

No. 690,827.

Patented Jan. 7, 1902.

H. L. BROWDER.
LOCOMOTIVE ASH PAN.

(Application filed Oct. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

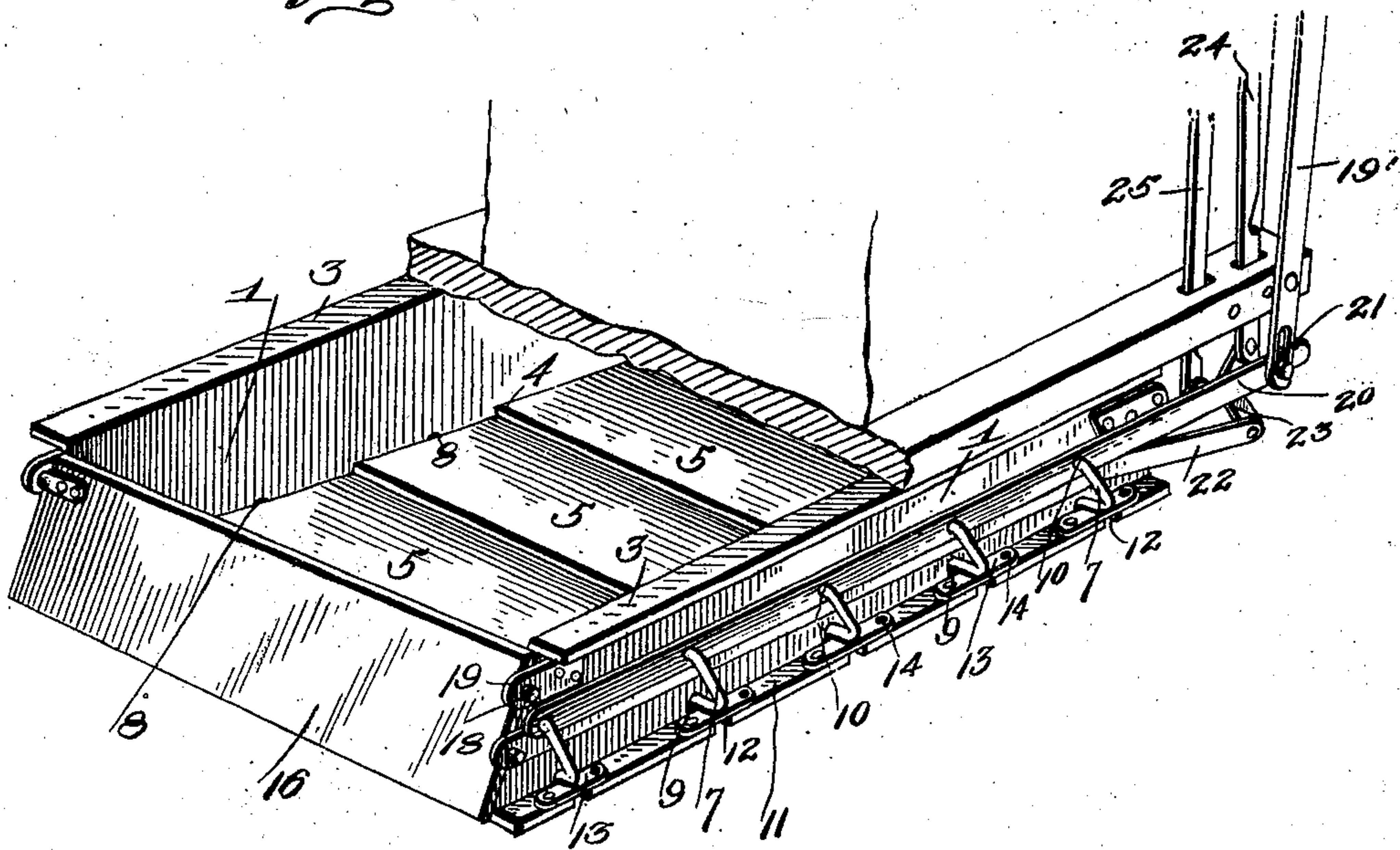
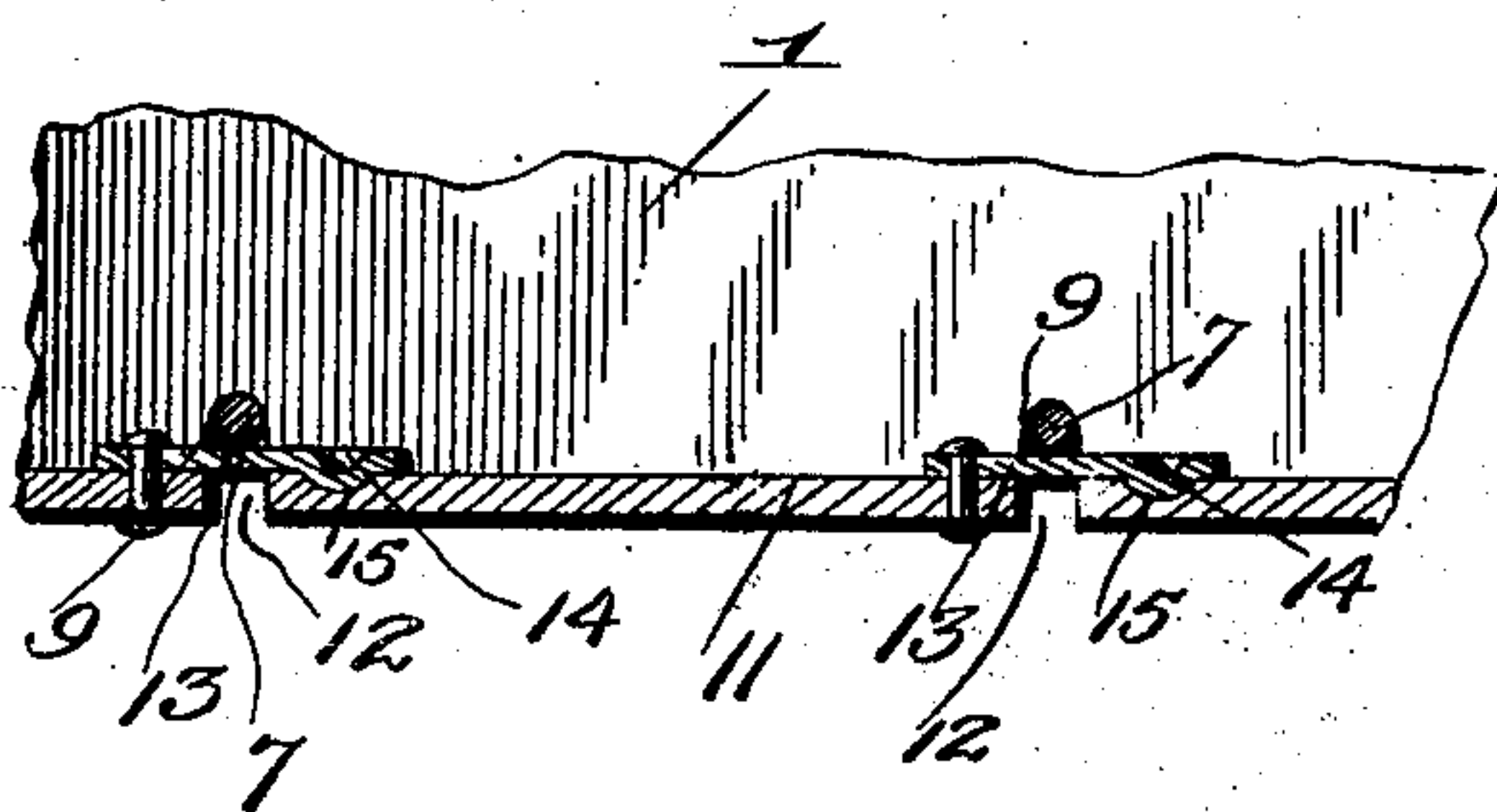


Fig. 4.



Witnesses
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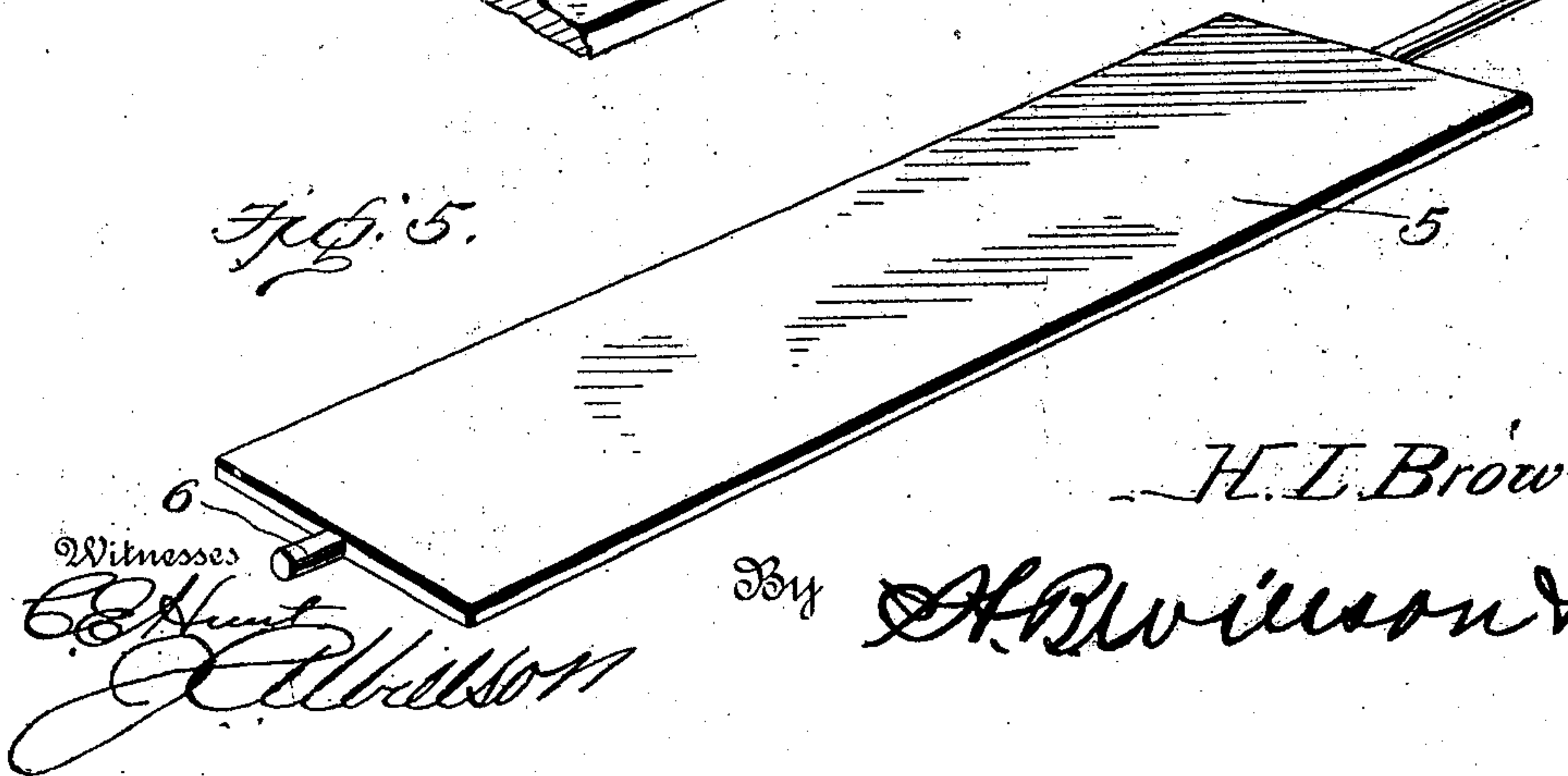
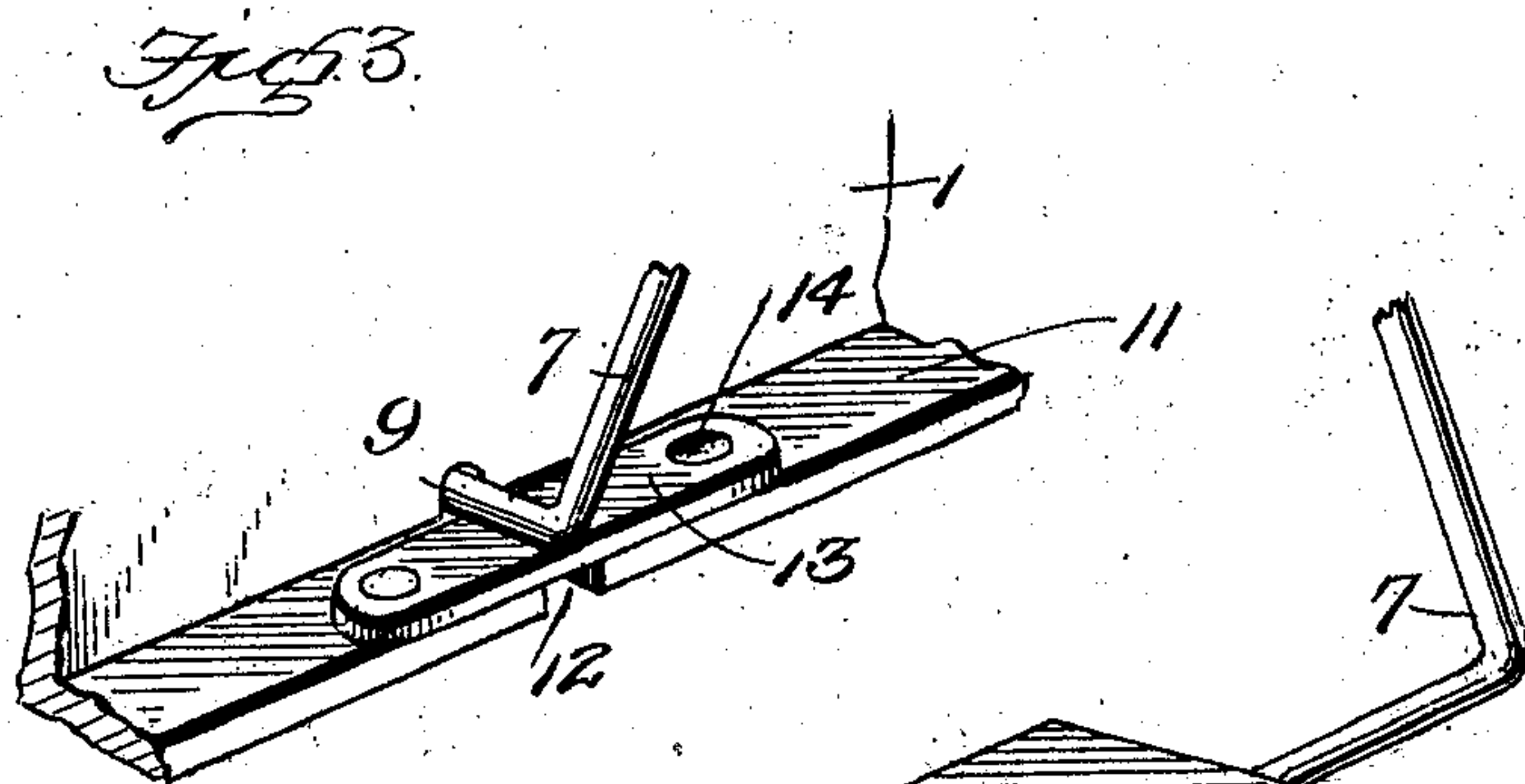
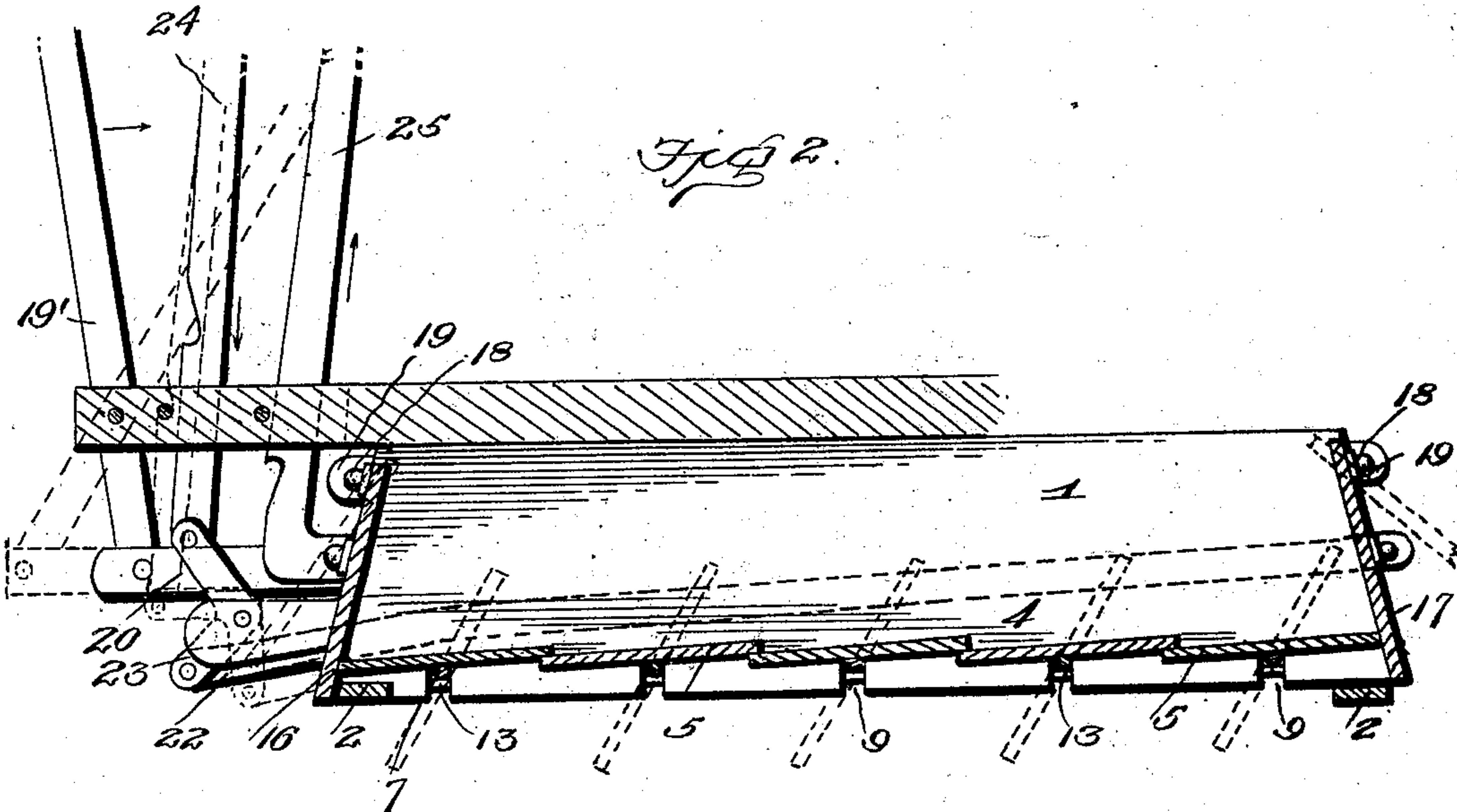
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HENRY L. BROWDER, OF McCOMB CITY, MISSISSIPPI.

LOCOMOTIVE ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 690,827, dated January 7, 1902.

Application filed October 14, 1901. Serial No. 78,641. (No model.)

To all whom it may concern:

Be it known that I, HENRY LEE BROWDER, a citizen of the United States, residing at McComb City, in the county of Pike and State of Mississippi, have invented new and useful Improvements in Locomotive Ash-Pans; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to locomotive ash-pans.

The objects of the invention are to provide a locomotive ash-pan which shall be simple of construction, durable in use, comparatively inexpensive of production, efficient in action, and by means of which the ashes may be easily and quickly dumped and also to provide means whereby the requisite draft can be obtained and constantly supplied to the fire in the required quantities.

With these objects in view the invention consists in certain novel features of construction and combination of parts which will be hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of my improved locomotive ash-pan. Fig. 2 is a longitudinal vertical sectional view through the same. Fig. 3 is an enlarged detail perspective view of a portion of one side of the ash-pan and ledge, illustrating the manner of removably supporting the crank-arm of one of the leaves or shutters. Fig. 4 is a longitudinal vertical sectional view through the ledge and latch, illustrating the manner of connecting the free end of the latch to the ledge. Fig. 5 is a detail perspective view of one of the leaves or shutters.

In the drawings, 1 denotes the sides of the ash-pan, suitably connected together by cross-bars 2 and provided at their upper edges with flanges 3, which are adapted to be bolted or otherwise secured to the bottom of the fire-box of a locomotive steam-engine.

4 denotes the bottom of the ash-pan, which consists of a series of leaves or shutters 5, having a pivotal stud 6 at one end and a crank-arm 7 at the other end. The pivotal stud 6 projects into a bearing-aperture 8, formed in one side of the pan, and the crank-arm projects through a slot 9, formed in the other side

of the pan, and extends upwardly and is provided with a laterally-bent end 10. The side of the pan in which the slots 9 are formed is provided with a laterally-projecting ledge 11, which has slots 12 registering or communicating with the slots 9, and pivoted to this ledge, to swing across the slots 12, are latches or buttons 13, the free ends of which are formed with downwardly-projecting studs 14, made, preferably, by punching the material of which the latches or buttons are formed; and these studs 14 are adapted to spring into indentations or seats 15 in the ledge, and thus hold the free ends of the latches or buttons into engagement with the ledge, with the crank-arms resting upon the said latches or buttons. It will thus be seen that by this construction should any of the leaves or shutters be damaged—as, for instance, by the intense heat of the fire-box, which oftentimes warps or distorts parts in close proximity to the fire-box—the damaged leaf or shutter may be removed without disturbing or molesting the remaining leaves or shutters and be replaced by a new one.

16 denotes the damper or draft-regulator at the front end of the ash-pan, and 17 denotes the damper or regulator at the rear or inner end of the ash-pan. Each damper or regulator is pivoted to the sides of the ash-pan preferably by providing each damper or regulator with studs 18, which are adapted to pivot in brackets 19, projecting from the sides of the ash-pan.

Any suitable means may be employed for operating the shutters or leaves and any suitable means may be employed for operating the dampers or regulators. As shown and preferred, the means for actuating the shutters or leaves consists of a suitably-pivoted lever 19 and a bar 20, having a pivotal connection by pin and slot 21 with the lower end of said lever and pivoted to the laterally-bent ends of the crank-arms. By rocking this lever in one direction the leaves will be operated to throw them into a vertical plane, and thus permit of the discharge of the ashes in said pan. The rocking of the lever in the opposite direction will swing the leaves in the opposite direction, and thus close the bottom of the pan.

Any suitable means (not necessary here to be described or illustrated) may be employed

for retaining the lever in each or any of its adjusted positions.

The front damper or draft-regulator is pivotally connected to one end of a bar 22, the rear end of said bar being pivotally connected to a bell-crank lever 23, which in turn is pivotally connected to an operating-rod 24, which upon being depressed by the foot or otherwise will open the forward draft-regulator or damper. Any suitable means may be employed for locking this operating-rod in desired adjustment to hold the forward damper in its desired position.

The means for actuating the rear damper or draft-regulator consists of a rod 25, the lower end of which is pivoted to said regulator or damper and the upper end of which projects through the deck of the locomotive within convenient reach of the fireman. Any suitable means may be employed for locking this operating-rod in desired adjustment.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood without requiring a more extended explanation.

While the preferred form of the invention is as herein described, it will of course be understood that changes in the form, proportion, and the minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a locomotive ash-pan, the combination with the side pieces thereof, one of which is formed with a ledge and with slots therein and the other of which is formed with bearing-apertures, of a bottom composed of a series of leaves or shutters provided at one end with bearing-studs to engage the bearing-apertures and provided at the other end with crank-arms to pass upwardly through the slots and ledge, and pivoted buttons or latches adapted to close the slots in said ledge and thereby support the leaves or shutters and at the same time permit of their independent removal from the side pieces of the ash-pan, substantially as set forth.

2. In a locomotive ash-pan, the combination with side pieces, one of which is formed with vertical slots and with a horizontally-extending ledge provided with registering slots and the other side piece of which is provided with bearing-apertures, of leaves or shutters hav-

ing at one end studs to engage said bearing-apertures and having at their opposite end crank-arms which are inserted upwardly through the slots in the ledge and into the slots of the side pieces, and latches or buttons pivoted to said ledge and adapted to be swung under the horizontal portion of said crank-arm and support the same in place, substantially as set forth.

3. In a locomotive ash-pan, the combination with side pieces, one of which is formed with vertical slots and with a horizontally-extending ledge provided with registering slots and the other side piece of which is provided with bearing-apertures, of leaves or shutters having at one end studs to engage said bearing-apertures and having at their opposite end crank-arms which are inserted upwardly through the slots in the ledge and into the slots of the side pieces, latches or buttons pivoted to said ledge and adapted to be swung under the horizontal portion of said crank-arm and support the same in place, said ledge having seats or depressions, and the free ends of said latches or buttons having studs to engage said seats or depressions to securely retain the latches or buttons in place across the slots in the ledge, substantially as set forth.

4. In a locomotive ash-pan, the combination with side pieces, one of which is formed with vertical slots and with a horizontally-extending ledge provided with registering slots and the other side piece of which is provided with bearing-apertures, of leaves or shutters having at one end studs to engage said bearing-apertures and having at their opposite end crank-arms which are inserted upwardly through the slots in the ledge and into the slots of the side pieces, latches or buttons pivoted to said ledge and adapted to be swung under the horizontal portion of said crank-arm and support the same in place, said ledge having seats or depressions, the free ends of said latches or buttons having studs to engage said seats or depressions to securely retain the latches or buttons in place across the slots in the ledge, a bar pivotally connected to the crank-arms, and means for reciprocating said bar to rock said crank-arms and tilt said leaves or shutters, substantially as set forth.

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

H. L. BROWDER.

Witnesses:

O. R. PORTER,
B. L. HABIG.