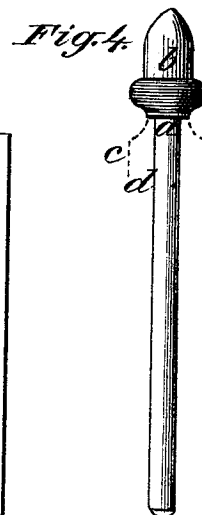
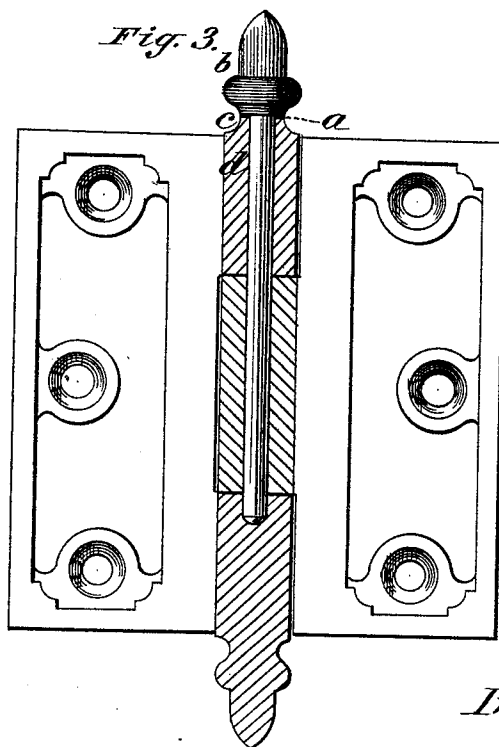
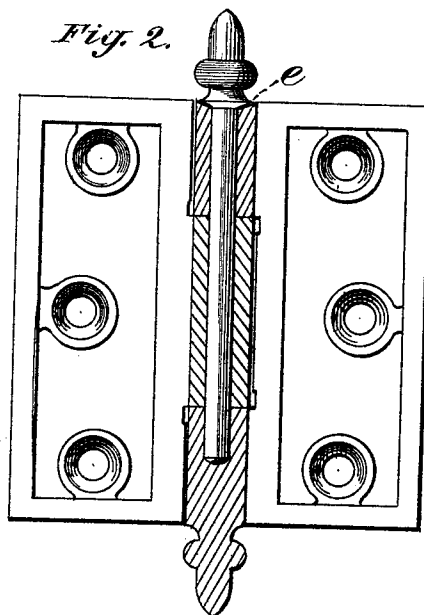
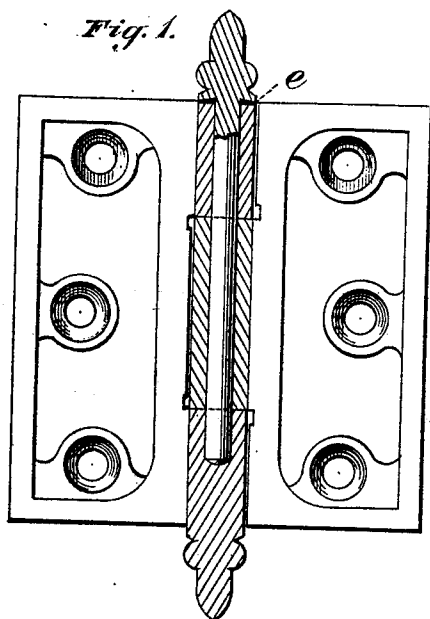


C. B. CLARK.

HINGES.

No. 182,893.

Patented Oct. 3, 1876.



Witnesses:

W. S. Doolittle
Frank C. Langley

Inventor:

Charles B. Clarke,
By James L. Norris,
Att'y.

UNITED STATES PATENT OFFICE.

CHARLES B. CLARK, OF BUFFALO, NEW YORK.

IMPROVEMENT IN HINGES.

Specification forming part of Letters Patent No. **182,893**, dated October 3, 1876; application filed July 22, 1876.

To all whom it may concern:

Be it known that I, CHARLES B. CLARK, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Butt-Hinges, of which the following is a specification:

This invention relates to certain improvements in hinges; and consists in providing a removable pintle with a knob having a flat bearing-surface at its inner end of a diameter less than the body of the knob, while the knuckle-joint of the hinge is formed with a bearing-surface at its upper end of a diameter less than the diameter of the main body of the knuckle, in such a manner that a contracted-neck bearing-surface is obtained, making a neat close-fitting joint between the parts, as well as cheapening the cost of manufacture and adding greatly to the beauty and ornamental appearance of the article.

Hitherto the general method has been to cast the knob on the pintle-wire against an iron "chill," forming a concave shoulder or bearing of sufficient size to meet the diameter of the knuckle of the hinge, the object of the chill being to cast a smooth surface at the joint, and sufficiently concave to cover any irregularities at the end of the knuckle-joint. This method must be adopted, or else the end of the knuckle-joint countersunk so as to meet the convex shoulder-joint of the knob, for it is impossible to cast a deep shoulder without having some draft, in order to have it mold well, and even then it is always liable to be rough at the division of the molds.

Either method mentioned adds to the cost of production, and from the extent and usual roughness of the joint is objectionable to the appearance of the hinge.

I avoid these objections and lessen the cost by making the division or seat at the neck or smallest part of the knob, thereby requiring scarcely any draft for the slight shoulder around the pintle-wire of the neck portion of the knob.

I am thus enabled to make, at no additional expense beyond the ordinary simple process of molding, a closely-fitting joint, and the pintle-wire is also more securely held within the knob, extending, as it does, into

the larger diameter of the same, whereas in the other methods shown the knobs are liable to break off at the necks in withdrawing them from the hinge when the door is hung, for it is quite impossible to cast the pintle through the undivided neck without making "blow-holes" in the casting; and for the above reasons I am also enabled to make a smaller and more symmetrical neck, which the more effectually conceals the dividing-joint and preserves the knuckle-joint line unbroken. These are important considerations in the manufacture of this class of hinges, as they facilitate the production and cheapen the article to the trade.

Figure 1 represents a sectional view of a hinge in which the base or bearing-surface of the knob is cast concave by means of the iron chill, for the purpose before mentioned. Fig. 2 is a similar view, showing the base of the knob convex at its bearing, with a corresponding countersink in the end of the hinge-knuckle. Fig. 3 is a like view of a hinge showing my improved division of the pintle-knob, and Fig. 4 the pintle and its knob detached.

The hinge is reversible for right and left hand doors, and is constructed in the usual manner, except in the particulars of my improvement, which consists in making the bearing or seat *a* of the knob at the neck or least diameter thereof—that is to say, the neck is divided at a point to leave the larger or base portion *c* upon the end of the knuckle *d*, and obtain thereby the smallest bearing-surface, and which avoids the expensive employment of iron chills and insures a close fit of the pintle-knob with the hinge-knuckle *d*. In Figs. 1 and 2 the bearing or seat is the full diameter of the knuckle, as at *e*, while in Fig. 3 a portion of the knob-neck is formed upon the knuckle, and of a shape and diameter symmetrical with the neck, so that the seat is at the neck and not at the base of the knob, as in Figs. 1 and 2. The corresponding knob at the other end of the knuckle is cast solidly with the hinge.

I do not confine my improvements to the ordinary acorn or to any specific shape of the knob, as my object is to divide the knob at

its smallest diameter, irrespective of its peculiar shape, and for the purpose hereinbefore mentioned.

I do not herein claim any part of the design or ornamentation, the same having been allowed me in another application for the design only, filed under date of September 11, 1876, and intended to be taken out as of even date herewith; but

What I claim, and desire to secure by Letters Patent, is—

The removable pintle of a hinge, provided with a knob, having a flat bearing-surface at its inner end of a diameter less than the diameter of the knob, in combination with the

knuckle, having a bearing-surface at its upper end of a diameter less than the main body of the knuckle, substantially as shown and described, whereby a contracted-neck bearing-surface is obtained, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

CHARLES B. CLARK.

Witnesses:

JOHN HOLEHOUSE,
CHAS. J. CHRETIEN.