April 19, 1960 R. D. GUTTING 2,933,079

MASONRY CUTTING MACHINE

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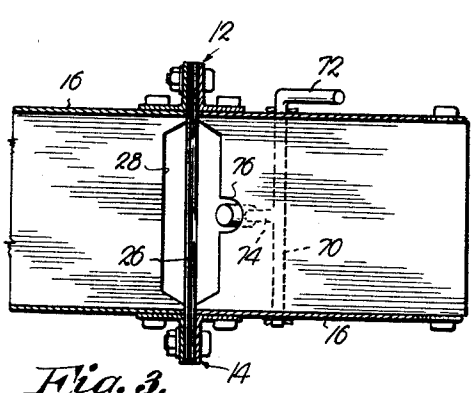


Fig. 3.

Fig. 1.

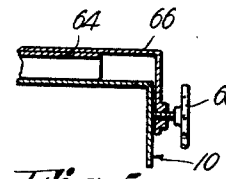


Fig. 5.

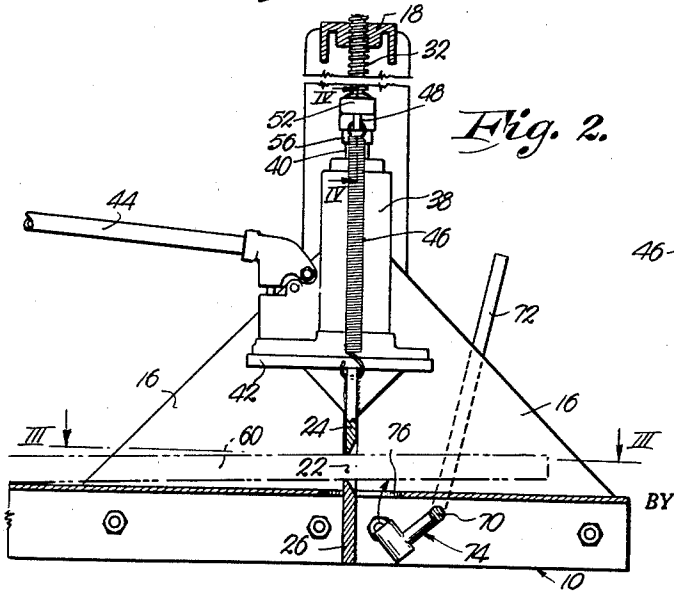


Fig. 2.

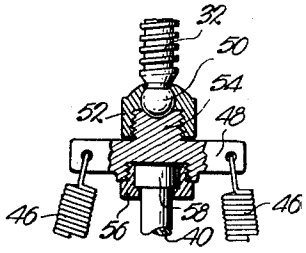


Fig. 4.

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MASONRY CUTTING MACHINE

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1 Claim. (Cl. 125—23)

This invention relates to an improved cutting machine and more particularly, to that class of severing devices employing a pair of relatively reciprocable cutting blades, together with a power device for actuating one of the blades.

It is the most important object of the present invention to employ a power jack in a novel manner to effect the cutting operation by virtue of its being mounted directly upon the movable cutting element for reciprocation therewith as the relatively movable parts of the jack itself are actuated.

Another important object of the instant invention is to provide novel guide means for the reciprocable cutter serving additionally to mount the immovable cutter element, together with a crosshead from which the jack is suspended.

A further object of the instant invention is to provide novel means of adjustment through use of a screw on the aforementioned crosshead and to which one part of the jack is pivotally secured.

A still further object of the present invention is to provide yieldable means for automatically returning the movable cutter element and one of the jack parts toward one end of their paths of travel.

In the drawing:

Figure 1 is a perspective view of a masonry cutting machine made pursuant to the instant invention.

Fig. 2 is a vertical, cross-sectional view thereof.

Fig. 3 is a fragmentary, cross-sectional view taken on line III—III of Fig. 2.

Fig. 4 is an enlarged, fragmentary, detailed, cross-sectional view taken on line IV—IV of Fig. 2; and

Fig. 5 is an enlarged, fragmentary, detailed, cross-sectional view taken on line V—V of Fig. 1.

An elongated, downwardly facing, U-shaped base **10** is provided to support all of the components of the cutting machine illustrated in the drawing and to which is attached a pair of spaced, upright guides **12** and **14** suitably braced by a number of gusset plates **16**, the upper ends of the guides **12** and **14** being interconnected by a crosshead **18**. Each of the guides **12—14** consists of a pair of L-shaped standards **20** disposed to present a space **22** therebetween for receiving a pair of elongated cutter blades **24** and **26**.

The blade **26** is rigidly secured to the guides **12** and **14** and extends upwardly through an opening **28** in the bight of base **10**. As seen in Figure 1, crosshead **18** has a tongue **30** disposed between the standards **20** to hold the same in spaced relationship.

Crosshead **18** carries a screw **32** having a handle **34** on the uppermost end thereof, the screw **32** in turn supporting a hydraulic jack **36** as well as the cutting element **24**.

Jack **36** may be of conventional character in that the same is provided with a cylinder **38** having a reciprocable

piston (not shown) therewithin whose stem **40** projects upwardly beyond the cylinder **38**. Cylinder **38** is rigidly secured to a base **42** which is in turn welded or otherwise affixed directly to the upper edge of reciprocable blade **24**. Jack **36** is manipulated to move the cylinder **38** downwardly with respect to the stem **40** through the medium of a handle **44** which is operated in pump-like fashion as is well understood. Upon release of pressure by opening a valve (not shown), the cylinder **38** is permitted to move to the position illustrated in Figs. 1 and 2 and such upward movement is effected by the force of a pair of springs **46** interconnecting the blade **24** and a crossbar **48** inteposed between stem **40** and screw **32**.

The crossbar **48** may be connected to the screw **32** and the stem **40** in any suitable manner, but a ball and socket joint is necessary to permit manipulation of handle **34**. Thus, a ball **50** is formed on the lower end of screw **32** which is received by a cap **52** threaded on a boss **54** at the upper end of crossbar **48**. The means illustrated in Fig. 4 for attaching stem **40** to crossbar **48**, includes a plug **56** threaded into the crossbar **48** and receiving an enlargement **58** on the upper end of stem **40**.

An elongated brick **60** or other object to be cut through use of the machine is supported by the upper face of base **10** and by the blade **26** at the point of severance in the manner shown by Fig. 2. An adjustable stop **62** on the base **10** includes a pair of interconnected U-shaped members **64** and **66**, the member **64** resting upon the base **10** and receiving one end of the brick **60** in abutting relationship thereto as seen in Figure 1. The member **66** straddles the base **10** and is held in place with respect thereto by a pair of opposed clamping screws **68**.

Severance of the brick **60** is augmented if the same is gently tapped while force is applied thereto through manipulation of jack **36**. Accordingly, a crossshaft **70** rotatably carried by the base **10** and having a handle **72** on one end thereof is provided with a hammer **74** which moves upwardly into engagement with the brick **60** through a notch **76** in the base **10** in the manner illustrated by Fig. 2.

It is manifest from the foregoing that the adjustment of jack **36** through manipulation of screw **32**, depends upon the thickness of the article **60** to be cut. When the jack **36** is manipulated through use of handle **44**, the blade **24** is forced downwardly against the article **60**, the downward movement of the cylinder **38** being against the action of spring **46**. Thus, when the hydraulic pressure within cylinder **38** is relieved, springs **46** return the cylinder **38**, its base **42** and the blade **24** to the uppermost ends of their paths of travel.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A cutting machine comprising an elongated stationary, U-shaped base having a bight and a pair of legs, the bight thereof having a top surface for supporting the article to be cut and being provided with an opening therein; a pair of spaced upright guides rigidly secured to the legs of said base and having an elevated crosshead interconnecting the same at the upper ends thereof above said opening, and an upwardly facing, stationary knife interconnecting the lower ends thereof, the cutting edge of said knife protruding upwardly thruogh said opening; an adjusting member depending from said crosshead and vertically reciprocable relative thereto; a jack depending from the member and having a pair of parts vertically reciprocable relatively between said member and said knife, one of said parts being attached to the member by means of a ball and socket joint; a second downwardly facing knife secured to the other of said parts and

reciprocably carried between the latter and said upwardly facing knife by said guide; spring means interconnecting the member and said second knife for yieldably biasing the latter toward the uppermost path of travel; means carried by said base and swingable through said opening for tapping the article to be cut as cutting force is applied thereto; and a stop mounted on the base for holding the article to be cut in place as force is applied thereto.

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