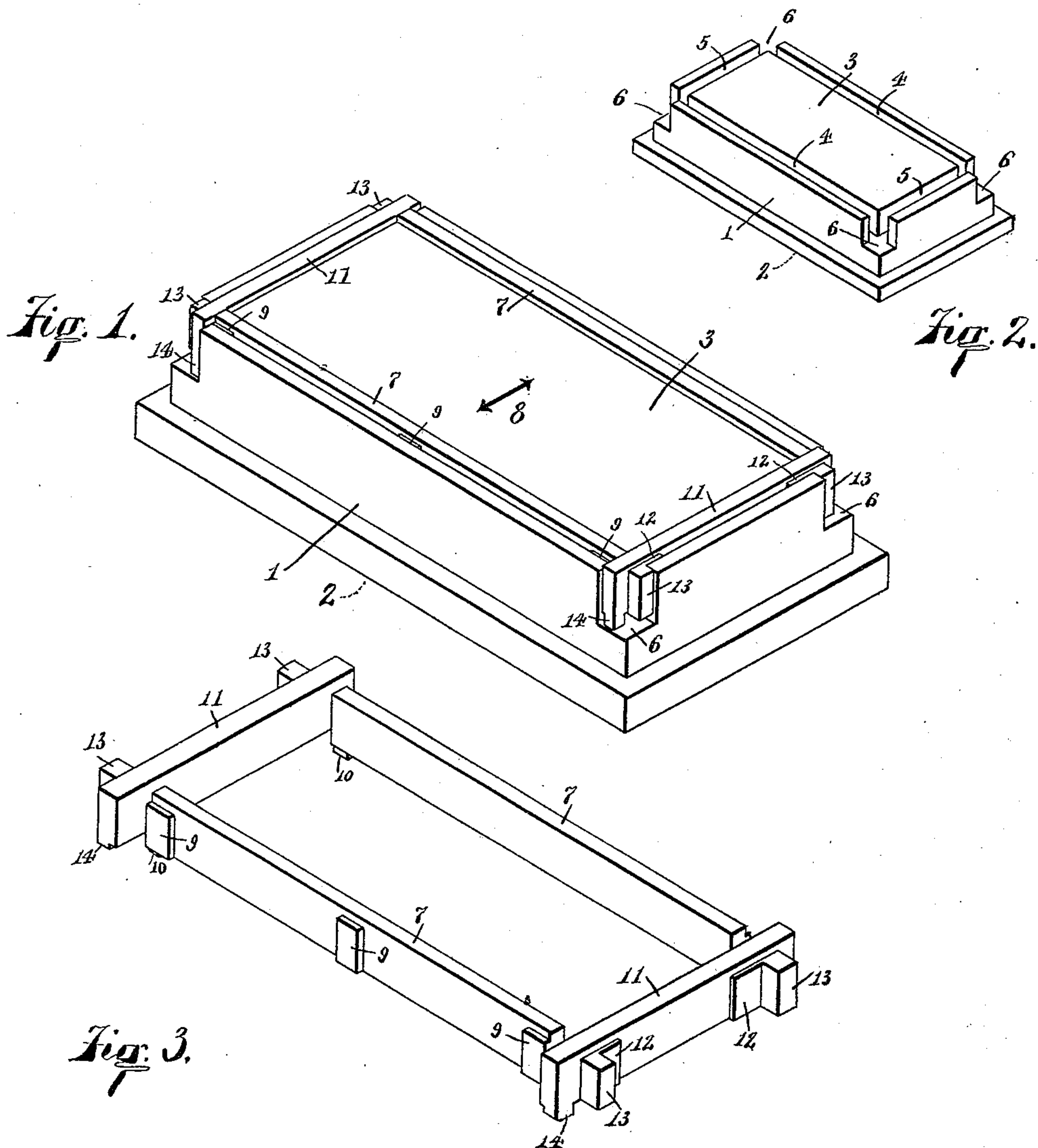


(No Model.)

W. S. ROGERS.  
PACKING FOR BALANCED SLIDE VALVES.  
No. 450,299. Patented Apr. 14, 1891.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WINFIELD S. ROGERS, OF TROY, NEW YORK, ASSIGNOR TO MARY C. HAMMETT, OF SAME PLACE.

## PACKING FOR BALANCED SLIDE-VALVES.

SPECIFICATION forming part of Letters Patent No. 450,299, dated April 14, 1891.

Application filed November 26, 1890. Serial No. 372,743. (No model.)

*To all whom it may concern:*

Be it known that I, WINFIELD S. ROGERS, of Troy, Rensselaer county, New York, have invented certain new and useful Improvements in Packings for Balanced Slide-Valves, of which the following is a specification.

This invention relates to improvements in the packing of balanced slide-valves of that type in which the top of the valve has grooves around its margin, in which are placed packing-strips whose upper edges bear against the steam-chest cover or against a balancing-plate secured under the cover, the object being to exclude steam-pressure from the major portion of the top of the valve.

My present improvements relate to the construction and arrangement of the packing-pieces, whereby more perfect working and durability are secured.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of the top of a balanced valve embodying my improvements; Fig. 2, a similar view, upon a reduced scale, of the valve minus the packing-pieces; and Fig. 3, a perspective view of the packing-pieces removed from the valve and assembled in proper relation to each other, except that the end pieces are separated from the ends of the side pieces for the purposes of a clearer delineation.

In the drawings, 1 indicates the body of a slide-valve; 2, the under face thereof, which will be as usual in any improved slide-valve construction; 3, the top of the valve, from which it is desired to exclude to a great extent the action of the pressure of the steam in the steam-chest containing the valve; 4, a deep groove cut down in the top of the valve, one groove near each side, the side walls of these grooves being accurately surfaced and made parallel with each other; 5, similar grooves at the ends of the valve, these end grooves crossing the valve and intersecting the long grooves; 6, blank spaces at the corners of the valve produced by breaking away or cutting away the corner-posts, which would naturally result from the grooves intersecting each other and continuing in their length to

the outside of the valve; 7, packing-pieces disposed within the long grooves and extending endwise to be exactly even with the inner walls of the short grooves, the inner faces of these packing-pieces being accurately surfaced, so as to make fair contact with the inner walls of their grooves, and the upper edges of these pieces being accurately surfaced to pack properly against the steam-chest bonnet or balancing-plate, these long packing-pieces being hereinafter designated as the "strips" to distinguish them from the short packing-pieces, which will be given another name; 8, an arrow on Fig. 1 to indicate the fact that the travel of the valve is in a direction at right angles to the greatest length of the strips; 9, projections from the outer faces of the strips, the strips being somewhat thinner than the width of the grooves in which the strips are seated, the faces of these projections being accurately surfaced to bear against the outer walls of the grooves, so that the strips can move vertically in their grooves, but will be held with their inner surfaces snugly against the inner walls of their grooves; 10, projections or feet from the lower edges of the strips, the lower surfaces of these feet being accurately surfaced parallel with the top edges of the strips, so that when the feet rest on the floor of the grooves the upper edges of the strips will be parallel with those floors; 11, short packing-pieces, hereinafter designated as "gibs," disposed in the short grooves of the valve and extending endwise beyond the strips, these gibbs, like the strips, being thinner than their grooves and being accurately surfaced upon their inner faces and top edges; 12, projections from the outer surfaces of the gibbs accurately surfaced and fitting the grooves in the same manner as projections 9 of the strips; 13, lugs projecting outwardly from the outer faces of the gibbs and accurately surfaced upon their inner faces, so as to nicely fit those portions of the inner walls of the long grooves which result from the continuation of the long grooves to the extreme ends of the valve-body; 14, feet projecting from the lower edges of the gibbs and surfaced and engaging the floor of their grooves, as in the case of feet 10 of the strips.



The strips and gibs are of cast-iron. Of the strips the inner faces, the top edges, the ends, soles of the feet, and the faces of projections 9 are, as before stated, accurately surfaced. 5 All of the other surfaces of the strips are untouched casting. Of the gibs, the inner faces, the top edges, the faces of projections 12, the inner faces of the lugs, and the soles of the feet are, as before stated, accurately surfaced. 10 The other surfaces are untouched casting. The edges of the packing-pieces project above the top of the valve and bear against the chest-cover or balancing-plate, as usual, and the usual springs will be disposed in the 15 grooves under the packing-pieces to press them up.

The special form of corner-joints illustrated is a preferable but not an essential one.

I claim as my invention—

20 1. In a balanced slide-valve, the combination, substantially as set forth, of a valve-body provided with parallel strip-grooves intersected by gib-grooves, the two walls of each groove being parallel and accurately surfaced,

strips thinner than the strip-grooves disposed 25 in the strip-grooves and having their ends flush with the inner walls of the gib-grooves and having outer projections engaging the outer walls of the strip-grooves, and gibs thinner than the gib-grooves disposed in the gib- 30 grooves and having projections engaging the outer walls of the gib-grooves and having lugs engaging the extended portions of the inner walls of the strip-grooves.

2. In a balanced valve, the combination, 35 substantially as set forth, of a valve-body provided with parallel side grooves and parallel end grooves, the two walls of each groove being parallel and accurately surfaced, and packing-pieces thinner than the grooves dis- 40 posed in the grooves and joining at the corners of the valve and provided with projections upon their outer surfaces engaging the outer walls of the grooves.

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Witnesses:

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