

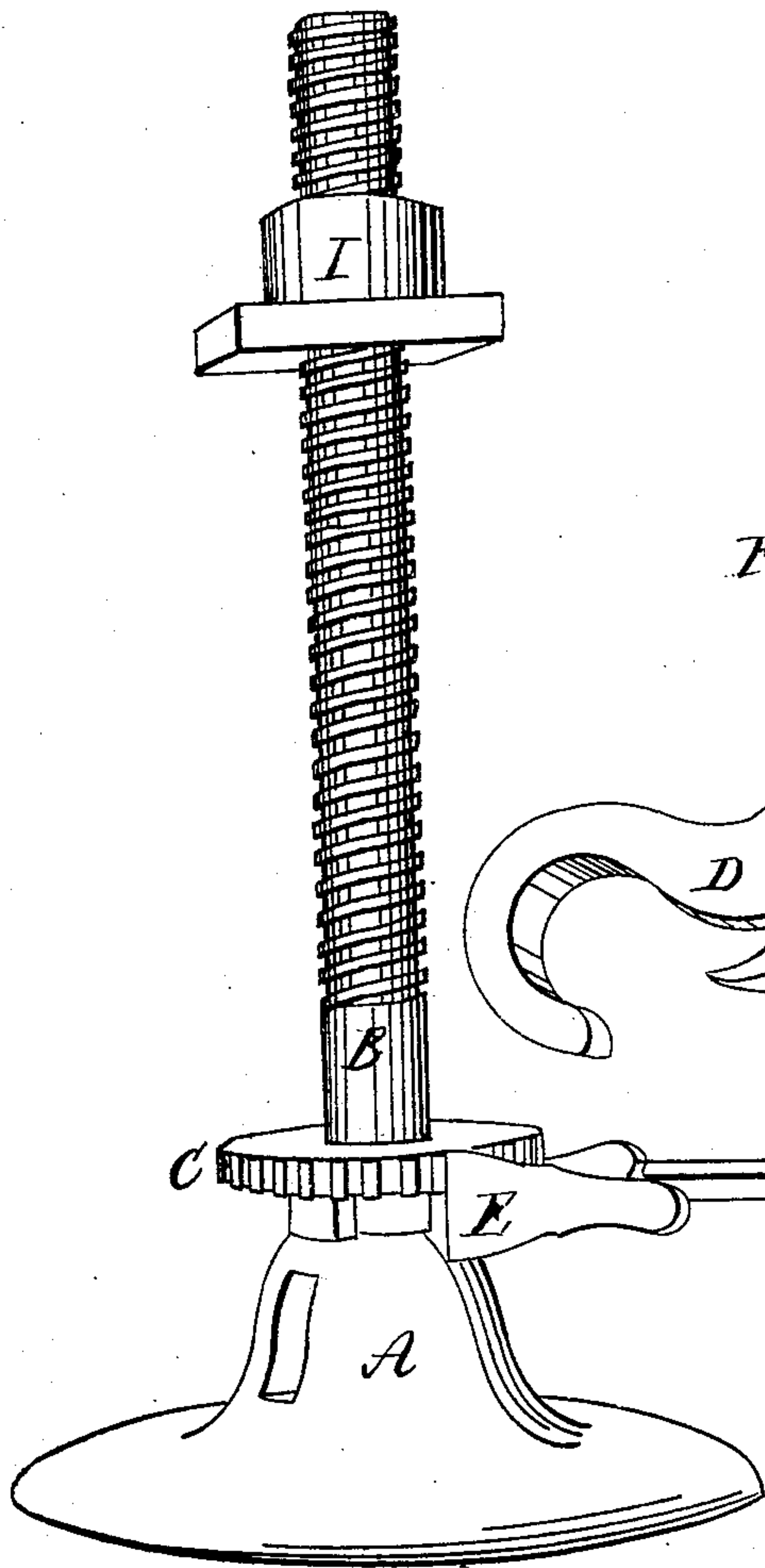
*H. W. Millar.*

*Cheese Press Screw.*

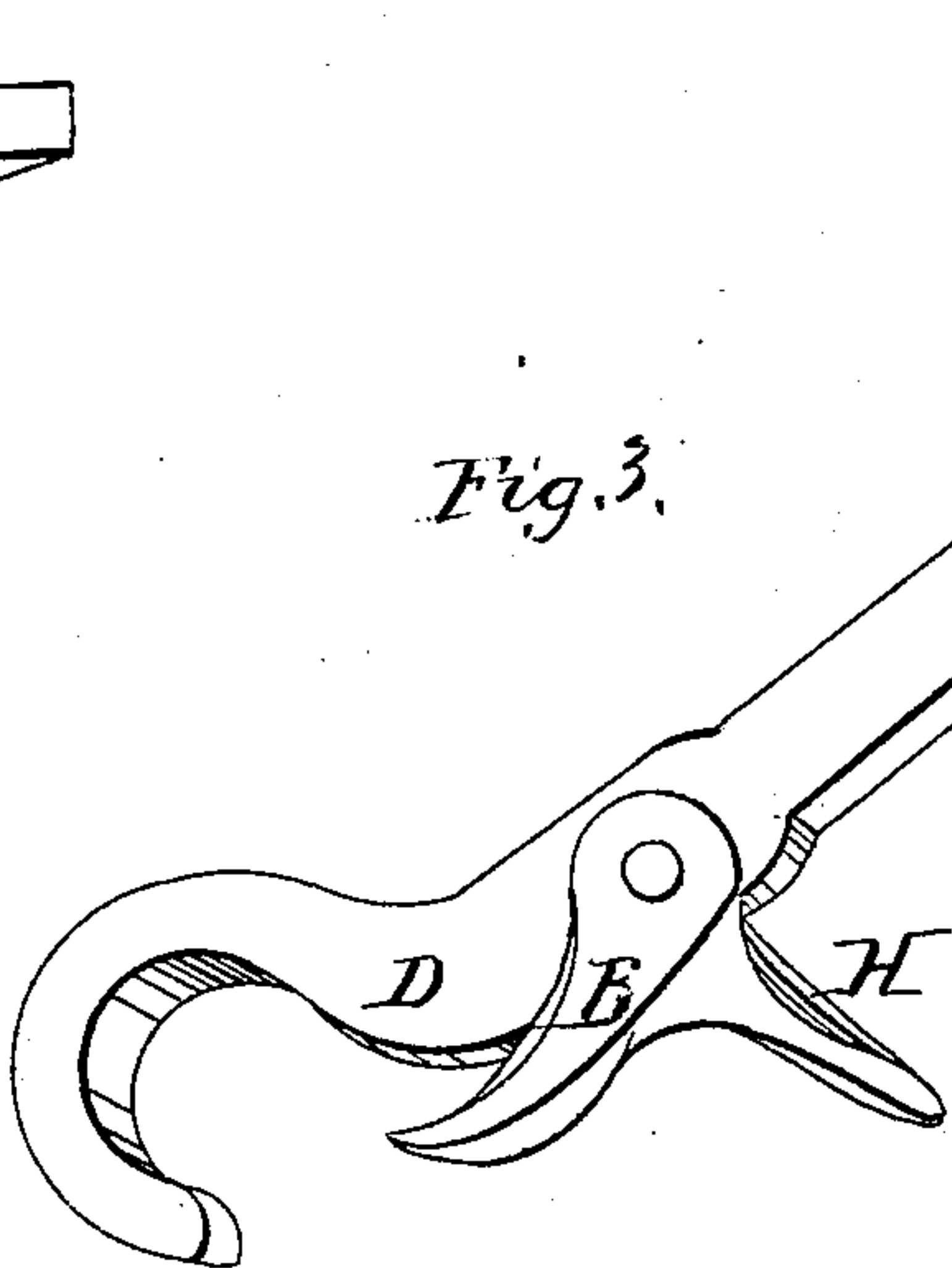
*N<sup>o</sup> 103,763.*

*Patented May 31, 1870.*

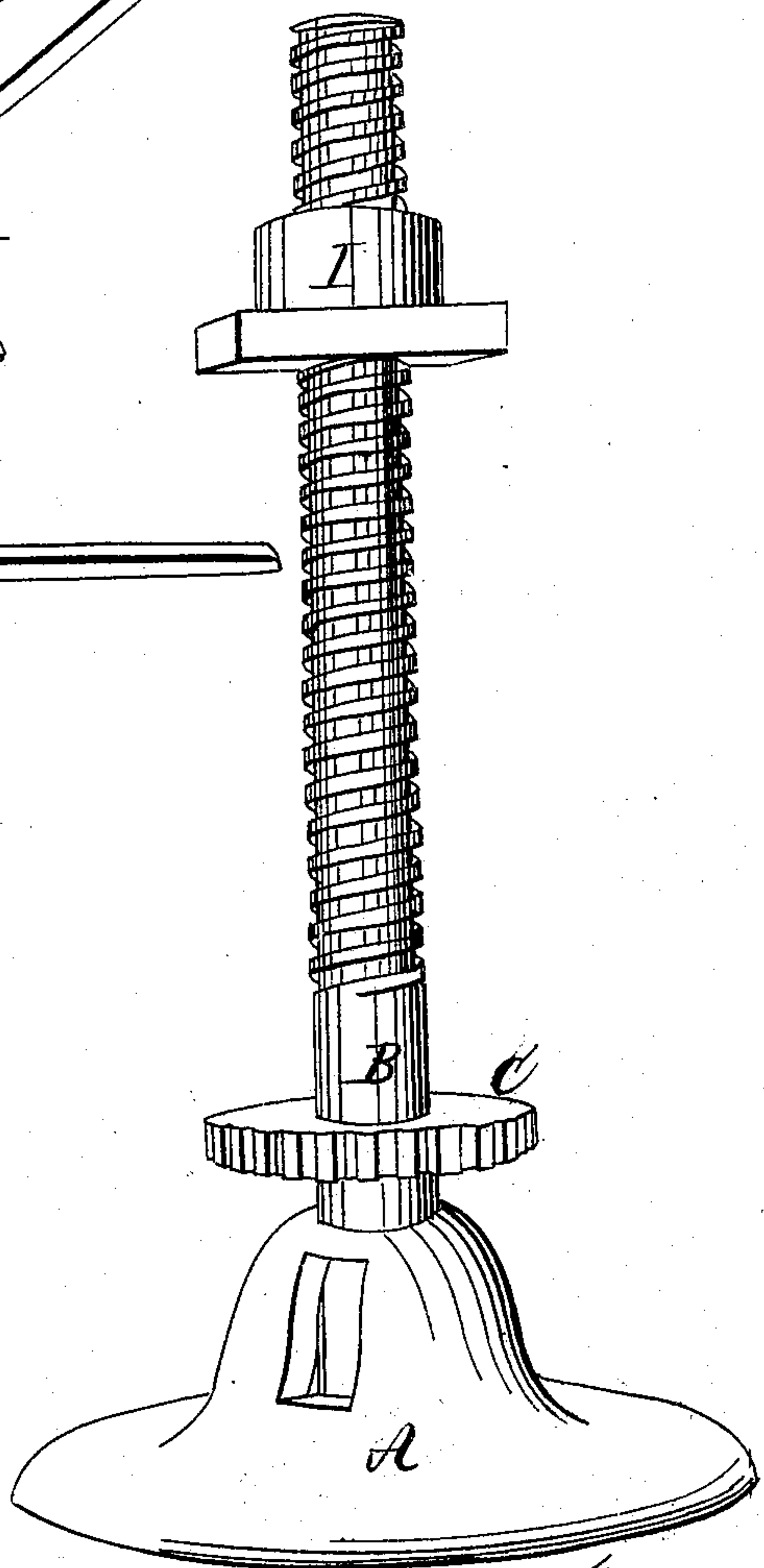
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



*Witnesses,  
J. G. Coy  
Chas. Mum*

*Inventor,  
Henry W. Millar.*



# United States Patent Office.

HENRY W. MILLAR, OF UTICA, NEW YORK.

Letters Patent No. 103,763, dated May 31, 1870.

## IMPROVED RATCHET-LEVER.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, HENRY W. MILLAR, of the city of Utica, county of Oneida, State of New York, have invented a new and improved Cheese-Press Screw; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

My invention relates to presses for use in cheese-factories, and for similar purposes, and

The invention consists in a detachable lever and pawl, of novel construction, whereby the same lever may be used on any number of screws, and may also be reversed and used to turn the screw either up or down, as hereinafter more fully explained.

Figure 1 is a perspective view of a screw, with my improved lever applied thereto, ready for operation.

Figure 2 is a similar view of the screw, with the lever detached.

Figure 3 is a view of the lever detached.

In cheese-factories it is necessary to have a large number of presses, for pressing the cheeses, a separate press being used for each separate cheese being made at the same time.

These presses usually consist of a strong iron screw, B, as shown in the drawings, with a nut, I, secured to a beam above, and having their lower ends fitted loosely in a hub or plate, A, at the bottom, a series of these presses or screws being arranged in a row along one or more sides of the room.

Heretofore, these screws have usually been made with an enlargement or swell near their lower end, this enlargement having two holes made through it at right angles, to receive the end of an iron rod or hand-lever, by which they were operated.

This method is not only slow and tedious, especially when large numbers are to be operated, but it is difficult to preserve the requisite cleanliness, as filth is sure to accumulate more or less in these holes, and still more so when a lever is used which is attached permanently to the screw, as is sometimes done.

To obviate these objections, and provide a lever that can be readily attached to and detached from the screw, and that can be so applied as to turn the screw rapidly in either direction, is the object of my present invention.

To accomplish this object, I provide the screw B with a serrated or notched disk, C, which is keyed or shrunk fast on the smooth or uncut body of the screw, near its lower end, a little above the top of the plate or follower A, as shown in fig. 2.

I then take a bar of iron, and bend its end into the form of a hook, of proper size to embrace the smooth portion of the screw rod, as shown in fig. 3.

To this lever I then pivot a pawl, E, in such a position that, when the lever is applied to the screw, as represented in fig. 1, the end of the pawl E will rest in the notches of the disk C, as there represented.

A spring, H, is placed behind the pawl on the lever, so as to press it forward, and hold its front end in contact with the disk.

The front end of this pawl E, where it comes in contact with the disk C, is about three times as wide as the lever D is thick, so that, when the hooked end of the lever is applied to the body of the screw, the end of the pawl shall reach up far enough sideways to engage with the teeth or notches of the disk, as represented in fig. 1.

When thus applied, it will be seen that, as the outer end of the lever is drawn forward, the pawl E, engaging with the teeth of the disk C, will turn it, and thereby the screw D, but that, when the lever is thrown back, the pawl slips over the teeth, thus leaving the screw stationary, ready for another forward motion, as the lever is again brought forward, and thus by a simple back-and-forward motion of the lever, without detaching it, the screw is operated.

When it is desired to turn the screw in the opposite direction, the lever is unhooked, turned over, and hooked on again, the wide end of the pawl engaging now on its opposite side with the teeth of the disk, as before, only pointing in the opposite direction. Now, by working the lever back and forth, the screw is turned as before, but in the opposite direction.

When one screw has been operated to the required extent, the lever is detached and applied to the next, and so on through the entire series.

It is obvious that the hook may be applied either below or above the disk C, the wide end of the pawl E engaging with the teeth of the disk the same in either case.

It is further obvious that the pawl may be made with its end no wider than the disk is thick, by having it slightly bent to one side, so as to bring it in line with the teeth of the disk; but, in such case, it would be necessary to apply the hook above the disk, to turn the screw in one direction, and below the disk, to turn the screw in the opposite direction.

I prefer to make it with the wide end, as before described, as it is immaterial, in such case, whether it be applied above or below the disk, it operating equally well in either position.

It will be seen that there are no holes, nor loose collars, or similar parts about the screw, in or about which filth or dirt of any kind is liable to accumulate, the screws being all accessible, and easily cleaned.

By this improvement, the screws can also be op-

erated much faster than by the old-style lever, and, at the same time, a single lever will answer for any number of screws.

I am aware that levers have been permanently attached to screws, with a pawl or pawls arranged to engage with a ratchet-wheel, to turn the screw in either direction, and also that detachable levers of various kinds have been used, and, therefore, I do not claim them; but,

Having thus described my invention,

What I claim is—

The detachable lever, consisting of the handle A, hooked end D, and spring pawl E, in combination with the ratchet C and its supporting-shaft B, when constructed and arranged to operate substantially as herein described.

Dated Utica, February 7, 1868.

HENRY W. MILLAR.

Witnesses:

I. G. COYE,

JOHN MUNN.