I. BUCKMAN.
Buffer for Doors.

No. 241,603. **Patented May 17, 1881.**

Fig. 1

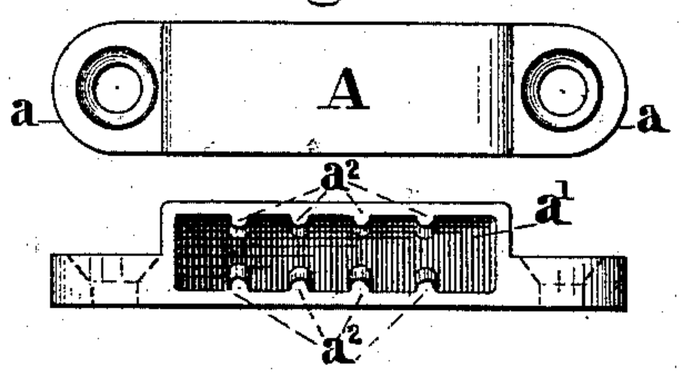


Fig. 2.

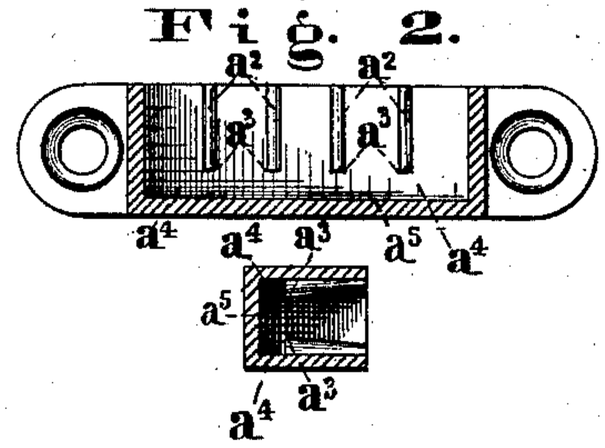


Fig. 3.

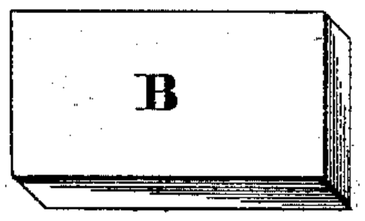


Fig. 4.

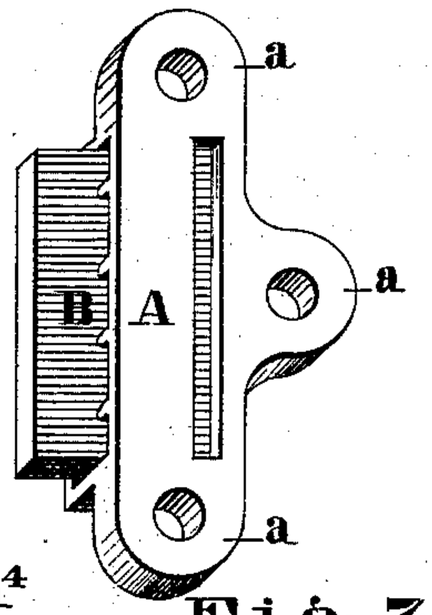


Fig. 8.

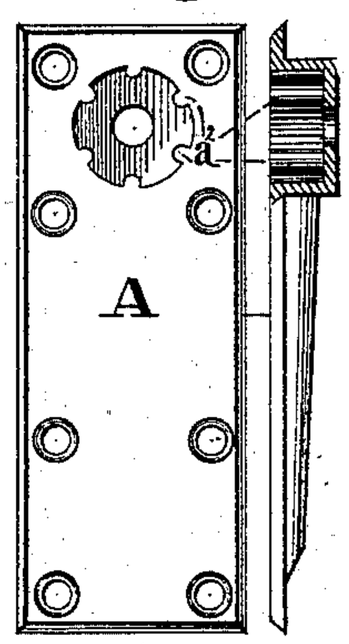


Fig. 5.

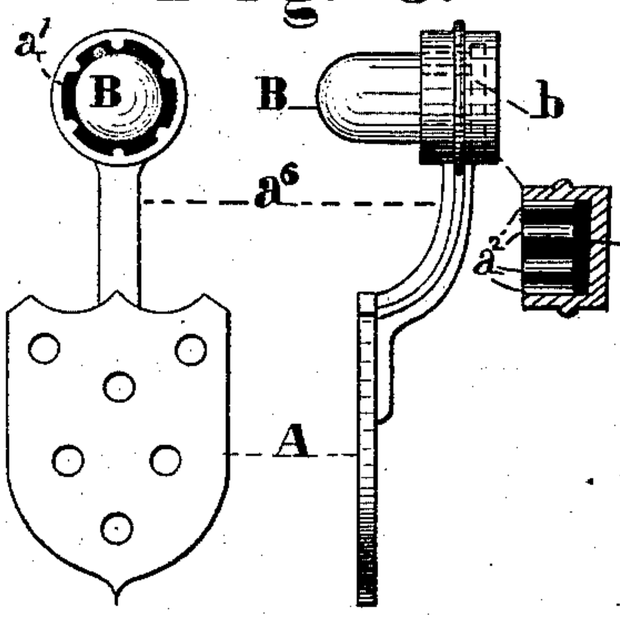


Fig. 7.

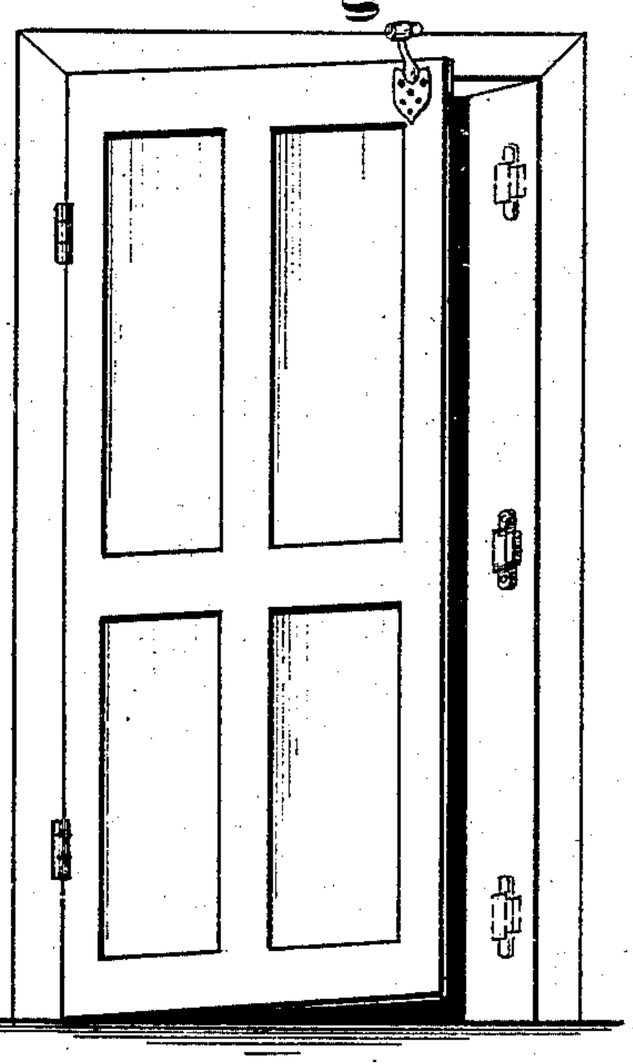
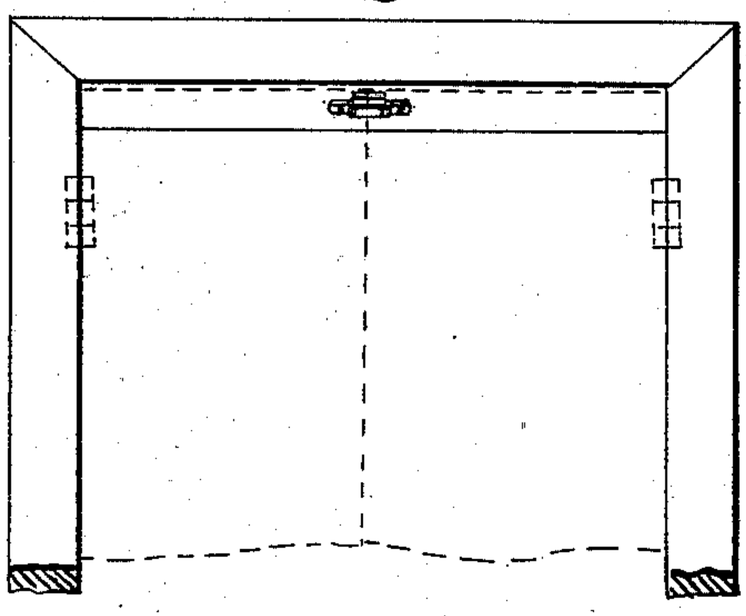


Fig. 6.



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UNITED STATES PATENT OFFICE.

IRA BUCKMAN, OF BROOKLYN, NEW YORK.

BUFFER FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 241,603, dated May 17, 1881.

Application filed January 29, 1880.

To all whom it may concern:

Be it known that I, IRA BUCKMAN, of Brooklyn city, county of Kings, State of New York, have invented new and useful Improvements in Door-Buffers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is the construction of a door-buffer in which the elasticity of the whole of the bearing-block may be made use of; and, also, in which the said block, while sufficiently secured in the holder or socket-piece, may be easily fitted into the socket, or removed for renewal or other purpose.

This invention consists, mainly, in the combination, in a door-buffer, of a socket-piece having ribs or corrugations, with an elastic bearing-block, the construction being such that the bearing-block is securely held in the socket-piece without impairing its elasticity, and also without preventing its ready removal, when desired.

It consists, further, in certain specific details, all of which are hereinafter more fully described.

In the drawings, Figure 1 represents both a side and front view of the socket-piece; Fig. 2, a longitudinal and transverse section of the same. Fig. 3 represents the elastic bearing-block. Fig. 4 is a perspective view from the frame or jamb side of the socket-piece and bearing-block fitted together. Fig. 5 represents a modification of the invention. Fig. 6 shows the position of the buffer when used with folding doors, and Fig. 7 the position of the same when used with a single door, and also the position of the modification seen in Fig. 5. Fig. 8 represents a modification of the invention, in which the socket-piece consists of a flat-plate.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A, Fig. 1, represents a socket-piece provided with the flanges *a a* or other proper means of attachment to the frame of a door, and the central opening or socket, *a'*, having on its side walls the ribs a^2 a^2. These ribs are preferably made transverse, and increase in height as they run inward, but end abruptly in the corners or points a^3 a^3, Fig. 2, leaving the longitudinal flat spaces a^4 between said points and the bottom of the socket on the side walls of the same. Space on the jamb side may be cut away to form a slot similar in size and shape. The end walls of the socket may also be ribbed or, if desired, corrugated longitudinally.

B, Fig. 3, is the bearing-block, made of rubber or other suitable material, and rectangular in shape. When in place, its sides fit tightly against the crest of the ribs a^2, its inner edge bears firmly against the bottom a^5 of the socket, and it projects in front about one third of its breadth from the socket-piece.

The manner of attaching the buffer to the door is as follows: The socket-piece being attached by screws or otherwise, and at proper places on the door-frame, with the mouth of the socket facing the door, the bearing-block is pushed in till its inner edge bears firmly against the bottom of the socket. When used with folding doors the buffer may be put at the center of the top beam of the door-frame, so that the inner and upper corners of the doors will meet against it, as shown in Fig. 6. When used with a single door one may be placed centrally on the jamb, opposite the hinges, as shown in Fig. 7; or two may be used, one above and one below the center of the same jamb, in the position shown in dotted lines in the same figure.

The advantages of this form of construction are as follows: First, the inclination of the ribs a^2 allows the bearing-block to be fitted by a more gradual pressure than with straight ribs; secondly, the expansion of the inner edge of the bearing-block (when in place) in the spaces a^4, between the bottom of the socket and the raised points a^3, causes the latter to hold it very securely; and, thirdly, as it comes in contact laterally with the crest of the ribs only it is removable with much less friction than if fitting closely in the socket.

By the employment of the ribs in connection with the elastic bearing-block opportunity is afforded for the expansion of the latter when compressed, by which means the full effect of its elasticity is obtained. The expansion of that part of the bearing-block which, when in place, occupies the longitudinal rectangular

spaces or space and slot a^4 has, practically, the action of a shoulder below or behind the points a^3, to retain the bearing-block in place.

A modified form of the buffer is shown in Fig. 5. In this the socket-piece consists of a plate suitable for attachment, and arm a^6, bearing a cylindrical head, in which is formed a circular socket, the ribs being arranged circularly around the wall of the latter. The bearing-block is in the form of a hollow cylinder with closed rounded end, and bears upon its base or edge a circular flange or shoulder, *b*, which, when the block is in place, fits into the space a^4 (also circular in this case) below the ribs. This modification is intended for attachment to a door near its upper edge in case it is impossible or inexpedient to attach a buffer to the door-frame.

The rigidity of the buffer is regulated by the diameter of its bore, as they bear an inverse ratio to each other.

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

1. In a door-buffer, the combination, with an elastic bearing-block, of a socket-piece provided with ribs or corrugations, substantially as shown and described, for the purpose specified.

2. In a door-buffer, the combination, with an elastic bearing-block, of a socket-piece provided with the transverse inclined ribs a^2 a^2, and flat pieces a^4 a^4, between the ends of the ribs and the bottom of the socket, substantially as shown and described, for the purpose set forth.

3. In a door-buffer, the combination of the rectangular bearing-block B with the socket-piece A, provided with the flanges *a a*, transverse inclined ribs a^2 a^2, and flat spaces a^4 a^4, all constructed and arranged substantially as shown and described, for the purpose specified.

This specification signed and witnessed this 14th day of January, 1880.

IRA BUCKMAN.

Witnesses:

JOHN B. SUYDAM,

G. W. KELSEY.