Oct. 9, 1962 J. LLOYD 3,057,651

TOOL FOR HANDLING BUILDING BLOCKS

Filed May 6, 1960

FIG. 1

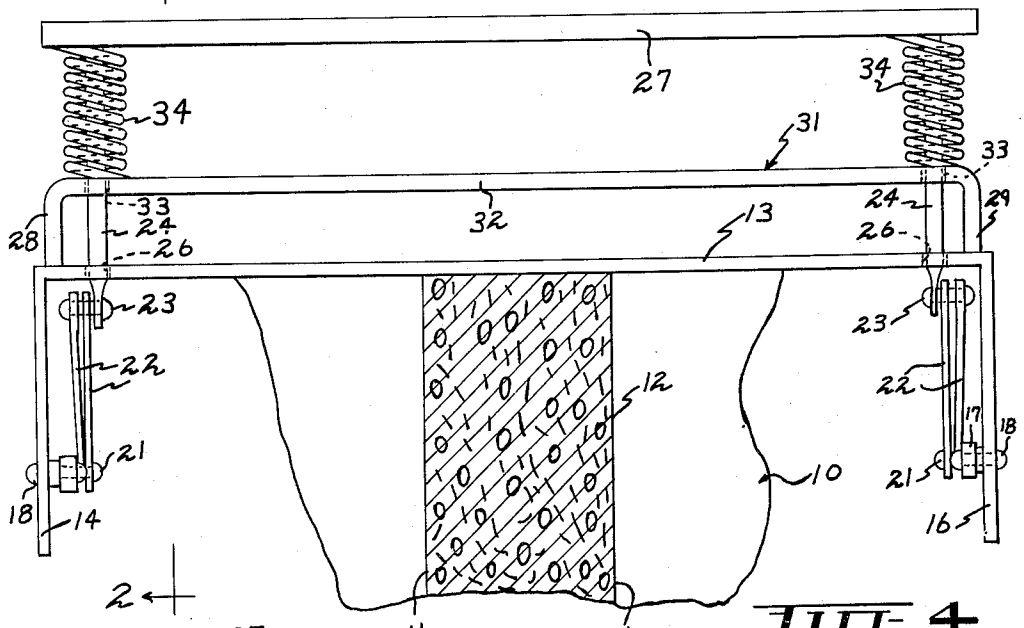


FIG. 4

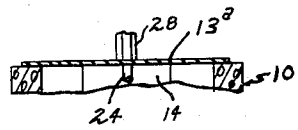


FIG. 3

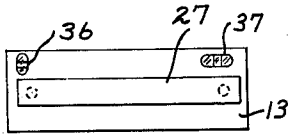


FIG. 2

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TOOL FOR HANDLING BUILDING BLOCKS

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This invention relates to a lifting tool for building blocks and more particularly to such a tool which shall be adapted to lift building blocks having openings therein.

An object of my invention is to provide a simple tool for handling building blocks whereby the hand of the worker does not come into direct contact with the blocks, thereby saving wear and tear on the hands and gloves.

Another object of my invention is to provide a lifting tool for building blocks in which the tool may be actuated by one hand to engage and release the blocks thus handled.

Another object of my invention is to provide a lifting tool for building blocks in which the gripping elements thereof engage only the inside of the blocks, thus preventing scratching or damaging the exposed surface of the block.

Another object of my invention is to provide a lifting tool for building blocks which shall have replaceable gripping elements whereby the gripping elements may be replaced when worn or be replaced by other gripping elements to accommodate various size blocks.

A more specific object of my invention is to provide a lifting tool of the character designated which shall be positive in operation whereby the block is firmly clamped by the tool, thereby eliminating the possibility of the block becoming separated from the tool as the block is being transferred from place to place.

A further object of my invention is to provide a lifting tool for building blocks which may be released after the block is set in mortar without disturbing the block.

A further object of my invention is to provide a lifting tool of the character designated in which the block may be positioned accurately in place and leveled prior to release from the tool.

A still further object of my invention is to provide a tool of the character designated which shall be simple of construction, economical of manufacture and one which is adapted to handle various sizes and shapes of building blocks having openings therein.

Briefly, my improved lifting tool comprises a support member having depending projections which are disposed to enter the opening in the block. Gripping elements are pivotally supported by the depending projections in position to engage the inner surface of the opening in the block upon pivotal movement of the gripping elements in one direction and to disengage the inner surface upon pivotal movement of the gripping elements in another direction. The gripping elements are operatively connected to actuating members which are urged by resilient means in a direction to pivot the gripping elements in a direction to engage the inner surface of the block. A handle is carried by the actuating member whereby the actuating member may be depressed in a direction to pivot the gripping elements whereby they are moved in a direction to be out of engagement with the opening in the block.

Lifting tools embodying features of my invention are illustrated in the accompanying drawing, forming a part of this application, in which:

FIG. 1 is a side elevational view of the tool, showing the manner in which the tool is supported by the building block, the building block being broken away and in section;

FIG. 2 is a sectional view taken generally along the line 2—2 of FIG. 1;

FIG. 3 is a plan view of the tool drawn to a smaller scale; and

FIG. 4 is a fragmental view showing a modified form of lifting tool.

Referring now to the drawing for a better understanding of my invention, I show a concrete block **10** having core openings **11** therein which are separated by a partition wall **12**. My improved tool comprises a relatively flat support member **13** having depending projections **14** and **16** at opposite ends thereof. The depending projections **14** and **16** are of a width to extend downwardly within the openings **11**, as clearly shown in FIG. 2.

Elongated gripping elements **17** are pivotally mounted intermediate their ends, by laterally spaced pivot pins **18**, to each depending projection **14** and **16**. The outer ends of the gripping elements **17** are tapered as at **19** to provide relatively sharp contact points which engage the inner surface of the opening **11**. Pivotally connected to the inner ends of the gripping elements **17** by suitable pivot pins **21** are the lower ends of links **22**. The upper ends of the links **22** are pivotally connected by a pin **23** to the lower end of an actuating rod **24**. Suitable openings **26** are provided in the support member **13** for receiving the actuating rods **24** whereby the actuating rods are adapted for free axial movement relative to the support member **13**. Secured to and connecting the upper ends of the actuating rods **24** is an elongated handle **27**.

Secured to opposite ends of the support member **13** are the depending legs **28** and **29** of an inverted U-shaped member **31** having an elongated base member **32**. Suitable openings **33** are provided in the elongated base member **32** for slidably receiving the actuating rods **24**. Surrounding the actuating rods **24** between the handle **27** and the elongated member **32** are compression springs **34** which urge the actuating rods **24** upwardly whereby the gripping elements **17** are urged into engagement with the inner surface of the opening **11**, as shown in the solid line position in FIG. 2. The maximum inward movement of the gripping elements **17** is shown in the upper dotted line position in FIG. 2 while the maximum outward movement of the gripping elements is shown in the lower dotted line position in FIG. 2. Maximum outward movement of the gripping elements is limited by engagement of the upper ends of links **22** with the under surface of support member **13**. That is, the upper ends of the links **22** form stops **30**.

As shown in FIG. 3, levels, such as spirit levels **36** and **37** are mounted on the support member **13** whereby the building block may be leveled prior to release of the tool from the block.

From the foregoing description, the operation of my improved lifting tool for building blocks will be readily understood. The handle **27** is depressed by placing the fingers of the operator beneath the elongated member **32** and forcing the handle **27** toward the member **32** to thereby compress the springs **34**. As the handle **27** is depressed, the actuating rods **24** move downwardly causing the links **22** to move downwardly thereby moving the gripping elements **17** to the uppermost dotted line position shown in FIG. 2. It is in this position that the tool is inserted on the building block whereby the depending elements **14** and **16** enter the openings **11**. The base portion of the support member **13** engages the upper surface of the building block whereby downward movement of the tool relative to the block is limited. Also, the upper surface of the building block holds the relatively flat supporting member **13** parallel to the upper surface of the building block whereby upon leveling the

support member **13**, the building block is also leveled. Upon release of the handle **27**, the springs **34** urge the gripping elements **17** toward the inner surface of the opening **11** whereby the relatively sharp contact points engage the block to firmly secure the lifting tool to the block. After the block is correctly positioned, the tool is released from the block by depressing the handlle **27** whereby the gripping elements **17** again move to the uppermost dotted line position shown in FIG. 2. In this position, the tool is free to be removed from the block without disturbing the same.

In FIG. 4 of the drawing, I show a modified form of my invention in which the support member **13a** is of a width to span the building block **10**. The support member **13a** is operatively connected to the actuating rods **24** and to the elongated U-shaped member **31** in the manner described hereinabove. Also, the support member **13a** is provided with depending projections **14** and **16** as described hereinabove. The operation of the tool shown in FIG. 4 is identical to the operation of the tool shown in FIGS. 1–3, the only difference being the fact that the support member **13a** is of a width to be in contact with the upper surface of the building block adjacent the sides thereof, as shown.

From the foregoing, it will be seen that I have devised an improved lifting tool for building blocks. By providing a relatively simple tool which may be operated by one hand to position and release the blocks, the tool not only facilitates handling of the blocks but provides for more accurate laying of the blocks. Also, by providing positive and firm contact between the tool and the building block, there is no possibility of the block becoming separated from the tool as the block is being handled.

While I have shown my invention in two forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claim.

What I claim is:

In a lifting tool for a building block having an opening therein, a relatively flat support member adapted to fit over the block, said support member having an integral projection on each end thereof extending generally perpendicularly thereto and disposed to enter the opening, a pair of elongated gripping elements pivotally supported intermediate their ends on each projection, an actuating member connected to each pair of gripping elements adjacent the inner ends of the gripping elements to move the gripping elements into engagement with the inner surface of the block defining the opening when moved outwardly and out of engagement with said inner surface when moved inwardly, said support member having openings to receive the actuating members whereby the actuating members extend outwardly from said support member, a handle extending between and connecting the outer ends of the actuating members, an elongated generally U-shaped member secured to said support member and positioned between the support member and the handle, said elongated member having openings to receive the actuating members, and resilient means operatively connected between the elongated member and said handle to urge said handle and actuating members secured thereto outwardly from said elongated member and said support member whereby the gripping elements are urged continuously in a direction to engage the inner surface of said block defining the opening therein.

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