A. GRAVEL.

DOOR RETAINER.

APPLICATION FILED JULY 27, 1917.

**1,292,310.**

Patented Jan. 21, 1919.

Fig. 7.

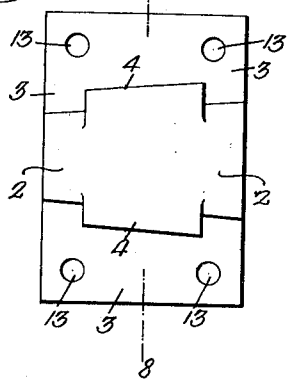



Fig. 8.

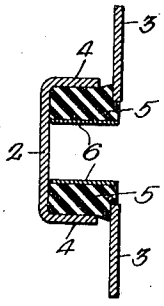



Fig. 5.

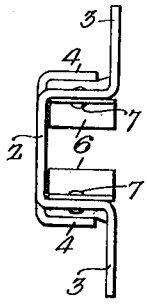



Fig. 6.

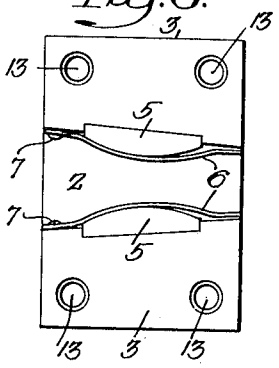



Fig. 4.

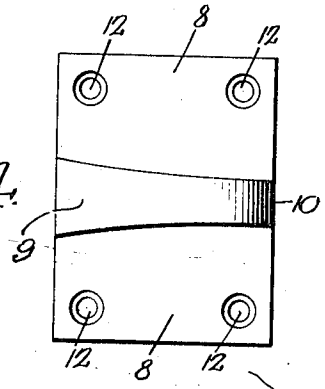



Fig. 3.

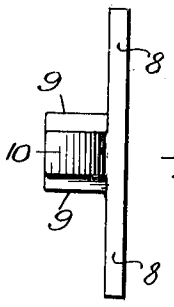



Fig. 2.

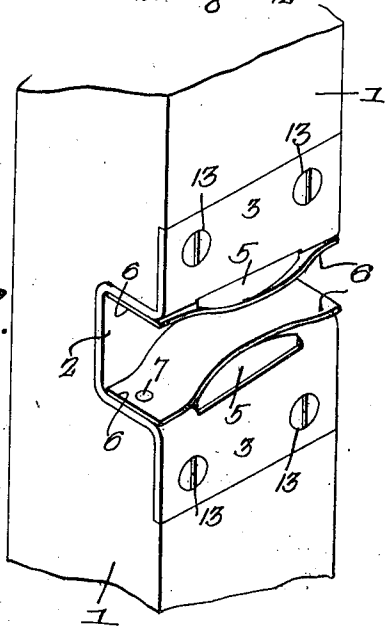
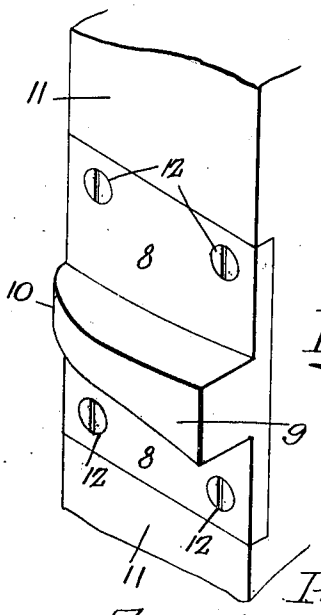



Fig. 1.




Inventor.
Abundius Gravel.
by his Attorneys.
Howson & Howson

# UNITED STATES PATENT OFFICE.

ABUNDIUS GRAVEL, OF TOLEDO, OHIO.

## DOOR-RETAINER.

1,292,310. Specification of Letters Patent. Patented Jan. 21, 1919.

Application filed July 27, 1917. Serial No. 183,186.

*To all whom it may concern:*

Be it known that I, ABUNDIUS GRAVEL, a citizen of the United States, and a resident of Toledo, Lucas county, State of Ohio, have invented Door-Retainers, of which the following is a specification.

One object of this invention is to provide a form of frictional retainer for holding a door or similar structure in any desired, usually a closed position;—the arrangement and construction of parts being such that the device is relatively simple in form, is inexpensive to make, and of such design that it acts with certainty to prevent rattling or other relative movement between the door and its frame or jamb.

It is further desired to provide a retainer of the character described with novel means for yieldingly supporting or holding the frictional engaging elements of one of its two members, together with a novel form and mounting for the resilient means for acting on said elements.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which,

Figures 1 and 2 are perspective views of the coöperating parts of a door and the frame thereof, illustrating the parts of my invention in their operating positions;

Figs. 3 and 4 are respectively an end and a side elevation of one of the elements of my retainer;

Figs. 5 and 6 are respectively an end and a side elevation of the second member of the retainer;

Fig. 7 is an elevation of the rear or inner side of the second member of the retainer; and

Fig. 8 is a vertical section on the line 8—8, Fig. 7.

In the above drawings, 1 represents a portion of a door frame or jamb which is recessed to receive the part referred to as the second member of my door retainer. Said member consists of a casting or preferably a body of pressed up sheet metal which may be described as consisting of a central tapering channel or portion 2 of U-shaped section having two laterally projecting flanges 3 extending in the same plane from its top edges.

As shown, the general form of said channel portion is tapering or wedge-shaped and opposite portions 4 of its sides are pressed outwardly to form tongues lying parallel with the main portions of the sides in positions to form a pair of opposite pockets in which are mounted blocks 5 of rubber or other resilient material, constituting springs. The adjacent faces of these blocks are preferably convex in form and are held in their pockets by relatively thin metallic strips 6, fastened at their ends by rivets or other suitable means 7 to the inner side walls of the channel part 2 adjacent one end thereof.

Said strips extend through said channel to the opposite end thereof, being curved toward each other over the convex surface of the two spring blocks 5 so that while they define a tapering passage, they are free to yield to a limited extent when forced apart and at such times press toward each other with a force dependent on the resiliency of the mass of the blocks or other spring supporting means provided by the pieces 5.

These latter are usually retained in place not only by the pressed out portions 4 of the sides of the channel shaped body 2 of this member of the retainer and by said strips 6, but are also retained in position by reason of the fact that they extend under the adjacent edges of the flanges or laterally projecting portions 3 of said member.

The other member of the retainer consists of a flat plate 8 having on one of its faces a tapering or wedge-shaped projection 9 whose narrow end is preferably beveled off or cut away in curved form as indicated at 10. This plate is set flush with the outer edge of the door 11 and when the latter is moved to its closed position, the smaller end of said wedge-shaped projection enters between the bearing or friction plates 6 at the wider end of the channel shaped body, finally having its sides engaged and frictionally gripped by both of said plates as it moves into engagement with those portions thereof which are directly acted on by the rubber blocks 5.

When finally the door 11 and jamb 1 are in the same plane or when the door has been fully closed, said rubber blocks cause the friction or bearing plates 6 to grip the sides of the projection 9 so that said door is held immovably in position and is obviously prevented from rattling or other relative movement.

While any suitable means may be employed for holding the members of the retainer to their respective supporting struc-

tures, I preferably provide them with holes 12 and 13 for the reception of screws as shown in Figs. 1 and 2.

With the above described construction not only is the door firmly held by the frictional action of the plates 6 upon the sides of the projection 9 but the latter when desired may be conveniently disengaged by exerting an outward pressure upon the door in such a direction as to withdraw said projection from between said strips. The whole structure is relatively inexpensive to make and of such a nature as to not be liable to get out of order or require attention.

I claim:—

1. The combination in a door retainer of a body of pressed sheet metal of channel-shaped form, having outwardly extending flanges projecting from its opposite edges and provided with integral portions of its side walls pressed out to form pockets extending respectively under the flanges; resilient blocks mounted in said pockets so as to be held from movement in one direction by the flanges and projecting into the channel of said member; flexible strips fastened to the side walls of said member and extending over the adjacent faces of the resilient blocks; and a second member having a portion formed to fit between and be frictionally engaged by said strips.

2. The combination in a door retainer of a member having a tapering channel and laterally extending integral flanges, the side walls of the channel having parts substantially parallel with the main portions thereof but extending under the flanges to form pockets; resilient blocks respectively mounted in the recesses of said side walls and retained therein by portions of the flanges; independent spring metal strips extending along the side walls of the channel and each fastened thereto adjacent one end while being free at the other end, said strips having portions projecting toward each other and fitting correspondingly formed parts of the resilient blocks; with a second member provided with an elongated tapering portion formed to fit between and be frictionally held by said strips.

In witness whereof I affix my signature.

ABUNDIUS GRAVEL.