(No Model.)

T. L. HENLY.

APPARATUS FOR STEEPING FLAX.

No. 405,091. Patented June 11, 1889.

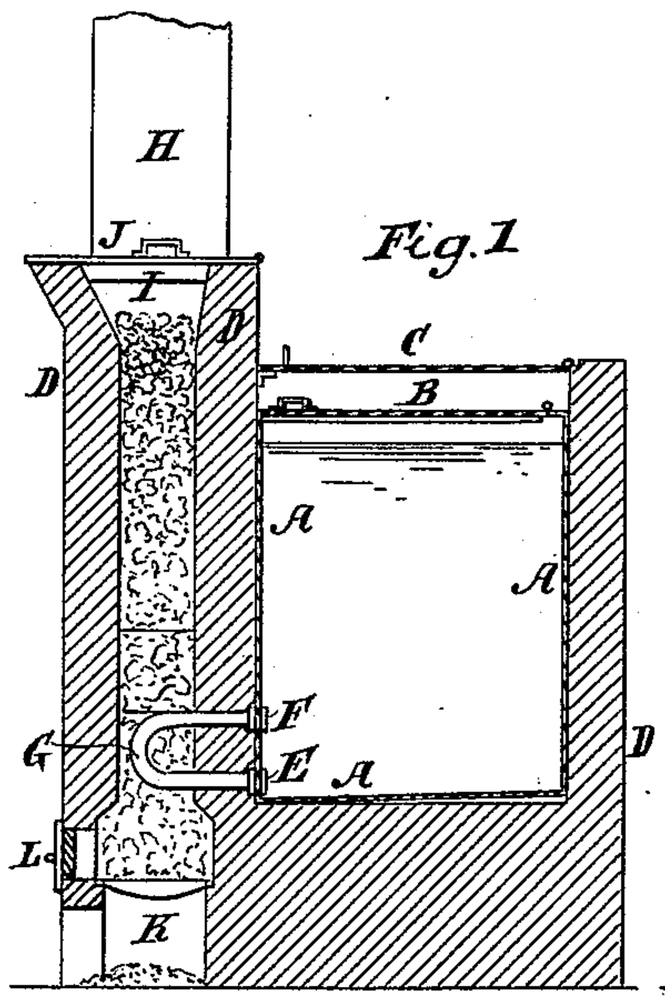

Fig. 1

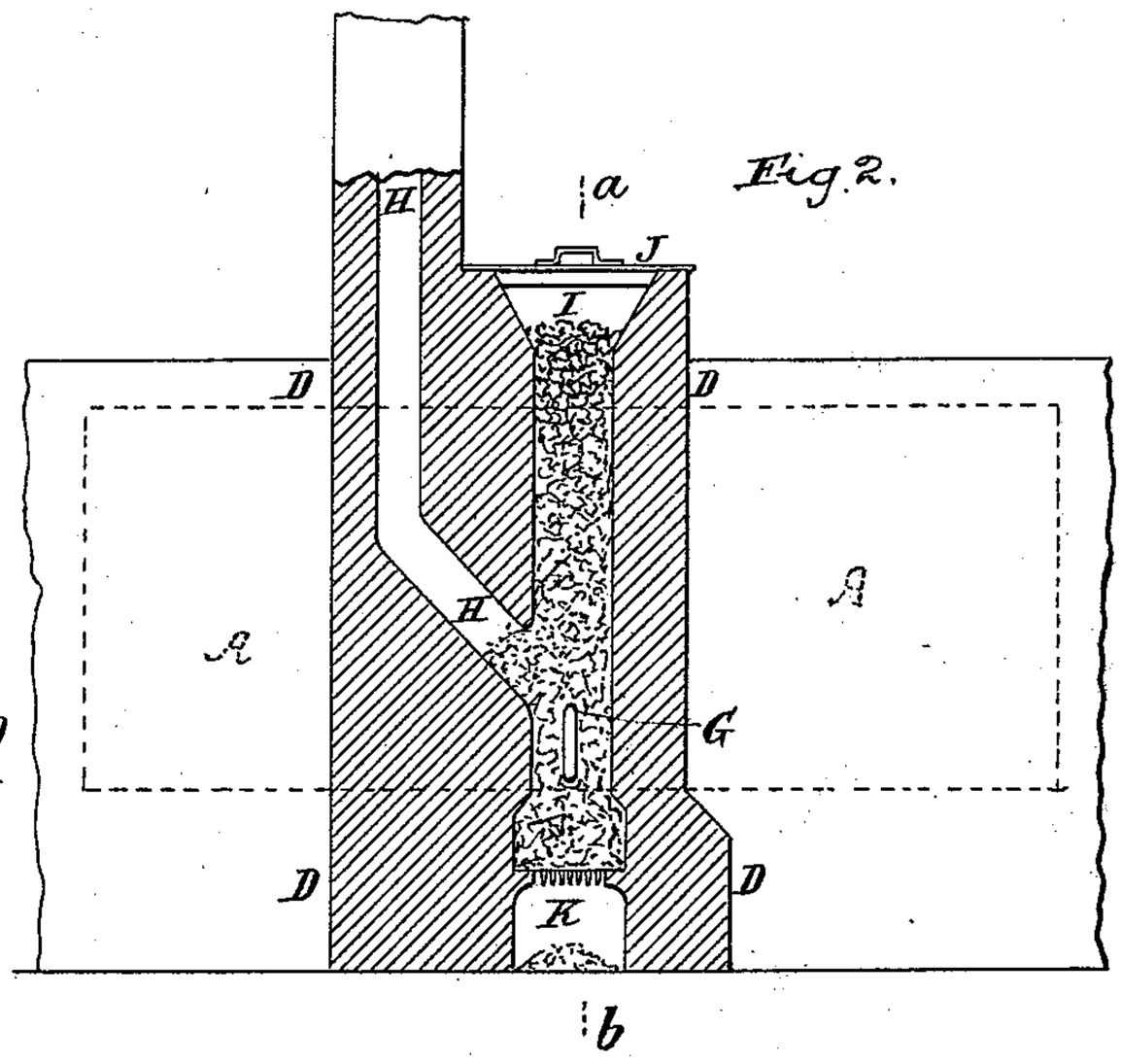

Fig. 2.

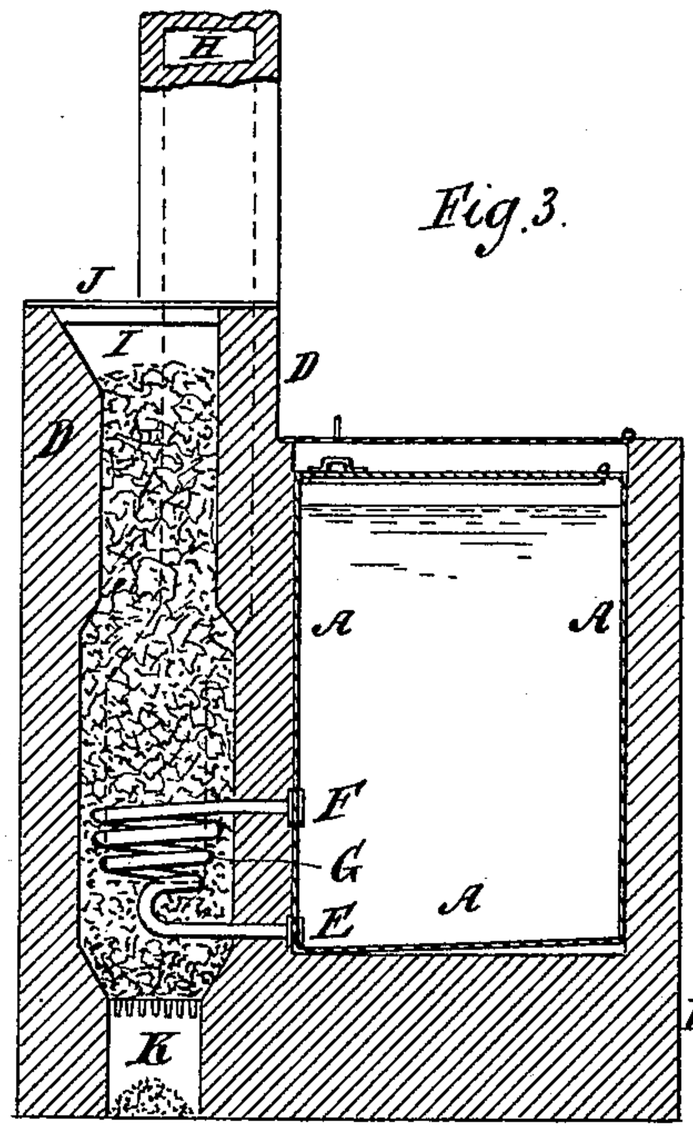

Fig. 3.

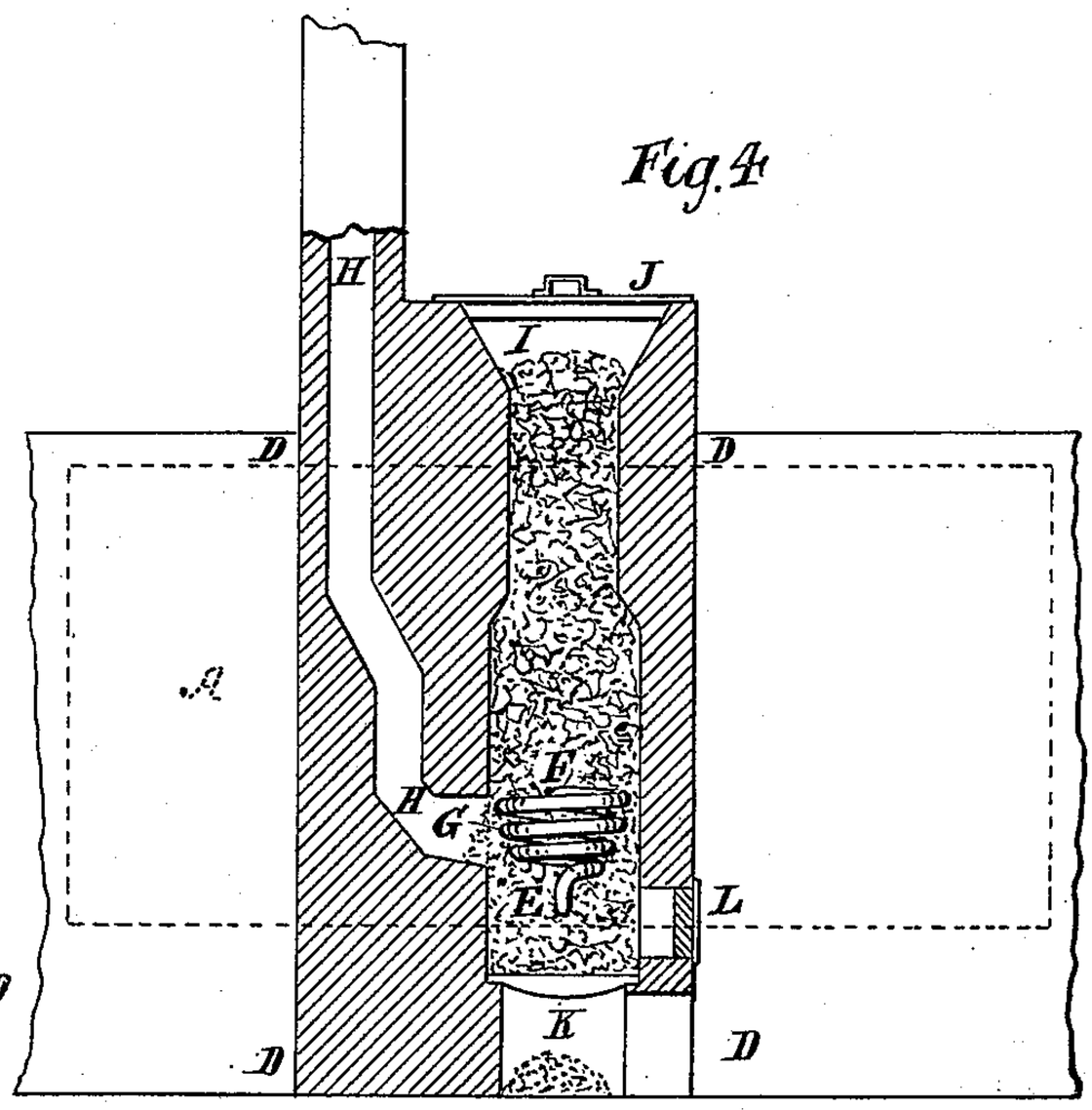

Fig. 4.

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UNITED STATES PATENT OFFICE.

THOMAS L. HENLY, OF LONDON, ENGLAND.

APPARATUS FOR STEEPING FLAX.

SPECIFICATION forming part of Letters Patent No. 405,091, dated June 11, 1889.

Application filed January 17, 1888. Serial No. 261,009. (No model.) Patented in England October 27, 1885, No. 12,923; in Italy May 7, 1886, XX, 19,892; in Belgium May 15, 1886, No. 72,891; in France September 1, 1886, No. 175,746, and in Canada February 1, 1887, No. 25,899.

To all whom it may concern:

Be it known that I, THOMAS L. HENLY of London, England, have invented a certain new and useful Improvement in Apparatus for Steeping Flax, (for which patents have been granted to me in Great Britain October 27, 1885, No. 12,923; in France September 1, 1886, No. 175,746; in Italy May 7, 1886, No. 19,892; in Belgium May 15, 1886, No. 72,891, and in Canada February 1, 1887, No. 25,899,) of which the following is a specification.

The object of this invention is to provide improved means and apparatus for heating and maintaining an equable heat in flax-steeping tanks.

For the purpose of my invention I fit one or more tubes bent, curled, or similarly formed to a tank in which flax is steeped, said tube or tubes being in communication with the liquor in the tank and with a fire or other heat-producing medium, acting upon and in contact with the pipes, in which a constant circulation of the liquor is maintained at an equable heat, the whole of the apparatus being inclosed or protected from atmospheric influence, so as not to interfere with the proper steeping operation of the flax that would in any way interfere with the extraction of the gum and other impurities contained in flax.

The annexed drawings show two examples of my arrangement or invention.

Figure 1 is a transverse sectional elevation through the line *a b* of Fig. 2, which is itself a transverse section through the furnace only, part of the steeping-vat being shown in elevation. Figs. 3 and 4 represent sectional views of apparatus of slightly-modified form, the sections being taken at right angles to each other.

A is the tank provided with a hinged lid B, which when shut is inclosed by another hinged lid C, fitted above and connected to the frame-work D, in which the tank A is set, to prevent the atmosphere from having access to the tank while the steeping operation is in progress, the tank A being previously charged with bundles of flax or equivalent straw. By this arrangement the tank is jacketed. The bottom of the tank is slightly inclined, and one or more portions of the tank A has a pipe E, with a return F leading into the tank, the bend G, Figs. 1 and 2, or the curl, Figs. 3 and 4, being within the fire portion of a slow-combustion stove for maintaining a constant circulation of liquor within the tank, due to the heat imparted to the pipe or pipes. By wholly inclosing the above-mentioned pipe from contact with atmospheric air an even temperature is maintained, which is essential to the proper steeping of the flax. I prefer to use a slow-combustion stove of the form shown in the drawings, the vapor from the fuel being drawn off by the uptake or chimney H just above or about level with the pipe E F G, so that the heat is kept uniform for any length of time, this being essential for a complete and thorough steeping operation to the flax.

It will be seen that the pipe G E F is wholly inclosed and nowhere exposed to atmospheric air.

By constructing the uptake or chimney as above described the draft is confined to a level approximate to that of the pipe, and a slow combustion is assured from the fact that the fire is not drawn entirely through the fuel.

The neck I of the furnace is covered by a cap J, and the consumption below being regulated either by the size of the ash-pit K or by valves fitted to the door L.

Figs. 2 and 4 show the tank in dotted lines of great length as compared to its breadth and depth, (see Figs 1 and 3,) and in general practice one fire and one pipe will be sufficient to maintain an equal temperature in the liquor contained in the said tank, this being essential for the perfect steeping operation of flax.

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

1. The combination, with a jacketed tank for containing flax and liquor for steeping the same, of a stove or like heating apparatus, a pipe opening at both ends into the tank and having a portion arranged in the stove, said pipe being wholly inclosed and nowhere exposed to atmospheric air, substantially as specified.

2. The combination, with a jacketed tank

for containing flax and liquor for steeping the same, of a stove or like heating apparatus, a pipe opening at both ends into the tank and having a portion arranged in the stove, said pipe being wholly inclosed and nowhere exposed to atmospheric air, and said stove or like apparatus being provided with a flue for conveying away the products of combustion, having an opening approximately on a level with the portion of said pipe within the stove or like apparatus, substantially as specified.

THOMAS L. HENLY.

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