

(No Model.)

2 Sheets—Sheet 1.

C. H. EICHLER.

MACHINE FOR ELEVATING AND DELIVERING BRICKS.

No. 394,842.

Patented Dec. 18, 1888.

Fig. 6.

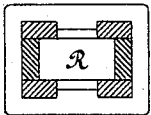


Fig. 5.

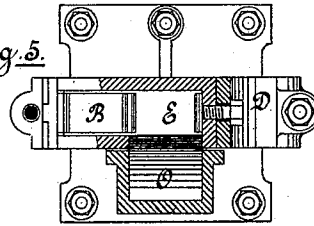


Fig. 1.

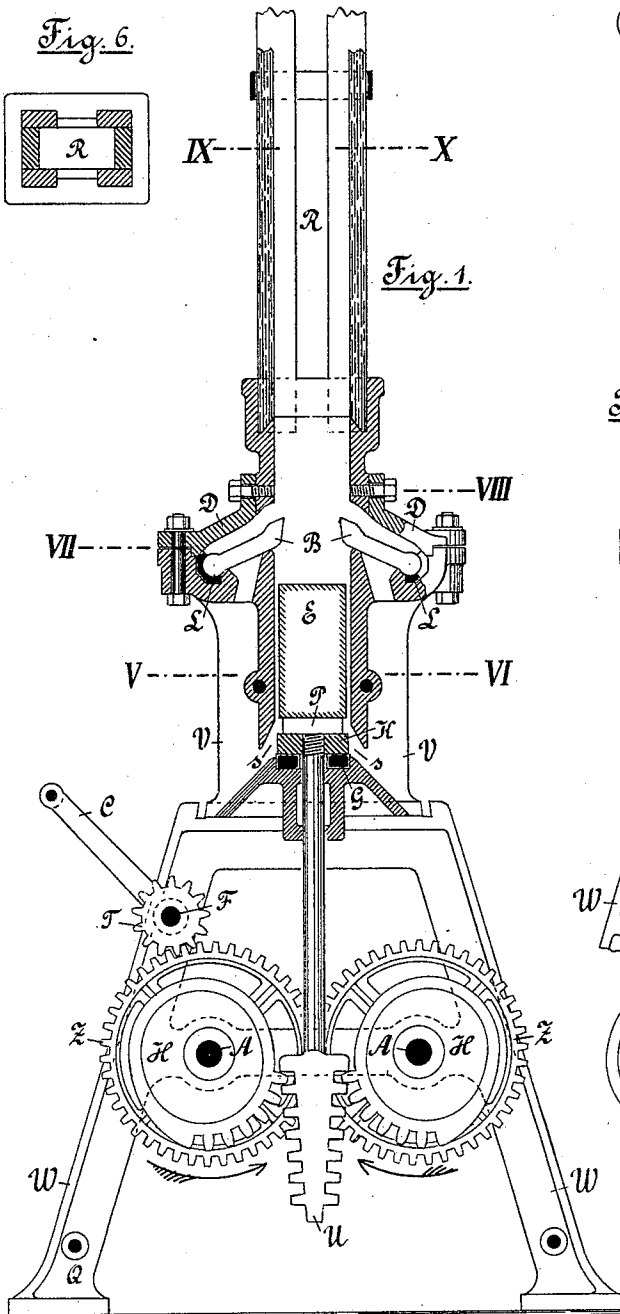
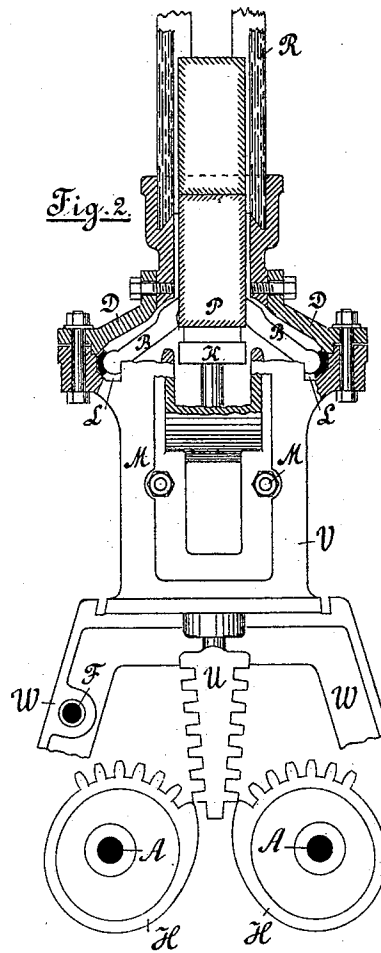


Fig. 2.



Witnesses.
C. M. Hinkle
H. E. Peck

Inventor.
C. H. Eichler
per O. E. Duff
Attorney

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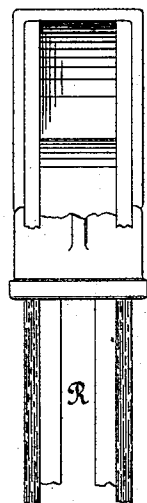


Fig. 3.

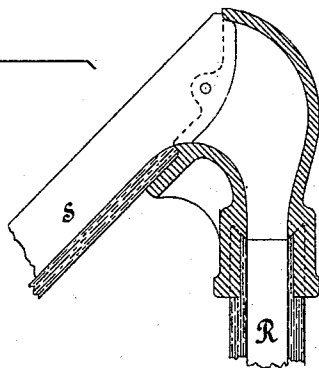
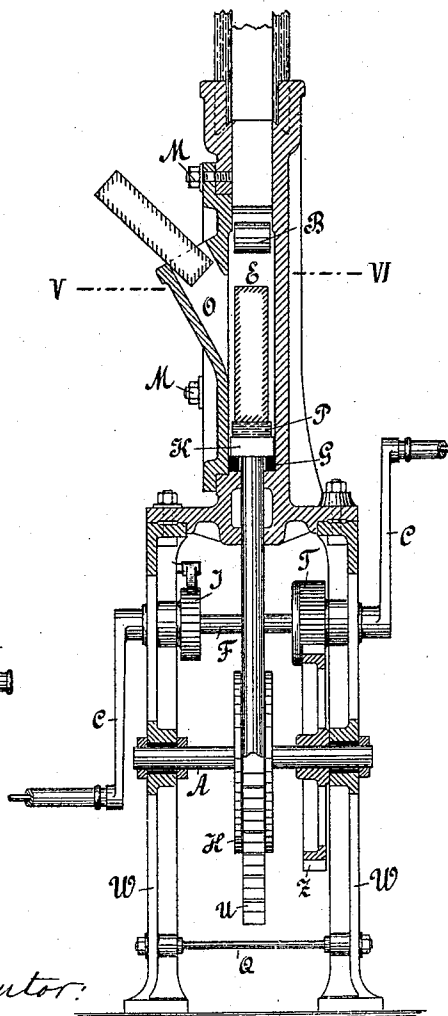
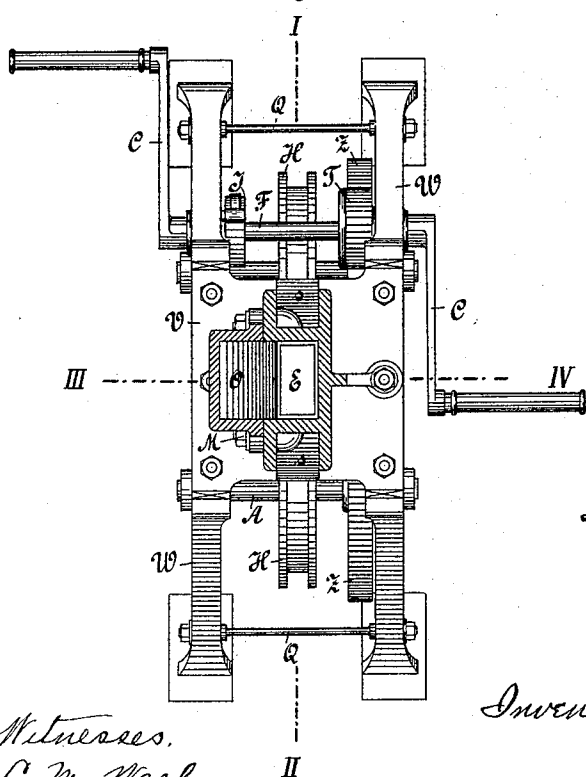


Fig. 4.



Witnesses,
C. M. Merle
H. E. Peck

Inventor:

C. H. Eichler
per O. E. Duffy
Attorney

UNITED STATES PATENT OFFICE.

CARL HEINRICH EICHLER, OF DRESDEN, GERMANY.

MACHINE FOR ELEVATING AND DELIVERING BRICKS.

SPECIFICATION forming part of Letters Patent No. 394,842, dated December 18, 1888.

Application filed July 31, 1888. Serial No. 281,542. (No model.) Patented in Germany March 29, 1888, No. 14,651; in France April 20, 1888, No. 177,099; in Belgium April 21, 1888, No. 8,514, and in England July 20, 1888, No. 10,527.

To all whom it may concern:

Be it known that I, CARL HEINRICH EICHLER, builder, a subject of the Emperor of Germany, residing at Dresden, in Germany, have invented certain new and useful Improvements in Machines for Elevating and Delivering Bricks or other Articles, (for which I have obtained patents in Germany, No. 14,651, dated March 29, 1888; in France, No. 177,099, dated April 20, 1888; in Belgium, No. 8,514, dated April 21, 1888, and in England upon an application, No. 10,527, dated July 20, 1888,) of which the following is a specification.

The present invention relates to machines for elevating and delivering bricks or other articles, and the object is to elevate and deliver the bricks to be laid, say, for example, to the different parts of a scaffolding by means of a machine, instead of their being carried up by workmen or thrown up from hand to hand, thus avoiding the danger to the workmen and materially reducing the costs.

In the accompanying drawings, Figure 1 is a vertical section on line I II of Fig. 4. Fig. 2 is part of Fig. 1 in another position. Fig. 3 is a vertical section of the device, taken in the plane of line III IV of Fig. 4. Fig. 4 is a horizontal section on line V VI of Fig. 1. Fig. 5 is a horizontal section on line VII VIII of Figs. 1 and 3. Fig. 6 is a horizontal section on line IX X of Fig. 1.

The action of the machine depends on the action of the piston K moving up and down in the chamber E, on which piston rests in turn each brick introduced into the chamber E through the opening O. The piston raises the brick between the jaws B, which bite the brick, and thus prevent it from falling when the piston is being lowered for the reception of the next brick. Every time the piston is raised the brick resting thereon will raise the brick held by the jaws B and the column of bricks which may be above it in the tube R to the extent of one brick's length until the topmost brick reaches the inclined chute S, down which it will slide to its destination.

To facilitate the introduction of the bricks through the opening O during each stroke of the piston, it is essential that the chamber E should be free of the piston as quickly as possible.

This is done by the piston falling down by its own weight after having attained its highest point, and an india-rubber ring, G, receives the shock, while the wooden block P on the top of the piston offers to the brick a softer support than the metal piston would.

The working of the machine can be understood from Figs. 1 to 4. The frame of the machine consists of the two side frames, W, connected by tie rods or bolts Q, and on the top of this frame is fastened the head V. In the frames W are journaled the shafts A, on which are mounted the spur-wheels Z, gearing with each other, and the eccentric wheels H, which are only toothed for about one-fourth of their circumference. By turning the wheel T (which gears with one of the spur-wheels Z) by means of the crank-handles C the shafts A, with the eccentric wheels H, are turned in opposite directions. The ratchet-wheel I, Fig. 3, mounted on the crank-axle F, and a pawl prevent the crank-axle from turning in the opposite direction.

The piston-rod, which is guided vertically in the head V, is at its lower end provided with a double-tapered rack, U, which engages with the teeth of the eccentric wheels H once during every revolution of the latter. In Fig. 1 the machine is represented at the moment when the eccentric wheels H, turning in the direction of the arrows, are just about to gear with the double rack U to raise the piston K, with the brick resting thereon, and in Fig. 2 the machine is represented at the moment when the piston has attained the highest point of its stroke and has introduced the brick between the jaws B.

Because of the tapered form of the rack U the wheels H, engaging therewith, must be eccentric, and when these eccentric wheels H, which have the same number of teeth as the rack, are turned farther the gearing ceases and the piston K will fall. This fall would be too sudden if the periphery of the wheels H were not also at their untoothed portion eccentric, so as to support the tapered rack during its fall. This is the reason for the conical form of the rack.

In the head V is the chamber E, in which reciprocates the piston K, of rectangular form, and the side of the head V which is provided

with the opening O for the introduction of the bricks may be removed, if necessary, by unscrewing the nuts M. To remove any dust which may be introduced with or fall from the bricks, two slanting openings, s, are formed in the bottom of the chamber E.

Above the chamber E is the chamber in which the jaws B are journaled at L. The top D of this chamber can be unscrewed to obtain access to the jaws and their journals, if necessary. The head V is further provided with a socket for the reception of the lower end of the tube R, in which the bricks are elevated to the desired height.

The machine may be supported on wheels to facilitate its transport, and, as is obvious, it may be driven by a motor, if desired, by modifying the gear.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a machine for elevating and delivering bricks, &c., the combination of a chambered head provided with a receiving-opening, a frame to support the same, a delivery-tube for the head, a piston operating in the head and

provided with a tapered double rack, means located above the piston for preventing retrograde movement of the bricks, eccentric wheels to engage said rack and force the piston upward and allow it to drop automatically, and gearing to drive the eccentric wheels, substantially as set forth.

2. In a machine for elevating and delivering bricks, &c., the combination of a chambered head provided with a receiving-opening, a piston operating in the head, gravitating jaws or clutches pivoted in the head above the opening to prevent retrograde movement of the bricks, said piston being provided with a double rack, partially-toothed wheels to drive the rack and force the piston upward and allow it to drop automatically, and gearing to drive said wheels, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

CARL HEINRICH EICHLER.

Witnesses:

OTTO WOLFF,

BRUNO KÖSSNER.