No. 710,858. Patented Oct. 7, 1902.

W. GRIESSER.

WINDOW FOR REFRIGERATING ROOMS OR THE LIKE.

(Application filed Feb. 15, 1902.)

(No Model.) 2 Sheets—Sheet 1.

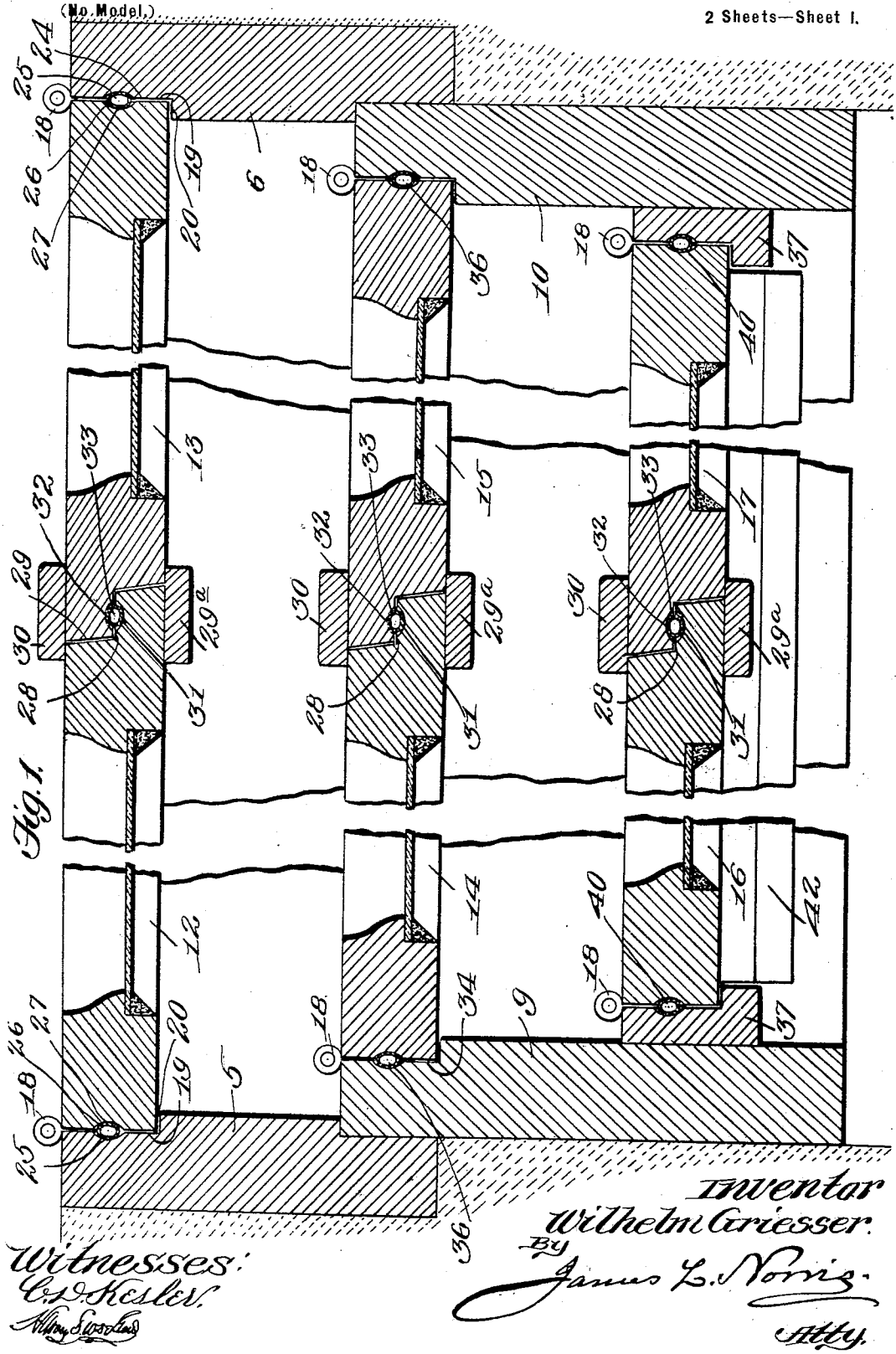


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2

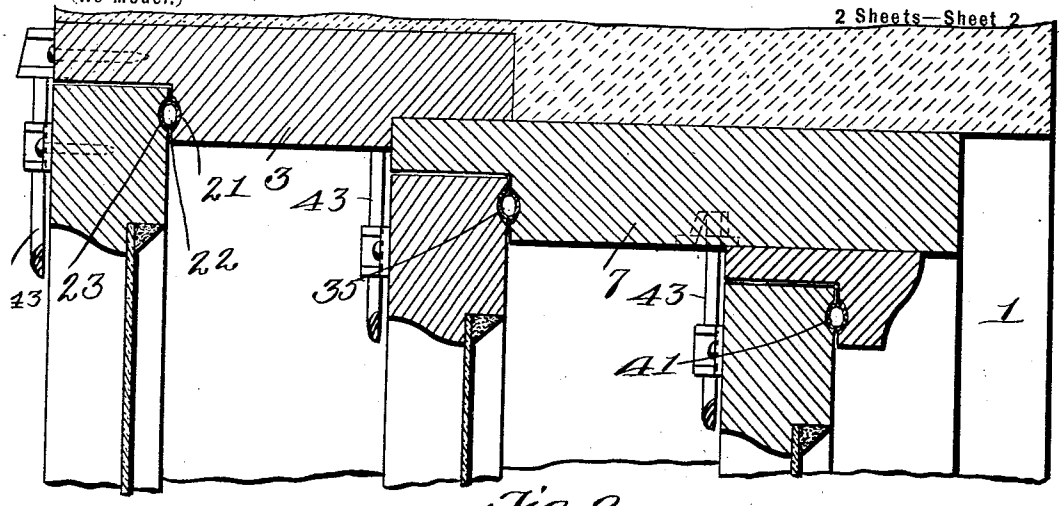
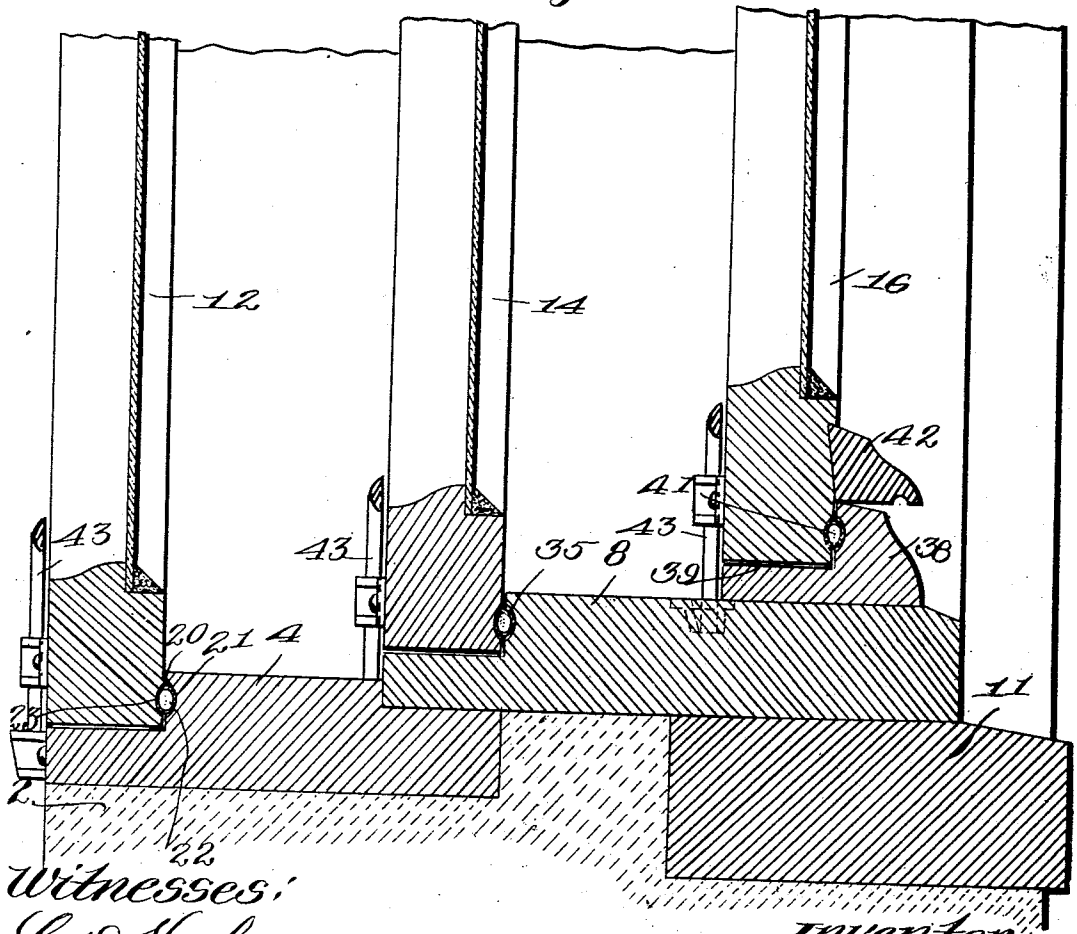


Fig. 2.



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UNITED STATES PATENT OFFICE.

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WINDOW FOR REFRIGERATING-ROOMS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 710,858, dated October 7, 1902.

Application filed February 15, 1902. Serial No. 94,289. (No model.)

To all whom it may concern:

Be it known that I, WILHELM GRIESSER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Windows for Refrigerating-Rooms or the Like, of which the following is a specification.

The object of my invention is to provide a novel construction of window sash and frame for brewery stock-houses and other refrigerating-rooms whereby close joints may be formed between the movable sashes and the adjacent parts with which they coöperate.

The details of the invention will hereinafter appear, and the novel features thereof will be set forth in the claims.

In the drawings forming part of this specification, Figure 1 is a horizontal section of a refrigerator-window, taken at a point intermediate the upper and lower ends thereof. Fig. 2 is a vertical section of the same.

Like reference-numerals indicate like parts in the different views.

The window-opening 1 is cut in the wall 2 of the building structure and has secured therein the window-frame, which in the form of my invention herein shown consists of the upper and lower horizontal strips 3 and 4, the vertical strips 5 and 6 in line with the strips 3 and 4, the upper and lower horizontal strips 7 and 8, and the vertical side strips 9 and 10 in line with the strips 7 and 8. At the front of the window-opening is a sill 11, of stone or other like material, seated in a recess in the wall 2 and serving to support the lower horizontal frame-strip 8. That portion of the window-frame formed by the strips 3, 4, 5, and 6 is of slightly greater diameter than that portion formed by the strips 7, 8, 9, and 10 and is located adjacent to the interior of the building. The strips 7, 8, 9, and 10 are seated and secured in rabbets formed in the inner edges of the strips 3, 4, 5, and 6, respectively.

In connection with the window-frame just described I use three sets of window-sashes, arranged when in their closed positions parallel to each other and separated by air-spaces, as shown. Two sashes are comprised in each of said sets, those for the inner set being numbered 12 and 13, those for the intermediate set 14 and 15, and those for the outer set 16 and 17. Each sash of each set is hinged along its outer side edge to the window-frame, as shown at 18, and is adapted to swing inwardly to open. To receive the inner set of sashes 12 13 when they are in their closed positions, the strips 3, 4, 5, and 6, which constitute the inner portion of the window-frame, are rabbeted, as shown at 19, forming shoulders 20. The shoulders 20, which are formed in the upper and lower strips 3 and 4, respectively, are each provided with a horizontal groove 21 for the reception of a rubber packing-tube 22. A corresponding groove 23 is formed in the upper and lower rails of each of the sashes 12 13 for the reception of the packing-tube 22. The shoulder 20 on each of the side strips 5 and 6, which is formed by the rabbet 19, serves as an abutment for the sashes 12 and 13 when the same are in their closed position, and the side walls 24, which are formed in said strips 5 and 6 by the rabbets 19, are each formed with a vertical groove 25 for the reception of a rubber packing-tube 26, similar in all respects to the packing-tube 22, heretofore referred to. To receive the packing-tubes 26, each of the sashes 12 and 13 is formed in the side edge thereof, adjacent to the hinges 18, with a groove 27. It will thus be seen that the sashes 12 and 13 are capable of inward opening movement on the hinges 18 and that when the same are closed a tight impervious joint is formed between each of said sashes and the frame in which it is mounted by means of the packing-tubes 22 and 26. The central vertical meeting-rails or stiles of the sashes 12 and 13 are formed with counterpart rabbets 28 29 to produce a reasonably close joint between these two parts when the same are in their closed positions. The said sashes 12 and 13 are also provided, respectively, with overlapping joint-covering strips 29^a and 30, which further tend to close the passage between the sashes 12 and 13 when the same are in their closed positions. To more completely close this passage, however, I provide in the inner surfaces of the projecting tongues formed by the rabbets 28 and 29 grooves 31 32, in which is located a vertically-disposed rubber packing-tube 33, similar to the packing-tubes 22 and 26, heretofore referred to. The said tube 33 is secured to and carried by one of the sashes

12 13 and adapted to fit within the groove in the other sash.

The intermediate sashes 14 and 15 are adapted to fit when in their closed positions in the rabbets 34, formed in the frame-strips 7, 8, 9, and 10. The rabbets 34 are similar in all respects to the rabbets 19 in the outer frame-strips 3, 4, 5, and 6 and carry the packing-tubes 35 and 36, similar in all respects to the packing-tubes 22 and 26, and the latter tubes are mounted and coöperate with corresponding portions of the sashes 14 and 15, similar in all respects to the corresponding portions on the sashes 12 and 13. Furthermore, the vertical meeting side rails or central stiles of the sashes 14 and 15 are similar in construction to the corresponding portions of the sashes 12 and 13.

For receiving the outer sashes 16 17 when the latter are in their closed positions the frame-strips 7, 8, 9, and 10 are provided with the vertical and horizontal strips 37 and 38, respectively. These strips 37 and 38 are provided with rabbets 39, similar in all respects to the rabbets 19 heretofore referred to, and rubber packing-tubes 40 and 41 are provided in the strips 37 and 38, which are similar in all respects, both in construction and coöperation with the sashes 16 and 17, to the corresponding packing-tubes 22 and 26. Both the sashes 16 and 17 and 14 and 15 are constructed and operate in a manner similar to that described with respect to the sashes 12 and 13, the only difference being that the outer sashes 16 and 17, which are exposed to the weather, are provided along their lower rails with the weather-strips 42.

Each set of sashes above referred to is provided with suitable locking mechanism 43 for retaining the same in their closed positions.

Now it will be observed that when the different sets of sashes are closed the joints between the members of each set and the joints between said sashes and the window-frame are rendered absolutely tight and impervious to both heat, air, and moisture by the provision of the various packing-tubes constructed and arranged as described. Furthermore, as the different sets of sashes are separated from each other air-spaces are formed, which tend to more effectually prevent the escape or access of heat from or to the interior of the refrigerating-room in which the window is formed.

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

1. A window for refrigerating-rooms and the like, comprising a plurality of sets of hinged window-sashes arranged, when in their closed positions, in parallel relation to each other and separated from each other so as to form air-spaces, and a frame or frames in which said sashes are mounted, the same being provided with rabbets for the reception of said sashes, the said rabbets forming in the horizontal portions of the frame or frames horizontal and vertical walls, the said vertical walls being provided with grooves and the adjacent edges of said sashes being provided with corresponding grooves, and said rabbets forming in each of the vertical portions of said frame or frames two walls at right angles to each other, one of which latter walls lies opposite the side edge of one of said sashes and is provided with a vertically-disposed groove, the adjacent side edge of each of said sashes being provided with a corresponding vertically-disposed groove, and rubber packing-tubes fitting within the corresponding grooves in said frame or frames and in said sashes when the latter are in their closed positions.

2. A window for refrigerating-rooms and the like, comprising a plurality of sets of hinged window-sashes arranged, when in their closed positions, in parallel relation to each other and separated from each other so as to form air-spaces, rabbet-joints between the meeting-rails or central stiles of the members of each set of sashes, the central abutting portions of said rabbet-joints having grooves therein, rubber packing-tubes in said grooves, and a frame or frames in which said sashes are mounted, the same being provided with rabbets for the reception of said sashes, the said rabbets forming in the horizontal portions of the frame or frames horizontal and vertical walls, the said vertical walls being provided with grooves and the adjacent edges of said sashes being provided with corresponding grooves, and said rabbets forming in each of the vertical portions of said frame or frames two walls at right angles to each other, one of which latter walls lies opposite the side edge of one of said sashes and is provided with a vertically-disposed groove, the adjacent side edge of each of said sashes being provided with a corresponding vertically-disposed groove, and rubber packing-tubes fitting within the corresponding grooves in said frame or frames and in said sashes when the latter are in their closed positions.

3. A window for refrigerating-rooms and the like, comprising a plurality of sets of hinged window-sashes arranged, when in their closed positions, in parallel relation to each other and separated from each other so as to form air-spaces, rabbet-joints between the meeting-rails or central stiles of the members of each set of sashes, the central abutting portions of said rabbet-joints having grooves therein, rubber packing-tubes in said grooves, strips secured respectively to said sashes and overlapping said rabbet-joints, and a frame or frames in which said sashes are mounted, the same being provided with rabbets for the reception of said sashes, the said rabbets forming in the horizontal portions of the frame or frames horizontal and vertical walls, the said vertical walls being provided with grooves and the adjacent edges of said sashes being provided with corresponding grooves,

and said rabbets forming in each of the vertical portions of said frame or frames two walls at right angles to each other, one of which latter walls lies opposite the side edge of one of said sashes and is provided with a vertically-disposed groove, the adjacent side edge of each of said sashes being provided with a corresponding vertically-disposed groove, and rubber packing-tubes fitting within the corresponding grooves in said frame or frames and in said sashes when the latter are in their closed positions.

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

WILHELM GRIESSER.

Witnesses:
WM. M. STOCKBRIDGE,
GEO. W. REA.