

(No Model.)

W. A. & S. G. BROWN.  
STALL FLOOR.

No. 528,849.

Patented Nov. 6, 1894.

Fig. 1.

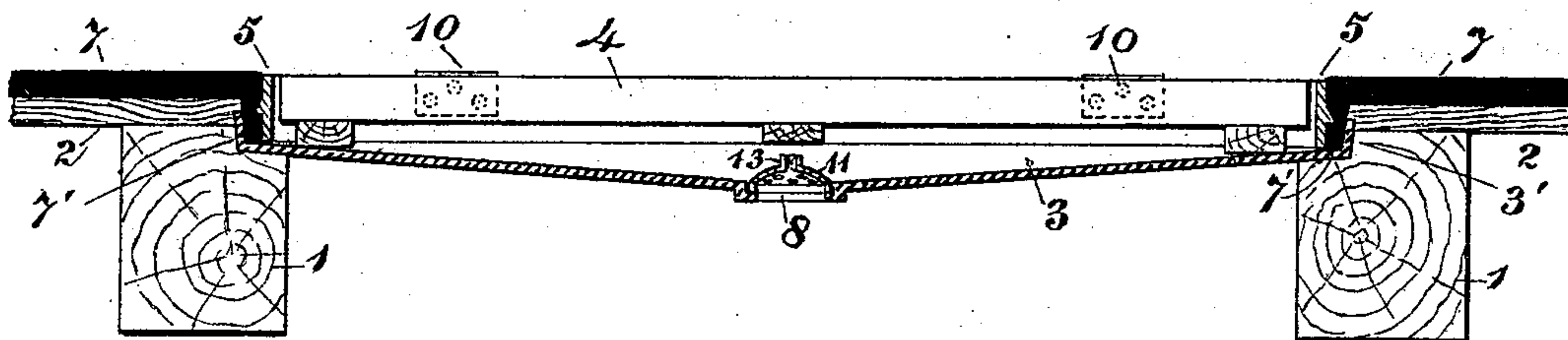


Fig. 2.

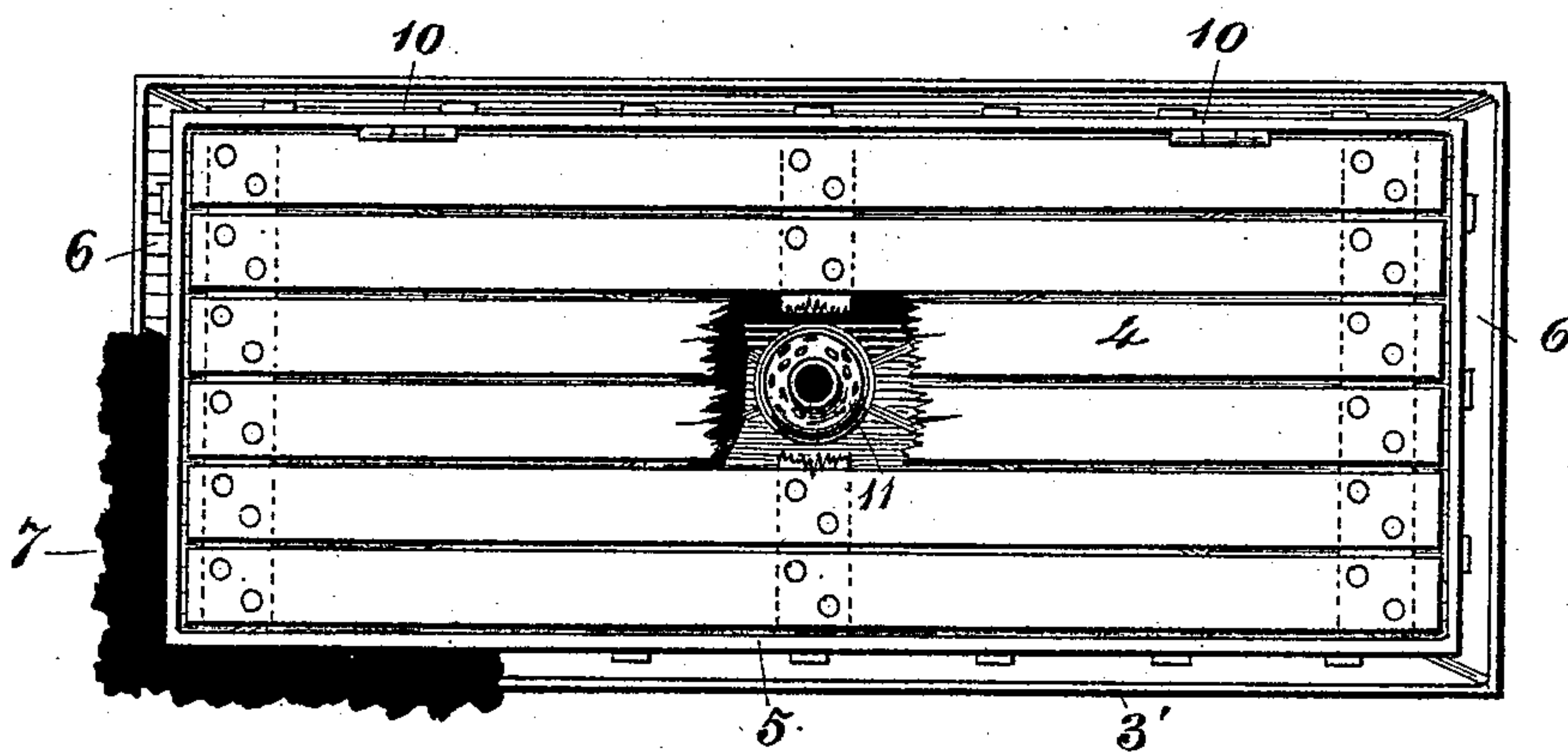


Fig. 3.

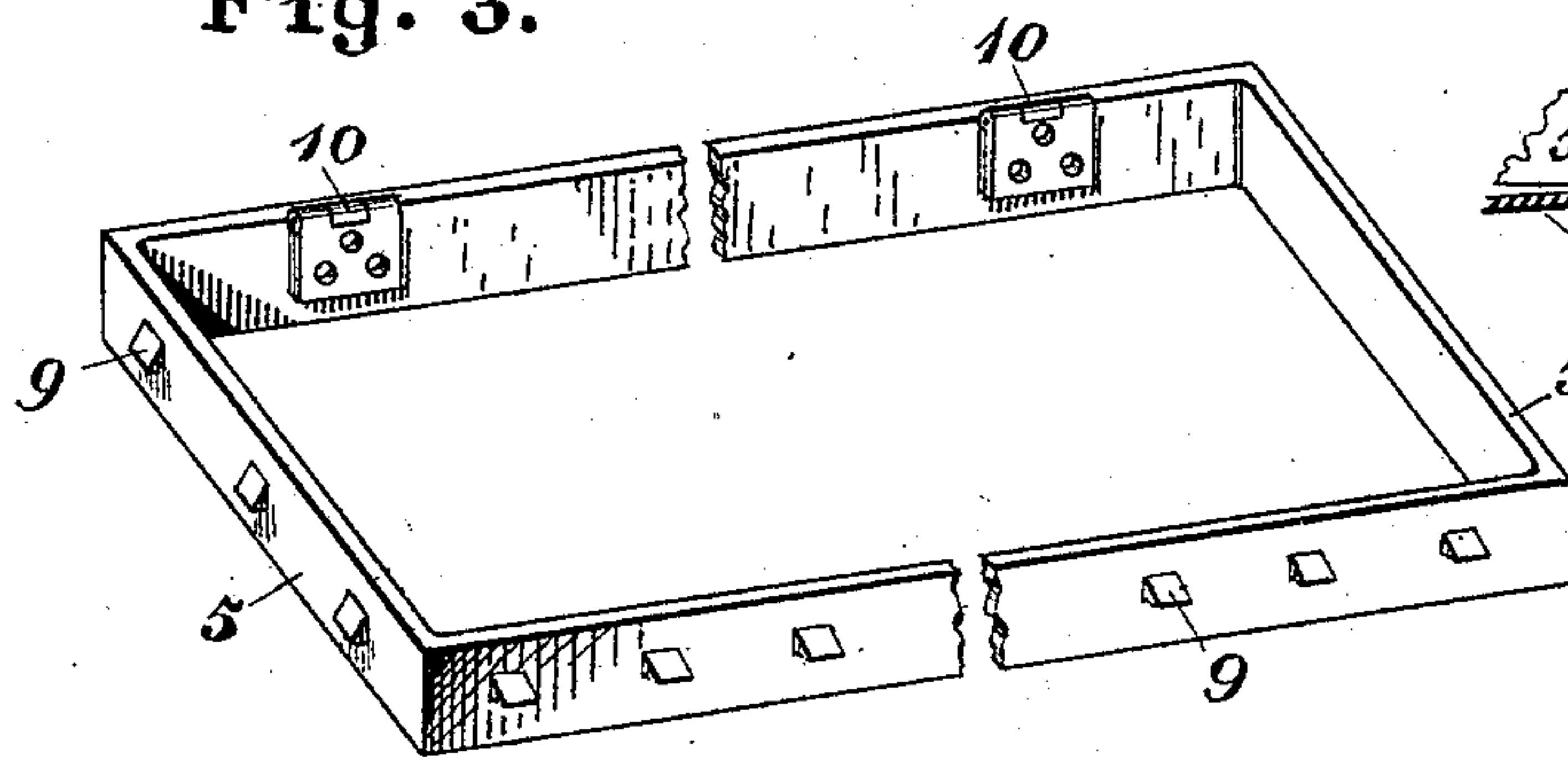


Fig. 5.

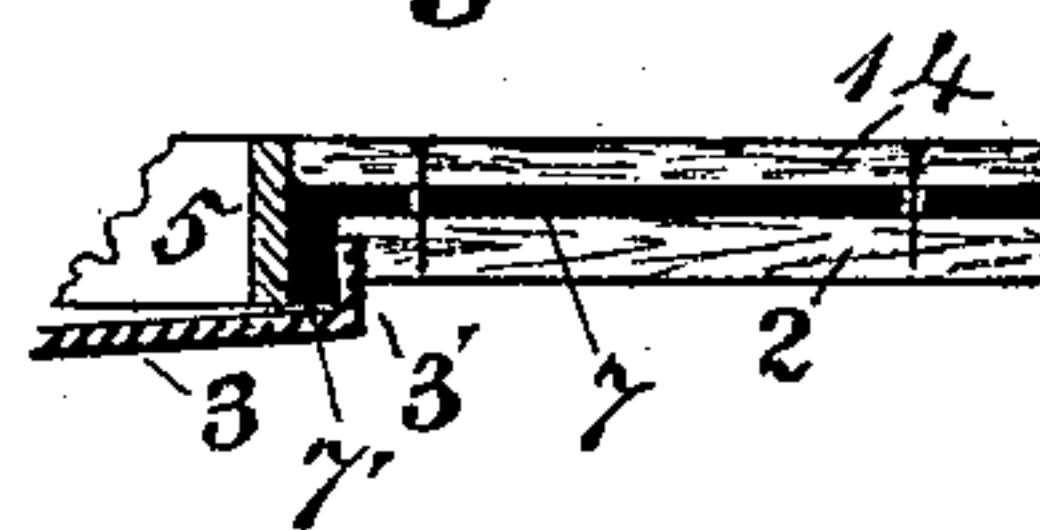


Fig. 4.



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# UNITED STATES PATENT OFFICE.

WILLIAM A. BROWN AND SAMUEL G. BROWN, OF LYNN, MASSACHUSETTS.

## STALL-FLOOR.

SPECIFICATION forming part of Letters Patent No. 528,849, dated November 6, 1894.

Application filed July 21, 1894. Serial No. 518,232. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM A. BROWN and SAMUEL G. BROWN, citizens of the United States, residing at Lynn, Essex county, Massachusetts, have jointly invented certain new and useful Improvements in Stall-Floors, of which the following is a specification.

Our improvements are in the class of drainage systems for stables illustrated in the patent No. 502,221, which was issued to the said Samuel G. Brown on the 25th day of July, 1893, to which reference may be made for structural details not herein specifically described.

Modern sanitary requirements, which call for frequent washing out or flushing of stall-drains, equally forbid any spillage or leakage of fecal matters into the space underneath the stall-floor. This latter requirement—important in all cases—is absolutely imperative for those stables of the better class which have offices or other rooms on the floor immediately beneath them.

A leading feature of our present improvements consists in means for rendering such spillage or leakage impossible.

A further feature of our improvement consists in means for automatic prevention of any clogging of the draining mechanism in the event of any temporary neglect of such flushing.

Figure 1, is a longitudinal vertical section of a stall-floor equipped with our improved drainage-apparatus. Fig. 2, is a plan view showing the drain-pan, the sealing-frame, and the removable slatted floor-piece, the latter being shown partly broken away in order to expose the outlet-screen with its stand pipe or elevated wasteway. Fig. 3 is a perspective view of the said sealing-frame. Fig. 4, shows the outlet-screen in axial section. Fig. 5, shows a composite floor with sealing-device on our plan.

1, may represent sills, beams or headers which support any suitable foundation, such as wooden planking 2. Such sills, beams or headers also serve to support the vertically flanged and seamless drain-pan or drip-pan 3—3'. Supported upon the drain-pan 3—3' is a removable slatted flap or floor-piece 4, which,—when in place,—rests on the drain-

pan, in the manner shown, so as to occupy the floor-opening and to stand at the same level with the rest of the stall-floor; also flush with the stall-floor, and surrounding the flap or floor piece, is the joint-sealing frame 5,—preferably of cast or wrought iron—but which may be of wood. The dimensions of these parts are such as to present a deep narrow trough or trench 6,—known, in this specification as the “sealing-trough”—between the frame 5, and the pan-flange 3'. The cavity formed by the sealing-trough and the space above the foundation-planking is filled with a downward integral extension 7' of a course 7 of asphalt, concrete, kosmocrete, beton, or other suitable cement to the level of the slatted floor-piece and sealing-frame, with the result of creating an absolutely closed joint at the line of junction of the drain-pan flange with the stall-floor opening, thus making any escape of liquid impossible except at the proper place of discharge, 8. For the more certain retention of the asphalt filling within the sealing-trough, the frame 5, may have any form of roughened or irregular exterior, as, for example, it may have a number of projections 9. In addition to the utilities above cited, the frame 5, serves—in the act of laying down the asphalt while in its plastic condition—as a gage or mold, and,—after the bed of asphalt has become “set,”—the same frame protects the edge of the bed from liability to be chipped and pulverized by the animal's hoofs. The said frame furthermore, enables proper inclosure of the slatted floor-piece and its convenient attachment, by means of hinges 10.

The discharge-orifice 8, located at the lowest part of the drain-pan, is protected by a dome-shaped screen 11, which has several ranks of orifices 12, and a central large opening presented by a stand-pipe 13, which constitutes an elevated overflow or wasteway. In the usual conditions, the lowest series of orifices serve to carry off the liquids but, should these orifices become clogged, ventage takes place through those higher up. In the event of the choking up of all the orifices 12, the liquid accumulations, together with the suspended solids, pass off through the large elevated overflow or wasteway 13. The elevated



wasteway further serves as a handle for removal of the screen for any purpose.

From the above illustration of our invention—selected because of proven efficiency—  
5 deviation may be made in minor details to suit diverse preferences or requirements. For example: where a wooden wearing surface is preferred, the stall-floor may have the composite construction shown in Fig. 5, in which  
10 the asphalt is used in any desired lesser quantity sufficient to fill the sealing-trough and the floor proper consists of wooden planking 14, secured in any proper manner such as by  
15 spiking to the foundation timbers in the manner shown or to cleats that have been embedded in the asphalt while the latter is in the plastic condition. In some situations, the foundation floor may be of other material than timber, such, for example, as masonry  
20 or boiler-plate. The shed of the drip-pan may be such as to drain to any part within the marginal rim.

We claim as new and of our invention—

1. The combination of the supports, the  
25 flooring located on the supports, the drain-pan having a discharge opening and an upwardly extending peripheral flange seated in the supports beneath the edge of the flooring, the removable slatted floor-piece located in  
30 the drain-pan, and the intermediate frame surrounding the floor-piece and forming a sealing trough inside of the flange and the edge of the flooring and a course of cement

located on the flooring flush with the frame, having a downward integral extension filling  
35 the sealing trough; substantially as described.

2. The combination of the supports, the flooring located on the supports, the drain-pan having a discharge opening and upwardly  
40 extending peripheral flange, the removable slatted floor piece located in the drain-pan, the intermediate frame surrounding the floor-piece and forming a sealing trough, a course  
45 of cement located on the flooring flush with the frame, having a downward integral extension filling the sealing trough, and the dome-shaped screen located over the discharge-opening and having a surmounting  
stand-pipe; substantially as described.

3. The combination of the floor 2, the seam-  
50 less-drain-pan 3 supported on the floor and having an upwardly extending flange 3', the frame 5 seated within and projecting above the pan and forming (in connection with the pan and its flange) a sealing trough 6, the bed  
55 7 of cement which surrounds the frame, and has a downward integral extension 7' filling and closing the sealing trough, and the wearing floor 14 superimposed upon and covering  
60 the bed 7; substantially as and for the purpose set forth.

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