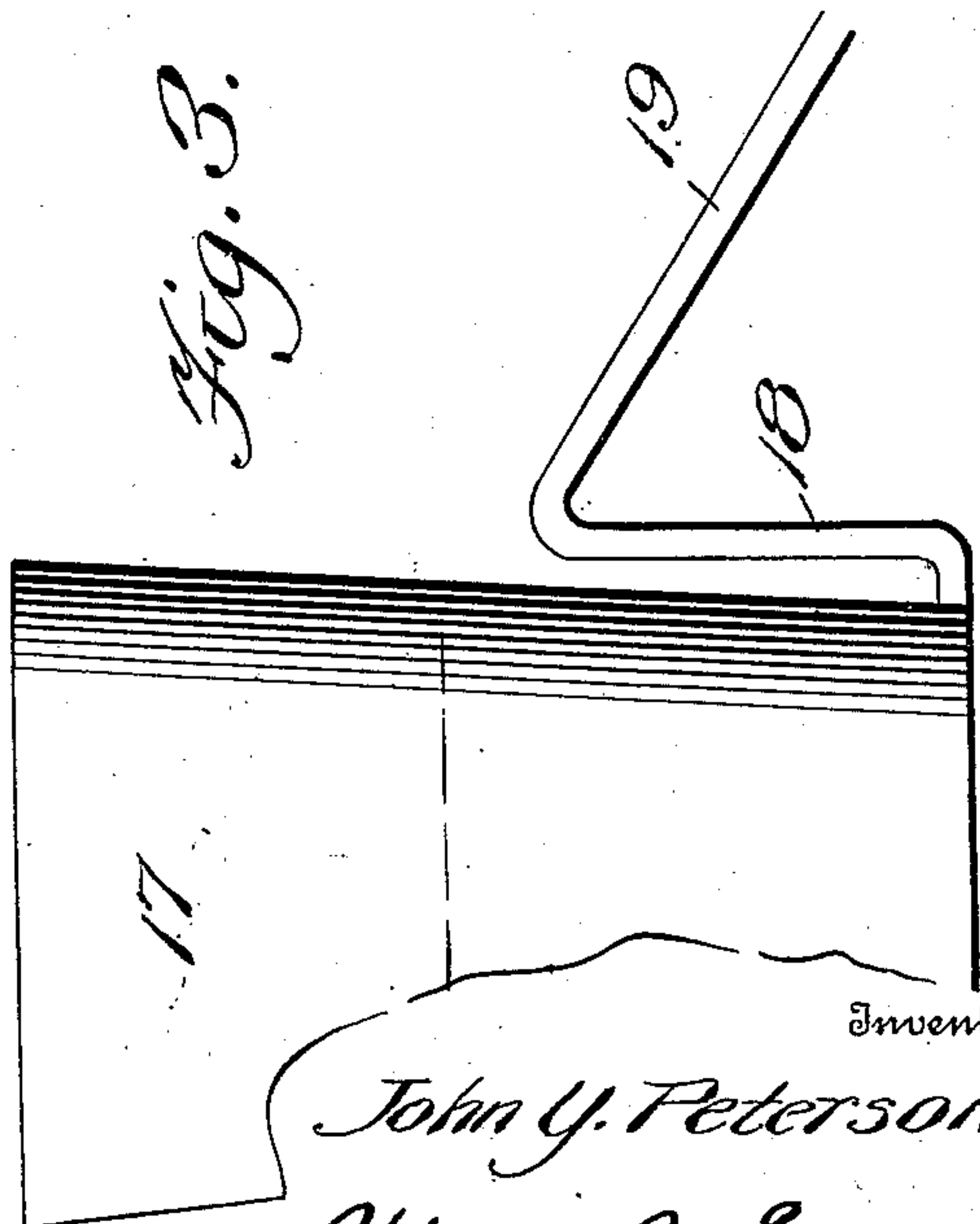
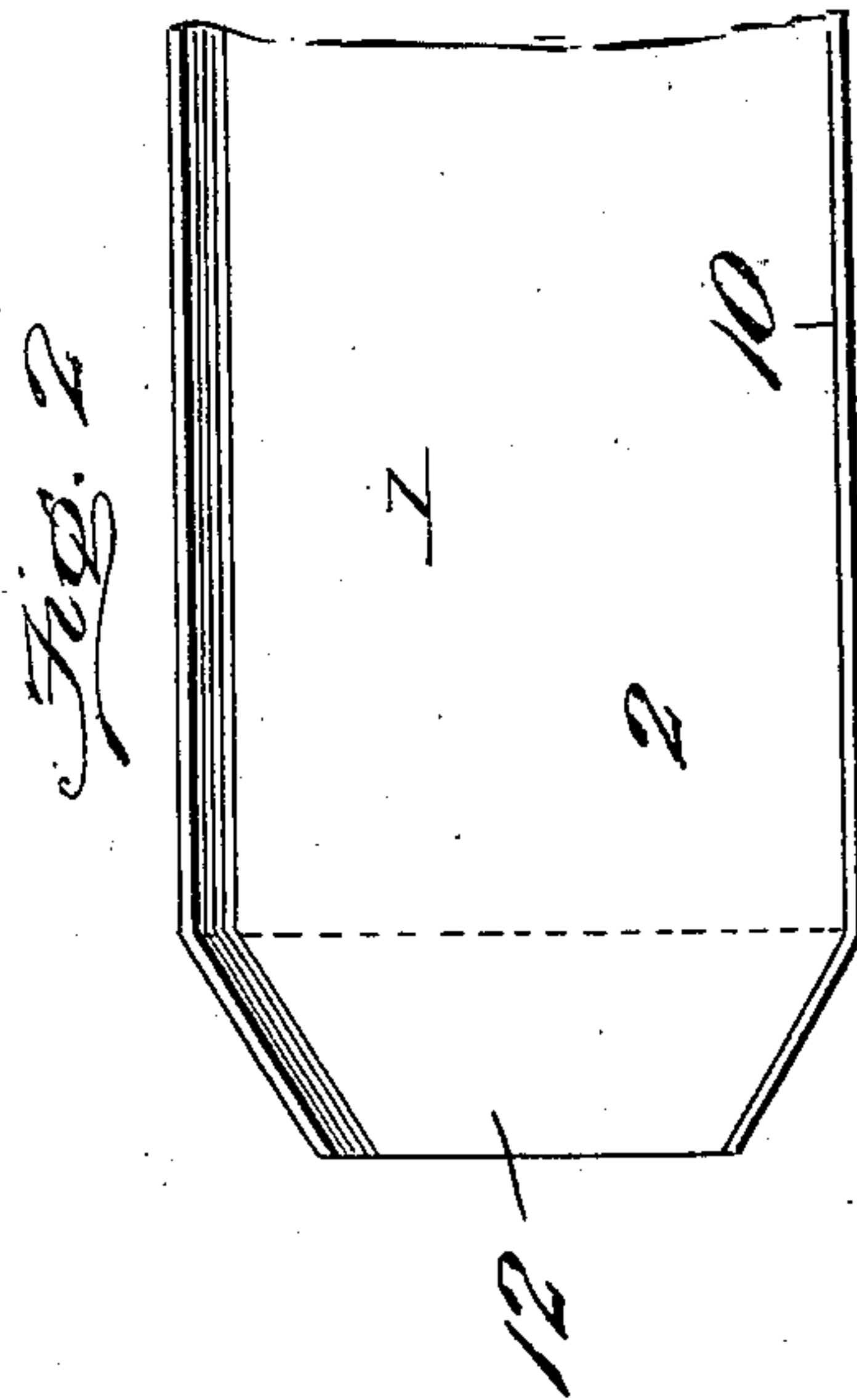
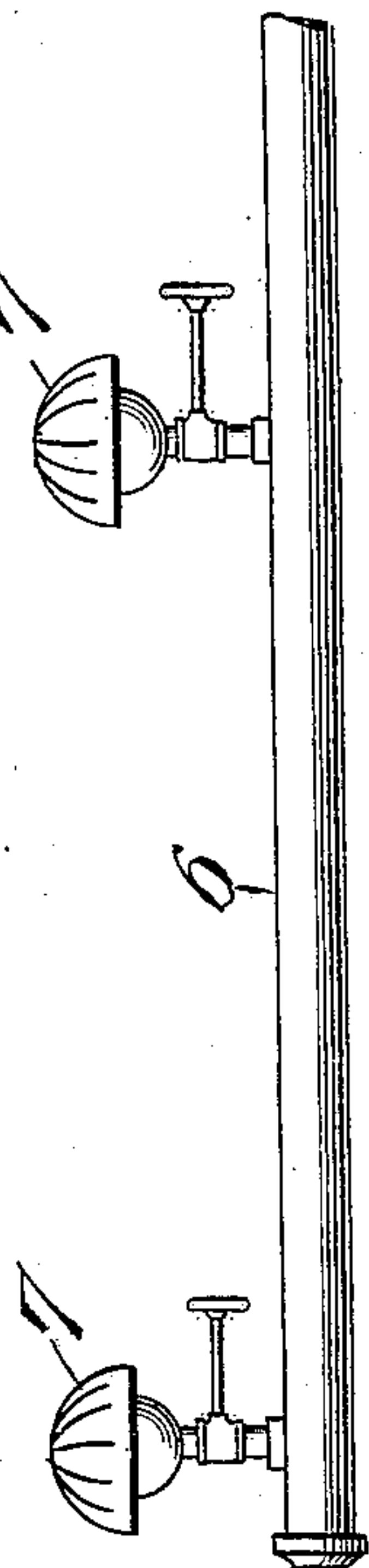
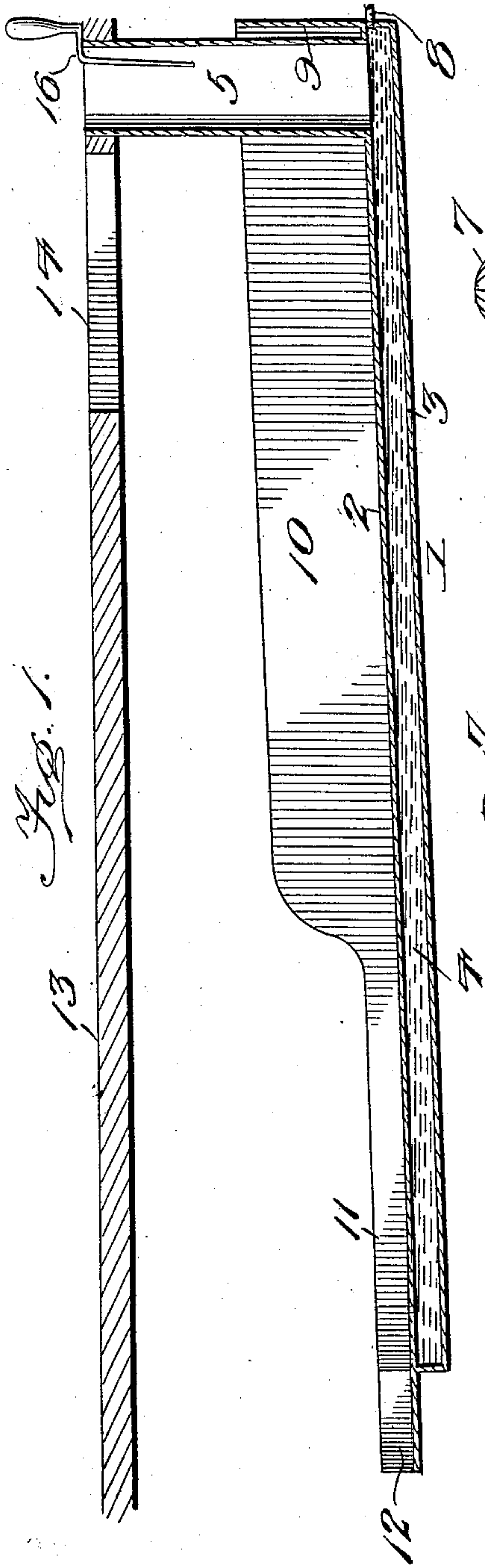


J. Y. PETERSON.  
WAX EXTRACTOR.  
APPLICATION FILED APR. 11, 1908.

914,874.

Patented Mar. 9, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN Y. PETERSON, OF SAN LUIS OBISPO, CALIFORNIA.

## WAX-EXTRACTOR.

No. 914,874.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed April 11, 1908. Serial No. 426,606.

*To all whom it may concern:*

Be it known that I, JOHN Y. PETERSON, a citizen of the United States, residing at San Luis Obispo, in the county of San Luis Obispo and State of California, have invented new and useful Improvements in Wax-Extractors, of which the following is a specification.

This invention relates to improvements in wax extractors by which the wax and cappings of a comb of honey are separated from the honey and the latter thereby simultaneously extracted from the comb and cappings. Ordinarily this operation is accomplished by placing the cappings under a thick plate of glass and upon a piece of sheet iron perforated to allow the melted honey and wax to run through. The disadvantage of this process is that the honey is darkened and its commercial value decreased, frequently to such an extent as to cause a material loss of profit to operators of large bee yards.

The object of the present invention is to provide a device by which the honey may be extracted and separated from the wax and cappings without deterioration in appearance or quality, and, in fact, with an improvement in both appearance and quality, and also whereby the honey and wax may be readily and conveniently withdrawn as separate commercial products from a suitable receiver.

With this and other objects in view, the invention consists in the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a vertical longitudinal section through the main portion of the apparatus, the burner or heater appearing in elevation. Fig. 2 is a top plan view of the outlet end of the trough. Fig. 3 is a side elevation of the receiver arranged in operative position.

Referring to the drawings, the numeral 1 designates a heater in the form of an inclined trough, the bottom 2 of which forms a supporting and heating surface for the untreated honey and a runway by which the honey, wax and cappings melted by contact therewith discharge by gravity therefrom into a suitable receiver, as hereinafter described. Below the bottom 2 is arranged a false bottom 3 suitably connected with the bottom 2 to provide a heating chamber 4, to which water is supplied through a vertical feed tube

or pipe 5 arranged at the upper end of the trough and extending upwardly therefrom. The water in the chamber 4 may be heated to the desired degree by any preferred type of heating device, a gas supply pipe 6 being shown in the present instance arranged below said chamber and provided with one or more burners 7. This heater may be of a type to use either ordinary illuminating gas or a hydrocarbon fuel, but the particular construction of the heater to be employed is unessential. The water in the chamber is preferably heated to the boiling point and during the operation of the device may be maintained at a proper temperature. If the temperature should at any time pass the boiling point and cause the conversion of a portion of the water into steam, the latter may exhaust through the tube 5 and a vent tube or pipe 8 arranged at any suitable point.

The trough is closed at its upper end by a rear wall 9 and its side walls 10 extend to a proper height throughout the greater portion of the length of the trough to enable a comparatively large number of cappings to be retained in a position upon the bottom wall 2 for treatment, said walls or flanges being, however, reduced in height, as shown at 11, at the forward or discharge end of the trough, which is preferably reduced in width at its mouth or outlet end 12, as clearly shown in Fig. 2.

Suitably supported above the trough is a table 13 on which the frames containing the honey to be extracted may be placed. The upper end of the tube 5 passes through the upper end of this table and terminates flush with the upper surface thereof, and in advance of said tube the table is provided with a feed opening 14 through which the comb of honey separated from the frame is dropped upon the upper portion of the bottom of the trough. In the operation of separating the combs from their frames, a so-called honey knife 15 is employed. This knife may be of usual construction, except that it is provided with a shoulder 16 constituting the shank connection between its blade and handle, which shoulder is adapted to rest upon the table and upper edge of the tube 5 so that the blade may depend into said tube, whereby the knife may be kept heated by the vapor passing through said tube so that the combs may be separated from the frames with greater facility.

The combs of honey resting upon the wall



2 are melted by the heat from the chamber 4, and the stream of melted cappings, wax and the honey liberated therefrom flows by gravity down the inclined trough and discharges from the mouth or outlet end 12 into a receiving vessel 17 supported in any suitable manner below the same. Owing to the fact that the honey and wax vary materially in specific gravity, the liquid or extracted honey will separate from the wax and occupy the lower portion of the receptacle up to, say, the transverse dotted line, while the wax will rest upon the body of the honey above such line. A draw-off pipe is provided by which the honey is withdrawn from the vessel. This pipe has a vertical portion 18 communicating at its lower end with the bottom of the vessel and extending to a height slightly less than the space occupied by the honey, and from the upper end of said vertical portion the pipe is bent outwardly and downwardly to form a delivery portion 19 through which the extracted and clarified honey is finally deposited into a suitable tank or receptacle, not shown. This construction of pipe, it will be noted, forms an efficient siphon through which the honey continuously flows while the apparatus is in operation.

It will be seen from the foregoing description, taken in connection with the drawings, that the invention provides an extracting apparatus by which all the waxy matter of the comb may be melted and caused to pass with the liberated honey into the receiver in which separation of the same is conveniently effected, and that the character of the operation is such as to secure separation of the honey without deterioration in its appearance or quality. After the honey is withdrawn from the receiver, the melted wax is permitted to remain therein until it hardens in the form of a block or cake, which may be removed for subsequent sale or use. The advantage of the apparatus is that not only a large amount of honey may be treated within a given time, but, owing to the fact that honey is not darkened but rather clarified, a much better and more salable product is obtained.

Having thus fully described the invention, what is claimed as new is:—

1. An extractor of the character described, comprising an elongated, oblong rectangular inclined trough, open at its lower end, a heating chamber substantially coextensive in length and width with the trough, said chamber being arranged beneath the bottom of the trough, a tube extending

through the upper end of the bottom of the trough and communicating at its lower end with said chamber and extending at its upper end above the top of the trough, and a table arranged horizontally above the trough, said table being provided with a feed opening above the top of the trough and having a perforation adjacent thereto receiving the upper end of the tube.

2. An extractor of the character described, comprising an oblong rectangular trough, said trough comprising bottom and side walls and a rear wall, said bottom being provided with an opening adjacent said rear wall, a heating chamber secured to and arranged beneath the bottom of the trough and substantially coextensive in length and width therewith, said chamber being in communication with said opening, a tube extending into said opening and in communication at its lower end with the chamber and projecting at its upper end above the top of the trough, a vent pipe connected with the chamber, and a table extending longitudinally above the trough, said table being provided with an aperture receiving the upper end of the tube and having a feed opening adjacent thereto disposed above the upper end of the bottom of the trough.

3. An extractor of the character described, comprising an inclined trough, means for heating the same, a receiving vessel disposed to receive the honey and melted wax from the trough, and a draw-off pipe communicating with the lower portion of said vessel.

4. An extractor of the character described, comprising an inclined trough, means for heating the bottom surface of the trough to separate the wax and honey, a receiving vessel disposed to receive the honey and melted wax from the trough, and a discharge pipe communicating with the lower portion of said receiving vessel.

5. An extractor of the character described, comprising an inclined trough, means for heating the bottom surface of the trough to separate the wax and honey, a receiving vessel disposed to receive the honey and melted wax from the trough, and a siphon pipe communicating with the lower portion of said receiving vessel.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN Y. PETERSON.

Witnesses:

C. P. KAETZEL,  
L. F. ANDREWS.