

No. 606,659.

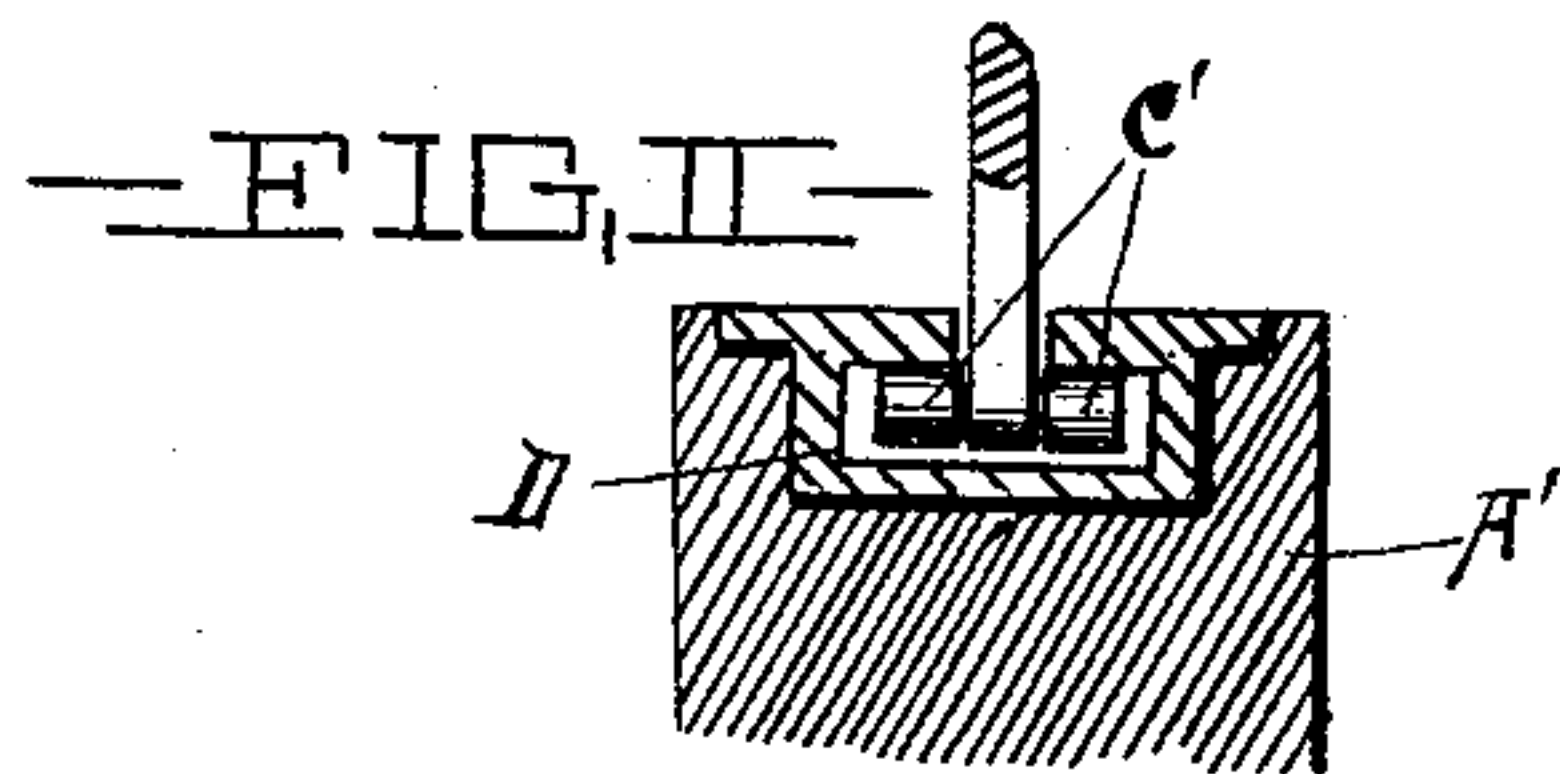
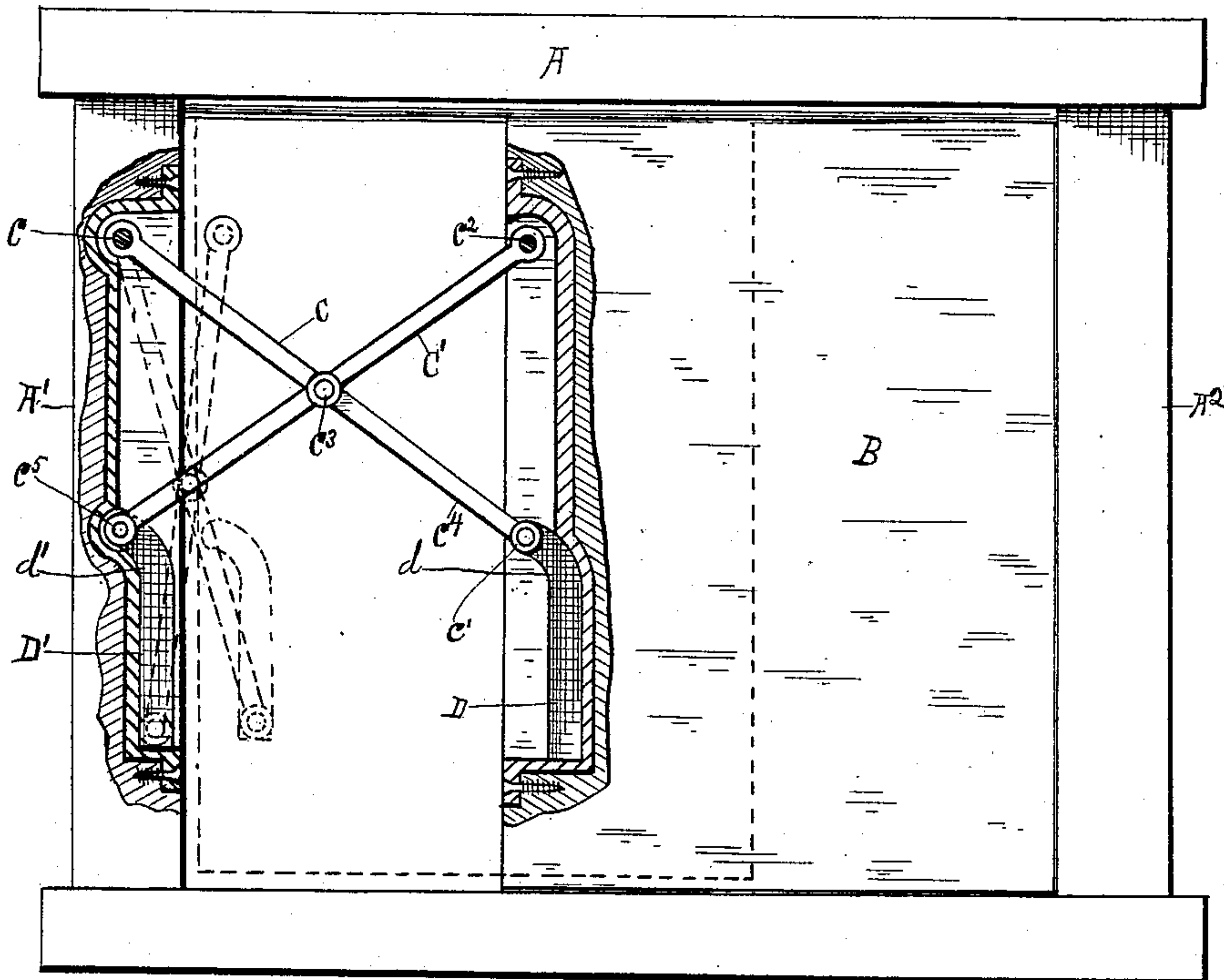
Patented July 5, 1898.

J. E. HARTMAN.
DOOR HANGER.

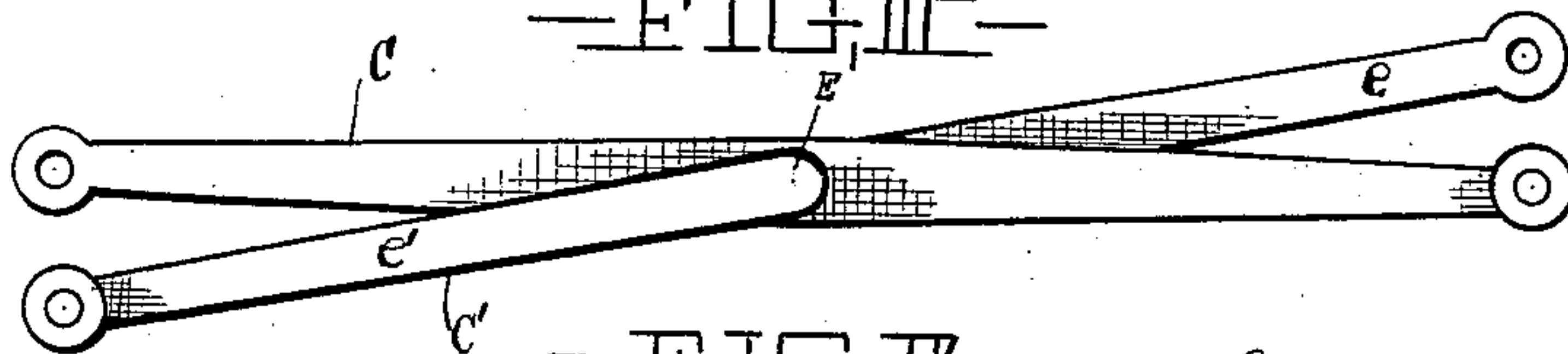
(Application filed Jan. 3, 1898.)

(No Model.)

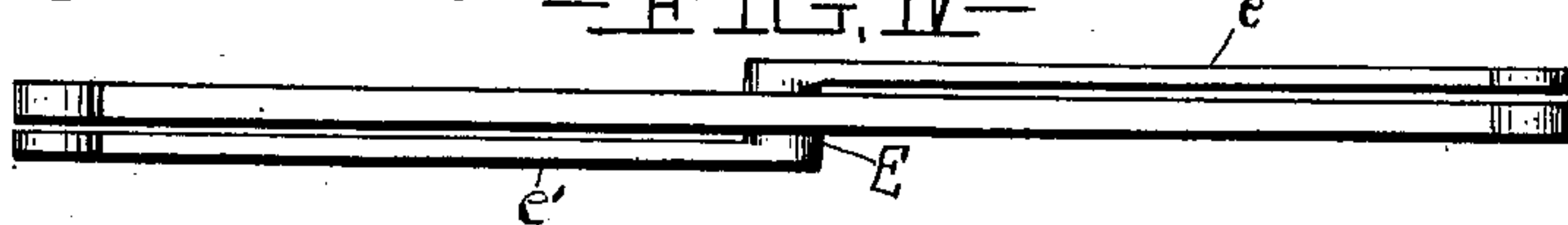
—FIG. I—



—FIG. III—



—FIG. IV—



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH E. HARTMAN, OF CLEVELAND, OHIO.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 606,659, dated July 5, 1898.

Application filed January 3, 1898. Serial No. 665,261. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. HARTMAN, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Door-Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in door-hangers, and is more especially adapted for so-called "sliding doors," such as are used in barns, cars, and also in houses.

The object of my invention is to so hang the sliding door, by means of levers arranged at one side thereof, that the said door is first raised in opening it and then moved backward, being supported from a stationary post or the frame on which one end of the hanging levers of the door are pivoted.

In the drawings, Figure I is a view in front elevation of a frame and door embodying my invention. Fig. II is a sectional view taken through one of the ways which guide the lower ends of the levers. Fig. III is a view in front elevation of a modified form of construction of levers, and Fig. IV is a view in side elevation of the same.

A represents a frame which forms a part of the door-frame and also part of the pocket, when used as a partition-door, for permitting the sliding of the door in opening it and receiving the door after it has been opened.

B represents the door, which may be of any preferred construction.

A' A² are the uprights of the door-frame, to one of which, A', is preferably secured the upper end of a lever C by means of a pivot c. The lower end of this lever C is preferably provided with rollers c' c', which are guided in a way D. The way D extends in a vertical direction from the lower part of the door upward to a point almost at its upper end d, where it is given an offset or turn, as shown in the drawings, the function of which will be hereinafter clearly set forth. Another lever C' is pivoted at its upper end, by means of a pivot c², to the door B, and at its lower end is guided in a way D', constructed similarly to the way D, the offset d' of the way D' being in the same direction as the offset d of

the way D. The levers C and C' are pivoted together at their center c³ so that they work in unison, the center c³ traveling downward when the door is opened, as indicated by dotted lines. I have shown in the drawings, Fig. I, and also in Fig. II in section, castings so formed as to receive the upper and lower ends of the levers C and C', thus doing away with the necessity of attaching them directly to the wood frame or to the door. By forming these castings as indicated the pivotal point and other working parts of the device will wear longer and not be so apt to become loose. I may, however, if I desire, secure the upper ends of the levers C and C' directly to the door and frame and form the way for the lower ends of the levers C and C' directly in the door and in the frame.

The object in providing the offsets d and d' at the upper ends of the ways D and D', respectively, is to cause the lower ends c⁴ c⁵, respectively, of the levers C C' to lift the door, as shown in dotted lines in Fig. I, thus making it more easy to open, inasmuch as there is no frictional contact between the door at the sill and the frame, and when the door is shut the offsets d d' allow the door to firmly seat itself, and thus prevent an underdraft and also prevent the rattling of the door.

While I have shown and described the offsets d and d' as at a particular angle to the ways D and D', I do not wish to limit myself to this curve or angle of the offsets, inasmuch as it may be varied without departing from my invention. The rollers c' c', if desired, may also be dispensed with, or only one may be used, if desired, and instead of mortising the levers C and C' in the door and frame, respectively, they may be, and in some cases I prefer that they be, secured to one side or the other of the door and frame, and when this is done I provide a construction (illustrated more clearly in Figs. III and IV of the drawings) in which the levers C C' are secured together at their central portion by providing a hub E, extending at right angles from the arms e and e' of the lever C', the hub E passing through a hole in the center of the lever C. By this construction, as just above described, the arms C and C' are allowed to pass each other when secured, respectively, to the

door and frame, thus allowing the door to come more closely to the frame in opening, and thus economizing room.

It will of course be obvious that in wide doors, wherein the slide or opening is of more than ordinary width or distance, more than one set of levers may be used, the construction then being upon the principle of the lazy-tongs, with its outer set of arms pivoted and guided, respectively, as are the arms C and C'.

What I claim is—

1. The combination with a door, of pivoted cross-levers pivoted at one end, one to the door and the other to the frame or building, and at their opposite end guided by ways provided, respectively, in the door and frame or building, said guides or ways being offset, at their upper ends, substantially as and for the purpose shown and described.

2. In combination with a door, of pivoted cross-levers pivotally secured at one end to the door and frame or building respectively, and at their lower end provided with rollers

guided by ways provided, respectively, in the door and frame or building, said ways being offset at their upper end, whereby when the door is opened it is raised from the sill, and when closed is lowered to the sill, substantially as shown and described.

3. The combination with two pivoted levers secured by pivots to the door and frame or building, and at their central part pivoted so that one arm of one lever passes to one side of the other lever and the other arm of the first lever passes to the opposite side of the second lever, whereby the said levers will operate to pass each other when the door is opened, substantially as and for the purpose shown and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 30th day of November, 1897.

JOSEPH E. HARTMAN.

Witnesses:

W. E. DONNELLY,
J. L. WARD HOOVER.