

MANUEL BRETOS Y CLAVERIA.
FOLDING DOOR AND SHUTTER.
APPLICATION FILED JULY 26, 1920.

1,408,076.

Patented Feb. 28, 1922.

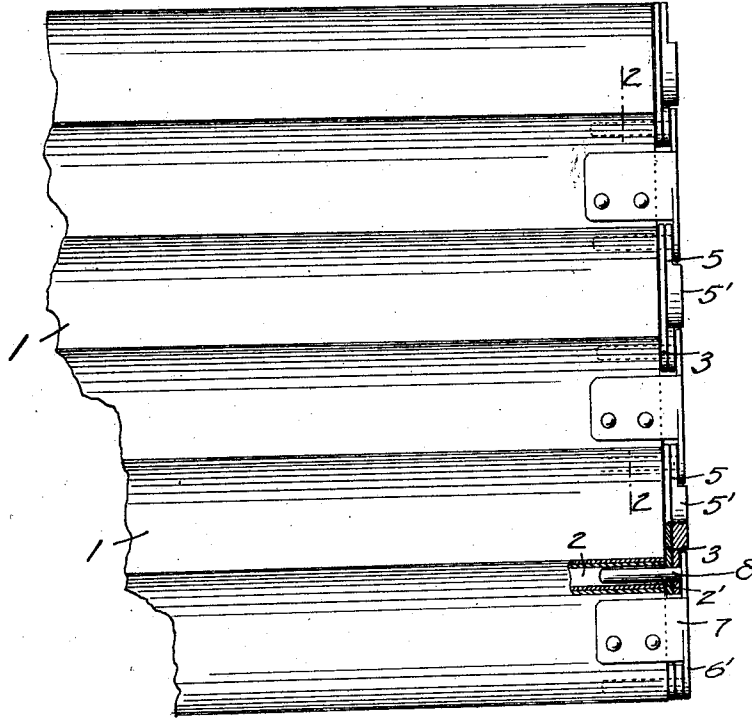


Fig. 1

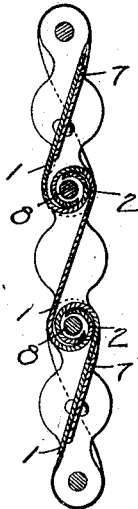


Fig. 2



Fig. 4

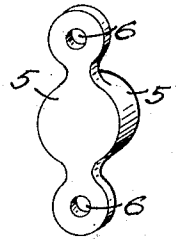


Fig. 5

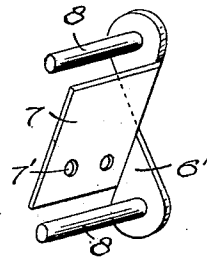


Fig. 3

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FOLDING DOOR AND SHUTTER.

1,408,076.

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To all whom it may concern:

Be it known that I, MANUEL BRETOS y CLAVERÍA, a subject of the King of Spain, residing at No. 22 Galb Street, Santiago de Cuba, Cuba, have invented certain new and useful Improvements in Folding Doors and Shutters, of which the following is a specification.

This invention relates to folding doors and shutters and its main object is to provide a new construction of folding doors and shutters which render them lighter, stronger and more durable than the doors and shutters at present in use.

One of the advantages of the invention lies in the fact that owing to the new construction the violent and disagreeable noises are eliminated when folding or unfolding the doors and shutters.

Other advantages and purposes of the invention will be understood in the course of this specification, reference being made to the accompanying drawings, in which:

Fig. 1 is a fragmentary front elevation of a door or shutter constructed in accordance with the invention.

Fig. 2 is a vertical longitudinal section on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the union member used in this invention.

Fig. 4 is a perspective view of the resistance member used in this invention.

Fig. 5 is a perspective view of one of the buffer links.

In Figs. 1 and 2 of the drawings is shown a fragmentary illustration of a folding door or shutter formed by a plurality of narrow plates 1 transversely connected together in the manner which will be hereinafter explained. The upper and lower edges of these sheets are partially folded or rolled, one outwards and the other inwards and being engaged one to the other one by the telescoping introduction of the folded edge of less diameter of one sheet into the folded edge of larger diameter of the other sheet, thus resulting in a hinged articulation of the sheets. In this manner said engagement constitutes cylindrical joints 2 hollow and transverse and with open ends 2'. Super-

posed on the end openings 2' of said joints 2 are metal links 3 in such manner as to leave free between each two of them the side of a sheet, said links constituting a circular central portion and end portions which are circular but of less diameter and provided with bores 4 which should register with the end openings 2'. On each one of these links are superposed buffer links 5 of the same type and size but made of a noiseless material and whose central part 5' constitutes a projection in the outer face of the link, the bores 6 of the ends of this link registering with the bores 4 of link 3 and openings 2' of the hollow joints 2. Said links are fastened together and also with respect to sheets 1 by means of the union piece shown in Fig. 3 formed by a small plate 6' of 8-shape and from one of whose oblique sides projects upwardly a rib 7 provided with bores 7' there being provided on the widened ends of said small plate the vertical stems 8 to one and the other side of rib 7. The stems 8 are introduced through the bores of links 3 and 5 on one and the other end of each pair of links superposed in the lateral manner mentioned on the end openings 2' and are lodged in the holes of the cylindrical joints 2 the rib 7 being superposed to the outer face of the corresponding sheet and being secured thereto by means of bolt screws through bores 7' of said rib and of bores in the corresponding sheets, the widened portions of the small plate 6' resting against projection 5' of links 5. Accordingly the arrangement described results in a complete linking of the various elements which checks the cutting and driving tensions exerted upon the unions together of the sheets when opening the doors or shutters, since instead of actuating directly upon said unions, and on account of which it has been necessary heretofore to use very thick sheets, said tensions are exerted upon the interlocked links in the described manner and therefore the thickness of the sheets in this case is very thin. And the noiseless links which are interposed greatly absorb the great noises which are common in the folding doors at present in use.

Having thus described my invention and the manner in which the same is performed, what I claim is:

In a folding door, the combination of a
5 plurality of slats transversely articulated at their coinciding upper and lower edges so as to interhinge one within another, inner

and outer links connected to the ends of said slats, buffer links connected to the inner links and having certain portions project- 10 ing outwardly slightly beyond the outer links.

In witness whereof I affix my signature.

MANUEL BRETOS Y CLAVERÍA.