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DRAFT, DUST, AND WEATHER EXCLUDER FOR DOORS AND WINDOWS

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Fig. 1.

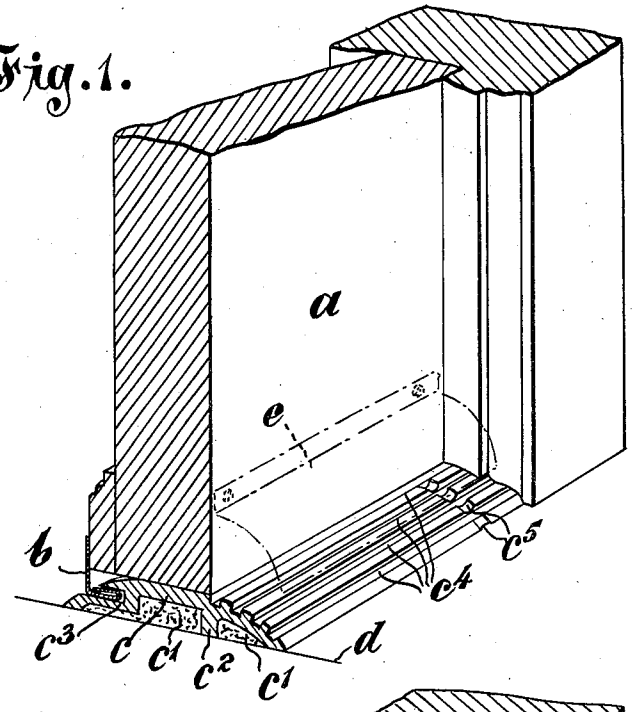
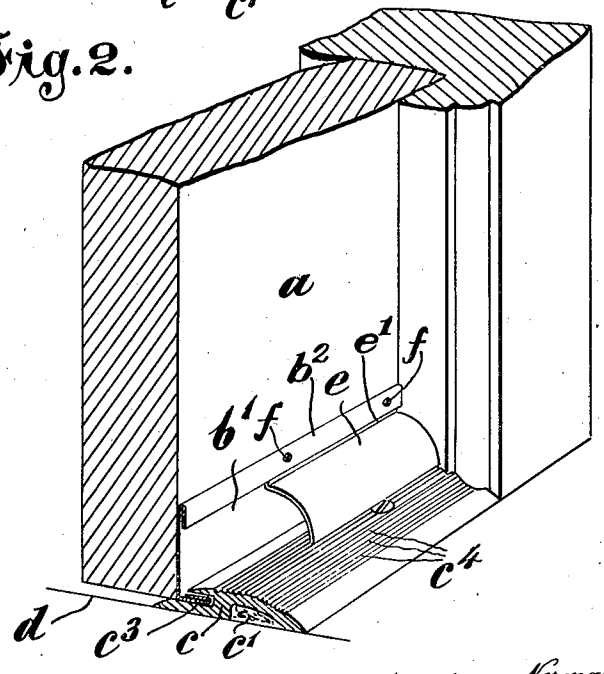



Fig. 2.




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## DRAFT, DUST, AND WEATHER EXCLUDER FOR DOORS AND WINDOWS

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2 Claims. (Cl. 20—64)

This invention relates to improvements in connection with draft, dust, and weather excluders for doors and windows, of the type in which a resilient metal strip on the bottom rail of the door or window is engageable with a longitudinal recess in a threshold or tread plate on the sill, the invention being designed to provide a draft, dust, and weather excluder of this type which shall be highly efficient and reliable in operation, and which in particular shall incorporate a threshold or tread plate of a non-trip formation, and shall prevent or minimize the possibility of water driving over the threshold or tread plate and under the door or window.

According to the present invention the draft, dust, and weather excluder comprises, in combination, a shallow threshold plate having an upper surface inclining both forwardly and rearwardly and having a flat base recessed longitudinally for reception of a filling of water-excluding material, a shallow horizontal recess formed longitudinally in the inclined rear face of said threshold plate, a resilient metal strip projecting from the bottom rail of the door or window for interlocking engagement with said shallow horizontal recess, a parallel series of drainage channels formed longitudinally in the inclined front face of said threshold plate, said longitudinal drainage channels preferably interconnected by cross channels, and a drip plate projecting from the front of said bottom rail in overhanging relation to said longitudinal drainage channels.

A further feature of the invention consists in an arrangement wherein said resilient metal strip is of angular cross-section, and wherein the attachment edge of said angle strip is overturned into clamping engagement with an attachment edge of said drip plate, whereby said angle strip and said drip plate together constitute a unitary construction in which the angle strip provides an attachment mounting for the drip plate.

In order that the invention may be clearly understood and readily carried into practice, reference may be had to the appended explanatory drawing, in which:—

Figure 1 is a partly sectional perspective view illustrating one form of the invention.

Figure 2 is a similar view of the invention in a somewhat modified form.

In a convenient method of carrying the invention into effect, as illustrated in Figure 1, the bottom rail *a* of the door or sash has fixed to its inner face the upright flange of a zinc or other resilient metal strip *b* of angular or L-cross-section extending along the bottom rail, the horizontal flange of this strip extending outwardly beneath the bottom rail at a slight spacing therefrom, and the strip being adapted for interlocking engagement with a metal threshold or tread plate *c* located on the sill *d* in a position beneath the door or sash when closed. This threshold or tread plate *c* is cast in one piece and is of shallow segmental cylindrical form having a centrally flattened arcuate upper surface inclining both forwardly and rearwardly, the flat underside having a pair of recesses $c^1$ extending from end to end on opposite sides of an intermediate supporting rib or foot $c^2$, and these recesses $c^1$ being adapted for a water-excluding filling of cement or the like. The rear or inner inclined face of the threshold or tread plate *c* is formed with a shallow but wide recess $c^3$ extending in a horizontal plane from end to end, for accommodation of the horizontal flange of the resilient strip *b* on the bottom rail, and the front or outer inclined face of the threshold or tread plate *c* is formed with a parallel series of say four drainage grooves or channels $c^4$, interconnected at intervals by inclined or other cross channels $c^5$.

It will be seen that when the door or window is closed the interlocking engagement of the resilient angular strip *b* with the horizontal recess $c^3$ in the rear of the threshold or tread plate *c* effectively excludes drafts, dust, or water, and that the front drainage channels $c^4$, which are protected by an overhanging drip plate *e* on the outer edge of the bottom rail *a*, facilitate and ensure this action by checking any tendency of the water to drive over the threshold or tread plate. It will further be seen that the forwardly and rearwardly symmetrical arcuate formation of the threshold or tread plate *c* obviates or minimizes any liability of a person to trip over it when the door or window is in the open position.

In the modification illustrated in Figure 2, for use in front of the door or window instead of beneath the same, in conjunction with a resilient angular metal strip $b^1$ fixed to the outer face of the bottom rail *a*, the metal threshold or tread plate *c* is formed with a continuous arcuate upper surface, that is to say without the flattened part in the centre, and with a single longitudinal recess $c^1$ on its flat underside, the arrangement being otherwise similar to that hereinbefore described with reference to Figure 1, except that in the modification a larger number of longitudinal drainage grooves or channels $c^4$ of smaller size are provided, and that these grooves or channels $c^4$ extend not only over the front or outer inclined

face of the threshold or tread plate $c$ but also over the curved top of the same. $c^3$ is the horizontal recess in the rear for co-engagement with the resilient strip $b^1$ on the door or sash, and $e$ is the overhanging drip plate, which in this case is combined with the resilient metal angle strip $b^1$ by overturning the attachment edge $b^2$ of the angle strip into clamping engagement with the attachment edge $e^1$ of the drip plate, the combined angle strip $b^1$ and drip plate $e$ thereby constituting a unitary construction in which the angle strip provides an attachment mounting for the drip plate, and which can be fixed at one operation by screws $f$ or the like passed through the interengaging edges $b^2$ and $e^1$ of the angle strip and drip plate.

We claim:

1. A draft, dust, and weather excluder for doors and windows, which comprises, in combination, a shallow threshold plate having an upper surface inclining both forwardly and rearwardly and having a flat base recessed longitudinally for reception of a filling of water-excluding material, a shallow horizontal recess formed longitudinally in the inclined rear face of said threshold plate, a parallel series of drainage channels formed longitudinally in the inclined front face of said threshold plate, a resilient metal angle strip projecting from the lower front edge of the bottom rail of the door or window for interlocking engagement with said shallow horizontal recess, and a drip plate projecting from the front of said bottom rail in overhanging relation to said longitudinal drainage channels, the attachment edge of said angle strip being overturned into clamping engagement with an attachment edge of said drip plate, whereby said angle strip and said drip plate together constitute a unitary construction in which the angle strip provides an attachment mounting for the drip plate.

2. A sealing device for use in a draft, dust, and weather excluder for doors and windows, which consists in a resilient metal strip of angular cross-section in combination with an outwardly overhanging drip plate of arcuate cross-section, said drip plate having a longitudinal flange angularly upturned from its upper edge, and said resilient angle strip having a longitudinal attachment flange which is forwardly overturned into clamping engagement with said upturned flange of the drip plate.

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