

No. 659,359.

Patented Oct. 9, 1900.

E. C. BURR, J. C. H. STUT & J. W. ATKINSON.

CARBONATATION VAT.

(Application filed Nov. 27, 1899.)

(No Model.)

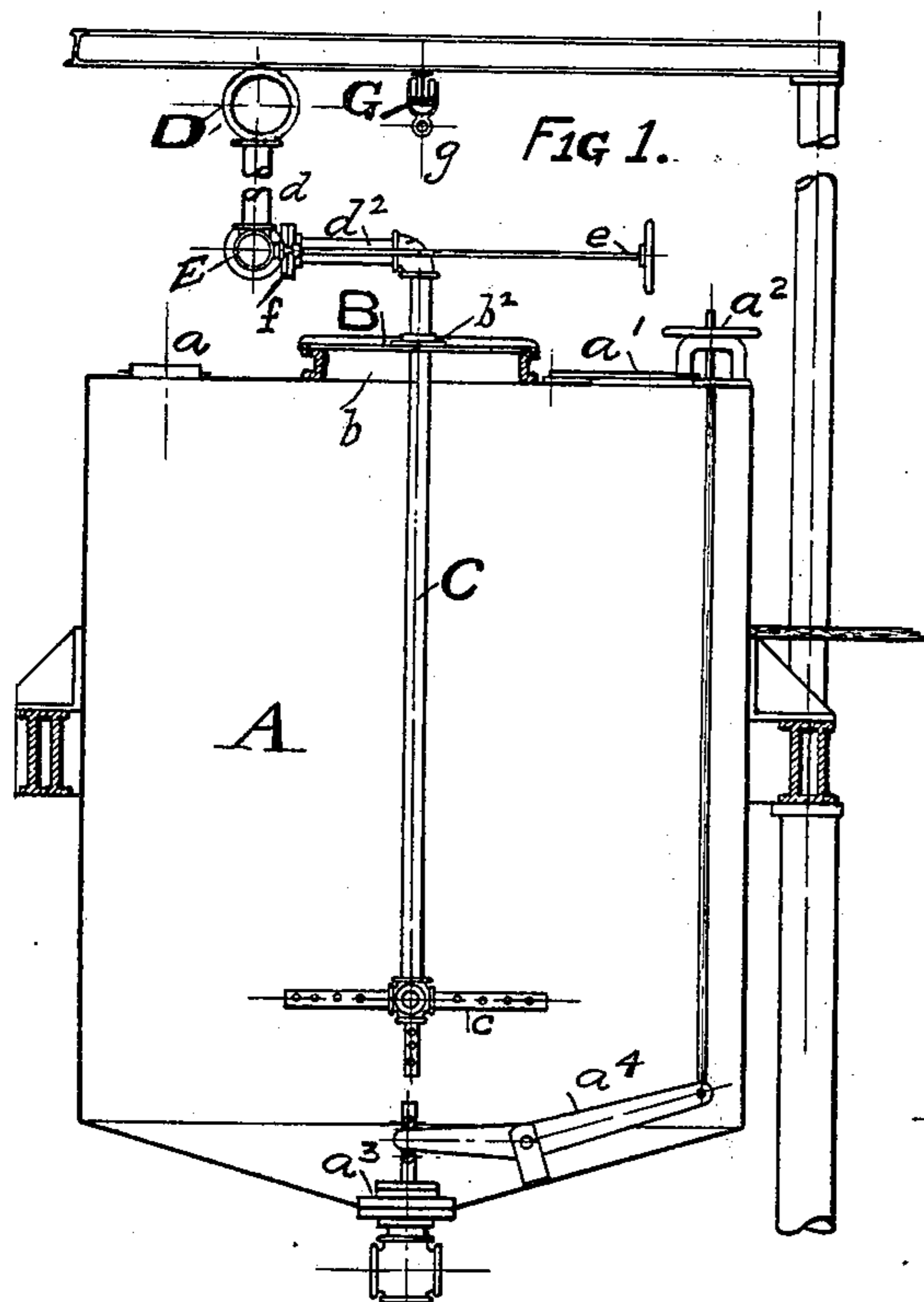
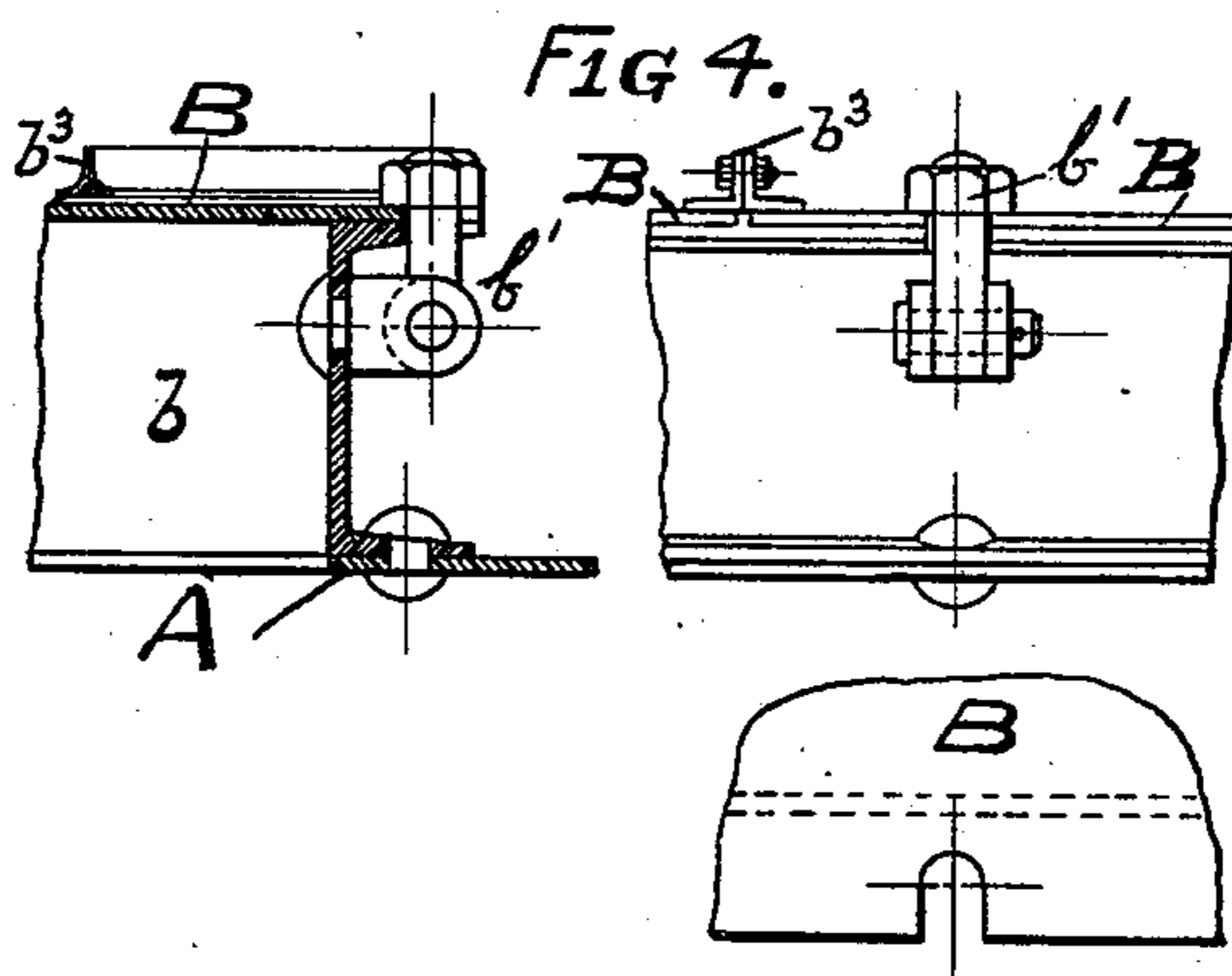
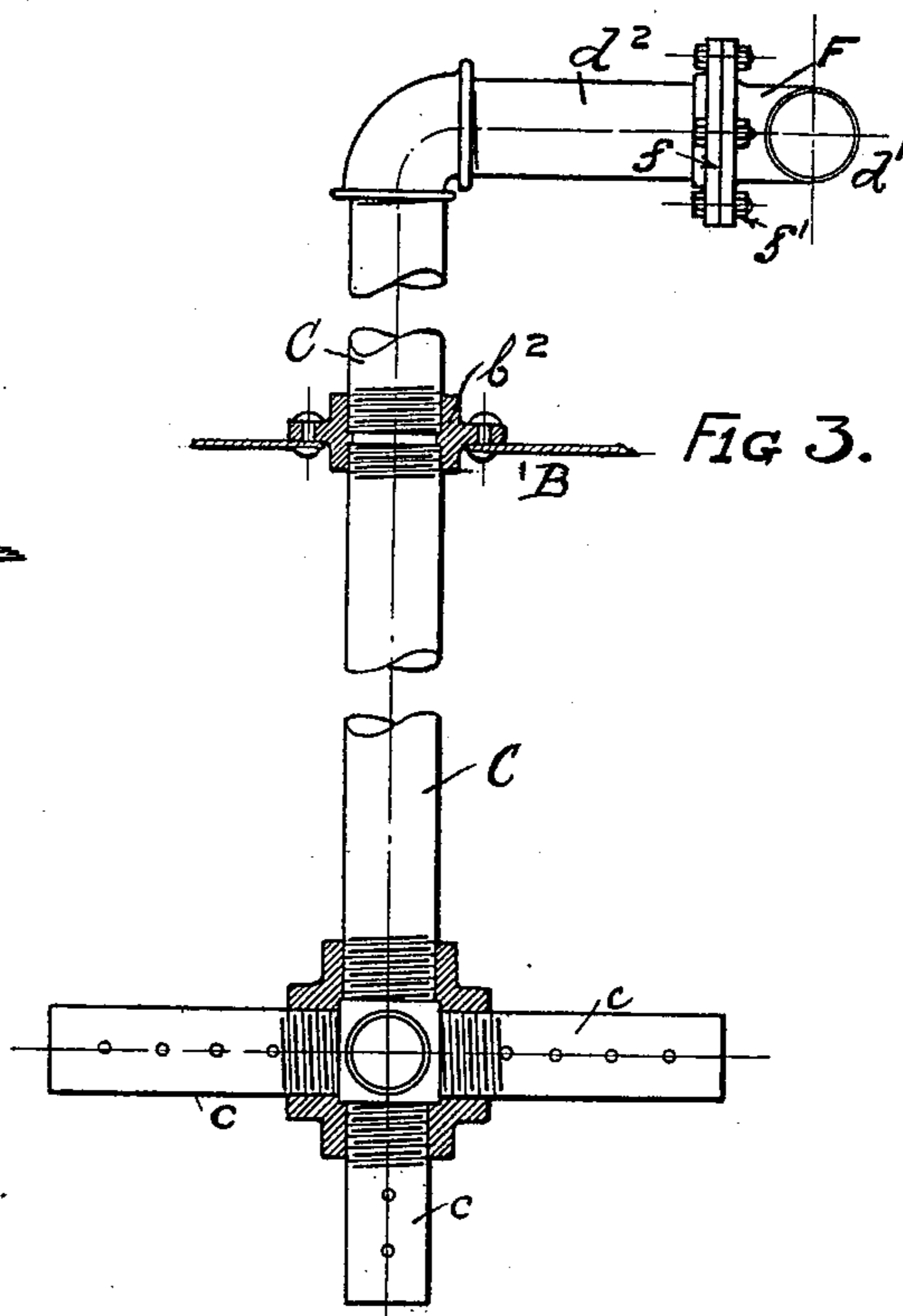
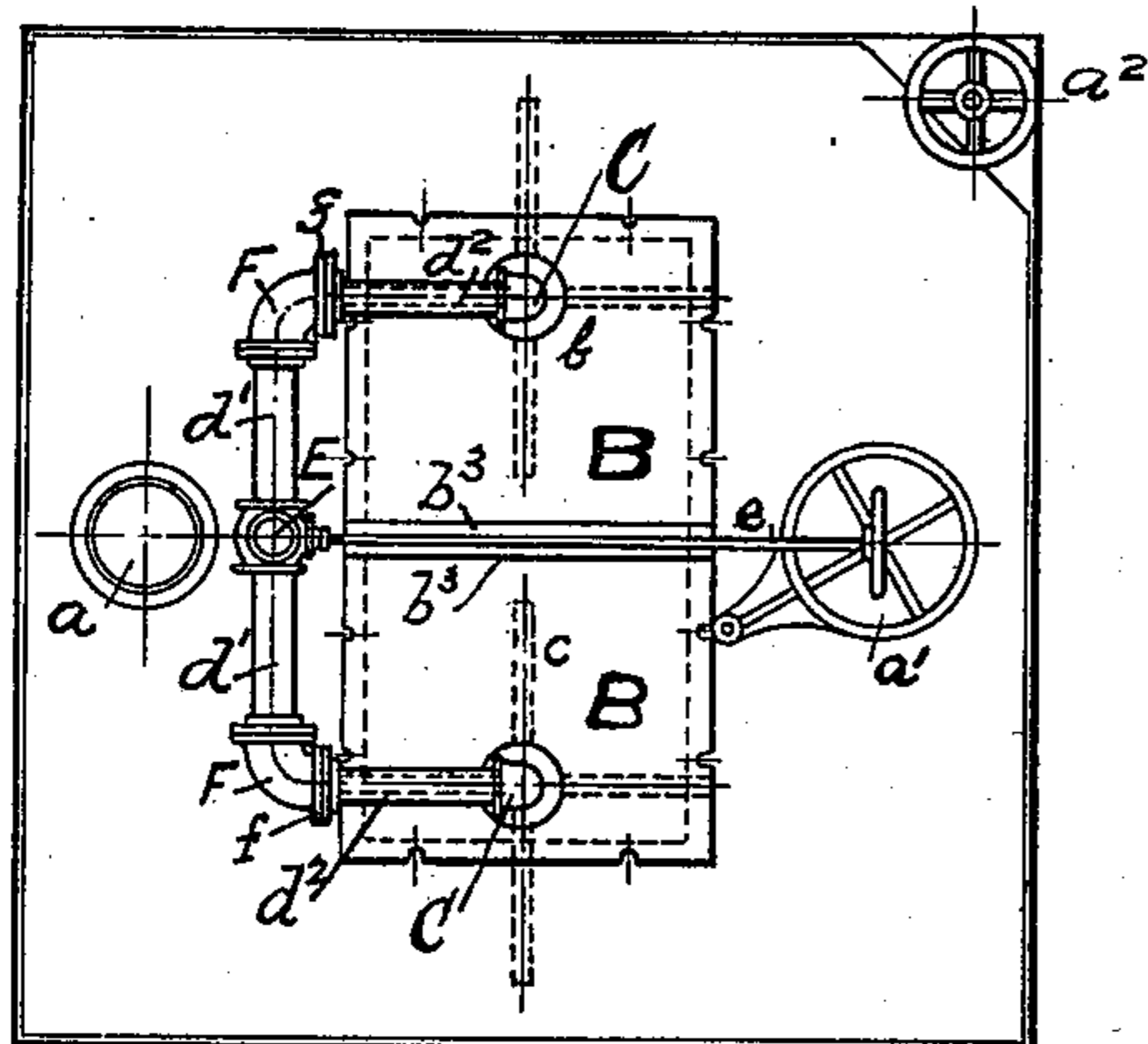


Fig 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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CARBONATATION-VAT.

SPECIFICATION forming part of Letters Patent No. 659,359, dated October 9, 1900.

Application filed November 27, 1899. Serial No. 738,475. (No model.)

To all whom it may concern:

Be it known that we, EDMUND C. BURR, residing in the city and county of San Francisco, JOHN C. H. STUT, residing at Oakland, county of Alameda, and JOHN W. ATKINSON, residing at Santa Maria, Santa Barbara county, State of California, citizens of the United States, have invented certain new and useful Improvements in Carbonators for Sugar-Factories; and we do hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to carbonators in which in sugar-factories the juice leached out from the beets in the diffusion-cells is treated with lime and carbonic-acid gas.

In practice the pipes which convey the carbonic-acid gas down into the carbonation-pans become coated with lime and require to be removed. This necessitates the workman getting down into the pan, a dangerous proceeding on account of the presence of the carbonic-acid gas, and as the pipes are usually arranged they can be removed only with some pains and the expenditure of enough time to render the immediate getting down into the pan an impracticable thing. The only way he can go down safely is after the removal of the gas and the cooling of the carbonator.

The object of our invention is to provide for the ready removal of the gas-introducing pipes without requiring the workmen to get into the carbonator.

To this end our invention consists in a removable cover, pipes carried thereby and adapted to be removed from the carbonator-pan through the cover-opening with the said cover, and suitable detachable connections of said removable pipes with the fixed pipes, all as we shall now describe by reference to the accompanying drawings, in which—

Figure 1 is a sectional elevation of our carbonator. Fig. 2 is a top view of same. Fig. 3 is a view of the gas-pipe C, secured in the removable cover. Fig. 4 shows details of the removable fastenings of the cover.

A is a carbonation-pan of the usual general construction. In its top is a vent a , also a sight-hole a' and the screw-and-nut mechanism a^2 for operating the discharge a^3 below

through suitable connections a^4 . In the top of the pan is made an opening b , which is covered by a lid or cover B, said cover being secured to its seat by means, such as bolts b' , which are adapted to be easily released in order to permit the cover to be removed.

C C are pipes which pass down through the lid or cover B into the pan and are provided on their lower extremities with perforated branches c for emitting the gas into the contents of the pan. These pipes C C are made fast in the cover by suitable means, as by being screwed in sections into thimbles b^2 in the cover.

D is the main gas-supply pipe. From it depends a branch d , having a horizontal portion d' below, which communicates through a valve E, operated by handle e , with lateral branches d^2 , to which it is connected by means of suitable elbows F, the pipes C C being connected to said lateral branches, as shown. The connections at F are detachable ones, as by flanges f with bolts f' , and they are so disposed that when the bolts f' are removed the pipes C C, with the previously-unfastened cover B, may be lifted straight up without obstruction until the lower extremities of said pipes are entirely removed from the pan. These extremities—namely, the discharge branches c —are made of a length to readily permit them to pass upwardly through the opening b . To facilitate the lifting of the pipes we have an overhead track or rail G, on which is an eyebolt or trolley g , from which a hook-chain may pass down to the pipes. When it is required to remove the pipes from the carbonator, the cover B is released. Then the flanges f are unbolted and the chain is dropped to its connection, and as soon as made the cover B and the pipes C C are lifted bodily from the pan. The cover B is a two-part one, bolted at its divisional line by central cross-flanges b^3 , above which lies the handle-stem e , so the latter is not in the way. Either part of the cover may be removed independently of the other.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a carbonator, a gas-introducing pipe extending down into the car-

bonator and having branches upon its lower end, a removable cover for the carbonator to which said gas-introducing pipe is secured adapting it to be lifted with the cover, said
5 cover covering and adapted to expose an opening in the carbonator of sufficient area to permit the passage of the gas-pipe branches through it, fixed gas-supply pipes, and detachable connections between said gas-introducing pipes and the fixed gas-supply pipes, said
10 connections being located to one side of the vertical plane of the cover whereby the latter may be lifted off and its attached pipes raised from the carbonator without interference with
15 said fixed gas-supply pipes.

2. In combination with a carbonator, a sectional cover therefor, the parts of which are separately removable, gas-introducing pipes depending within the carbonator and passing
20 through and secured one to each section of the cover, fixed gas-supply pipes, detachable connections between said pipes and the fixed gas-supply pipes, said connections being lo-

cated to one side of the vertical plane of the cover whereby the latter with its pipes may
25 be removed from the carbonator without obstruction, a valve in the fixed pipes controlling the supply of gas to the removable pipes and a valve-stem for operating said valve and passing transversely above the cover in the
30 plane of the division of its sections whereby it will not obstruct their removal.

In witness whereof we have hereunto set our hands.

EDMUND C. BURR.
JOHN C. H. STUT.
JOHN W. ATKINSON.

Witnesses to the signatures of E. C. Burr and J. C. H. Stut:

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