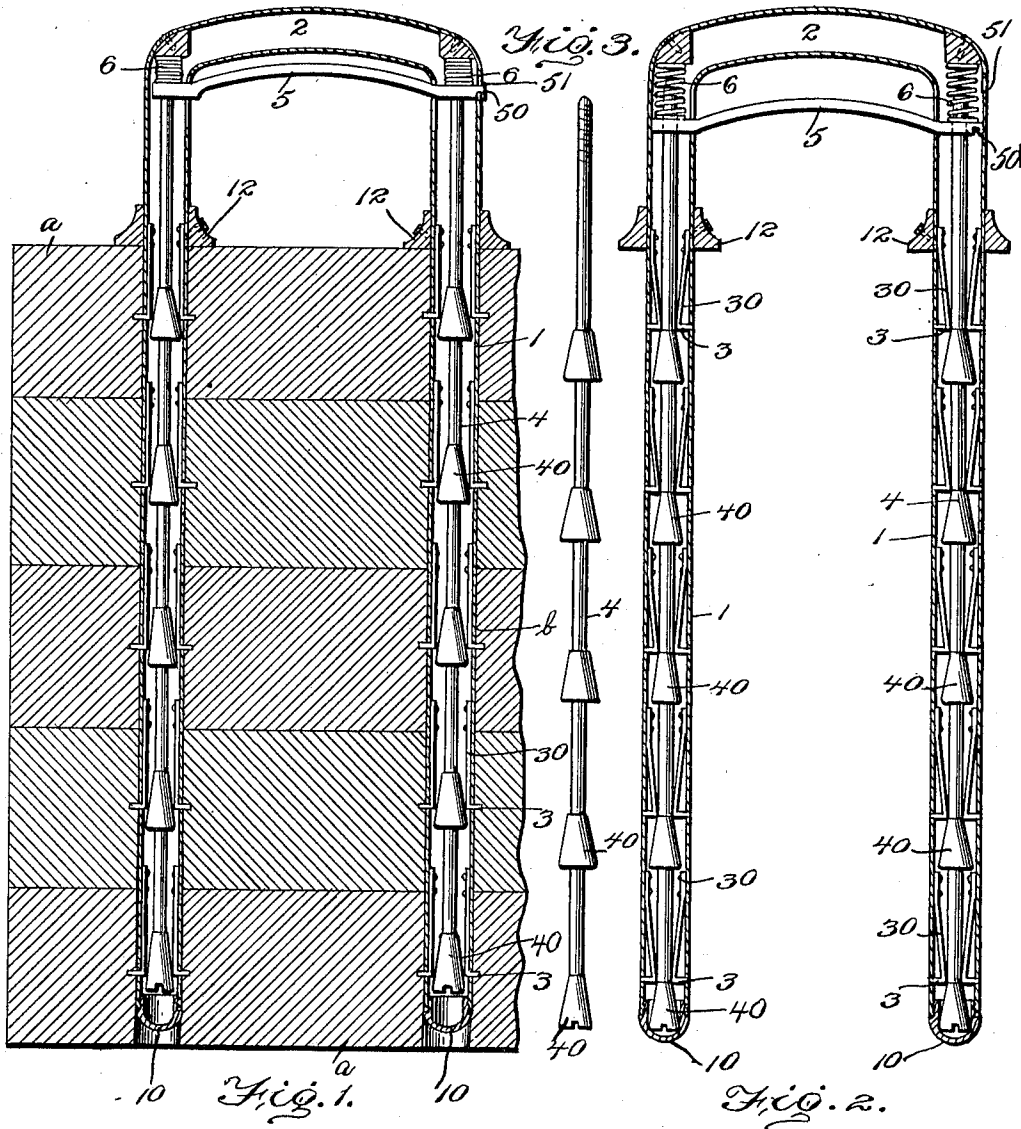


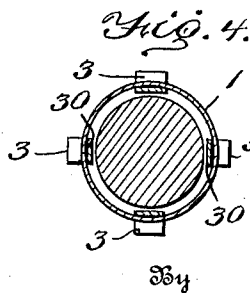
G. E. GOLDNER.
BRICK CARRIER.
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1,039,382.

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Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE E. GOLDNER, OF FORT DODGE, IOWA.

BRICK-CARRIER.

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To all whom it may concern:

Be it known that I, GEORGE E. GOLDNER, a citizen of the United States, residing at Fort Dodge, in the county of Webster and State of Iowa, have invented certain new and useful Improvements in Brick-Carriers, of which the following is a specification.

This invention relates to certain improvements in brick carriers, clamps or the like; and the objects and nature of my invention will be readily understood by those skilled in the art in the light of the following explanation of the accompanying drawing illustrating what I now believe to be the preferred embodiment from among other constructions and arrangements within the spirit and scope of my invention.

The invention consists in certain novel features in construction and in combinations and arrangements as more fully and particularly set forth and specified hereinafter.

Referring to the accompanying drawings:—Figure 1, shows five superimposed bricks in section, showing the carrier, in longitudinal section, fitted in and adjusted to support said bricks. Fig. 2, shows the carrier in longitudinal section with the parts in normal or inoperative position. Fig. 3, is a detail elevation of one of the reciprocatory expanding rods. Fig. 4, is a cross section through one of the supporting members on an enlarged scale, the blades being shown projected.

The particular object of the invention is to provide a carrier, to perform generally the functions of what is known in the brick making art as a brick clamp, and embodying means to enter aligned transverse holes extending through a series of parallel bricks, provided with a series of brick supporting elements designed to clamp, grasp, grip or otherwise support each brick at a point within said hole or holes therethrough, whereby a series of bricks can be carried without necessity of engaging the faces thereof. A carrier of this character is of peculiar advantage for use in carrying green bricks from the brick cutter to the drier or to the cars or other means to convey the bricks to the drier, particularly as green or soft brick having ornamental or roughened faces or surfaces can be thereby handled or carried without danger of marring or defacing such surfaces or faces by contact with the hands of the operators or with portions of the common brick clamps, although of

course my invention is not limited to carrying green brick.

The bricks *a*, for which the carrier of my invention is particularly designed, are formed with two transverse holes *b*, therethrough, usually located about midway between the center and ends of each brick and centrally between the longitudinal faces of the bricks. These holes are usually formed by the brick or die machine in the continuous soft clay bar projected from such machine. The brick cutter forms transverse cuts through this bar and thus divides the same into rows of parallel bricks and the off carrying belt carries these bricks, or the bar thus severed, from the cutter. The particular example of my invention illustrated, in the drawings, is designed to extend through and carry not more than five standard size bricks.

The carrier as illustrated, comprises a pair of elongated parallel supporting members 1, spaced apart according to the spacing of the holes *b*, and designed to enter said holes and extend through the series of bricks constituting a load, and these members form part of a stiff or rigid supporting frame which usually comprises a transverse handle 2, connecting and rigid with the upper ends of said members, although of course, I do not wish to limit my invention to the employment of two supporting members, as it might be found desirable to form the bricks, each with one or more aligned holes. In the example illustrated, each member 1, is longitudinally tubular and closed at its lower or free end by a rounded plug or cap 10, to facilitate insertion in the brick holes. Collars or stops 12, are usually arranged on the upper or handle-end portions of the supporting members to approximately fit or engage the top flat face of the upper or outer most brick of the pile or series receiving the carrier, and to limit the inserting or applying movement of the carrier into or through the bricks.

Each supporting member is provided with a longitudinal series of brick engaging devices, one or more of such devices being provided for each brick, such devices being so spaced apart and arranged that each brick will be internally engaged thereby about midway the thickness of the brick.

In the specific example illustrated, the brick engaging devices are normally withdrawn within the tubular member and from operative brick engaging position to permit

insertion of the member through the bricks and to permit withdrawal of the member therefrom, and means are provided for projecting said devices to operative brick engaging position and whereby said devices can be withdrawn. Various arrangements and constructions can be provided to accomplish these results and perform such functions. For instance, I show the tubular members provided with several sets of radial slots or openings, in which are arranged normally withdrawn radially movable blades or flat fingers 3, of such length that when projected radially and outwardly through said slots and from said member they will extend into the soft material of the bricks the necessary distance to support and uphold one end portion thereof or even the entire brick. I show these blades 3, carried by the lower free ends of plate springs 30, arranged longitudinally within the tubular member and at their upper ends fixed at the inner surface thereof. These springs are arranged so that their free ends constantly tend to spring inwardly and thereby withdraw the blades with their outer ends within the circumference or outer surface of the tubular member.

Usually four radiating blades, arranged in a common transverse plane, 90 degrees apart constitute a set, although I do not wish to so limit my invention. The sets of blades carried by a tubular member are arranged a distance apart equal to the thickness of the brick, and are so arranged with respect to the exterior stop or collar 12, or other gaging means, that each set of blades will be located at about the vertical center of a brick when the tubular member is in operative position within the bricks to be lifted thereby.

Suitable mechanism is provided for projecting the blades. For instance, I show each tubular member provided with a longitudinal internal reciprocatory or sliding rod or bolt 4, arranged approximately throughout the length of the tubular member and centrally between the free ends of the springs 30. This rod carries a series of upwardly reducing tapered portions or cones 40, rigid therewith, one cone being provided for each set of blades and extending below the same. The normal position of the rod is at its limit of downward movement with each cone below its set of blades permitting the blades to assume withdrawn inoperative position. When the blades are to be projected to operative position, the rod is moved upwardly or toward the handle end of the tubular member thereby causing the cones to engage the free ends of the springs 30, and force the blades outwardly to project into the clay of the bricks. When the tubular member is to be withdrawn from the bricks, the expanding element (rod and

cones) is allowed to move longitudinally to inoperative position carrying the cones from operative relation with respect to springs 30, so that said springs can withdraw the blades. Means are provided for operating and controlling said expanding element of a tubular member. For instance, in the example illustrated, where two tubular members are employed, the upper ends of the reciprocatory rods 4, of such members are fixed to a cross bar 5, as by having their ends threaded and screwed into and through the cross bar ends. This cross bar extends between the upper or handle ends of the tubular members and is arranged between the collars 12, and the carrier handle 2, and is usually spaced from and approximately parallel with said handle 2. The cross bar 5, projects through longitudinal slots in the tubular members and forms an operating means or handle for the expanding members whereby they can be simultaneously and uniformly moved to blade projecting position. The cross bar 5, rigidly connects the two rods of the expanding members to form a rigid U-shape frame and causes said rods to move longitudinally together or in unison.

Coiled expansion springs 6, are usually provided to return the expanding elements in normal inoperative position. I show these springs arranged in the upper ends of the tubular member bearing on the ends of the cross bar 5, and at their upper ends seated against rigid portions of the carrier handle so that the springs resist movement of the expanding elements and the cross bar 5, toward the carrier handle.

Means can be provided to detachably lock the expanding elements in operative blade-projecting position and against the tension of said springs. For instance, I show one end of the cross bar 5, within a tubular member formed with a shouldered or hooked projection 50, to project through slot or notch 51, formed in the wall of the tubular member inclosing said projection 50. When the cross bar 5, has been pressed toward the handle 2, to project the blades 3, the projection 50, is in line with notch 51, and slight lateral pressure will move the cross bar 5, endwise or longitudinally a sufficient distance to move projection 50, into said notch, so that when the cross bar is released its projection will engage and catch on the edge of the tubular member forming the lower wall of the notch, and thereby lock the parts in expanding position. The rods 4, are allowed sufficient lateral play or are sufficiently resilient to permit this lateral movement for locking and unlocking. When it is desired to release the cross bar, pull thereon toward handle 2, will release projection 50, from the notch and the rods 4, spring laterally to normal position and carry said projection from the notch and

permit springs 6, to return the expanding members to lowered position.

In operation, the tubular member can be readily inserted through a set, say of five, green bricks, resting on the apron of the cutting apparatus. The cross bar 5, is then pressed toward the carrier handle to project the blades into all the bricks. The expanding elements are locked in operative position by the locking device. The pile of five bricks can then be pulled from the apron onto the off-bearing belt and then carried by the handle to the point desired. The cross bar 5, can be released so that the springs will return the expanding elements to normal position permitting withdrawal of the blades. The carrier can then be withdrawn from the bricks without injury thereto or defacement thereof.

This device can also be employed for various purposes in handling green, dried, or even burnt bricks, where such bricks are formed with alined transverse holes.

It is evident that various changes, modifications and variations might be resorted to without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact disclosure hereof.

What I claim is:—

1. A brick carrier adapted to be inserted into alined holes previously formed through a number of closely arranged parallel green bricks and to internally grasp said bricks so that they can be lifted together by the carrier without marring their faces, said carrier having a carrying portion, a member formed and adapted to enter the holes through said several bricks and provided with separate series of normally retracted brick gripping means, said several means being spaced apart to correspond to the thickness of the bricks to be internally grasped thereby, and manually controlled means, operative from a point adjacent to said carrying portion, for causing simultaneous movement of said several means to brick-gripping position and simultaneous movement of said several means to retracted position while within said several bricks, substantially as described.

2. A brick carrier comprising a straight elongated brick supporting member internally provided with spring-supported normally withdrawn brick engaging means having mechanism within said member for moving the same to operative position against the tension of their supporting springs.

3. A brick carrier comprising an elongated straight tubular brick supporting member at one end provided with a handle, said member internally provided with a longitudinal series of separate normally withdrawn radially-reciprocatory brick engaging and carrying devices, and manually controlled operating means within said mem-

ber for projecting said devices, said member having radial openings closed by said devices.

4. A brick carrier comprising an elongated closed tubular member having a handle, separate sets of internal brick gripping means normally withdrawn in said member, and manually actuated expanding mechanism for moving said means to operative brick gripping position and comprising a longitudinally movable rod in said member and provided with gripping-means-projecting inclines, said member having openings receiving and closed by said means.

5. A brick carrier comprising an elongated tubular supporting member, a series of sets of radially movable blades normally withdrawn in said member and provided with blade withdrawing and supporting springs within the member, means for flexing the springs to project the blades, and manually controlled operating means.

6. A brick carrier comprising several parallel tubular members provided with a connecting handle, each tubular member provided with several separate sets of normally withdrawn brick gripping devices, springs for withdrawing the same, longitudinally movable rods in said members having cones for projecting said devices, yieldingly held in one direction, a cross handle connecting said rods for moving the same in the opposite direction, and means for detachably locking said rods.

7. A brick carrier comprising a straight tubular brick supporting rod having a handle and an exterior gage stop, said rod adapted to be inserted through alined transverse holes in a series of green bricks with said gage stop at the upper face of the top brick, a series of retractile brick-engaging-and-supporting devices arranged longitudinally of said rod, said devices being uniformly spaced apart a distance approximately equal to the thickness of one of said bricks, and the end device of the series being spaced from said gage stop a distance approximately equal to one half the thickness of a brick, whereby said devices when projected operatively and internally engage said bricks, respectively, approximately midway between the upper and lower faces thereof, and manually controlled means for operating said devices.

8. A brick carrier comprising a pair of spaced parallel brick supporting rods adapted to extend through several superimposed bricks in holes previously formed therein, said rods provided with a connecting handle, said rods provided with longitudinal series of radial blades normally retracted within the outer surfaces of the rods and adapted to be projected into brick supporting engagement with the interiors of said bricks, and movable means within said rods and

controlling the positions of said blades and provided with an operating member adjacent to said handle.

9. A brick carrier comprising an elongated straight tubular member adapted to be inserted in holes previously formed through several superimposed bricks, said member provided with a handle, normally-retracted brick engaging and supporting devices arranged in a series longitudinally of said member, and means arranged within said member and controlling the positions of said devices and provided with an actuating spring and also provided with an exterior handle arranged in proximity to said first mentioned handle and movable toward and from the same and adapted to be grasped by the hand grasping said first mentioned handle.

10. A brick carrier comprising a tube having a handle, series of blades carried by said tube and provided with springs constantly tending to project said blades radially beyond the outer surface of the tube, said tube formed with openings closed by said blades whether retracted or projected, a movable rod in said tube having means determining the positions of said blade, said rod being spring propelled in one direction, and a handle carried by said rod for moving the same in the opposite direction.

11. A brick carrier comprising several parallel tubular members provided with a connecting handle, each tubular member provided with several separate sets of normally withdrawn brick gripping devices, springs for withdrawing the same, longitudinally movable rods in said members having cones for projecting said devices, a spring device holding said rods in one direction, a cross handle connecting said rods for moving the same in the opposite direction, and means for detachably locking said rods against the tension of said spring device.

12. A brick carrier comprising a brick supporting rod having carrying means, said rod adapted to be inserted in aligned previously formed transverse holes in a series of parallel closely-arranged bricks, a series

of retractile brick-engaging-and-supporting radially-movable blades arranged longitudinally of said rod and uniformly spaced apart a distance approximately equal to the thickness of a brick, whereby said devices, when the rod is properly positioned in the several bricks, can be projected to operatively and internally grip said bricks between their side faces, and manually-controlled actuating means for said devices.

13. A brick carrier comprising a pair of parallel elongated spaced tubes provided with a cross handle connecting their corresponding ends, a pair of rods longitudinally movable within said tubes and provided with a cross member adjacent to said handle and connecting said rods to move together, said rods being spring actuated in one direction, means to lock said rods approximately at their limit of movement in one direction, and corresponding series of normally retracted brick grasping means spaced apart and arranged longitudinally of said tubes, said rods provided with means determining the positions of said devices.

14. A brick carrier comprising a pair of spaced parallel bars provided with a connecting cross handle, a pair of rods arranged parallel with and movable longitudinally of said bars and provided with a cross member connecting said rods to move together and arranged adjacent to said handle, a spring device tending to longitudinally move said rods in one direction, said rods provided with longitudinal series of spaced longitudinal wedging surfaces, and series of spaced brick gripping devices arranged longitudinally of said bars and consisting of blades adapted to be projected to brick gripping positions and withdrawn to inoperative positions, the positions of said blades being controlled by said wedging surfaces and the longitudinal movement of said rods.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. GOLDNER.

Witnesses:

LEON VINCENT,
HARRY S. VINCENT.