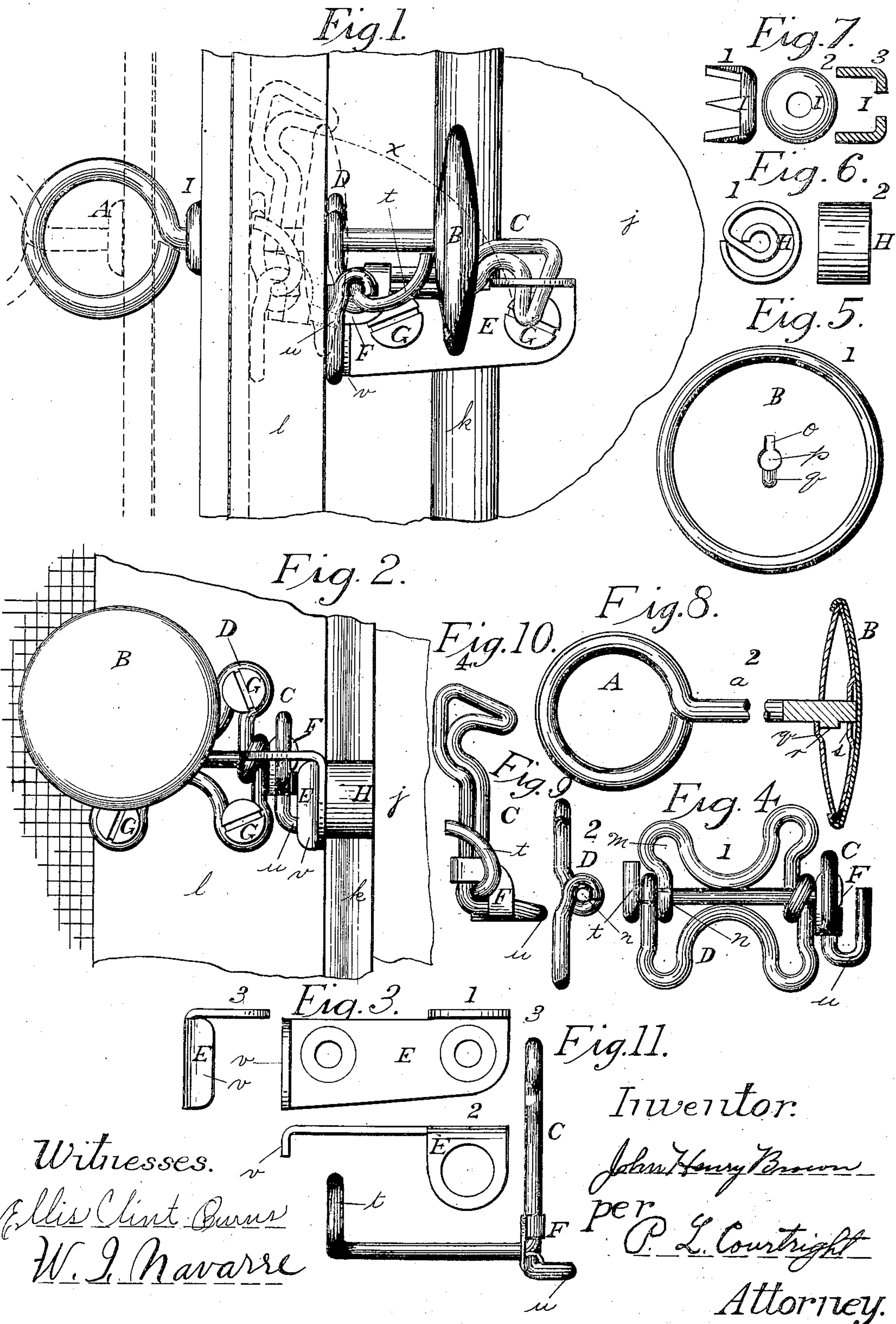


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J. H. BROWN.
DOOR LATCH.

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DOOR-LATCH.

No. 880,006.

Specification of Letters Patent.

Patented Feb. 25, 1908.

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To all whom it may concern:

Be it known that I, JOHN HENRY BROWN, a citizen of the United States, and a resident of Independence, Montgomery county, in the State of Kansas, have invented a new and Improved Door-Latch, of which the following is a specification.

This invention relates to improvements in latches, and the especial object of the improvements which form the subject of this application is to provide a novel, inexpensive and practical latch and combined door-pull formed of a wire rod bent into a form, which is adapted particularly for use on screen doors.

The invention consists in the novel construction and combination of parts, as is hereinafter described and claimed.

In the accompanying drawings my invention is illustrated in a preferred form, and in the following views similar characters of reference indicate corresponding parts in all the figures.

Figure 1, is a side elevation and vertical side view of my invention, as in position when the door is closed, and the broken lines show the position of the relative parts of the latch with the door slightly opened. Fig. 2, is a top plan view, as seen from the inside of the door, while the door is closed. Fig. 3, shows first, a vertical side view of a keeper to be fastened to the door-jamb, second, a horizontal top view of the same, and third, an end view of the same. Fig. 4, is a plan view of my invention showing the wire frame and the movable hook secured therein ready to be placed upon a door frame. Fig. 5, is an inside view of a push button, designed to slip over and to secure the end of a push rod. Fig. 6, is a side view and a plan view of a metal washer designed to be placed under the keeper at either end when the keeper is placed across a molding on the door jamb. Fig. 7, is a guide with points designed to be driven into the wood on the outside of the door and to act as a guide for the push rod to pass through. Fig. 8, is a side elevation view, and part in section, of the push rod with the push button secured thereto. Fig. 9, is a vertical end view of the wire frame. Fig. 10, is an end view of the door hook. Fig. 11, is a side elevation view of the door hook shown in position as when raised.

As shown in Fig. 4, the frame D is integrally formed from a single piece of resilient wire rod, the specific construction of which

is as follows: Upon one end of the material a half-loop *n* is bent, then the wire being bent in a plane perpendicular to this half-loop the wire is bent so as to form an eye for the push rod A to pass through, as at *m*, passing up again with another curve the wire is bent so as to form a screw eye, then in direct line with the opening made in the half-loop and opposite to the half-loop the wire is given one coil leaving an opening through this coil of the same diameter as that of the half-loop at the other end, then passing on two other screw eyes are formed as before, so as to be opposite the screw-eye and the eye for the push bar already formed, and all of said eyes being in the same plane, then the wire is bent so as to form the second half-loop in this end of the wire, so that when pulled into place, and the shaft part of the hook is inserted into the two half-loops, the half-loops will come directly against and opposite to each other in pressure on the shaft part of the hook, both ends of the wire in forming the two half loops coming on the same side of the center of the aperture formed in the half loops.

As shown in Fig. 1, 4, 10, and 11 the door latch C is integrally formed from a single piece of resilient wire rod, the specific construction of which is as follows: Upon one end of the material a curve as *t* is made, then curving inward at right angles to this curve the wire rod is continued in a straight projection through the two half-loops of the wire frame and through coil at the other end of the frame, then being bent inward to a plane parallel to that of the curve *t*, the wire is again curved so as to form a hook, then being bent upward and backward directly back over this past the point where the turn was made in the wire just as it came out side the aperture made in the coil the wire is again turned downward in the same plane as before, then outward and upward in another plane perpendicular to the plane of the hook part, and so as to form a projection to act as a kicker to strike on the curved part *v* of the keeper E when the door is closed, and thus to force the end of the hook C into the aperture in the keeper E. At the part where the wire comes through said coil a piece of metal or brace F is passed around the different parts of the wire so as to act as a washer and also to hold the wire in position.

B is a push-button having an inside plate *s*, and an inner plate *q* in which there is an

aperture *p*, having the part *o* at one side thereof, and on the opposite side from *o*, having a portion *q* which is indented from the inside, yet not cut through. A is a push-rod having a ring or finger hold at one end thereof and the other end being flattened with a projection on one side thereof so that it may be inserted in the push-button through the aperture *p o* and turned so the projection *r* will come into the depression *q*, thus holding the button on the end of this rod.

It will be evident that to open the door, if on one side of the door the ring on the push rod is pulled, thus drawing the push button toward the door; and if it is desired to open the door from the other side then the push-button B is pushed in toward the door, thus when the push button B is pushed or drawn in toward the door the curve part *t* of the hook slides on the inner surface of the push-button B and acting as a lever throws the door hook C out of the keeper E and back until the said hook comes against the door frame, at which position this hook remains because of the tension caused by the half-loops *n* pulling off from each other and binding on the rod part of said hook, although should this tension not be sufficient to hold the hook up in this position and the hook should fall down then the part of this hook *u* which I have designated as the kicker, would come against the door frame and would not let the end of the hook drop so low but what by means of the sloping part of the end of the hook it would strike the keeper E and will be raised up and will slide so as to drop into position in such a manner that the end of the hook will be secured in the aperture in the keeper E. And should the tension caused by the half loops hold the hook up in position, then when the door is allowed to go shut, the kicker *u* of the hook C will strike the raised or curved part of the keeper E which will hold the kicker *u* back and thus throw down the hook C into position in the aperture in the keeper E. The keeper E is designed to be fastened to the door casing *j*, and molding *k* by screws G. The frame piece D, is fastened to the door frame 1 by three screws G, the remaining screw eye *m* in the frame D being left for the push rod to pass through. This construction of the frame D allows play enough for the wire to give con-

stant tension on the hook at the location held by the half-hooks *n*.

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

1. In a door latch, the combination of a latch hook having at one end a curved lever and at the other end a portion designed to engage a keeper, also a portion acting as a kicker, with an integral frame having screw eyes and having a coil at one end with two half-loops at the other end of the frame, a push-button in connection with a push-rod, upon which rod is a ring, a keeper designed to be placed on the door jamb.

2. In a door-latch, an integral hook having a curved part at one end, and at the other end an engaging portion formed by bending the wire rod inward, then a little distance out on said wire, said wire being bent up and curved down to form a hook, then the wire being turned up at a slant from said curved portion thence turned back again when a little above the plane of the curved portion, then following the wire back from the curved portion back to and just past the angle or corner formed in said wire where the first turn as above described to form said hook was made, thence being turned down past the lower part of this wire thence outward, and thence upward to form a kicker, a brace securing the corners of the hook.

3. In a door-latch, a wire frame, a movable hook, a push-button, and a push rod, as described and shown.

4. In a door-latch a push rod having at one end a ring and at the other end a portion designed to engage a button, a button, a guide for said rod to pass through, a wire frame with an eye designed for said push rod to pass through, said wire frame having apertures for securing the rotating part of a latch hook, and a latch-hook designed to be raised by the contact of said push button, a keeper, and a washer designed to be placed immediately beneath the screw eyes at either end of the said keeper.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN HENRY BROWN.

Witnesses:

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