(No Model.)

U. A. WOODBURY.

Apparatus for Sealing Cans.

No. 241,265. **Patented May 10, 1881.**

Fig. 1.

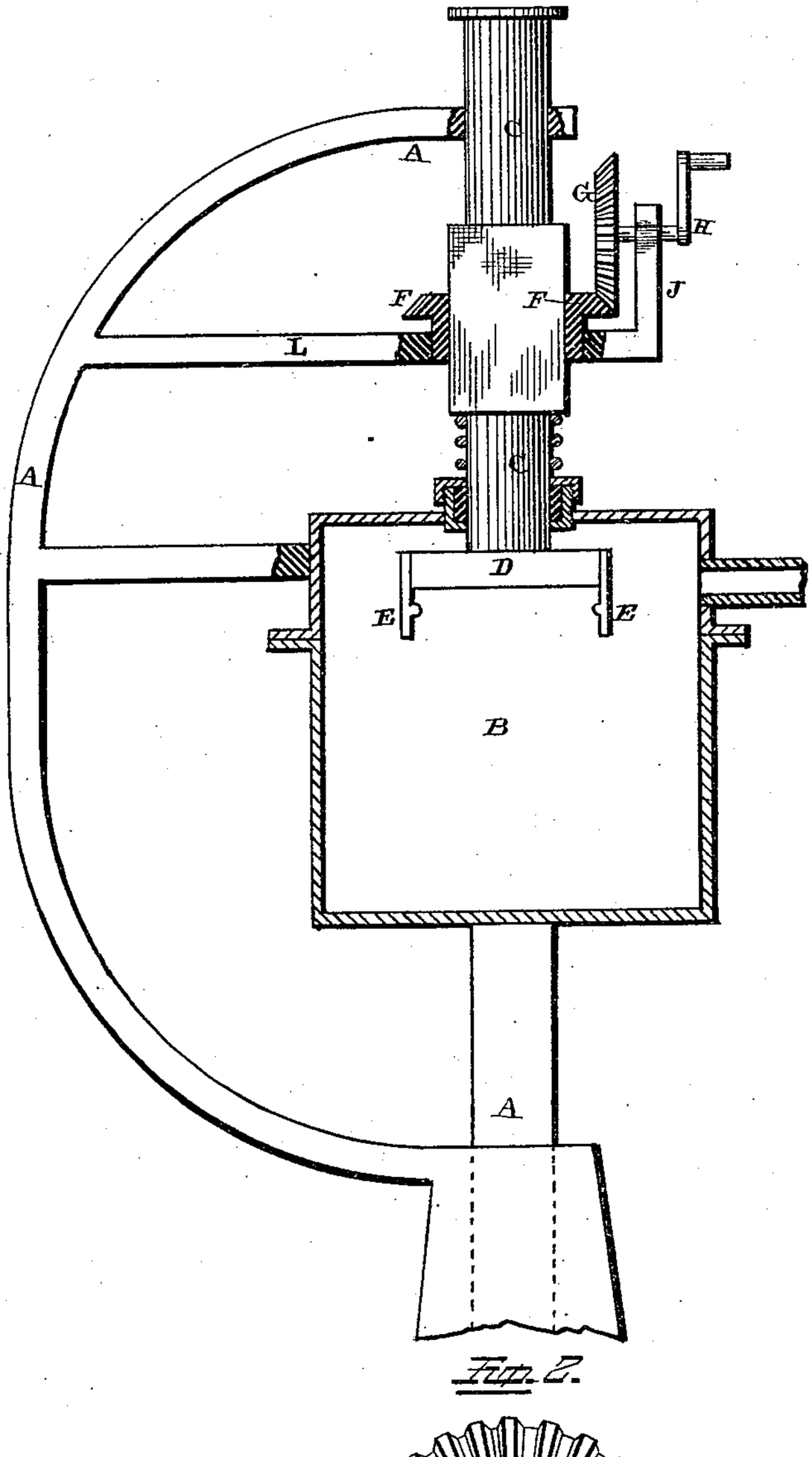
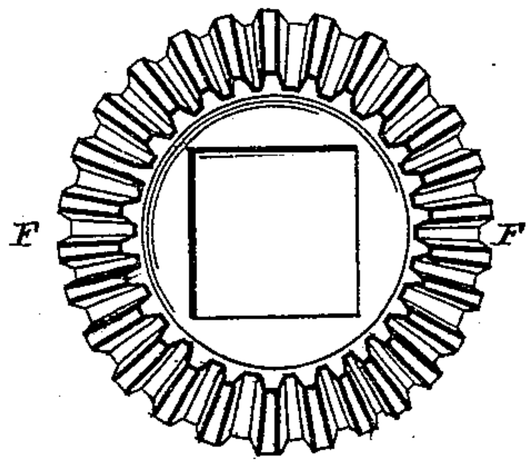


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

URBAN A. WOODBURY, OF BURLINGTON, VERMONT.

APPARATUS FOR SEALING CANS.

SPECIFICATION forming part of Letters Patent No. 241,265, dated May 10, 1881.

Application filed March 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, URBAN A. WOODBURY, of Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Apparatus for Sealing Cans; 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 improvement in apparatus for sealing cans; and it consists in the combination of an exhausting-cone, a revolving shaft having an endwise movement and provided with means for holding the cover that is to be screwed upon the jar or can, a spring for throwing the shaft upward, and a mechanism for revolving the shaft, as will be more fully described hereinafter.

The object of my invention is to screw the covers of cans and jars upon them while the jars and cans are held in a vacuum, and thus seal them in such a manner that there is no possibility of air getting into their contents while the sealing is being done.

Figure 1 is a vertical section of an apparatus embodying my invention. Fig. 2 is a plan view of the wheel through which the square shaft passes.

A represents the frame-work, of any suitable shape, size, or construction; B the cone, which is here shown as made in two parts, and in which the can or jar to be sealed is placed. The upper portion of this cone is made stationary, and is secured to one of the arms of the frame, while the lower part is connected to a foot-treadle and is made vertically movable. The can or jar which is to be placed in the cone for the purpose of being sealed is adjusted so that its upper end will always come in a certain position and up to a certain height, and when the two parts of the cone are brought together by bearing down upon the treadle an air-tight joint is formed between the two parts. The air is exhausted from the cone by means of any suitable mechanism that may be preferred, and in exhausting the air from the cone of course the air is exhausted from the jar or vessel at the same time.

In the top of the cone is made a suitable air-tight packing, so that the shaft C can move vertically through the top of the cone without admitting any air thereto. On the lower end of this shaft is secured a suitable head, D, of any desired shape, size, or construction, and which has suitable spring-catches E fastened to opposite sides. These spring-catches have projections formed on their inner sides, so as to catch in notches or grooves made in the outer sides of the covers, which are to be screwed upon the tops of the jars or cans, and which spring-catches will hold the covers in such a manner that a considerable turning pressure can be applied to them, and yet will readily release the cover when the shaft is moved upward.

The central portion of the shaft C is made square or angular, as shown, and between the lower end of the square or angular portion of the shaft and the packing-box is placed a spiral spring for the purpose of keeping the shaft pressed constantly upward. The angular portion of the shaft passes through a correspondingly-shaped opening, which is made in the beveled-gear wheel F, which is supported upon one of the arms of the frame, and which turns freely thereon. This gear-wheel is held down in position and made to revolve by means of a similar gear, G, which is provided with a handle, H, the shaft of the gear being journaled in an upright, J, which is formed upon the outer end of the arm L, upon which the horizontal gear-wheel is placed. When the horizontal gear-wheel is made to revolve of course the shaft is made to revolve with it. The upper end of the shaft will be made to extend any suitable distance above its rotating mechanism, and to this upper end, or to any other suitable portion, may be applied a lever for the purpose of depressing the shaft, or the shaft may be depressed entirely by hand.

As here shown, the frame A is provided with three arms, one of which supports the upper part of the cone. The central one supports the rotating mechanism, and the upper one acts as a guide for the upper end of the shaft. I do not, however, limit myself to this precise construction, as any form of frame may be made which may be preferred.

The operation of my invention is as follows:

The screw-cover of the can or jar is inserted between the spring-catches, the can or jar which is to be sealed is placed in the lower part of the cone, and then the two parts of the cone are pressed tightly together and the air exhausted therefrom. Pressure is applied to the upper end of the shaft so as to depress the cover of the can or jar upon its mouth, and then the shaft is made to revolve by means of the rotating mechanism, so as to screw the cover into position. As soon as the shaft is brought to a stop, so that the cover cannot be screwed any tighter in position, the pressure is removed from the upper end of the shaft, and then the spiral spring around its lower end raises the shaft upward and the spring-catches are raised up above the cover. Air is then admitted into the cone and the can or jar is removed and another one put in its place. Of course, any suitable packing will be placed upon the top of the jar or can, so that when the cover is screwed tightly down in position an air-tight joint will be formed, so that the air cannot leak through.

Should the cover which is to be screwed on be recessed in its top the spring-catches will be reversed so as to catch inside of the cover, and thus operate it in the same manner.

Having thus described my invention, I claim—

1. In a sealing apparatus for cans, the combination of the frame A, the wheel F, having a square opening through it, with a driving-wheel, G, and a shaft, C, having an angular portion to fit in the opening through the wheel, substantially as and for the purpose shown and described.

2. The combination of the supporting-frame A, an exhausting-cone provided with an air-tight packing in its top, a shaft capable of lengthwise reciprocation and provided with means for holding the cover, a spring for forcing the shaft upward and a mechanism for revolving the shaft while being moved lengthwise, substantially as set forth.

3. In a sealing apparatus for cans, a shaft having its lower end inserted through the top of an exhausting-cone, and provided with means for holding a cover which is to be screwed upon a can or jar, in combination with a mechanism for revolving the shaft, the shaft having a free vertical play through the mechanism, whereby the act of screwing on the cover draws the shaft downward, substantially as described.

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

URBAN A. WOODBURY.

Witnesses:
L. C. GRANT.
C. H. SPENCER.