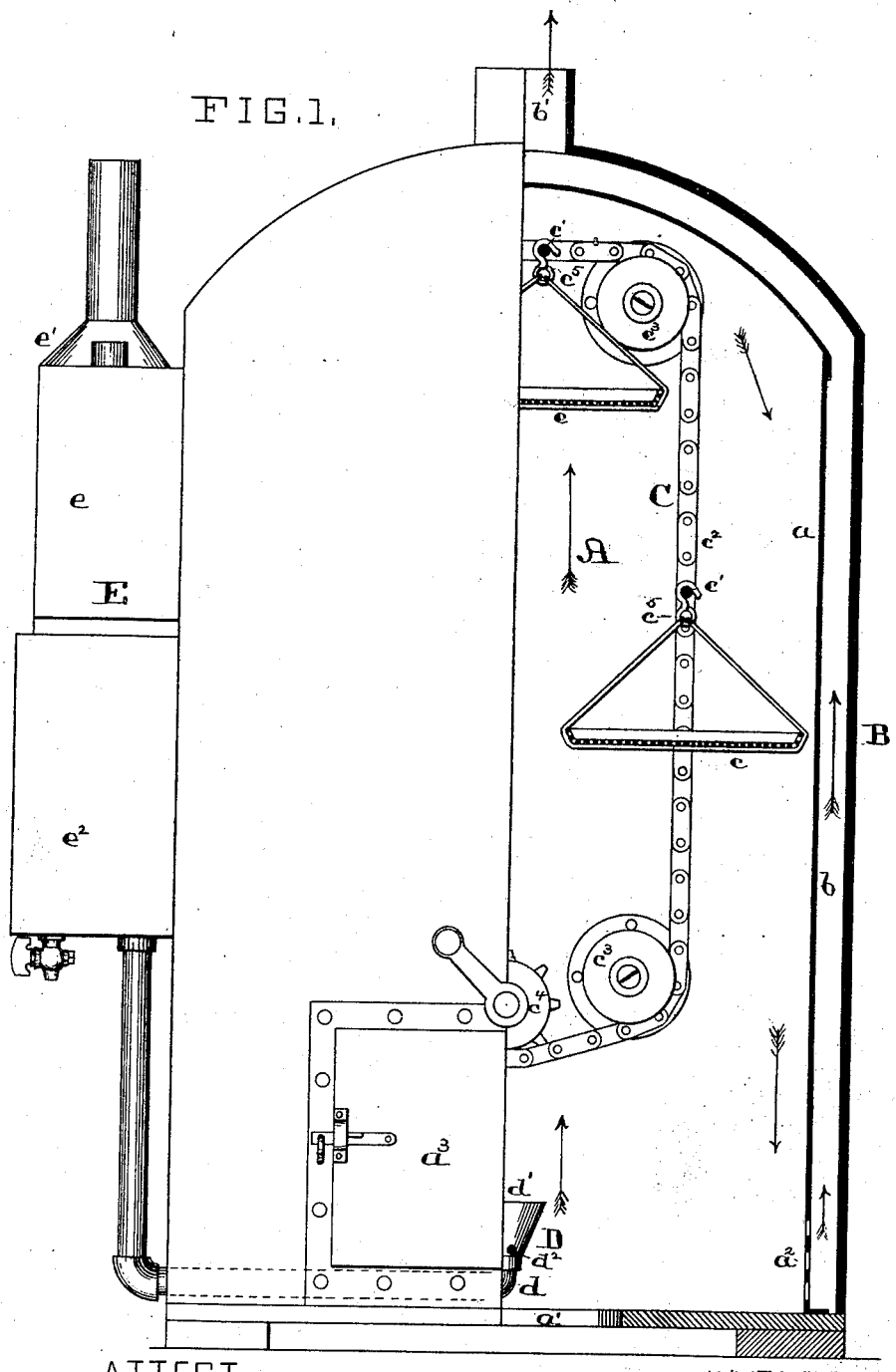
3 Sheets—Sheet 1.

J. B. CROCKER.

Apparatus for Drying or Cooking Fruit, &c.

No. 198,971. Patented Jan. 8, 1878.

FIG. 1.



ATTEST.

Frank. S. Boyd
Paul Bakewell

INVENTOR.

John B Crocker.
by Chas. D. Moody
his atty.

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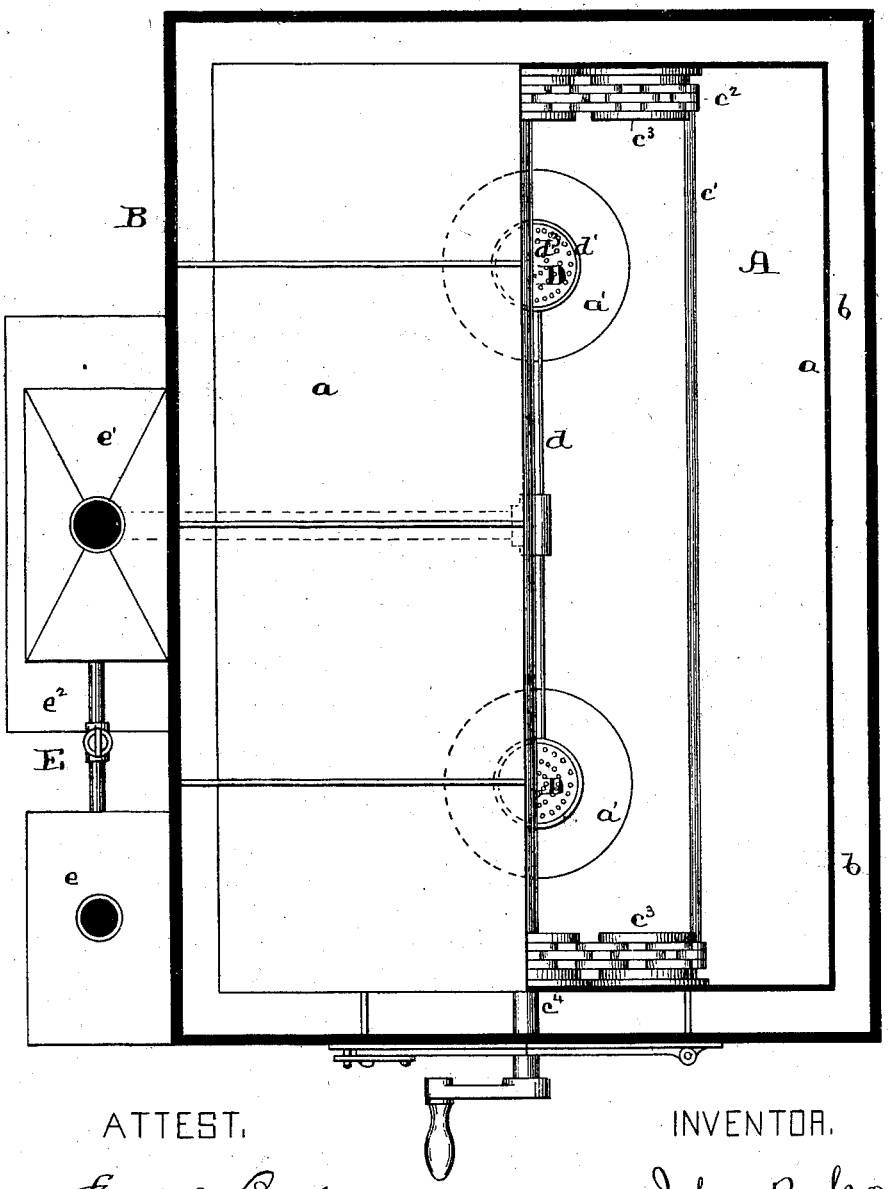
FIG. 2.



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3 Sheets—Sheet 3.

J. B. CROCKER.

Apparatus for Drying or Cooking Fruit, &c.

No. 198,971. **Patented Jan. 8, 1878.**

FIG. 3.

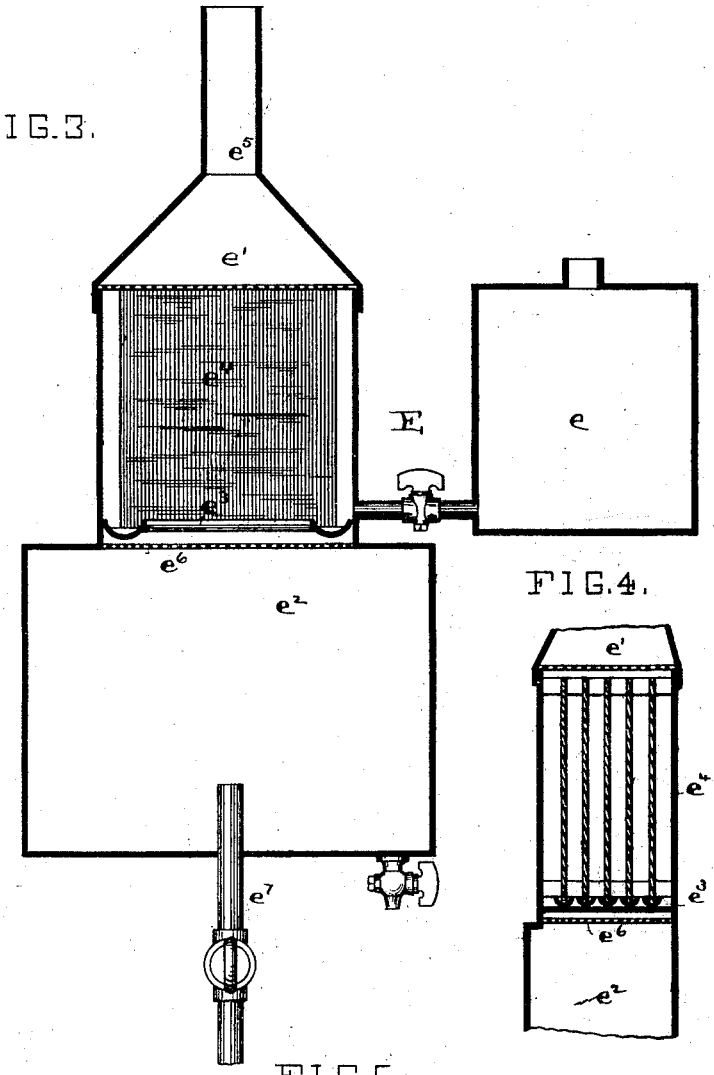

FIG. 4.

FIG. 5.

ATTEST.

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UNITED STATES PATENT OFFICE.

JOHN B. CROCKER, OF ALTON, ILLINOIS.

IMPROVEMENT IN APPARATUS FOR DRYING OR COOKING FRUIT, &c.

Specification forming part of Letters Patent No. **198,971**, dated January 8, 1878; application filed October 12, 1877.

To all whom it may concern:

Be it known that I, JOHN B. CROCKER, a resident of Alton, Illinois, have invented a new and useful Improvement in Stoves and Driers, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is an end elevation, partly in section, of the invention; Fig. 2, a plan, the roof of the outer casing being removed, and the roof of the inner casing being partly removed; Fig. 3, a vertical section taken through the carbureting apparatus; Fig. 4, a vertical section taken through the carbureter proper, and at right angles to that of Fig. 3; and Fig. 5, a vertical section of one of the burners.

Similar letters refer to similar parts.

The present improvement is valuable as a cooking apparatus, especially in warm weather. It is also useful as a drier for evaporating the moisture from fruits, vegetables, and other articles that it is desired to thoroughly dry.

Referring to the annexed drawings, A represents the oven or drying-chamber of the apparatus. It is inclosed by the casing *a*, the only apertures therein being at a^1 a^1 for air to enter the chamber, and at a^2 for it to escape therefrom, and the doorway a^3, through which the various articles to be cooked or dried are introduced into the chamber.

B represents an outer casing, that serves to inclose a space, *b*, without the casing *a*, communicating below with the apertures a^2, and having an outlet at *b'* to the outer air. This space forms a flue, through which the gaseous and vaporous currents passing the apertures a^2 are conducted before finally escaping to the open air, and the casing B serves as a jacket to prevent the radiation of heat.

The apertures a^2 need not be arranged precisely as shown. They must, however, be at or quite near the bottom of the chamber A.

The jacket B may be made to inclose the stove, as shown, or it may be extended around a portion only of it; but it is desirable to inclose as much thereof as is practicable, saving when it is intended to utilize the apparatus as a heater, in which case the space *b* need only be large enough to serve as a flue for the air and gas to pass off.

C represents an apparatus preferably used for holding and elevating in the chamber A the articles being cooked or dried. It consists, substantially, of a series of baskets or shelves, *c c*, suspended from rods c^1 c^1, that, in turn, are attached to endless chains c^2 c^2. The latter are arranged, respectively, at the ends of the chamber, upon the pulleys c^3 c^3, and, by means of the crank-shaft and sprocket-wheel c^4, are made to turn thereon—that is, by rotating the crank-shaft, the shelves are raised and lowered in the chamber, as desired.

The operation of the invention, as thus far described, is as follows: The chamber being suitably heated, the articles to be cooked or dried are introduced through the doorway a^3 into the chamber and placed on the shelves *c c*, and the door is closed. The shelves are then elevated into the upper part of the chamber, where the hottest temperature prevails. The air, entering the apertures a^1, comes in contact with the heating apparatus, and ascends therefrom, in a dry condition, to the upper part of the chamber, and, there encountering the fruit or vegetables, extracts the moisture therefrom. The air, now being moistened, descends again to the lower part of the chamber, and passes out through the apertures a^2 into the flue *b*. It thence passes upward and out through the opening *b'*. The movement is indicated by the arrows in Fig. 1. Now, by reason of the upper portion of the chamber being closed, any desirable degree of heat can be very economically maintained. The dry hot air rapidly absorbs the moisture from the articles to be dried, and then gradually falls to the lower part of the chamber, to be replaced by the inflowing current of dry air. The shelves *c c* are perforated, to enable the air to freely approach their contents. The heat can be regulated to suit the character of the operation and the condition of the articles being treated. In cooking, the articles may be exposed directly to the heated currents, or they may be inclosed in a suitable vessel. The heated currents might escape through the apertures a^2 a^2 directly to the open air without causing them to be returned upward against the casing *a*. The jacket B,

however, serves both to economize the heat and to protect the operator. The rods c^1 c^1 serve as a support for the inner ends of the shelves as the latter are being slid into and withdrawn from the oven, the hooks c^5 at the inner ends of the shelves being made to slide upon the rods as the shelves are moved in and out.

The preferable heating agent is shown at D, Figs. 1, 2 and 5. For this purpose I preferably employ a gas-burner. The gas passes through a tube, d, into a conical part, d^1, that, at its base, is perforated to admit air, as shown at d^2, Fig. 5, and that its upper or outer end is provided with a depressed or conical netting or gauze, d^3. The gas and air combine beneath the gauze, and, by reason of the peculiar shape of the latter, are so thoroughly intermingled as to burn with an intense heat without any smoke.

E represents a carbureting apparatus that I preferably employ in connection with the burner described. It consists, mainly, of a reservoir, e, for holding the gasoline or other fluid from which the gas is formed, a carbureter proper, e^1, and a gasometer, e^2. The oil flows from the reservoir into a series of gutters, e^3 e^3, in the lower part of the carbureter. It thence is taken up by a corresponding series of wicks, e^4 e^4, which may be of such a material as asbestus, that are spaced apart, as shown in Fig. 4, to enable the air that descends through the flue e^5 to come freely in contact with them. The gas descends through the perforated bottom e^6 into the gasometer, and thence by the pipe e^7 to the burner within the chamber A. Any overflow of oil into the carbureter passes between the gutters e^3 e^3 into the gasometer, where it can be drawn off by a suitable cock. The pipe e^7 is extended suitably upward into the gasometer, to provide for the overflow, and to prevent the oil passing to the burner.

What I claim is—

1. In a drier, the burner D, consisting of the conical part d^1, having the perforations d^2, and the conical gauze d^3, substantially as described.

2. The combination of the chamber A, having the apertures a^1 a^1 and a^2, arranged as described, and the burner D, substantially as described.

3. The combination of the chamber A, having the apertures a^1 a^1 and a^2, the casing B, flue b, and burner D, substantially as described.

JOHN B. CROCKER.

Witnesses:

CHAS. D. MOODY,

JAS. C. LEVY.