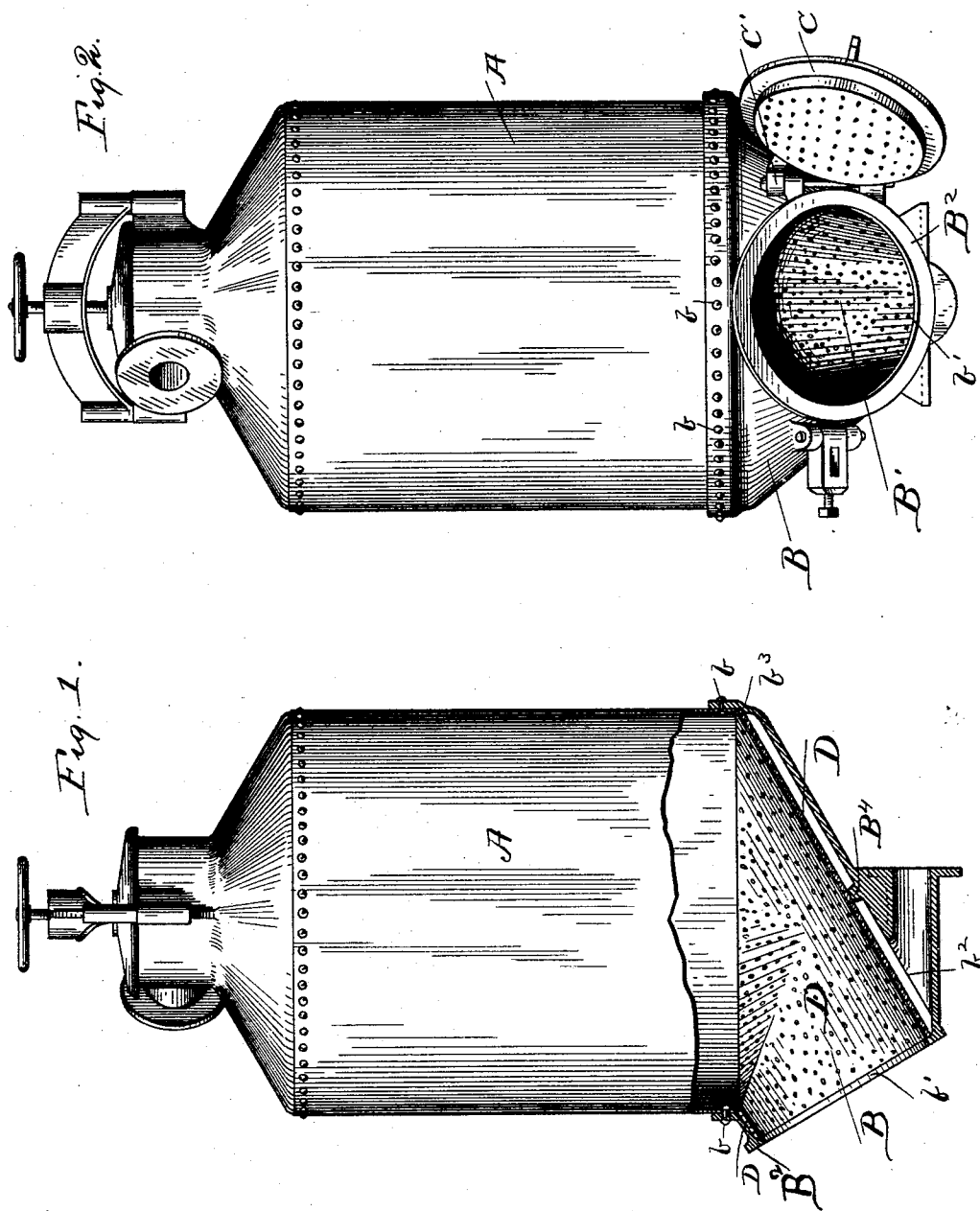


(No Model.)

E. F. & H. P. DYER.
DIFFUSION APPARATUS.

No. 480,812.

Patented Aug. 16, 1892.



Witnesses.
E. P. Gilchrist.
C. D. Dyer

Inventors.
Edward F. Dyer
and
Harold P. Dyer
By Leggett & Leggett,
his Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD F. DYER AND HAROLD P. DYER, OF CLEVELAND, OHIO.

DIFFUSION APPARATUS.

SPECIFICATION forming part of Letters Patent No. 480,812, dated August 16, 1892.

Application filed April 28, 1892. Serial No. 430,984. (No model.)

To all whom it may concern:

Be it known that we, EDWARD F. DYER and HAROLD P. DYER, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Diffusion-Cells; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to improvements in diffusion-cells for extracting the saccharine matter from beet-roots and other substances; and it consists more especially in certain features of construction in the bottom or lower section of the cell, whereby the cost of the same is reduced to a minimum and whereby the pulp remaining in the cell after the extraction of the saccharine matter may be more readily removed therefrom without liability of any portion thereof being lodged inside of said bottom or lower section of the cell or at the junction of said lower section with the central or cylindrical portion of the cell.

In the accompanying drawings, Figures 1 and 2 are elevations of a diffusion-cell embodying our invention, the cell being shown partly in section in Fig. 1, with the door at the opening whence the pulp is discharged removed, said door being shown open in Fig. 2.

Referring to the drawings, A represents the central or cylindrical portion of our improved cell.

B represents the bottom or lower section of the cell, the same embracing and being riveted, as at *b*, to the lower end of the central or cylindrical portion A. The bottom or lower section B is substantially of the shape of an inverted cone, said bottom at one side being provided with a flanged opening *B'*, at which the pulp remaining in the cell after the extraction of the saccharine matter is discharged, flange *B²* thereof being preferably integral with bottom B, the lower side of said flange constituting substantially an extension of the opposite side of the inverted conically-shaped bottom of the cell, the outer end of flange *B²* being at right angles or approximately at right angles to the lower side of said flange.

C represents the door for closing the discharge-opening, the same being hinged, as at *C'*, in any suitable manner at one side of

flange *B²*. The lower side of flange *B²* of the discharge-opening is provided with a flanged opening *b²*, through which the saccharine matter or juice is discharged.

D represents a strainer, which is preferably made of sheet metal and supported inside of and conforming to the shape of the lower section B of the diffusion-cell and its flanged opening *B'* and strains the saccharine matter or juice in its passage to and out of the flanged opening *b²*.

Strainer D is supported, preferably as shown in Fig. 1 of the drawings, by an internal rim *b'* of flange *B²*, in conjunction with an annular internal shoulder *b³* at the upper end of the lower section of the cell and preferably one or more internal lugs *B⁴* of said section of the cell and intermediate between the internal rim *b'* and shoulder *b³*, said strainer resting against the annular rim *b'* flush with the internal periphery of the latter. By the construction hereinbefore described the diffusion-cell can with great facility be evacuated of the remaining pulp and without liability of the lodgment of any portion of the same.

The lower section B of the cell, including flange *B²* and flanged perforation *b²*, preferably comprises but a single casting, rendering the construction comparatively inexpensive.

What we claim is—

In a diffusion-cell, a central or cylindrical section, as at A, an inverted conically-shaped bottom or lower section B, embracing the lower end of and secured to said central or cylindrical section, said bottom or lower section at one side having a flanged pulp-discharge opening, substantially as indicated, a strainer located within and conforming to the shape of said lower section, the latter having an internal rim, as at *b'*, a shoulder, as at *b³*, and one or more lugs, as at *B⁴*, for supporting said strainer, substantially as set forth.

In testimony whereof we sign this specification, in the presence of two witnesses, this 4th day of April, 1892.

EDWARD F. DYER.
HAROLD P. DYER.

Witnesses:

C. H. DORER,
WARD HOOVER.