

G. DOANE.
Hinges.

No. 148,939.

Patented March 24, 1874.

Fig. 1.

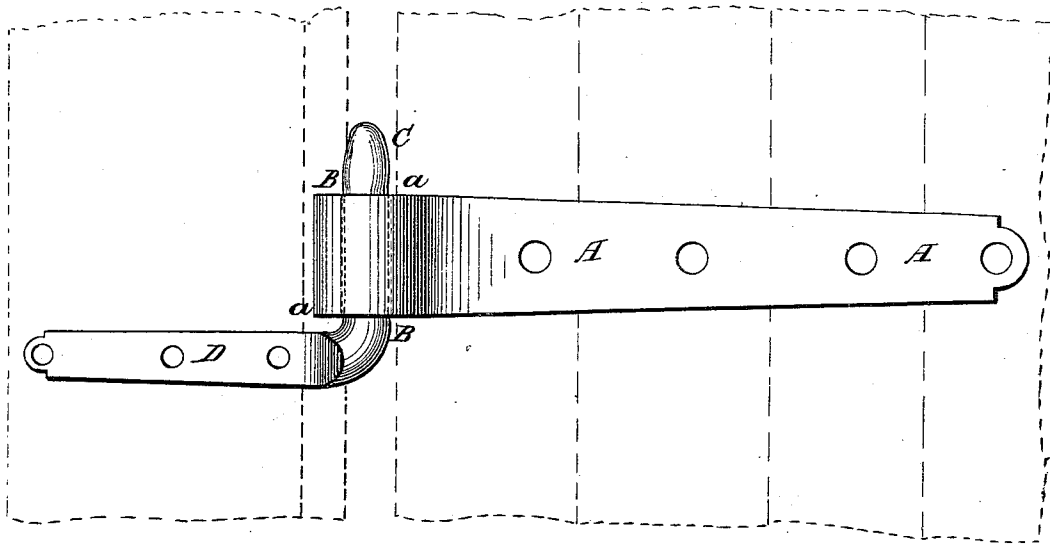


Fig. 2.

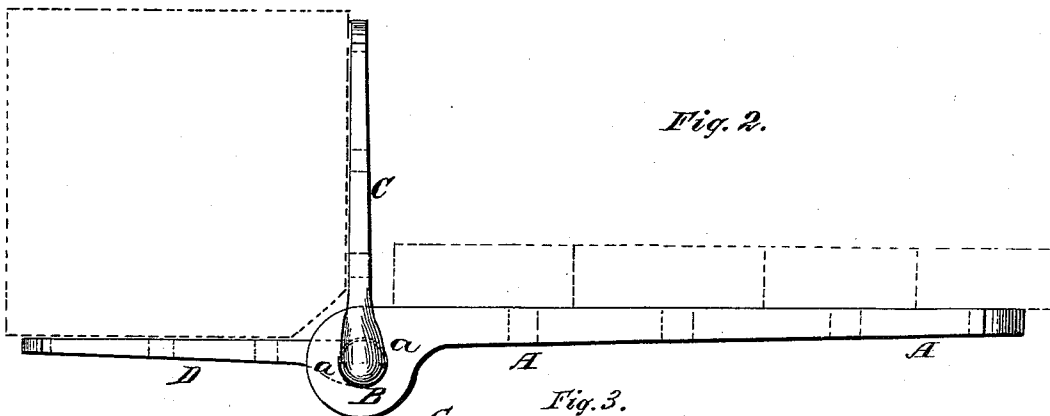
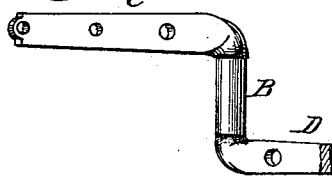


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE DOANE, OF GROSSE ISLE, MICHIGAN.

IMPROVEMENT IN HINGES.

Specification forming part of Letters Patent No. 148,939, dated March 24, 1874; application filed March 13, 1874.

To all whom it may concern:

Be it known that I, GEORGE DOANE, of Grosse Isle, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Hinges; and I do hereby declare that the following is a full, clear, and exact description thereof that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to obtain a strong and substantial, yet cheaply made, hinge, for farm gates, doors, &c., and one which, while it will not permit the door or gate to sag, can neither readily get out of order nor position.

To this end, the nature of my invention consists in a yoke-shaped pintle made of one piece, and constructed to embrace two or more sides of a post, the center forming a journal or hinge pintle for the gate or door part of the hinge, as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 represents a side elevation of my invention in position. Fig. 2 is a longitudinal section of the same; and Fig. 3 is a detached view of the yoke-shaped pintle.

That part of the hinge which is fastened to the gate is made in the form of a strap, A, or in any other suitable shape, and provided at its outer end with an eye, *a*.

That part of the hinge which is fastened to the gate-post is made in the form of a yoke-shaped pintle, in the following manner: A piece, B, of ordinary round iron is heated and passed through the eye *a* of the strap A. This round iron is then bent at double right angles to form a yoke-shaped pintle—that is, one wing or arm, C, is bent at right angles to its original position and parallel with the strap A, and the other wing or arm, D, is bent at right angles to its original position, and also at or near right angles to the line of the strap A, thus forming a yoke, or brace-arms to embrace the post. The wings C D, one or both, are then heated, flattened, and drilled or punched for the screws or other fastenings, and the hinge is completed.

In the ordinary butt-hinge fastened with screws, that part of the hinge which is fastened to the post is often broken or loosened

for the following reason: The strain on the screws or fastenings of the gate part of the hinge is always a directly transverse strain, and can therefore be effectually provided against so as to resist sag of the gate, bending, and tearing off of the hinge; but the strain upon the fastenings of the post part of the hinge is a directly transverse strain only during one position of the gate, and that one position in most hinges is when least desirable, namely, when the gate is closed, and thus partly supported.

In my hinge, when fastened with screws, &c., it will be observed that there is actually a transverse strain upon the fastenings in every position in which the gate may be placed, for as the transverse strain lessens on one wing or arm of the yoke it increases on the other wing, the hinge is effectually fastened in position, and the yoke can never tear out. The above advantage also holds good with other fastenings than screws, as with eye and bolt the strain can likewise be met in the most advantageous manner.

Another advantage gained by my improved hinge is that it permits a gate to be swung for about three-quarters of a circle, and still another advantage is the facility and cheapness with which the hinge can be manufactured, and the simplicity and permanence of its position and operation; also in the use of my invention for farm-gates and stock-yards. The gate cannot be lifted off the hinges, nor trampled from its position.

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

The herein described hinge, consisting of a yoke-shaped pintle, B, formed from a single piece of metal, the lower part bent over to form an attaching brace, D, and the upper portion likewise bent over at or near right angles thereto, forming an additional arm or brace, C, on the opposite side, in combination with a strap or leaf, A, having an eye-piece, *a*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of March, 1874.

GEORGE DOANE.

Witnesses:

JACOB JOHANN,
ARTHUR T. WILCOX.