

G. EMIG.
Screw Cutting Machines.

No. 134,871.

Patented Jan. 14, 1873.

Fig. 1

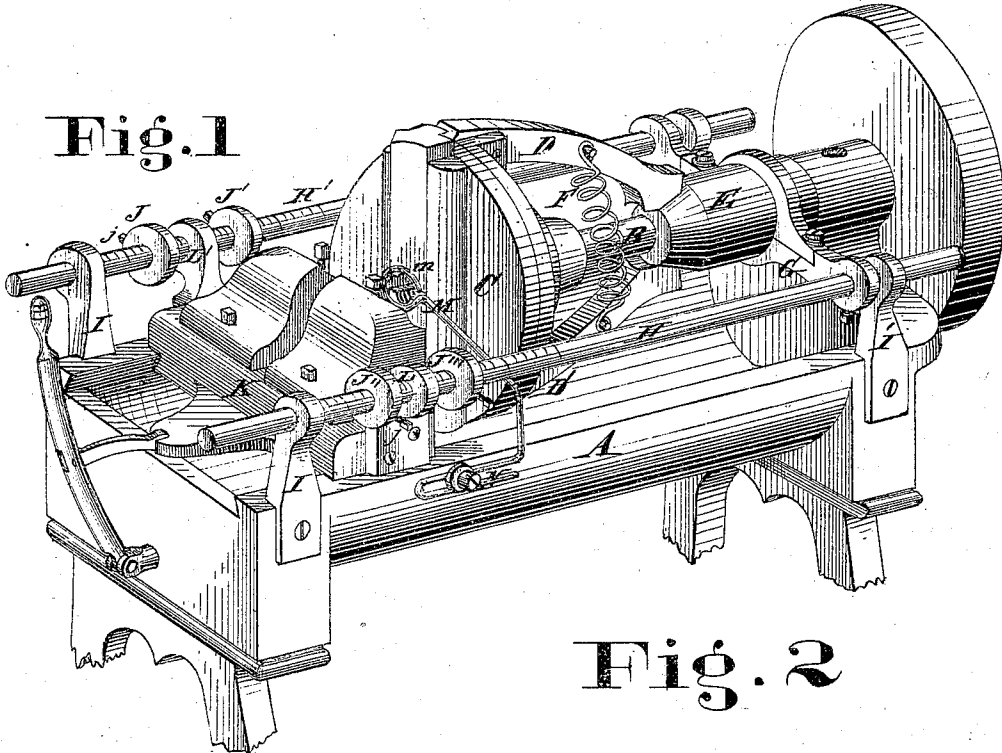
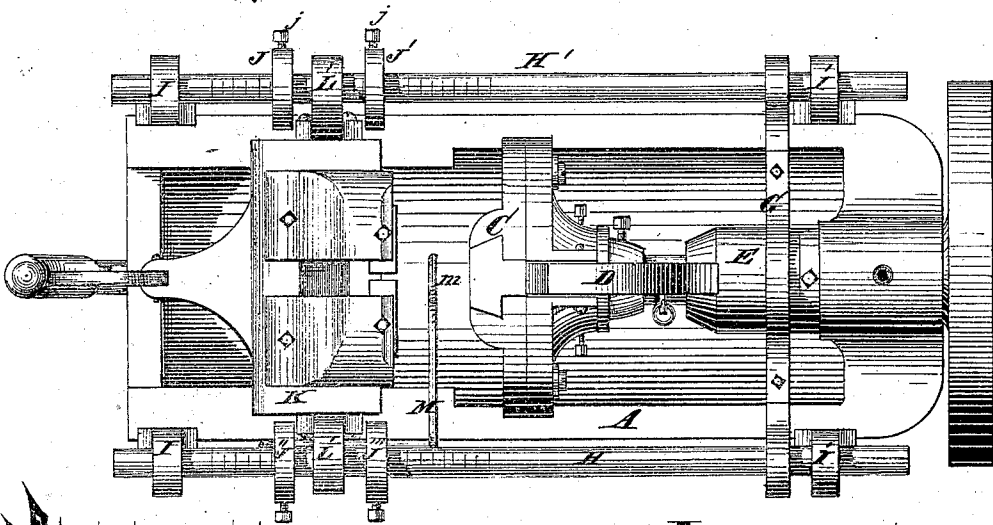


Fig. 2



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GEORGE EMIG, OF CINCINNATI, OHIO.

IMPROVEMENT IN SCREW-CUTTING MACHINES.

Specification forming part of Letters Patent No. 134,871, dated January 14, 1873.

To all whom it may concern:

Be it known that I, GEORGE EMIG, of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Screw-Cutting Machines, of which the following is a specification:

Nature and Objects of Invention.

My invention consists of certain devices by which the machine is adjusted in a peculiar manner to cut automatically threads of any desired length upon the bolt; and also consists of a peculiar device designed to enable the operator to conveniently adjust the bolt in the jaws of the chuck which secures it.

Description of the Accompanying Drawing.

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a plan of the same.

General Description.

A is the frame of the machine; B, the spindle; and C, the die-chuck. The dies are operated automatically by levers D D', sliding cone E, and spring F. The cone swivels in the cross-bar G, to which it is confined laterally by means of a groove in the cone, into which the bar G fits. The outer ends of the bar G are firmly secured, by set-screws, lock-nuts, or otherwise, to the sliding bars or rods H H', which are supported on brackets I I'. The bars or rods H H' have adjustable collars J J' J'' J''' secured to them by set-screws j. The sliding bolt-chuck K has an ear on each side firmly attached to it, marked L L' in the drawing. These ears surround the bars H H' in the manner shown in positions between the collars J J' and J'' J'''. The bars H H' are graduated, in parts of an inch and inches, in the manner shown, so that the collars can be adjusted accurately to define the points at which the dies are opened and closed, and the length of the screw thus determined, the collars being the means of governing the length of motion of the bolt-chuck. When the ears L L' strike the collars in either direction the dies are thereby opened and closed.

In cutting bolts the bolt-chuck has to be moved back after the cutting of each bolt a sufficient distance to enable the dies to close after the bolt has been withdrawn therefrom, and therefore the end of the next bolt has to be the same distance from the face of the die-chuck when it is secured for cutting.

To facilitate the accurate adjustment of the

bolt preparatory to its being forced into the dies I have provided the following device: An adjustable gage, M, having an aperture, m, through which the bolt passes in being cut, is secured to the frame A, by set-screw or bolt N, in such a way that it can be moved in either direction to effect the desired adjustment, the end which is perforated (marked m) being a sufficient guide to enable the operator to locate the end of the bolt, in the operation of securing it, in the chuck which holds it.

It will be seen that, by the provision of the two side rods H H', cross-bar G, two ears, L L', and collars J J' J'' J''', when the cone E is moved to either open or close the dies, the strain upon it is perfectly balanced, and but little power is required to move it, and but little friction attends the motion of any of the parts. This is a very important matter when it is considered that it is the threads of the bolt itself which sustain the strain in the automatic opening of the dies.

I am aware that heretofore screw-cutting machines have been built in which the bolt-chuck has a single tappet-arm acting upon collars of a slide-rod connected to a sliding cone in such a manner as to automatically open the dies the moment the desired length of thread is cut. I do not, therefore, claim this feature broadly, but confine myself to such a duplication of said mechanism as will relieve the threads of the bolt of undue and unequal strain during the action of opening the dies, as hereinbefore explained.

Claims.

1. The bolt-chuck K, having two tappet-arms, L and L', and the sliding cone E, in combination with the bar or cross-head G and a pair of graduated slide-rods, H and H', which are provided, respectively, with adjustable collars J J' and J'' J''', all substantially as and for the purpose specified.

2. The adjustable gage M m, in combination with the bolt-chuck K and die-chuck C, the dies of which are opened and closed automatically by the bolt-chuck through intermediate mechanism, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

GEORGE EMIG.

Witnesses:

FRANK MILLWARD,
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