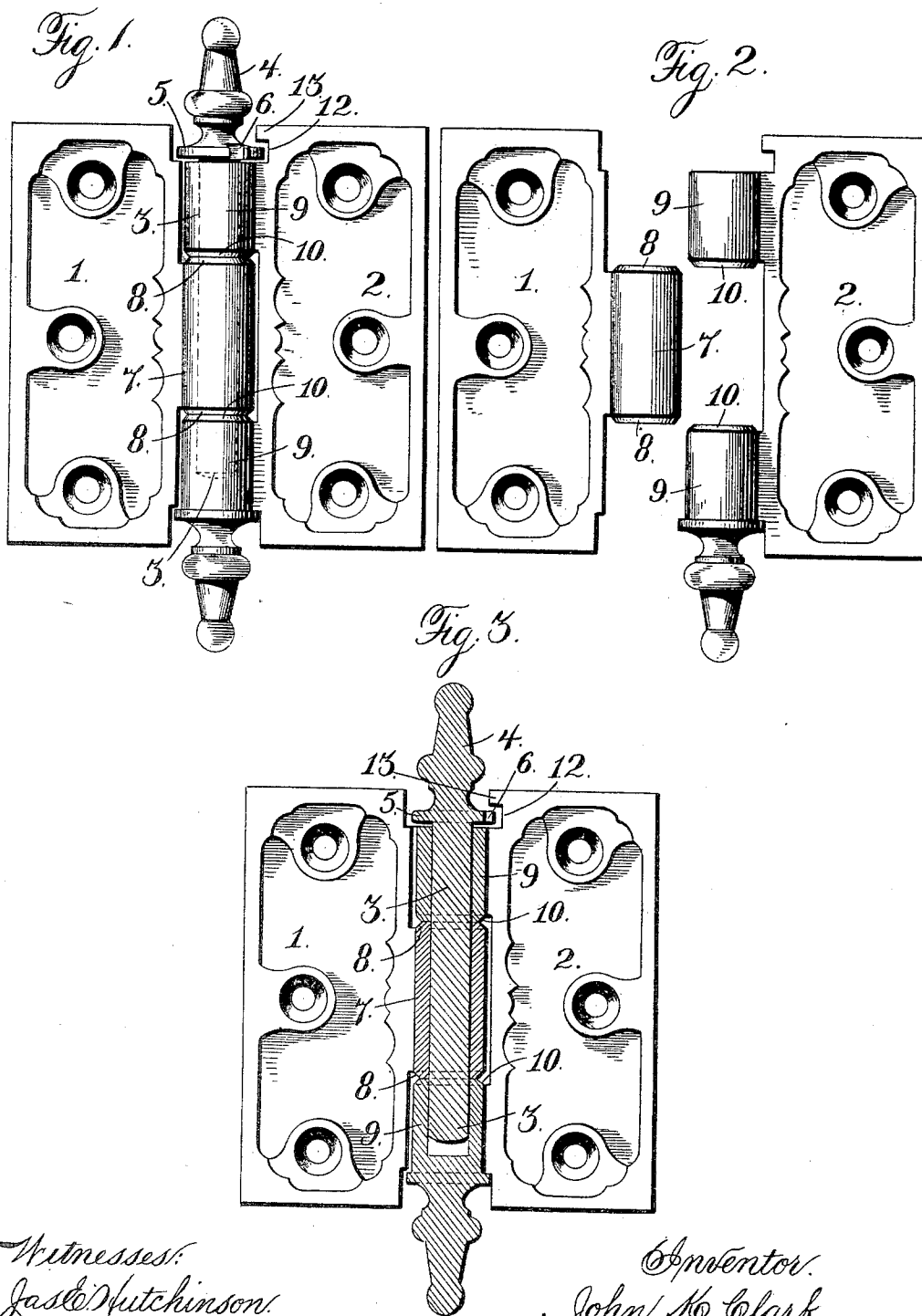


(No Model.)

J. K. CLARK.
HINGE.

No. 462,204.

Patented Oct. 27, 1891.



Witnesses:
Jas. C. Hutchinson.
Jas. A. Rutherford.

Inventor.
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UNITED STATES PATENT OFFICE.

JOHN K. CLARK, OF BUFFALO, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MARY K. CLARK, OF SAME PLACE.

HINGE.

SPECIFICATION forming part of Letters Patent No. 462,204, dated October 27, 1891.

Application filed December 29, 1890. Serial No. 376,082. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. CLARK, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Door Butt-Hinges, of which the following is a specification.

This invention has for its object to provide a new and improved door butt-hinge which is strong, durable, and efficient, and susceptible of being manufactured more economically than that type of door butt-hinge wherein the knuckles are drilled for the reception of a detachable pintle-wire on which an ornamental tip is cast.

The invention also has for its object to provide a novel door butt-hinge of such construction that the molding of the parts is facilitated and sawing or milling and drilling the knuckles are avoided, thereby materially reducing the cost of manufacture, while the pintle-pin is held against accidental displacement from its correct position, but is capable of being conveniently removed and replaced by the carpenter when hanging a door.

To accomplish these objects my invention involves the features of construction, the combination or arrangement of parts, and the principles of operation hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved door butt-hinge. Fig. 2 is a detail view showing the two leaves of the hinge separated from the pintle. Fig. 3 is a detail longitudinal sectional view to illustrate the pintle molded or cast integral with the ornamental tip and locking-collar.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numerals 1 and 2 indicate the two leaves of a door butt-hinge, and 3 the pintle formed with an ornamental tip 4, having at its base a circular laterally-projecting collar 5, provided with a notch 6. The pintle is molded or cast integral with the ornamental tip and its base-collar, by which means it is impossible for the tip to work loose on the pintle, as is the case where an ornamental tip

is cast upon a pintle-wire, and, furthermore, the pintle cannot bend like the usual pintle-wire of wrought metal.

The hinge-leaf 1 is provided centrally with a knuckle 7, having each of its ends formed with a beveled edge 8, and the hinge-leaf 2 is formed near each end with a knuckle 9, the adjacent ends of which are also formed with beveled edges 10, so that when the two leaves of the hinge are placed together with the knuckles in proper relative position there exist annular depressions formed by the beveled edges 9 and 10. This specific construction of beveled edges at the joints of the knuckles is very important, in that it facilitates molding, and is an important advantage from the fact that in molding the hinge-leaves the body, bulk, or surface of sand is lessened at these points, in consequence of which the molder is not required to use great care in drawing his pattern from the mold, as is ordinarily the case, to avoid tearing up or disturbing the sand, which would leave a rough and imperfect impression, and consequently result in a rough casting at these joints. The depressions formed by the beveled edges at the joints of the knuckles expedite the molding and insure perfect castings.

In manufacturing my improved hinge-leaves the orifices in the knuckles for the reception of the pintle are cored out in the mold, by which means the cost of production is materially lessened, in that sawing or milling and drilling of the knuckles are entirely avoided, thereby dispensing with the costly machinery necessary for these operations.

It is very desirable to provide this type of hinge with simple but efficient means whereby the pintle is prevented from working vertically out of its correct position, and to accomplish this I mold the hinge-leaf 2 with a recess 12, in juxtaposition to the uppermost knuckle 9 and below the top edge or line of the hinge-leaf. This recess serves to receive the edge of the collar 5 at the base of the ornamental tip when such collar rests directly upon the top edge of the uppermost knuckle 9. The notch in the collar of the ornamental tip enables the pintle to be introduced into the knuckle of the hinge, and then by a partial rotation of the pintle the notch in the

collar of the tip is moved out of coincidence with the lug 13, formed by the recess 12 in the hinge-leaf 2, in such manner that the collar of the ornamental tip rests securely on the top edge of the uppermost knuckle, and the pintle cannot rise vertically out of proper position by reason of the collar at the base of the tip entering the recess which is formed in the edge of the hinge-leaf 2 below its top edge or line.

A cast-iron pintle would not be as strong as the ordinary wrought-iron pintle or pintle-wire on which an ornamental tip is cast; but to compensate for this I increase the diameter of the pintle, and thereby give it practically the same strength as a wrought-iron smaller pin. By molding or casting the pintle with the ornamental tip and its notched collar it is impossible for the tip to work loose on the pintle, and this is an advantage. The several features of my improved hinge mutually contribute to the production of a door butt-hinge which is strong, durable, and efficient, while the process of molding is materially facilitated and the cost of manufacture materially reduced.

By coring the orifices in the knuckles for the passage of the pintle and casting the pintle as described it is impossible for the pintle to bend and become tight in the knuckles, which is objectionable with some hinges where

the knuckles are drilled, in that the drill will deflect from the center, and when this is the case the butt-hinge binds at the joint and causes the carpenter considerable trouble in opening the hinge preparatory to attaching it to the door, for when the drilled hole is not true the ordinary wrought-iron pin becomes tight, and it is exceedingly difficult to withdraw it from the joint, as the carpenter must do in hanging the door.

Having thus described my invention, what I claim is—

The improved door butt-hinge herein shown and described, consisting of the hinge-leaves molded with cored knuckles having their adjoining or adjacent ends also molded with the beveled edges 8 and 10 and one leaf having the recess 12 in one edge below its top line, and the pintle molded integral with the ornamental tip, having an annular locking-collar resting on the top edge of the uppermost knuckle of the recessed leaf and provided with a notch, all substantially as set forth.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

JOHN K. CLARK. [L. S.]

Witnesses:

ALBERT HENNINGHAM,
KIMBALL V. CLARK.