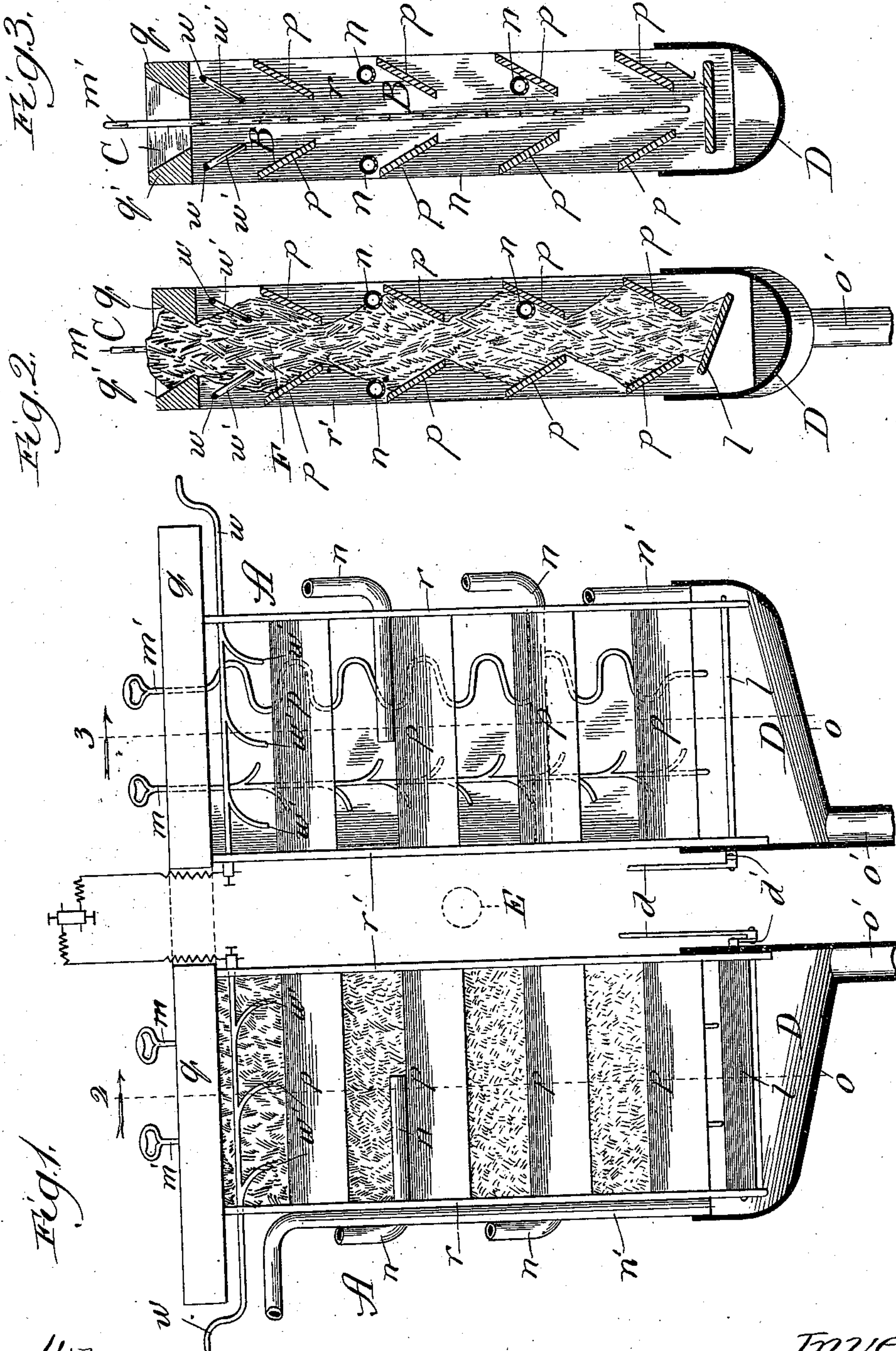


(No Model.)

H. L. BRIDGMAN.
ELECTRODEPOSITING APPARATUS.

No. 546,483.

Patented Sept. 17, 1895.



Witnesses:
Charles Gaylord,
Lute J. Allen

Inventor:
Henry L. Bridgman
By Dyrenforth & Dyrenforth,
Attys

UNITED STATES PATENT OFFICE.

HENRY L. BRIDGMAN, OF BLUE ISLAND, ILLINOIS.

ELECTRODEPOSITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 546,483, dated September 17, 1895.

Application filed December 22, 1894. Serial No. 532,651. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. BRIDGMAN, a citizen of the United States, residing at Blue Island, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Electrodepositing Apparatus, of which the following is a specification.

My invention relates to an improvement in the class of anode devices for use in an electrodepositing apparatus in which the anode material is confined in a loose mass in a basket device to be immersed in the electrolyte and affording to the latter access to the anode material contained in the basket device.

Referring to the accompanying drawings, Figure 1 is a broken view in elevation, partly sectional, of my improved anode in a form adapting it to be stationarily supported in the tank of an electrodepositing apparatus; Fig. 2, a section taken at the line 2 on Fig. 1 and viewed in the direction of the arrow, and Fig. 3 a section taken at the line 3 on Fig. 1 and viewed in the direction of the arrow.

A A in Fig. 1 denote baskets, which may be separate, as shown, or united in the manner hereinafter described. As shown, each basket A comprises two end pieces *r* and *r'*, of glass, lead, copper, or any other suitable material, which may be imperforate and between which extend on planes one above the other and at suitable intervals trough-shaped or substantially V-shaped pockets B, each formed, preferably, with a pair of downwardly-converging plates *p*, of glass, lead, copper, or any other suitable material, fastened at their ends in the desired relation to each other to the end pieces *r* and *r'*, and the connected trough-shaped pockets B are open at their bases to cause them to open one into the other in vertical series. At their upper ends and at opposite sides of their centers the end pieces are reinforced with beams *q* and *q'*, preferably of wood, extending across them and beveled to converge at their inner sides in a downward direction to afford a hopper-shaped mouth C. At the lower end of each basket thus formed with a vertical tier of the trough-shaped pockets B is a trough D, having a slanting base *o*, from the lower end of which extends a discharge-spout *o'*. Perforated pipes *n* are projected into the pockets B as means for directing through the mass of anode ma-

terial in them the electrolytic fluid of an electrodepositing apparatus (not shown) in which the anode is immersed, the fluid being pumped through the pipes *n* by suitable pumping apparatus, which is not shown, as it forms no part of my invention, but may be of a kind not uncommonly employed for circulating the electrolyte in connection with electrodepositing apparatus, the purpose in forcing the fluid through the pipes being to wash down from the mass of anode material in the basket sludge or any insoluble matter therein. Into each trough D, I extend a pipe *n'*, which should also be in circuit with the pumping apparatus referred to. Each vertical series of the pockets B may have extended through them a stirring-rod, such as that shown at *m* or that shown at *m'*, as a medium operative by raising it slightly for periodically loosening or preventing compacting of the mass of anode material. The conducting-wire *w* of the electrodepositing apparatus referred to, and which leads from one pole of a suitable electric generator, (not shown,) may be provided with prongs or points *w'* to project into the mass of anode material in at least the uppermost pocket B of the vertical series thereof.

Below the lowermost pocket B, I provide a suitable valve *l*, that shown comprising a pivotal plate, which in its normal horizontal position stops the mass of anode material from dropping out of the series of pockets B, while when tilted, as to the position represented in Fig. 2, the material may run out. For turning the valve from above the anode device I show on the end of its pivotal support a crank *d'*, operative by a rod *d*, connected therewith.

If desired, the two baskets A may be united by extending the beams *q* and *q'* across both, as indicated by the dotted representation in Fig. 1, when the outer projecting ends of the beams might afford seats on which to rest the anode on the opposite edges of the tank of an electrodepositing apparatus and cause it to straddle a shaft E therein. (Indicated in Fig. 1, and formed, preferably, of insulated metal.) If the baskets are separate, as shown, they may be supported in the tank to flank the shaft E in any suitable manner, as by resting on the bottom of the tank.

F is the mass of anode material, which is introduced into a basket from its mouth C and fills the vertical series of the pockets B in, or substantially in, the shape presented
5 by Fig. 2, and in which it will be freely exposed to the electrolyte in which the basket is immersed.

What I claim as new, and desire to secure by Letters Patent, is—

10 1. An anode-device for an electro-depositing apparatus, comprising a basket formed with end-plates supporting pockets in vertical series for holding the anode-material, in combination with a stirring-implement ex-
15 tending through the vertical series of pockets, substantially as described.

2. An anode-device for an electro depositing apparatus, comprising a basket formed with end-plates supporting pockets in verti-
20 cal series for holding the anode-material, in

combination with a valve *l* below the series of pockets, and a trough at the base of the basket, having an outlet *o'*, substantially as described.

3. An anode-device for an electro-deposit- 25 ing apparatus, comprising a basket formed with end-plates *r* and *r'* reinforced at their upper ends by beams affording a mouth C, pockets B, supported in vertical series be-
30 tween the end-plates, for holding the anode-material, each pocket comprising a pair of downwardly converging plates *p*, in combination with a valve *l* below the series of pockets and a trough at the base of the basket, hav-
ing an outlet *o'*, substantially as described.

HENRY L. BRIDGMAN.

In presence of—

M. J. FROST,

J. H. LEE.