W. S. MAINS.

Hinge.

No. 204,061. Patented May 21, 1878.

Fig. 1.

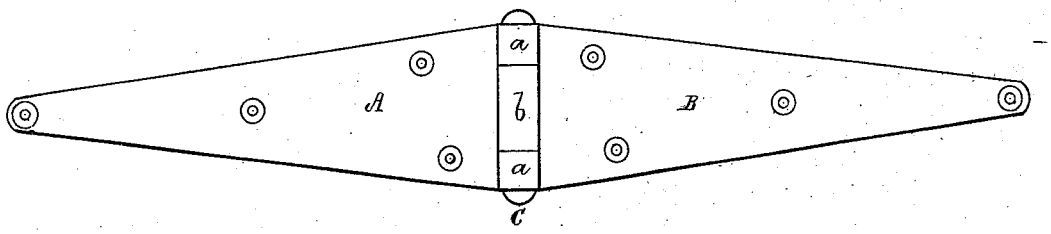


Fig 2.

Fig 3.

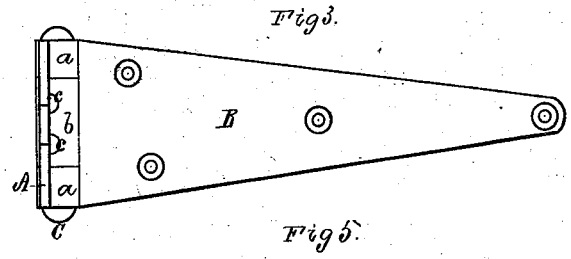


Fig 5.

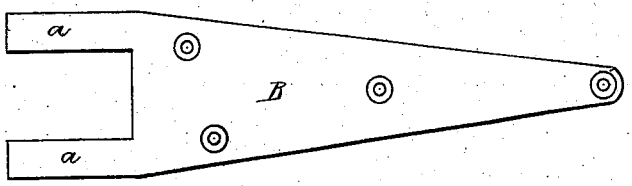


Fig 4.

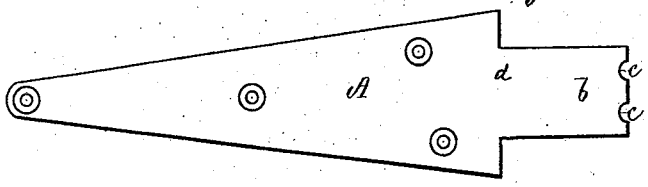
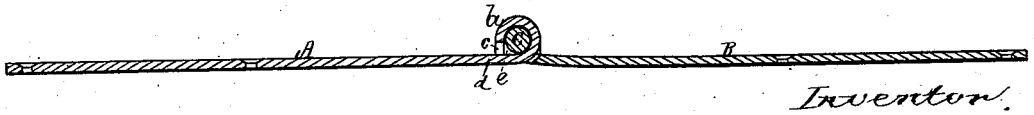


Fig 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

WOODBURY S. MAINS, OF PORTLAND, MAINE.

IMPROVEMENT IN HINGES.

Specification forming part of Letters Patent No. **204,061**, dated May 21, 1878; application filed October 16, 1877.

To all whom it may concern:

Be it known that I, WOODBURY S. MAINS, of Portland, of the county of Cumberland, of the State of Maine, have invented a new and useful Improvement in Hinges; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation; Fig. 2, an edge view of a hinge containing my improvement. Fig. 3 is a view of it showing one leaf turned up at a right angle to the other. Figs. 4 and 5 are views of the two leaves as they appear before being bent for reception of the joint-pin, and Fig. 6 is a longitudinal section taken so as to show one of the oiling-holes arranged as hereinafter explained.

My invention relates more particularly to trap-door hinges as used on stable or other doors, although it is applicable to various other hinges.

Such trap-door hinges, while in use, are very liable to become so oxidated in their joints as to cause the pins and tubular parts thereof to strongly adhere to each other, in which case, on an attempt being made to open or raise the trap-door, it frequently happens that the hinge portion attached to the door becomes broken from its tubular part of the joint, thereby rendering the hinge useless. Such hinges are generally made of plate-iron or metal, the part of each leaf that encompasses the joint-pin being bent around so as to form a cylindrical tube to receive such pin.

In constructing a hinge in accordance with my invention, that leaf of it which is to revolve on the joint-pin I provide with one or more notches in the end of its joint portion, in order that when such joint portion is bent around there may be formed in it, at or in the angle of its junction with the flat part of the leaf, one or more holes or passages, through which oil may be passed to effect lubrication of the joint-surfaces in contact, all as hereinafter more fully described and claimed.

By the arrangement of the oiling passage or passages so as to open into or lead from the joint angle, not only can the lubrication of the hinge be effected without any necessity of pouring the oil directly into the passage or passages, but when the trap-door is horizontal or down there is less chance of dust, water, or extraneous matters falling or getting into the said passage or passages, and thence into the joint, than there would be were they (the said oiling passage or passages) at the top of the joint.

To effect oiling of the joint it is only necessary to raise the trap-door to an angle of about forty-five degrees, and next pour the oil into the space or angle between the joint and flat portions of the leaf. Such space or angle will constitute a trough or gutter to receive the oil and convey it to and into the oiling hole or holes.

In the drawings, A and B are the two leaves of the hinge, *a a* being the front portions of one and *b* that of the other, the joint-pin being shown at C. The said pin is usually stationary, or does not revolve in the joint portions *a a;* but the front portion *b*, when the hinge is in use, turns or is to turn upon the pin and between the portions *a a*.

In Fig. 4 the joint portion *b* of the movable leaf A is shown as flat, and provided at its free end with two semicircular notches, *c c*, which, when the part *b* is bent around so that such end shall abut against the flat part *d* of the leaf, become arranged next to such flat part and in the angular space *e* existing between it and the bent-joint part *b*.

By my arrangement of the oiling passage or passages in respect to the angular space between the joint and flat portions of the hinge, oil, on being poured into such space when the trap-door is inclined, will not only flow into the said passage or passages, but readily find its way between those ends of the joint-tubes which may be next adjacent to and liable to rub against each other while the trap-door may be in movement.

I claim as my invention—

As an improved article of manufacture, a hinge constructed as described, having one or more oiling holes or notches, *c*, arranged in one of its joint-tubes *b*, so as to lead out of the angular space formed between such joint-tube and the flat portion of the leaf thereof, substantially as and for the purpose set forth.

WOODBURY S. MAINS.

Witnesses:
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