(No Model.)

P. C. GOSHORN.

GATE HINGE.

No. 323,574. Patented Aug. 4, 1885.

Fig. 1

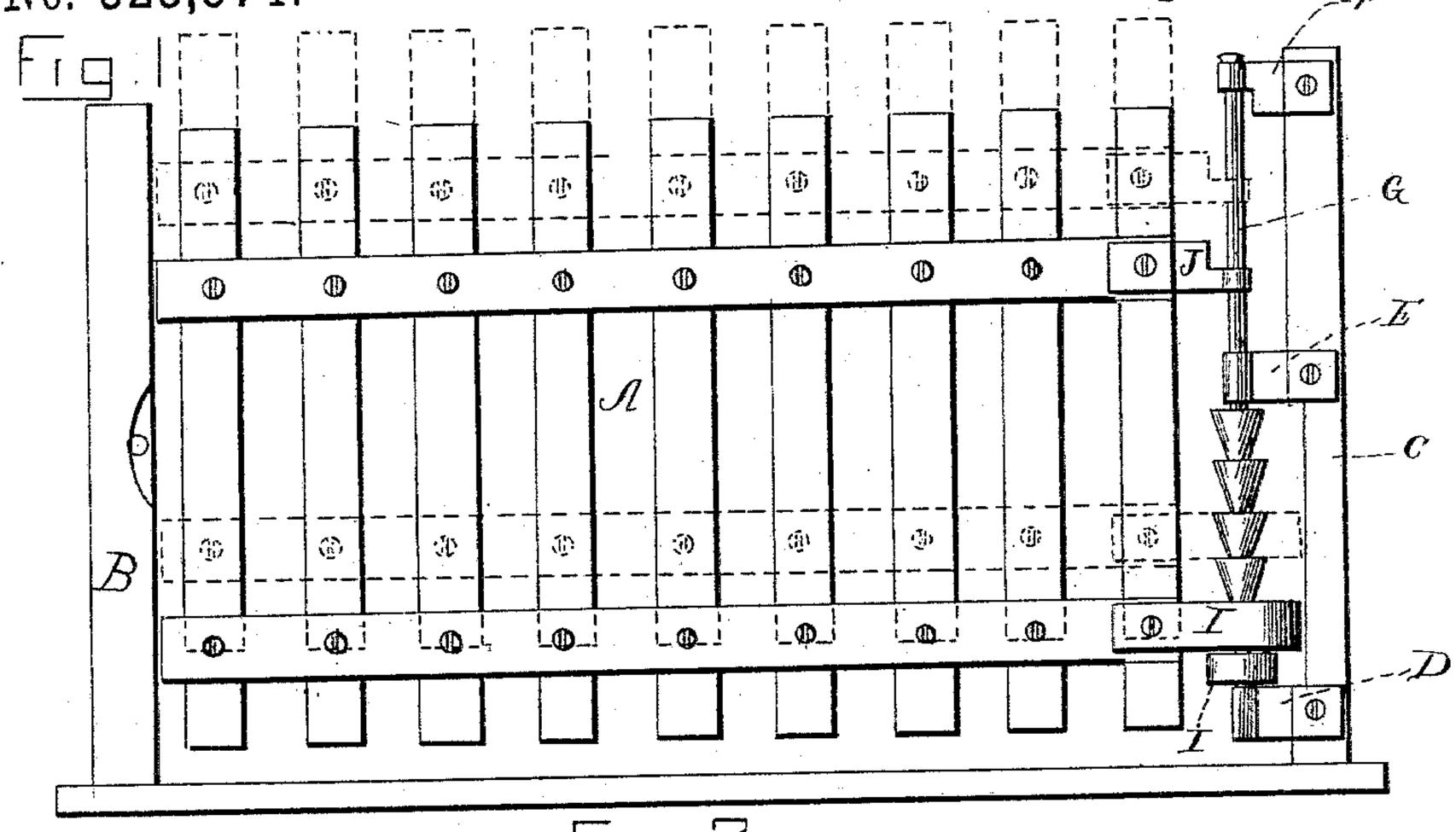


Fig 2

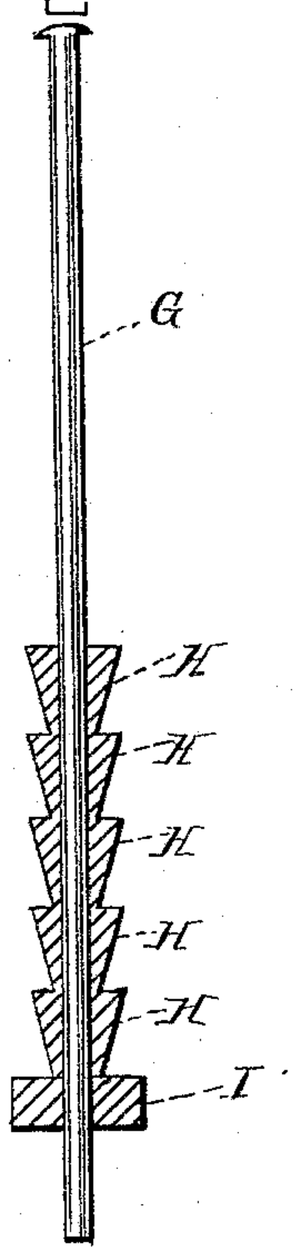


Fig 3

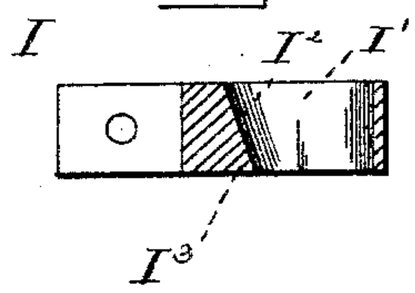
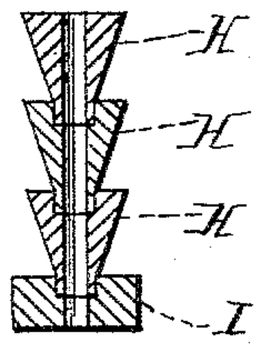


Fig 4



WITNESSES

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UNITED STATES PATENT OFFICE.

PETER C. GOSHORN, OF LIGONIER, INDIANA.

GATE-HINGE.

SPECIFICATION forming part of Letters Patent No. 323,574, dated August 4, 1885.

Application filed June 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, PETER C. GOSHORN, a citizen of the United States, residing at Ligonier, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Gate-Hinges, and I do declare the following to be a full, clear, and exact description of the invention, such as 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 and figures of reference marked thereon, which form a part of this specification.

My invention relates to gates, and has for its object convenient, simple means whereby the gate may be hinged to turn easily and yet be capable of a vertical adjustment, in order to elevate it above snow or mud or to enable the passing thereunder of small animals, as is frequently desirable.

The invention consists, broadly, in a series of cones suitably journaled in connection with a strap or hinge link adapted thereto and embracing said cones, as will be presently described.

In the drawings, Figure 1 is a side view of my improved gate. Fig. 2 is a detail view of the pintle and gate-support, the latter being cut in vertical section. Fig. 3 is a detail sectional view of the lower gate strap or link. Fig. 4 is a detail section of a modified form of gate-support.

The gate A, jamb-post B, and swing-post C may be of ordinary construction.

The post C has projected from its inner edge brackets or arms D E F, in which is held the pintle-rod or standard G.

The gate-support consists of the cones H, which are journaled on the pintle between arms D E, and are formed on a common axial line, and inverted, as shown, with their bases upward, the apex of one resting on the base of the other, as shown. Below these cones I secure the disk or base-plate I, which bears on the strap D, and is made larger than the opening through the link or strap presently described. This plate is also journaled on the pintle, so it may be revolved, and is designed to prevent the strap, before adverted to, from becoming engaged with the non rotating parts of the gate-frame when adjusted to its extreme lowest point, as will be seen in Fig. 1.

I prefer to form the cones integral with each other and with the base-plate, as shown in Fig. 2; but it is manifest such parts could be made detached, as shown in Fig. 4. I also prefer to journal the cones, &c., on the pintle-rod; but it will be understood that said parts could be made with bearings in or trunnions on their opposite ends and journaled suitably between the brackets D E, or other suitable supports, so as to enable the revolution of said cones, as my object is to have said cones turn so the wear and friction of the parts will be reduced and the operation easy, as will be understood.

The strap or link I is secured to the gate, and has the opening I′ formed through it and placed over and encircling the cones. The forward wall, I^2, of this opening is inclined forward toward the gate from its lower to its upper edge, and at an angle conforming practically to the angle of the cones, so the said wall will rest against one of the cones in the operation of the device and the strap rest at I^3 on the top of the next lower cone, as will be understood from Figs. 1 and 3.

The upper strap, J, of the gate has an eye, J′, which slides vertically on the upper end of the pintle G. I do not desire to be limited to this form of supporting the upper end of the gate, as the same may be modified in various ways. The gate might be provided with a rod or bail so arranged as to slide in any eye secured to the swing-post, or any other well-known connecting means might be employed, the object being to provide a vertically-movable hinge for the upper end of the gate.

I prefer to arrange the cones at the bottom of the gate; but it will be understood that they could be arranged at the upper hinge-place, where so desired, without involving a departure from my invention. This change of position, it will be seen, would require that the inclined wall of the eye of the strap or link be arranged on the side opposite that shown in Fig. 3.

It will be seen that when the gate is in the position shown in Fig. 1 its weight will hold it in engagement with the cones in any vertical position to which it may be adjusted. To adjust

the gate it is only necessary to draw its lower end slightly toward its swinging edge until I^3 escapes the largest periphery of the cone, when the gate may be moved up or down when desired. When the proper elevation is had, the gate may be released, and will drop into engagement with the opposite cone, as will be understood.

I prefer to form the cones in a single piece, as in such case there is no danger of one cone slipping away from the others, so that the strap or link will bear against the pintle.

In my gate, it will be seen, the strap or link does not turn on the cones, but bears against said cones, which turn on the journals before described. I thus avoid all grinding and friction of the strap or link on the cones, and bring such friction on the journal of the cones, which journal is preferably a long one, as shown, and the frictional wear is hardly noticeable. It will also be seen that the strap or link encircling the cones prevents detachment of said strap and cones by any jar against or quick opening of the gate, as would occur if said strap were formed with simply a bearing to rest against the cones, and for this reason I prefer to form it in the ring or loop form shown, though it is manifest it might be made to simply bear against the cones as though the right half of the opening as shown in Fig. 3 were removed. While these slight modifications might be followed without involving a departure from the broad principles of my invention, I prefer to employ the construction as shown and hereinbefore described.

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

1. The combination, in a gate-hinge, of a series of cones, and a strap or link fitted to engage the said cones and movable from one to the other, substantially as set forth.

2. A gate hinge consisting of a series of cones having a common axial line, cast or otherwise formed integrally, and pivotally supported, whereby they may be rotated, and the strap or link, substantially as set forth.

3. The combination of the series of cones, the strap or link encircling said cones, and the disk or base-piece arranged at the lower end of said series and made larger than the opening through said link, substantially as set forth.

4. The combination of the series of cones formed in a common axial line and with a central longitudinal bearing-opening, the pintle inserted through said opening, and the strap engaging the cones, substantially as set forth.

5. As a new and improved article of manufacture, the hinge-iron herein described, consisting of a series of cones integrally formed on a common axial line and having the apex of one joined to the base of the next cone, and provided at one end with a disk or base-piece, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PETER C. GOSHORN.

Witnesses:

H. G. LOCKHART,

HARRY REYNOLDS.