

J. W. Lyon.

Milling Machine.

N^o 27,228.

Patented Feb. 21, 1860.

Fig. 2.

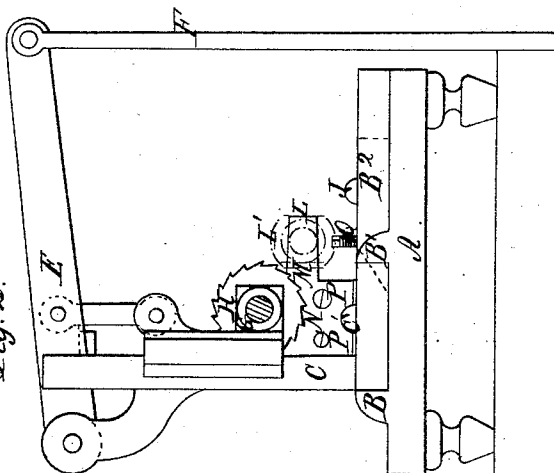


Fig. 3.

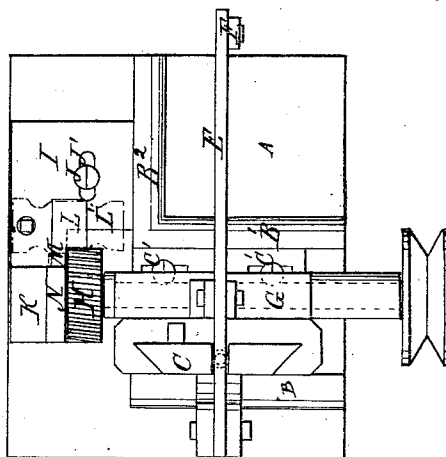


Fig. 1.

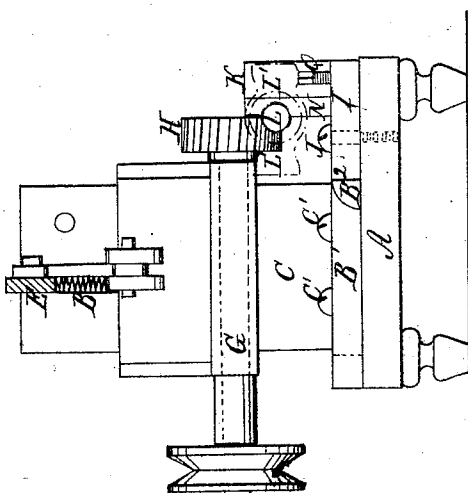


Fig. 4.

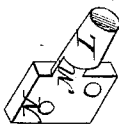


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES W. LYON, OF BROOKLYN, NEW YORK.

MACHINE FOR FORMING GUARDS ON GAS-COCKS.

Specification of Letters Patent No. 27,228; dated February 21, 1860.

To all whom it may concern:

Be it known that I, JAMES W. LYON, of the city of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Machine for the Purpose of Forming a Guard on Stop-Cocks for Gas-Fixtures; and I do hereby declare that the following is a full and accurate description thereof, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference thereon.

Figure No. 1 of the drawings represents a front elevation of the machine; Fig. No. 2, a side elevation with the grooved pulley left off; Fig. No. 3, a plan view; Fig. No. 4, detached view of taper mandrel; Fig. No. 5, view of barrel with guard formed on it.

In modern gas cocks a guard is formed on the barrel as represented in Fig. 5, letter *a* by cutting down a part of the larger end of the conical cylinder which receives the taper key to the extent longitudinally of about a sixteenth of an inch and transversely of as much more than half the circumference as the diameter of a small pin driven into the side of the taper key and projecting therefrom, so that whichever way the key is turned to extinguish the light, by closing the gas way, the pin when the gas way is completely closed, takes against one of the shoulders of the guard, or portion of the end of the conical cylinder not removed, and arrests the further turning of the key; thus rendering it impossible when shutting off the gas from a burner, to turn the key far enough to reopen the gas way and subject the sleeping occupants of the room to danger from escaping gas. Heretofore this guard has been formed with a file, by hand labor.

My invention consists chiefly in the peculiar arrangement of the stationary taper mandrel, L, with relation to the position of the cutter when in action, so that the barrels can be rapidly and successively placed on the mandrel, and removed by the operator, without removing the mandrel and at the same time the portion necessary to be removed is properly presented to the action of the cutter. Also in the arrangement of an adjustable gage Q to determine the position of the guard with reference to the gas way, and finally in the mode of adjusting the mandrel and cutter with relation to each

other, so as to accommodate different sized fittings.

But more particularly to describe my invention I will refer to the drawings.

Letter A represents the bed plate or frame of the machine with guides, B, B', B², projecting from the upper side which otherwise is a plane surface.

Letter C represents a slide rest, placed in a vertical position, with a foot or base (fitted to the guides B, B',) by which it is secured to the bed with screw bolts C', C', the slots through which said bolts pass giving capacity for adjustment. The sliding bed when not in action is held up by the spring D acting upon the lever E. The connection F, shown broken off, may be attached to a foot treadle for convenience of the operator. A long bearing G is cast on the sliding bed in which a mandrel runs indicated by dotted lines. On one end of this mandrel is a grooved pulley, and on the other end the cutter H.

Letter I is an adjustable bed, or rest, one side of which is fitted to the guide B². This bed or rest is secured firmly to the bed plate, after being properly adjusted, by the screw bolt J, the slot J' giving room for adjustment.

K is a lug cast on the bed I and projecting upward from it; the inner face of this lug is parallel with the outer side of the cutter, and opposite to it, when it is brought down to cut.

L is a stationary taper mandrel turned to fit the conical cylinder of the barrel, so that when the barrel is pushed on to it, as represented in red lines at L', the portion to be removed projects beyond the part of the largest end of the mandrel opposite the face or cutting surface of the rotating cutter. Thus the mandrel in addition to holding the barrel and presenting it to the action of the cutter, acts as a gage to determine the depth of the shoulders of the guard, the barrels being all reamed out to fit the mandrel used for them, there being as many mandrels as different sized fittings. In order to admit of readily removing and placing the barrels on the mandrel without disturbing the mandrel, the barrels are pushed on the smaller end toward the larger end of the mandrel, the mandrel being supported and sustained by the shank M, which is a continuation of that part of the larger end of the mandrel

not necessary to be presented toward the face of the cutter. The shank M is represented in the drawing as terminating in a square plate N by which it is fastened to the lug K with screws P, P. I consider this the simplest and best way of fastening the mandrel to the lug K, but it is evident that the taper mandrel may be attached by the shank to the lug in many ways. The main thing is to sustain the mandrel by its larger end by a shank which is a continuation of that side of the end of the mandrel not required to be presented in front of the cutter.

Letter Q is screw pin screwed into the bed I. It is turned up or down to accommodate different sized fittings and should be adjusted so that when one end of the barrel rests on it the gas way will be at right angles to a right line drawn from shoulder to shoulder of the guard when formed.

The operation of the machine is as follows: A mandrel L suitable for the sized fitting to be operated on is screwed on to the lug and the mandrel and cutter adjusted to each other, by moving the slide rest holding the cutter in the guide B B', sufficiently toward the mandrel L to bring the side of the cutter close to the shank or nearly as close as it will run, and by moving the bed I up toward the cutter so the part of the larger end of the mandrel L necessary to

be brought opposite the cutting face of the cutter, is brought sufficiently near to the track of the cutter. The slide rest C and the bed I are then screwed fast to the bed plate, the gage Q properly adjusted, and a barrel placed on the mandrel L as shown in the drawings; the operator pressing it on the mandrel and at the same time holding the lower side of the barrel at the outer end against the gage Q. Motion being communicated to the cutter by a round band running from a suitable counter shaft on the grooved pulley, the cutter is brought down, by pressure on the lever E, either by the other hand or the foot of the operative, against the part to be removed, which is cut off almost instantly, and the cutter raised again by the action of the spring.

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

1. The combination of the taper mandrel L with the rotating cutter H substantially in the manner and for the purposes herein described.

2. The arrangement of the adjustable gage Q with relation to the mandrel L substantially as described.

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