E. H. LUNKEN.

REINFORCING DEVICE.

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1,247,432.

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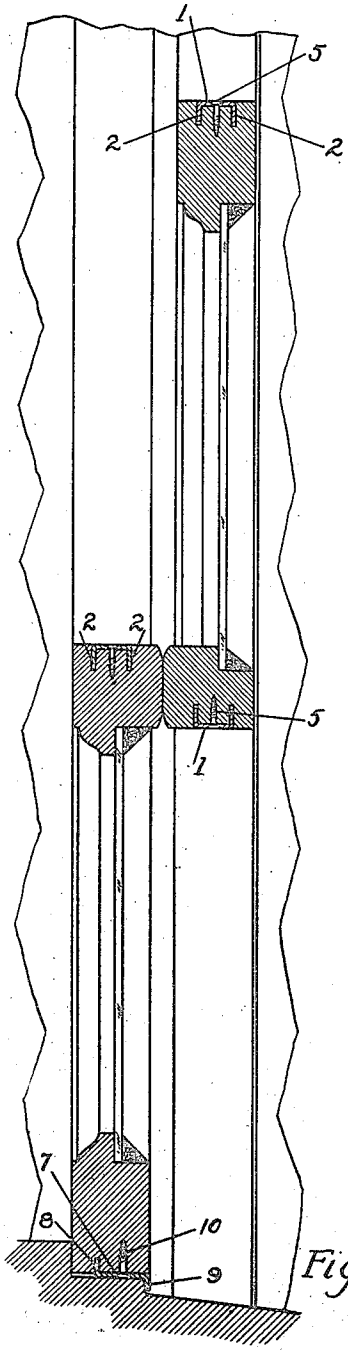


Fig 1.

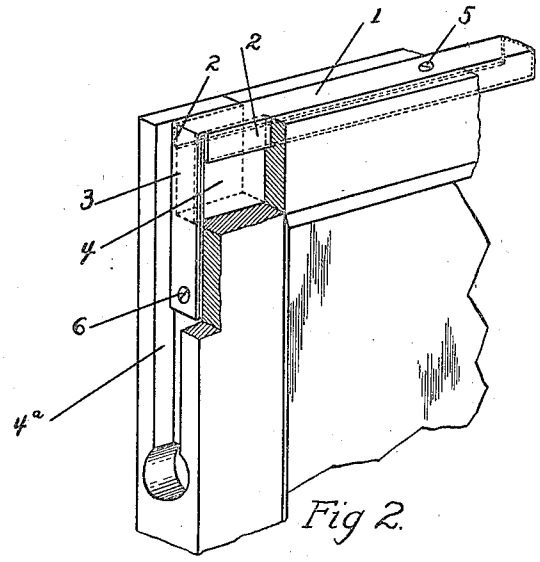


Fig 2.

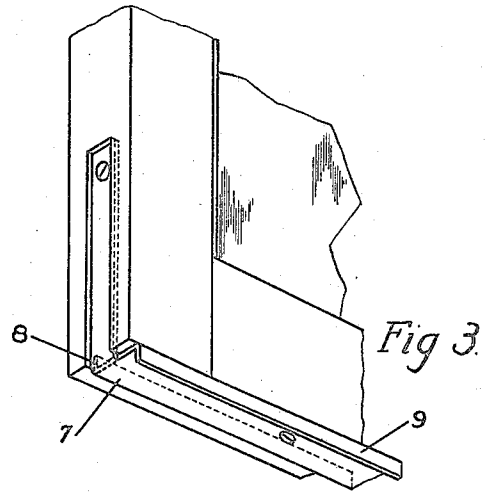


Fig 3.

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REINFORCING DEVICE.

1,247,432. Specification of Letters Patent. Patented Nov. 20, 1917.

Application filed March 26, 1917. Serial No. 157,322.

To all whom it may concern:

Be it known that I, EDMUND H. LUNKEN, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Reinforcing Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

In the construction of pocket windows where there are two sashes to slide into a wall pocket and it is desired to slide screens into the pocket also, there must be either a departure from standard wall construction, or else there must be a narrowing of the frame members of the window sashes. It is of course not desirable to change standard house construction for the purpose of accommodating a special type of window and it is much more practical to narrow the frame piece of the window.

When sashes are made up out of wood, in the usual manner, it has been found that to narrow them down sufficiently to permit of two sashes and two screens to slide in the space allotted to the window frames in standard construction, will so reduce the strength of the sash frames that they will bend and come loose at the corners.

It is the object of my invention to overcome this difficulty, and to do it in the most inexpensive and most practical way. I intend to strengthen the top and bottom rails of the sashes and to strengthen the corners also and to do so with the same piece of metal as is used for the rails.

These objects I accomplish by that certain construction and arrangement of parts to be hereinafter more specifically pointed out and claimed, and whereof further advantages will be noted below.

In the drawings,

Figure 1 is a vertical section through a window showing my invention secured thereto.

Fig. 2 is a detail perspective of the upper corner of a sash.

Fig. 3 is a detail perspective view of a lower corner of a lower sash.

It would immediately suggest itself that the mere countersinking or screwing to the surface of a sash rail of a metal strip would tend to strengthen it and it would appear that this would be sufficient to give the desired strength, but as a matter of fact this sort of structure while it might be valuable in providing a weather strip for the sash rails would not have enough holding capacity and would not engage the rails with sufficient firmness to give the reinforcement which I desire.

Accordingly I have discovered that if a piece of channel iron or other metal is countersunk in the rails with the webs of channel walls sunk in kerfs in the rails, that then the maximum amount of holding capacity and strength will be imparted to the rails. With this in view, I provide a piece of channel iron, steel or brass 1, having channel walls 2, 2. The meeting rails of the sash and the upper rail of the upper sash are cut out to provide countersinks so that the channels will lie flush with the balance of the rails, and the rails are also kerfed to permit the channel walls to enter them, the channels being laid face down.

For the corners the walls of the channels are cut away and the flat ends 3, 3, are bent down so that they will engage the outside of the tenon 4 of the end rails, where the joint of the side and end rails of the sash is made to form the corner and extends down in the sash cord slot 4^a beyond the tenon, so as to lie against the side rail.

Screws 5, 5, are inserted in the rails to hold the channel portions in place, and at the extreme ends of the portions 3, there are inserted screws 6.

It can be seen that the channel irons not only lie countersunk in the rails, but that there are two depending walls or webs which engage the wood and hold the reinforcing pieces very stiff against bending lengthwise. The strips extending down past the tenon onto the side rails and being screwed down at the end beyond the joint tend to hold the top portions very firmly in place. They also give strength and rigidity to the corners, since they hold the joint from opening outwardly.

The bottom rail of the lower sash may be provided with an iron of substantially an S-shape. This iron has a flat portion 7, an upward bend 8 and a downward bend 9. The flat portion is screwed to the rail at 10. The iron is not countersunk in the lower rail, but the upward bend is sunk in the rail. The lower bend is so arranged that it will hook over the sill of the window

frame and form a weather seal. This structure is not intended for much reinforcement of the bottom rail, although it fulfils this function in part. It is intended as a weather seal and joint, and also the ends 11 of the iron have the flanges cut away and are bent up so as to serve as corner reinforcements, as in the case of the channel iron pieces above described.

It can be seen that this device is quite simple and inexpensive and that it serves effectively to give sufficient strength to a wooden sash which is made of much narrower wood than the usual sash. I have found that in the pocket windows of the type hitherto mentioned, the sashes reinforced as now detailed may be used to great advantage. They present the same appearance as the usual sash and have the same or even greater strength. My invention is also a saver in wood, as the white pine which is usually employed for window sashes is expensive and hard to get of the best quality.

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

1. A window sash made up of narrow wooden rails and sides, said sides having sash cord slots therein, and a metal reinforcement for the sash comprising a channel bar countersunk into the wood of the rail, with the channel walls sunk into the body of the rail, said channel walls being cut away at the ends, and the channel bases bent over and secured in the sash cord slots, thereby forming a reinforced corner for the sash.

2. A window sash made up of narrow wooden rails and sides, said sides having slots therein, and a metal reinforcement for the sash comprising a channel bar countersunk into the wood of the rail, with the channel walls sunk into the body of the rail, said channel walls being cut away at the ends, and the channel bases bent over and secured in the slots, thereby forming a reinforced corner for the sash.

EDMUND H. LUNKEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."