(No Model.)

L. C. SNELL.

Attachment for Burning Crude Oil in Stoves.

No. 237,623. **Patented Feb. 8, 1881.**

Fig. 1.

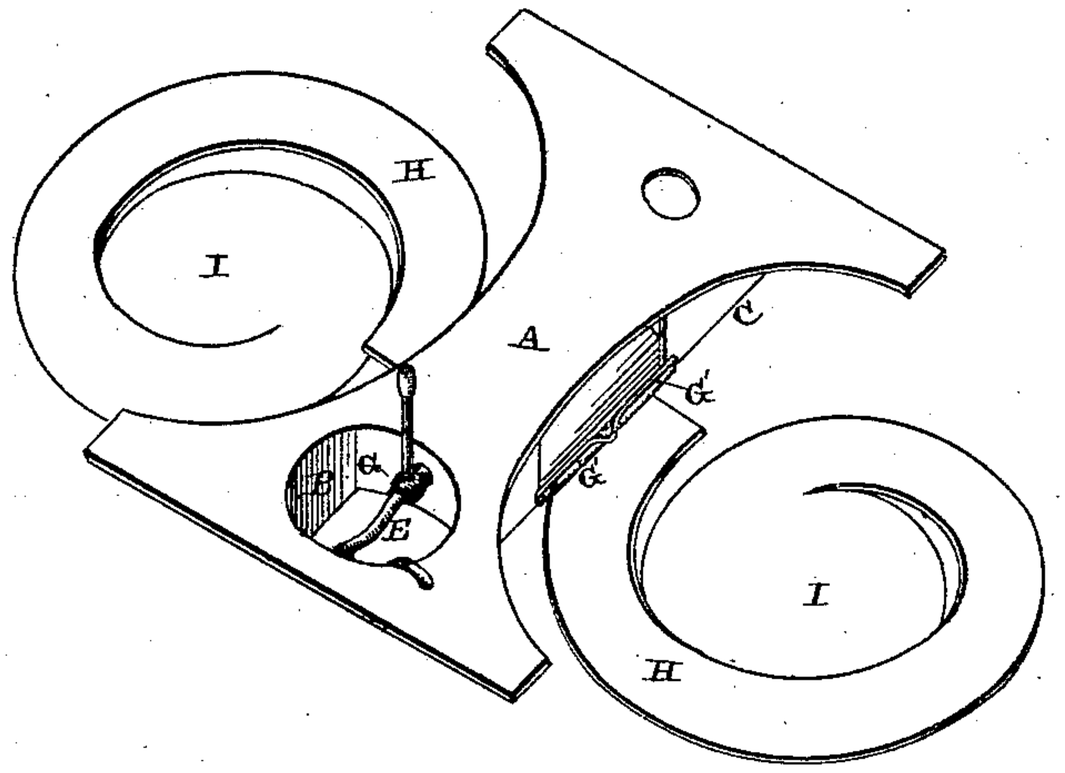


Fig. 2.

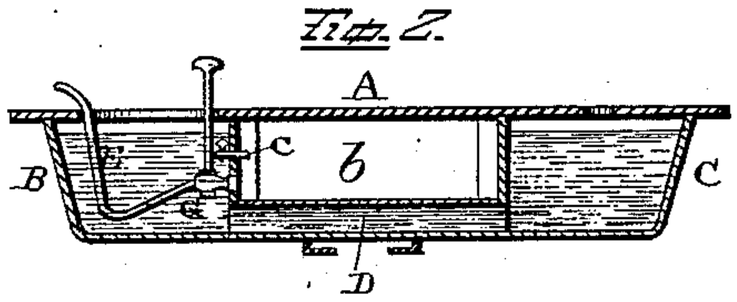


Fig. 3.

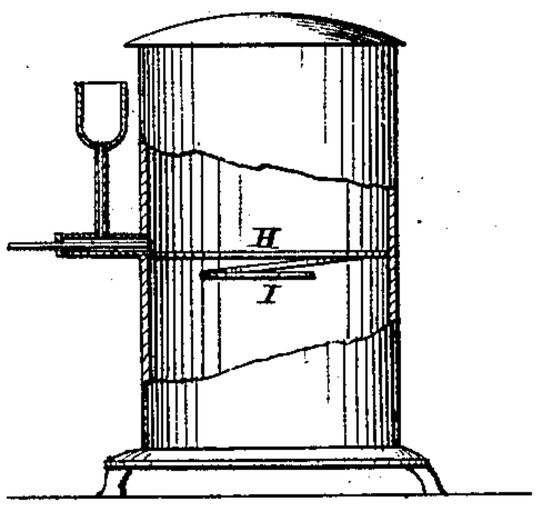


Fig. 5

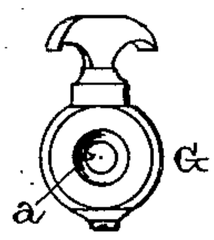
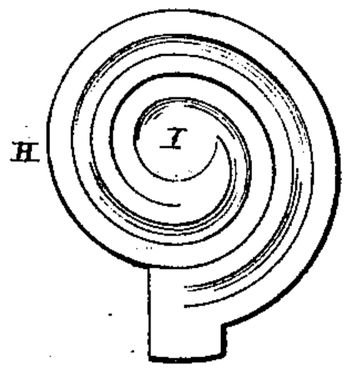


Fig. 4.



Witnesses
Wm. H. Mortimer.
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Inventor.
L. C. Snell,
per
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Atty

UNITED STATES PATENT OFFICE.

LUTHER C. SNELL, OF LUTHERSBURG, PENNSYLVANIA.

ATTACHMENT FOR BURNING CRUDE OIL IN STOVES.

SPECIFICATION forming part of Letters Patent No. 237,623, dated February 8, 1881.

Application filed September 27, 1880. (No model.)

To all whom it may concern:

Be it known that I, LUTHER C. SNELL, of Luthersburg, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Burning Crude Oil in Stoves; and I 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improved attachment which can be applied to stoves for the purpose of burning crude oil for fuel; and it consists, first, in the use of a scroll which is inclined from its top downward, and which terminates in a cup at the bottom, and upon which scroll the oil to be used as fuel is dropped; second, in the arrangement and combination of parts, which will be more fully described hereinafter.

The object of my invention is to provide an attachment for stoves of all kinds so as to enable crude oil to be used in them as fuel, and which attachment can be readily removed whenever it is desired to burn other fuel.

Figure 1 is a perspective of my attachment when used in connection with a cooking-stove. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 shows a slightly-different form of the attachment which is to be used in connection with a heating-stove. Fig. 4 is a separate view of the scroll upon which the oil is fed. Fig. 5 is a detached view of stop-cock G, referred to hereinafter.

A represents the central removable part of the top of a cooking-stove, and which has the two boxes B C secured to its under side in any suitable manner, either by casting, riveting, or bolting the parts together. These two boxes are connected together by the pipe D, so that when water is poured in one box it will rise to an equal height in the other. The boxes are separated from each other above the top of the pipe D, so as to form a chamber, *b*, in which the oil is forced or sprayed, and the openings between these boxes are closed by means of suitable doors, so as to prevent a draft passing through the chamber and thus preventing the oil from being burned in it. The oil is fed to this attachment through the pipe E from any suitable elevated reservoir, and this space is provided with a suitable stop-cock or valve, G, for the purpose of regulating the flow of the oil, according to the degree of heat needed. The end of the stop-cock through which the oil is delivered is cut off short where it passes through the side of the box into the chamber where the oil is burned, and in the plug of the stop-cock is cut a small nick, *a*, through which the oil passes in a very fine stream, so that a very small fire can be kept up, and by which nick the flow of oil is kept under the most complete control. As the oil escapes from the end of this pipe or stop-cock it is forced across the chamber and strikes against the end of the other box, and then drops down upon the top of the pipe D. Along each side of the pipe D is formed a suitable flange, G′, which has a slight notch or depression made in its center, so that the oil which runs down upon each side from the top of the pipe D will be allowed to escape only at this notch or depression. The two boxes are kept filled with water, so as to surround the pipe through which the oil is fed, and keep the stop-cock from being burned or injured by the heat; but the use of this water is not a necessity. As the oil escapes from this notch or depression at the center of the flange it drops off upon the grooved spiral H, which is intended to be supported just under one of the holes in the top of the stove. This spiral H is inclined slightly downward, and has a cup, I, formed at its bottom, so that any oil which may not have been consumed before it reaches this cup will be caught in the cup and held until it is burned.

Where it is desired to use oil in a common heating-stove it will be unnecessary to use the two boxes, above described; but the oil-pipe will have attached to it a spiral which will reach out to or near the sides of the stove. In order to make this attachment as safe as possible, the end of the oil-pipe which is next to the spiral will be inclosed in a larger pipe or shell, and this larger pipe connected, by means of a suitable vertical pipe, with an elevated reservoir of water, and thus keep the end of the oil-pipe constantly cool and free from danger.

By using a spiral scroll, as here shown, the oil is spread over a larger surface, and thus a much greater flame is made, and a corresponding degree of heat gained. By thus spreading the flame it will strike against all parts of the bottom of the vessel above it, when used in a cooking-stove, and thus heat them evenly, instead of having the heat applied to one spot only. Where the spiral reaches out to the sides of the heating-stove the heat is thrown just where it is wanted, and a much greater amount of heat is obtained than where the fire is made in the center of the stove. As the stop-cock is kept immersed in water it will be provided with a handle or wheel, so that the flow of oil can be regulated to any desired extent.

Through the end of the water-chamber in which the stop-cock is placed is also placed another small cock, *c*, so that a small quantity of water can be discharged in the central chamber and run down upon the scrolls. This water, mixing with the oil, is converted into steam by the heat, and this steam, mixing with the vapor of the burning oil, causes a most intense heat.

Having thus described my invention, I claim—

1. In combination with a stove, a spiral scroll to receive the oil as it is dropped into the stove, substantially as shown.

2. In combination with a stove, a spiral scroll upon which the oil is dropped and which has its lower end to terminate in a cup to catch the oil which is not consumed upon the scroll itself, substantially as described.

3. In combination with the removable section of a stove-cover, the two boxes B C, a pipe provided with a stop-cock for regulating the flow of the oil, and a spiral scroll upon which the oil is burned, substantially as set forth.

4. The combination of a removable section of a stove-cover with the two boxes B C, an intervening chamber into which the oil is fed from the oil-pipe, suitable perforated or notched flanges along the edges of the chamber, and a spiral scroll upon which the oil is dropped, substantially as shown.

5. The combination of the water-chamber, a stop-cock for the oil, and a stop-cock for the water, with the scroll upon which the oil is burned, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of September, 1880.

LUTHER C. SNELL.

Witnesses:
JAMES IRVIN,
LAFAYETTE SMILEY.