

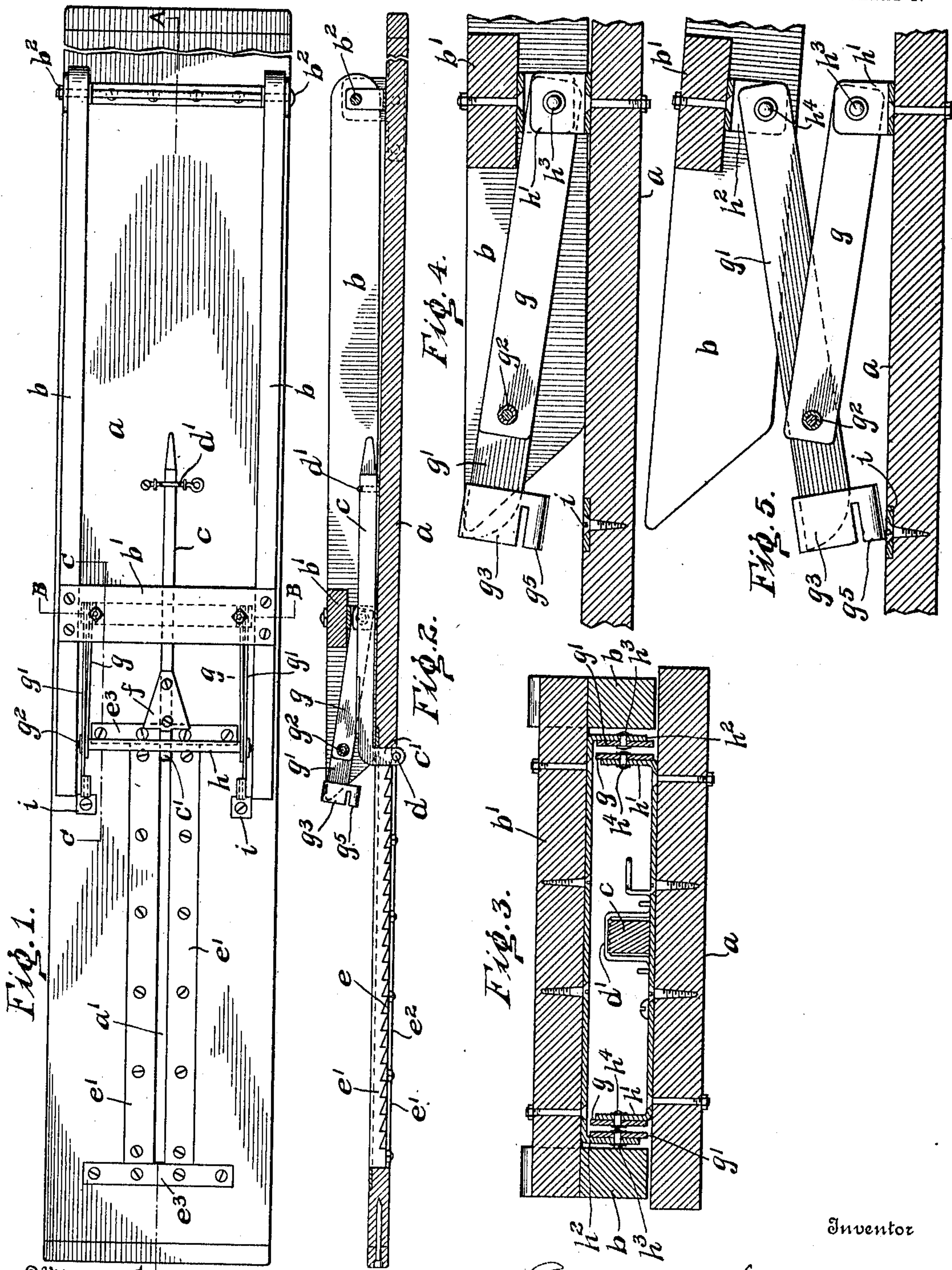
BUILDER'S JACK.

APPLICATION FILED MAY 26, 1908.

945,162.

Patented Jan. 4, 1910.

2 SHEETS--SHEET 1.



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G. W. HAUSE.
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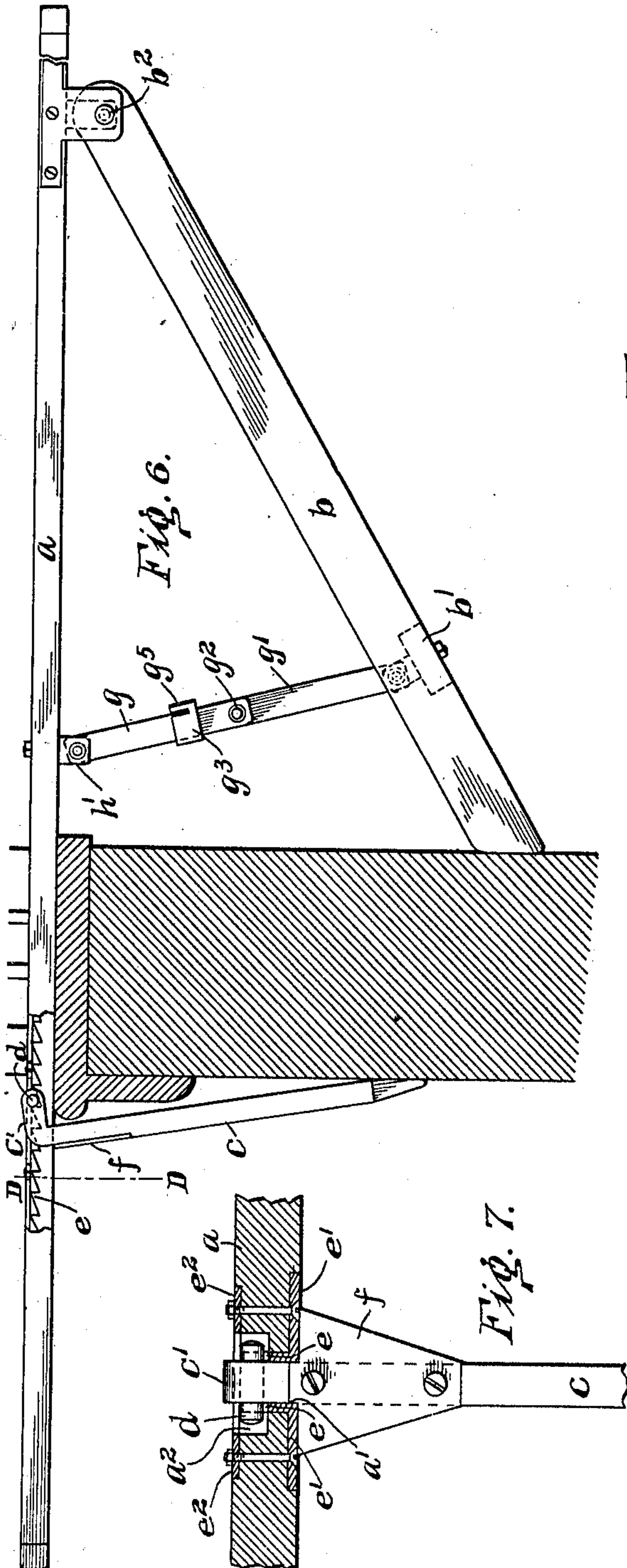


Fig. 8.

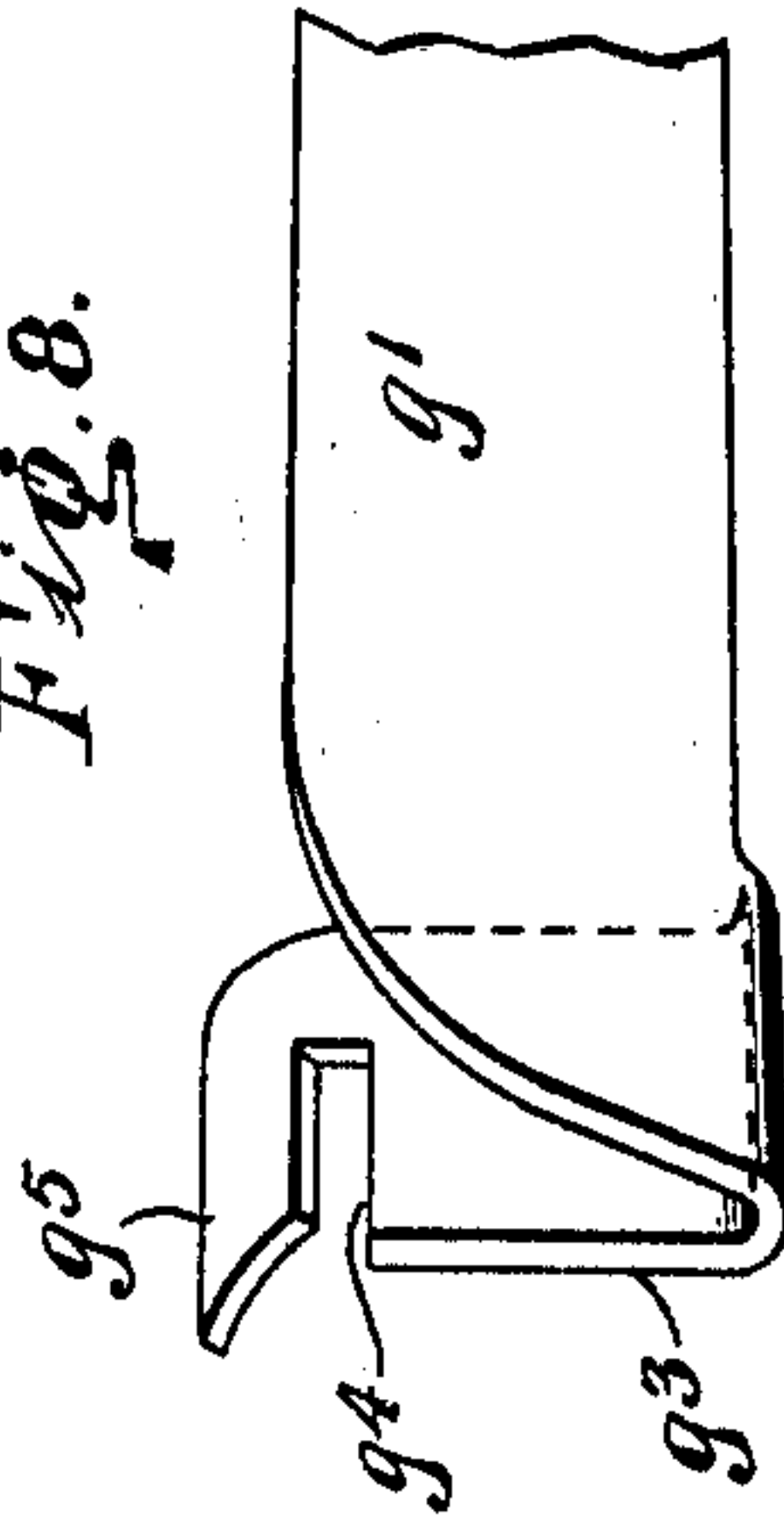
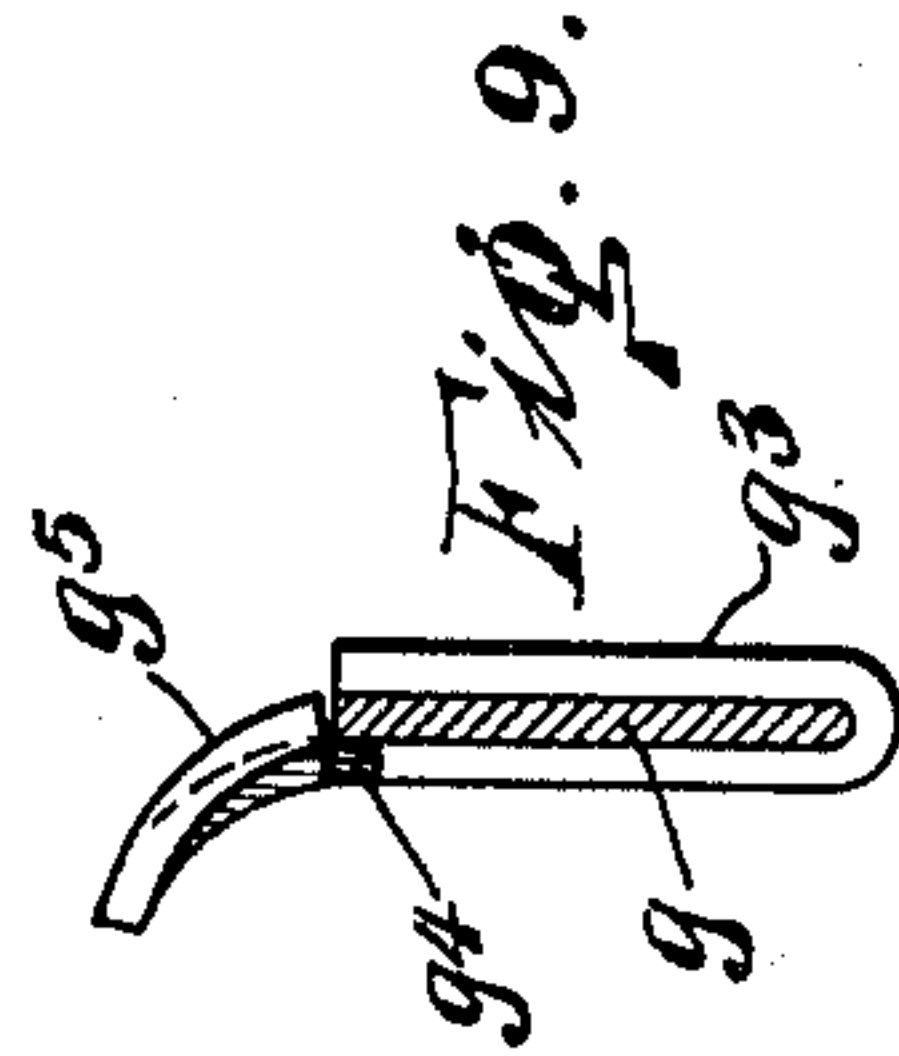


Fig. 9.



Witnesses

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BUILDER'S JACK.

945,162.

Specification of Letters Patent.

Patented Jan. 4, 1910.

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To all whom it may concern:

Be it known that I, GEORGE W. HAUSE, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in Builders' Jacks, of which the following is a specification.

It is one of the objects of my invention to enable the key and brace of a builder's jack or window jack to be folded up and fastened to the key board when out of use, so that the jack may be more easily carried about and will occupy less space and have no projecting parts. To this end I employ a brace 10 hinged to the board and having its outer end also connected with the board by means of jointed links, which not only hold the brace rigidly in place when it is in use, but also hold it firmly against the board when 20 it is folded up and out of use, so that accidental swinging out of the brace is prevented. I also employ a key which may be folded up against the brace and secured to it, when not in use, without disengaging the 25 key from its key slot in the board.

My invention also embraces improvements in construction which are fully described and claimed hereinafter.

In the drawings: Figure 1 is an inverted 30 plan view of the jack when the same is collapsed; Fig. 2 is a longitudinal sectional view of the same on the line A—A of Fig. 1; Fig. 3 is a transverse section enlarged on the line B—B of Fig. 1; Fig. 4 is an enlarged sectional view on the line C—C of 35 Fig. 1 showing the hinging mechanism with the brace folded down and locked; Fig. 5 is a view similar to Fig. 4 illustrating the operation of the hinging mechanism when the brace is being raised; Fig. 6 is a side 40 elevation of the jack opened and fixed to a window; Fig. 7 is a transverse section enlarged on the line D—D of Fig. 6; and Figs. 8 and 9 are detail views of parts of 45 the hinging mechanism.

a is the key-board; $b\ b\ b'$ the brace, and c the adjustable key.

The brace b which as shown consists of two arms $b\ b$ and a cross piece b' is hinged 50 to the outer end of the key-board and is adapted, when the jack is in use, to rest at

its free end against one side of the wall, as shown in Fig. 6.

The head c' of the key c is supported, with provision for longitudinal movement, in a 55 slot a' in the key-board and is bent at an angle to the shank and provided with a transverse pin d adapted to engage the teeth of longitudinal racks $e\ e$ on the upper side of the key-board. The key may be laid flat 60 against the under side of the board and secured in that position by a suitable catch d' (see Figs. 1, 2 and 3), or may be turned down into operative position to act as a key 65 as shown in Figs. 6 and 7. At the upper end of the shank of the key adjacent to the head and immediately below the slot in the board, is a transverse lug or plate f , which bears against the under side of the board and acts as a stop to hold the key against 70 further movement when it is turned into substantially vertical position with the pin d on the head in engagement with teeth of the rack. When the key is turned down toward the board the head c' will rise up and 75 disengage the ends of the pin d from the teeth of the racks, so that the key may be moved longitudinally in the slot and adjusted to the position desired.

In the construction shown the upper side 80 of the board a adjacent to the slot a' is recessed as at a^2 , and the racks $e\ e$ are formed on the edges of angle plates $e'\ e'$ which are secured to the under side of the board with the toothed portions, which form the racks, 85 fitting in the sides of the slot. This construction is not only simple, but it is exceedingly efficient, as the sides of the slot are thus faced with metal and the lower flanges of the plates $e'\ e'$ provide longitudinal metal 90 bracing surfaces for the key-stop f . The structure may be further strengthened by metal strips $e^2\ e^2$ along the upper edges of the slot bolted through the board to the flanges of the angle plates $e'\ e'$. Metal 95 strengthening strips as $e^3\ e^3$ may also be arranged transversely at the ends of the slot. The head c' of the key lies in the recess a^2 so that it does not form an objectionable projection above the upper surface of the board 100 when the key is in use.

The brace $b\ b\ b'$ is hinged at one end, as

at b^2 , to the outer end of the board, and is also connected with the board near its free end by jointed links $g g'$. As shown there is a pair of these links $g g'$ between each of the arms b of the brace and the board a . These links are hinged together at g^2 , and one, as g' , is extended beyond the joint and provided with a spring clip or jaw g^3 which engages the other link g , when the links are extended as shown in Fig. 6. The extreme end of the jaw is slotted as at g^4 to form a spring catch g^5 which will spring over the edge of the link g , when the links are extended, as shown in Fig. 9. The links, when thus extended, are held securely against accidental closing, and, to release them and enable the brace to be folded up, it is necessary to press in the spring catches g^5 . It is a special feature of these links $g g'$ that they lock the brace when it is folded up against the key-board and prevent it from moving accidentally. To accomplish this result the sum of the length of one of the links, as g' , (between its hinge-points) and the distance between the hinge point h^4 of that link and the hinge point b^2 of the brace is made slightly greater than the sum of the length of the other link, as g , and the distance between its hinge-point h^3 and the hinge-point b^2 . If all the parts were rigid and unyielding, this would prevent the links being completely folded, or the hinge-point h^4 of the link g' passing the hinge-point h^3 of the link g . The link connections are, however, made to have a slight spring action which will permit the link g' to be sprung past the link g . Such spring action may be provided in any convenient manner; as shown, it is obtained by connecting the links $g g'$ respectively with yielding flanges $h' h^2$ of plates secured to the board a and brace b .

When the brace is folded, the links are bent and folded together until the parts are approximately in a position such as is shown in Fig. 5. As soon as the link embraced in the shorter length from g^2 to b^2 is in such position that g^2 , h^3 and b^2 are in a straight line, further free movement is resisted and the end of the brace b is then forced toward the board a , springing the link g' and its hinge-point h^4 past the hinge-point h^3 . The link g' then snaps away from the board a and throws the brace b tightly against it (as is shown in Fig. 4). To release the brace the links $g g'$ are forced back toward the board while the brace is pulled outward, thus reversing the operation and springing the hinge-points h^4 of the links g' past the hinge-points h^3 of the links g back into the position shown in Fig. 5. To prevent wear of the board from the contact of the heads g^3 of the links g' it may be provided with small metal plates i .

What I claim as new is as follows:

1. In a builder's jack, the combination with the key-board and key, of a brace connected with the key-board by a fixed pin at one end and links joined together and hinged respectively to the key-board and brace, the length of one of said links between its hinge-point being longer than the other and said links having a spring action whereby the longer link may be sprung past the other link to spring the brace against the under-surface of the key-board.

2. In a builder's jack, the combination with the key-board and key, of a brace hinged at one end to the key-board, and links jointed together and connected respectively with the key-board and brace, the distance from the joint of the links to the hinge-joint of the brace with the key-board being longer through one link than through the other, and said links having a spring action whereby the link embraced in the longer length between said hinge-points may be sprung past the other link to spring the brace against the under face of the key-board.

3. In a builder's jack, the combination with the key-board and key, of a brace hinged at one end to the key-board, links jointed together and hinged respectively to the key-board and brace, the distance from the joint of the links to the hinge-point of the brace with the key-board being longer through one link than through the other, and spring connections between the brace and the hinges of the links.

4. In a builder's jack, the combination with a longitudinally slotted key-board and its brace, of a toothed rack extending in said slot, and a key adjustable longitudinally in said slot and having a transverse projection at its head adapted to engage the teeth of said rack, said key when out of use being free to be folded up against the underside of the key-board without disengagement of its head from the slot.

5. In a builder's jack, the combination with a longitudinally slotted key-board and its brace, of a toothed rack extending in said slot, and a key adjustable longitudinally in said slot and having a transverse projection at its head adapted to engage the teeth of said rack, said key when out of use being free to be folded up against the underside of the key-board without disengagement of its head from the slot, and a catch to secure said key to the key-board when it is folded up.

6. In a builder's jack, the combination of a key-board and its brace, said key-board having a longitudinal slot provided with teeth and a key extending through said slot and having a head adapted to engage said

teeth, the said key being adapted when out of use to be folded up against the underside of the key-board without disconnection from said board.

slot, said key being free to be folded up against the underside of the key-board when out of use without disengagement from the slot.

In testimony of which invention, I have 15 hereunto set my hand.

GEORGE W. HAUSE.

Witnesses:

ERNEST HOWARD HUNTER,
R. M. KELLY.

5 7. In a builder's jack, the combination with a longitudinally slotted key-board and its brace, of a key having its head fitting said slot and adjustable longitudinally therein, and means to lock the head of said
10 key in adjusted position in the length of the