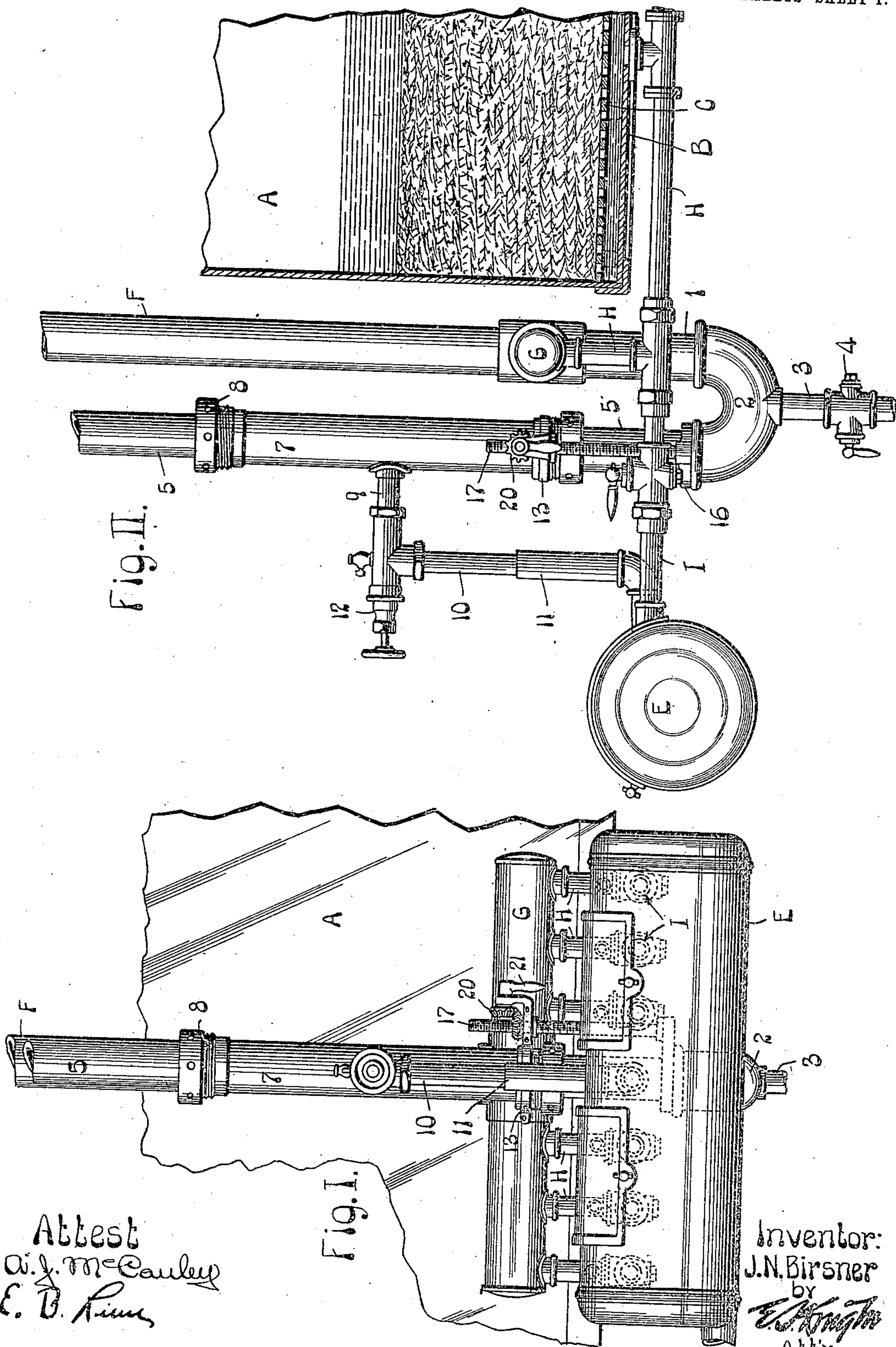


952,180.

J. N. BIRSNER.  
DRAIN ATTACHMENT FOR MASH TUBS.  
APPLICATION FILED NOV. 11, 1909.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.



Attest  
A. J. McCauley  
E. D. Rime

Fig. I.

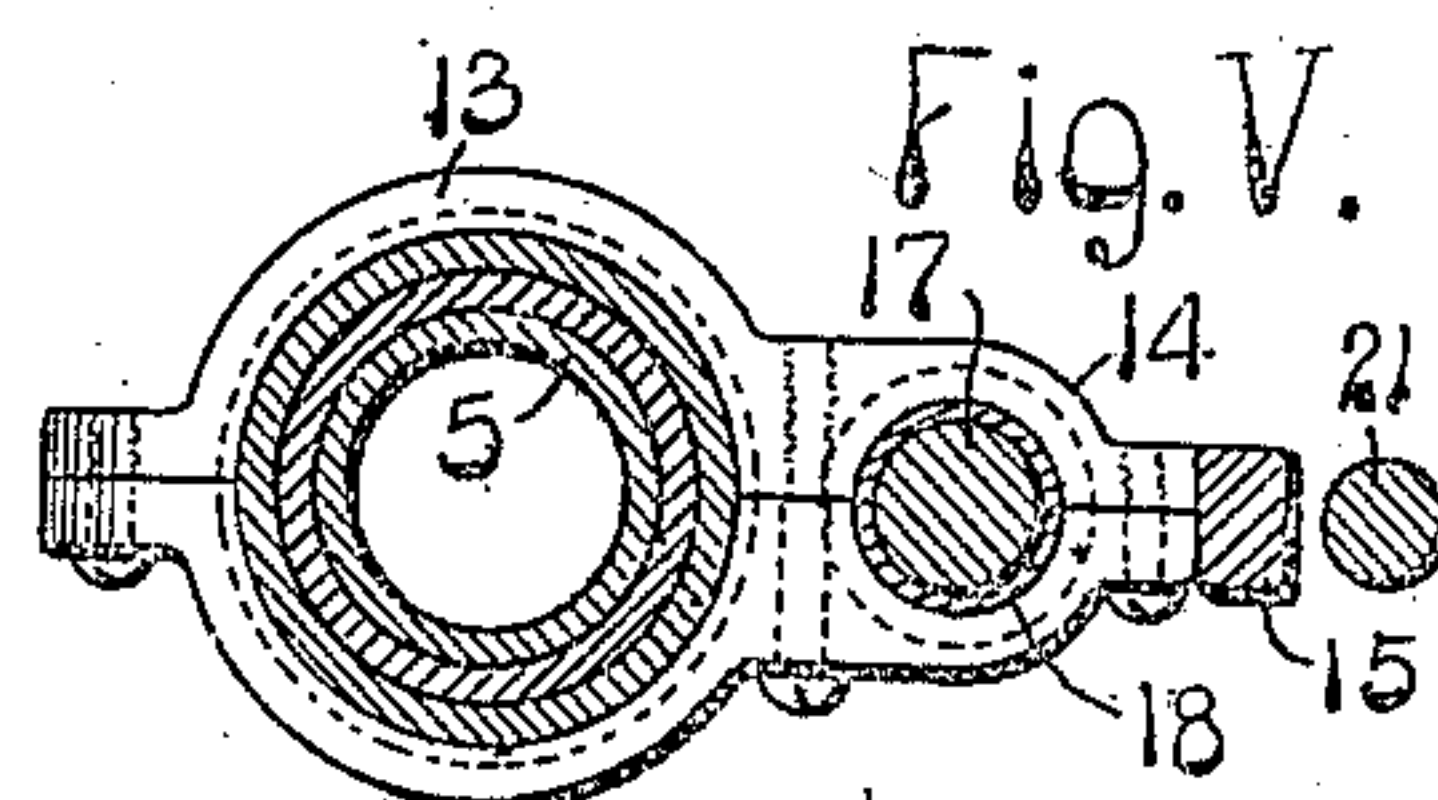
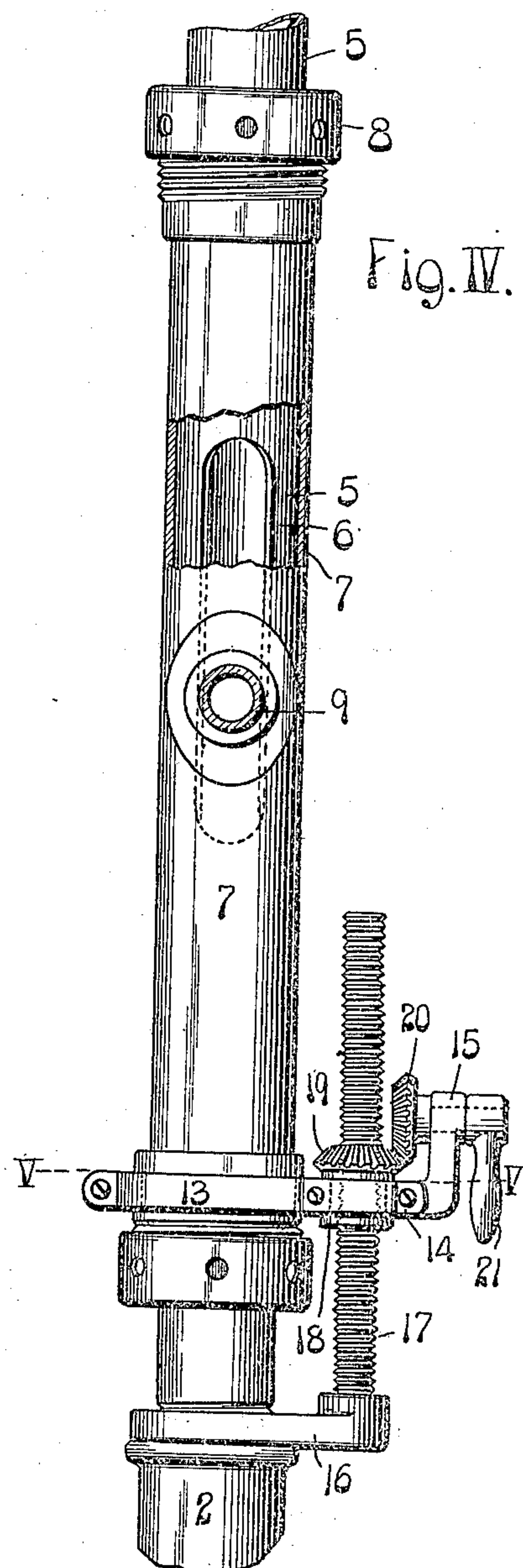
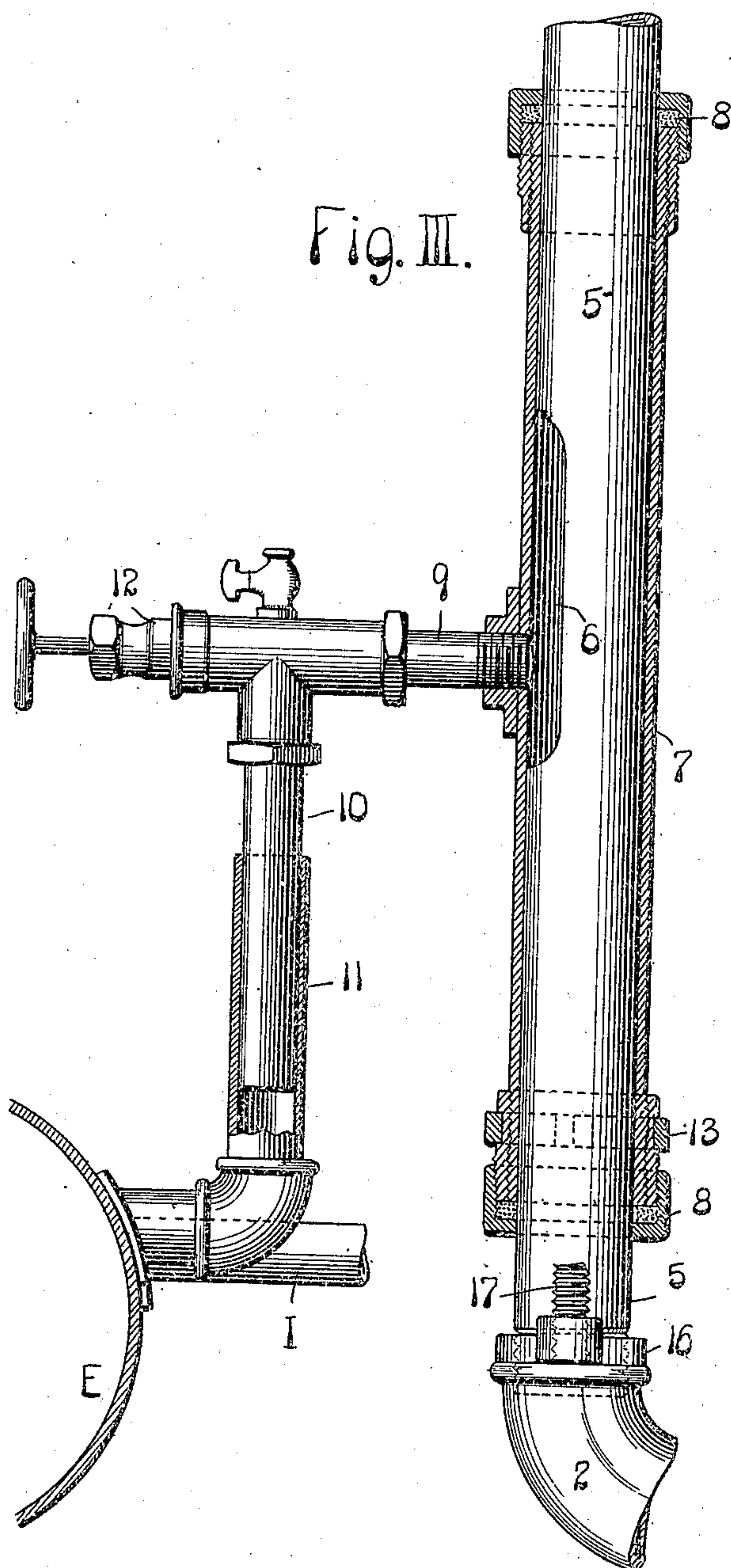
Inventor:  
J. N. Birsner  
by  
E. D. Rime  
Atty.

952,180.

J. N. BIRSNER.  
DRAIN ATTACHMENT FOR MASH TUBS.  
APPLICATION FILED NOV. 11, 1909.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 2.



Attest  
A. J. M. Carley  
E. B. Runtz

Inventor  
J. N. Birsner  
by E. B. Runtz  
Att'y.



# UNITED STATES PATENT OFFICE.

JOHN N. BIRSNER, OF BELLEVILLE, ILLINOIS.

## DRAIN ATTACHMENT FOR MASH-TUBS.

952,180.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed November 11, 1909. Serial No. 527,366.

*To all whom it may concern:*

Be it known that I, JOHN N. BIRSNER, a citizen of the United States of America, residing in Belleville, county of St. Clair, and State of Illinois, have invented certain new and useful Improvements in Drain Attachments for Mash-Tubs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a drain attachment for mash tubs and is in the nature of an improvement upon the apparatus shown and described in United States Letters Patent issued to me January 8, 1907, Number 840,900.

The prime object of the present invention is similar to that in my previous patent; namely, to provide for the withdrawal of the wort from mash tubs in a manner to prevent the mash therein from being packed during such withdrawal; or, in other words, to provide for the mash being maintained in a loose condition while the wort is being withdrawn.

A further object of the present invention is to provide in a drain attachment for mash tubs shiftable or adjustable means in connection with the draw pipe that permits of the outlet from the draw pipe and which controls the liquid nipple in the mash tub being raised and lowered, as may be desired, or necessary, to prevent pressure of liquid upon the mash to cause packing thereof where the outlet from the drain pipe is maintained in a fixed position. This adjustable or shiftable means also provides for my drain attachment being utilized in connection with mash tubs where the layer of mash placed in the tubs be either of slight height, considerably greater height, or of an intermediate height, in either of which instances the original liquid elevation should be at a greater elevation than the elevation of the level of the mash.

Figure I is a front elevation of my drain attachment. Fig. II is a side elevation of the attachment with a fragment of a mash tub shown in vertical section. Fig. III is an enlarged view, partly in section and partly in elevation, of the draw pipe, the adjustable device associated therewith, and a fragment of the receiving tank in communication with the draw pipe. Fig. IV is

a front elevation, with portions in section, of the draw pipe, and the adjustable device associated with it. Fig. V is a horizontal section taken on the line V—V, Fig. IV.

In the accompanying drawings:—A designates a mash tub provided with a main bottom B and a perforated false bottom C.

E is a receiving tank to which wort produced in the mash tub A is conducted in the use of my attachment.

F is a vertically arranged conducting pipe that is of service in delivering water to the mash tub preparatory to the production of wort in the tub and which conducting pipe also serves in part as a means through which the wort is conducted from the tub. The main conducting pipe F has arranged in communication with it a header G that is placed in communication with the mash tub at points at the bottom of the tub through the medium of auxiliary conducting pipes.

I are draw pipes leading from the auxiliary conducting pipes H to the receiving tank E.

The parts thus far described are similar in construction and operation to corresponding parts shown and described in my patent herein mentioned, and further description of them is deemed unnecessary.

1 designates a pipe leg extending downwardly from the main conducting pipe F and which is in communication with said pipe and also with the header G. This pipe leg is connected at its lower end to a return bend 2, to which is connected a drain pipe 3 that may be opened after a small amount of water has been conducted to the mash tub through the main conducting pipe F and the auxiliary conducting pipes to drain the return bend 2 and the pipes directly connected to it, the drain pipe being provided with a waste valve 4.

5 designates a main draw pipe that is connected to the return bend 2 and extends vertically therefrom, parallel with the conducting pipe F and the pipe leg 1 extending downwardly therefrom. The main draw pipe is provided with an elongated orifice 6 extending vertically in its wall and through which wort that enters the draw pipe may be discharged at any desired point throughout the height of said orifice and according to the height of liquid that is present in the mash tub A.



7 is a gage sleeve loosely fitted to the main draw pipe 5 and adapted to be shifted vertically thereon, the said sleeve being provided at its upper and lower ends with stuffing boxes 8, which furnish security against leakage between the draw pipe and sleeve at the ends of the sleeve.

9 designates an auxiliary draw pipe set into the gage sleeve 7 intermediate of its ends and through which wort present in the main draw pipe may be delivered therefrom and conducted to the receiver E. Provision for the deliverance of wort from the main draw pipe and auxiliary draw pipe to the receiver, while permitting vertical adjustment of the gage sleeve 7, is made by associating with the auxiliary draw pipe a pipe leg 10 that is telescopically fitted in a vertical delivery pipe 11, open at its upper end and leading to the receiver, (seen most clearly in Fig. III).

12 is a cut off valve by which flow of wort from the main draw pipe 5 to the receiver E may be controlled.

Any suitable means for raising and lowering the gage sleeve 7 may be utilized, and I have shown means for this purpose which comprises the following elements:

13 is a clamp band, preferably sectional, as shown at Figs. IV and V, and which is secured to the gage sleeve, the band being provided with a horizontal arm 14 and a vertical arm 15.

16 is a collar located at the lower end of the main draw pipe 5 beneath the gage sleeve 7. This collar serves as a support for a vertical screw post 17 which extends through the horizontal arm of the clamp band 13 and has fitted to it a grooved and internally screw threaded sleeve 18, loosely seated in the horizontal arm of the clamp band. The sleeve 18 is provided with a beveled gear 19.

20 is a beveled gear that meshes with the wheel 19 and which is supported by a shaft loosely seated in the vertical arm 15 of the clamp band and has fitted to it a hand lever 21 by which it may be rotated to impart rotation to the beveled gear 20. It will be readily understood that when the gear 20 is rotated, it imparts rotation to the gear 19 so that it will be operated upon the screw post 17 and act to raise or lower the clamp band 13 and consequently the gage sleeve 17, according to the direction of rotation of the gear upon the screw rod.

By my attachment packing of the mash present in the mash tub is obviated, due to the wort, when passing from the mash tub to the receiver E being conducted to a greater elevation than the bottom of the body of mash. The benefit in the present attachment over that in former attachments of the same kind is derived by the adjustable gage sleeve 7 in combination with the main draw

pipe 5, and through the medium of which the height to which the wort ascends in the main draw pipe, before being delivered therefrom, may be regulated to suit the height to which the mash in the mash tub extends, and thereby provide for the lessening of pressure of liquid upon the mash, irrespective of the height of the mash as ordinarily placed in the mash tub, which varies in different breweries and which also varies in mash tubs of different sizes, a mash tub of large diameter ordinarily having placed therein a body of mash of one depth, while a mash tub of smaller diameter usually has placed in it a body of mash of greater depth. By my present improvement, my attachment is made suitable for much more universal use than it would be in the absence of the adjustable gage by which the outlet from the main draw pipe is controlled.

While I have shown and described the orifice 6 in the main draw pipe 5 as being a single elongated opening, I wish it to be understood that I do not limit myself strictly to the provision in the draw pipe of a single elongated opening, inasmuch as the equivalent for this may be provided by furnishing the draw pipe with a plurality of openings through which flow of wort might occur in the same manner as it occurs through the elongated orifice 6.

I claim:—

1. The combination with a mash tub, of wort conducting means extending vertically from the bottom of said tub to a point above said bottom, and an outlet member slidably fitted to said wort conducting means and movable vertically relatively thereto whereby the wort passing into said conducting means from said mash tub may be delivered therefrom at varying degrees of elevation above and relative to the bottom of said mash tub.

2. The combination with a mash tub, of wort conducting means leading from the bottom of said tub to a point above the elevation of said bottom and having an elongated outlet, and adjustable means for controlling said outlet.

3. The combination with a mash tub, of wort conducting means leading from the bottom of said mash tub to an elevation above said bottom and having an outlet above said bottom, and a gage member movable upon said conducting means and provided with means of communication with the outlet in the wort conducting means.

4. The combination with a mash tub, of a vertical draw pipe having communication with said mash tub at its bottom and provided with an outlet, and a gage sleeve movable relative to said draw pipe and having a wort conducting member communicable with the outlet in said draw pipe at different elevations.

5. The combination with a mash tub, of a wort conducting pipe having communication with said pipe at its bottom and provided with an elongated outlet located above the bottom of the mash tub, and a gage sleeve movably fitted to said draw pipe and a pipe connected to said gage sleeve and communicable therewith when said gage sleeve is at different elevations upon said draw pipe.

JOHN N. BIRSNER.

In the presence of—

E. B. LINN,

A. J. McCauley.