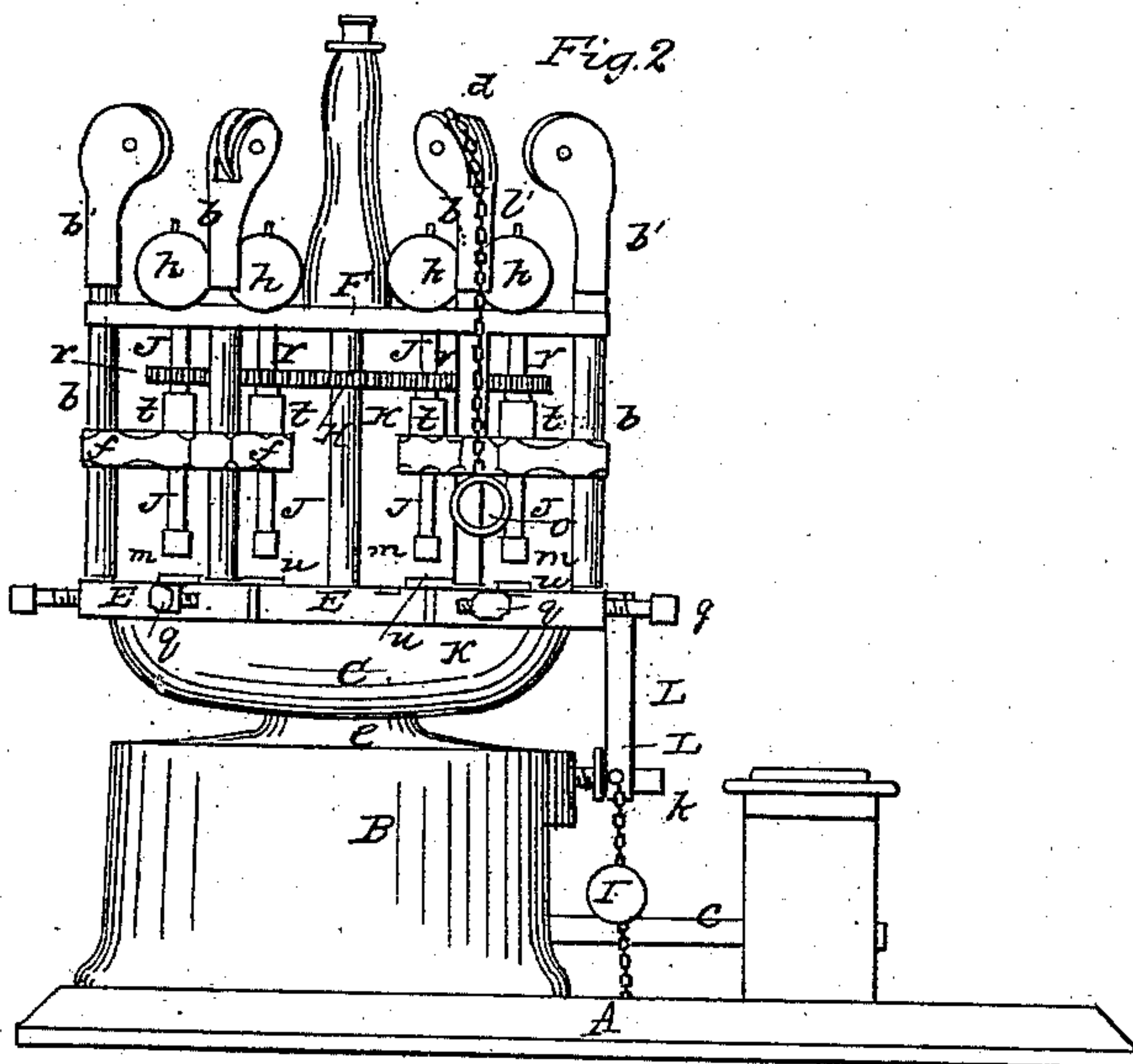


Machine for Tapping Nuts.

Patented July 3, 1866.



INVENTOR
David Reese

UNITED STATES PATENT OFFICE.

DAVID REESE, OF NEWBURG, OHIO.

IMPROVEMENT IN MACHINERY FOR TAPPING NUTS.

Specification forming part of Letters Patent No. 56,095, dated July 3, 1866.

To all whom it may concern:

Be it known that I, DAVID REESE, of Newburg, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in a Machine for Tapping Nuts; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a side view. Fig. 3 is an end view.

Like letters of reference refer to like parts in the several views.

My improvement relates to a machine for tapping nuts, as hereinafter described.

A is the platform of the machine, on which a pedestal, B, is secured. On the top of the pedestal, at *e*, rests a circular trough or dish, C. Through the center of the pedestal and trough extends up a shaft, D, on the lower end of which, in the pedestal, (the pedestal being hollow,) is a beveled gear-wheel, D', (seen in Fig. 3,) that works in a gear, *e'*, on a horizontal shaft, *c*, which is connected to the driving power that operates the machine.

E and F represent radiating arms, secured on the shaft a certain distance apart, as shown in Figs. 2 and 3. The arms radiate from a common center, as seen at F' in Fig. 1, that is placed on the shaft. In the outer ends of these arms are standards *b*, secured in the lower arms, and extend up through the upper ones, on the top of which are heads *b'*. In these heads are arranged pulleys or sheaves *d*, that chains, as shown at *d'*, pass over, and are attached to weights *h* by a swivel-joint, as seen at *g* in Fig. 3.

The weights *h* are on the top of mandrels J, that extend through the upper arms down through the braces or guides *f*, extending inward from the standards, and on the lower ends are mandrel-heads *m*, hollowed or cut out, so that the upper end of the tap can be inserted in them.

On each of the mandrels or mandrel-shafts J there is a pinion, *r*, that works in the gear-wheel H, whereby the mandrels are turned by the revolution of the shaft D. The pinions rest on boxes *t* on the shafts, supported on the braces *f*.

There is a feather-key on the shafts that fits into a seat in the pinions, that allows the shafts to be raised and lowered through the pinions without moving them.

In each of the lower arms, underneath the mandrels, there is a space cut out to receive the nuts. (Seen at *u*.)

On one side of the pedestal is arranged a stop, L, secured to a cross-piece, L', (seen in Fig. 3,) which is hung in the middle on a pin or a bolt, *k*, projecting from the pedestal, as shown in Fig. 2.

To one end of the cross-piece is attached a chain, *p*, that is fastened to the platform, and to the other end is suspended a weight, I.

From the end of each of the lower arms extend out pins or bolts *q*, that come against the stop, whereby the revolving frame K, consisting of the radiating arms and their connections, turned by the revolution of the shaft D, is stopped in the process of tapping nuts.

The practical operation of this machine as constructed is as follows: The nuts to be tapped are put in the lower arms and the frame allowed to turn until it is held stationary by the bolt in one of the arms coming against the stop L, while at the same time the shaft D continues its revolution independent of the frame K, giving motion to the wheel H, which, in the meantime, communicates motion to the pinions and mandrels, the ball I being of such a weight as to arrest the movement of the frame. The mandrel in this arm is then raised, by means of the chain *d'*, for the purpose of inserting the tap in the head *m* and the point of the tap in the hole of the nut, which, when done, the chain is released, when the mandrel revolves, turning the tap in the nut so as to cut the screw, the mandrel acting as a wrench in forcing it through the nut, and while the screw is being cut the mandrel guides the tap until the thread is completed, when the tap falls down into the dish C below. One arm thus adjusted for tapping, a nut is moved on past the stop until the next arm comes against the stop, when another tap is inserted in the same manner, and is moved on past the stop, and so on of all the arms.

The taps all pass through the nuts before the frame completes one revolution, and fall down into the dish, where they are immersed

in oil, and from which they are taken every time as they are inserted in the mandrels and nuts.

The spur-wheel H and shaft D have a motion independent of the frame K, as the friction of the wheel H and shaft D, together with that of the gearing and tapping, will carry the frame around when not resisted by the stop L, and while a nut and tap are being inserted in place the frame K will be stationary, and at this time the wheel H will be operating the pinions *r* and the mandrels J, forcing the taps through the nuts.

The frame can be constructed with any desired number of radiating arms, more or less than are represented in the drawings.

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

1. The standards *b*, sheaves *d*, and weights *h*, in combination with the mandrels J, pinion *r*, gear H, and braces *f*, arranged and operating in the manner and for the purpose set forth.

2. The arrangement of the trough C, revolving arms E F, and shaft D, in combination with the gearings D' and *e'*, and weighted stop L, operating in the manner and for the purpose set forth.

3. The stop L, in combination with the revolving frame K, as and for the purpose set forth.

DAVID REESE.

Witnesses:

W. H. BURRIDGE,
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