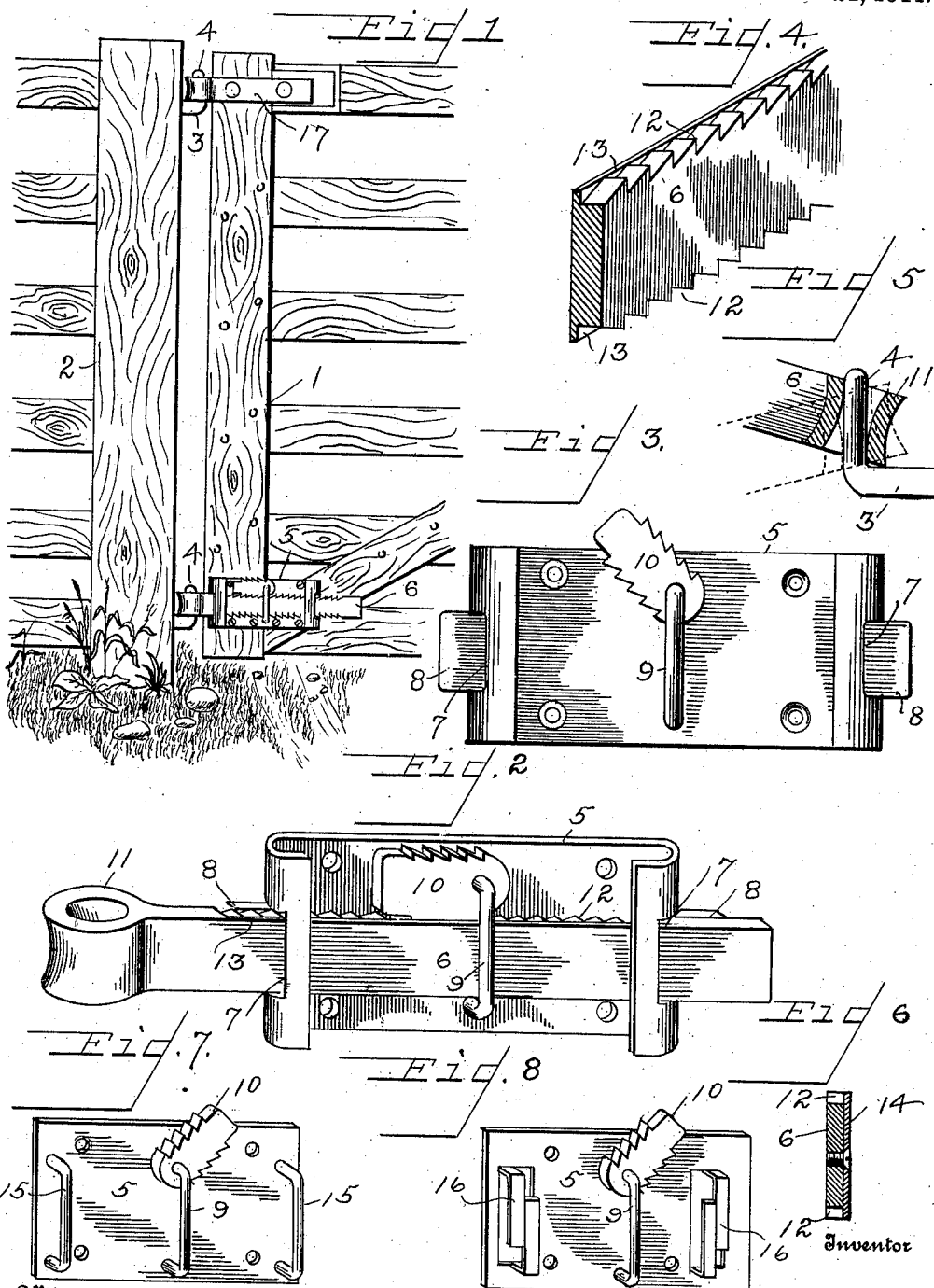


C. K. WOLF.
ADJUSTABLE HINGE.
APPLICATION FILED MAY 16, 1910.

987,207.

Patented Mar. 21, 1911.



Witnesses

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CHARLES K. WOLF, OF NEAR XENIA, OHIO.

ADJUSTABLE HINGE.

987,207.

Specification of Letters Patent. Patented Mar. 21, 1911.

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To all whom it may concern:

Be it known that I, CHARLES K. WOLF, a citizen of the United States, residing near Xenia, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Adjustable Hinges, of which the following is a specification.

My invention relates to hinges and particularly to adjustable hinges, and is especially adapted to use upon heavy doors or gates such as barn doors or farm gates, but it is to be understood that it is not limited to such use.

The object of the invention is to greatly simplify the structure as well as the means and mode of operation of such devices whereby they will not only be cheapened in construction, but will be more efficient in use, easily operated, and unlikely to get out of repair.

A further object is to provide an adjustable hinge adapted to hold the free end of the gate at any desired elevation to free it from snow, or fresh gravel used to build up the road way, to compensate for the sagging of the gate, to adjust it to permit small animals to pass under, and to adjust it that it may open or close by gravity.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation or their equivalents, as hereinafter described and set forth in the claims.

Referring to the drawings, Figure 1 is an elevation of a portion of a gate carried on one of the improved hinges forming the subject matter hereof, showing the relative location of the hinge. Fig. 2 is a perspective view of the assembled hinge. Fig. 3 is an elevation of the attachment plate with the eye bar removed. Fig. 4 is a detail perspective view of the eye bar. Fig. 5 is a detail sectional view of the engagement of the hinge and pintle showing the range of adjustability. Fig. 6 is a transverse sectional view of a modification of the eye bar. Figs. 7 and 8 are perspective views of modified forms of the attachment plate.

Like parts are indicated by similar characters of reference throughout the several views.

The hinge forming the subject matter hereof is of the hook and eye type, the hook portion being firmly secured upon the sup-

port, and the eye portion adjustably secured upon the door or gate.

In the drawings 1 is the gate hinged to the supporting post 2. Projecting from the post 2 are the hook portions 3 having the upturned pintles 4. The hinge hereinafter described may be applied at either the top or the bottom of the door or gate as is most convenient or desirable. In the drawing it is shown as applied to the bottom of the gate. The hinge comprises an attachment plate 5 having thereon keepers through which the eye bar 6 is adapted to reciprocate. The keepers are preferably formed by bending the opposite ends of the plate 5 inward upon itself as shown in Figs. 2 and 3 and forming openings 7 in such bent portions. In Figs. 2 and 3 the material removed by perforating the bent portions is shown as projecting outward in the form of flaps 8 resting against and assisting in supporting the eye bar 6.

Located substantially mid length of the plate 5 is a staple, 9 through which the eye bar is also adapted to extend. The staple 9 is somewhat wider than the eye bar and the uppermost leg thereof forms a pivotal connection for a swinging bar 10 of comparatively short length, having in both edges thereof a series of inclined teeth or notches.

The eye bar 6 comprises a straight bar having at one end an eye 11 adapted to engage the pintle 4 of the hook member 3. The bar is provided with notches or teeth 12 in the edge thereof, corresponding with the inclined notches of the swinging bar 10. The bar is passed through the keepers of the attachment plate 5, whereby the bar is caused to lie in the same plane with the swinging bar 10, the several inclined teeth of which engage with the corresponding teeth of the eye bar preventing a reciprocatory movement of the bar in one direction without first disengaging the teeth of the swinging bar 10, but permitting the bar to be easily moved in the opposite direction.

In order to permit the hinge to be used either right or left, that is to enable the use of the hinge not only as shown in Fig. 1 but also on the opposite side of the gate or at the opposite end of the gate, the eye bar is provided with the inclined teeth or notches 12 on both of its edges as shown in Figs. 1 and 4. Otherwise it would be necessary to turn the hinge upside down which would cause the swinging bar 10 to move out of

engagement with the bar by gravity, thereby defeating the purpose of the device. By equipping both edges of the eye bar 6 with teeth, and also providing corresponding teeth in the opposite sides of the swinging bar 10, the bar may be passed through the attachment plate from either end, and the swinging bar 10 will operatively engage the bar in either position. It is obvious that the staple 9 might be omitted and the swinging bar supported on a suitable stud. The eye 11 of the eye bar 6 is of double conical shape or contracted in the center as clearly shown in Fig. 5, which permits the easy working of the eye upon the pintle 4 in any position of its angular adjustment.

Inasmuch as the teeth 12 of the eye bar if left unprotected as shown in Fig. 1 might interfere with the easy movement of the bar in its keepers by the teeth on the under side engaging in said keepers, the teeth 12 of the bar are preferably provided with a protecting rib or bead 13 extending to the points of the teeth as shown in Figs. 2 and 4. The teeth as shown in Fig. 4 may be readily formed in the bar by casting or drop forging, however if it is desired to machine such teeth, the bar is preferably formed in two pieces as in Fig. 6 which discloses a protecting plate 14 secured to the main portion of the bar after the teeth have been formed therein.

It is obvious that instead of bending the plate 5 back upon itself as shown in Figs. 2 and 3 to form the keepers, the plate 5 may be provided with keepers of other form, for instance as shown in Fig. 7 wherein the plate 5 is provided with staples or clevises 15 adjacent to either end, similar in form to the staple 9 before mentioned.

In Fig. 8 is shown another form of keeper formed by stamping tongues 15 from the plate 5 of such shape as to inclose the bar 6.

The other gate hinge, in this case at the top, is an ordinary strap hinge 16 except that the eye thereof is preferably of the double flaring form shown in Fig. 5 and corresponding to the shape of the eye 11 of the bar 6.

When it is desired to elevate the free end of the gate the gate is lifted upward which causes the attachment plate to move outward on the eye bar, the swinging bar 10 sliding freely over the teeth of the bar, engaging successive teeth until the gate is in the desired position where it will be maintained by the interengagement of the teeth of the swinging bar 10 and the eye bar 6, which prevents the relative return movement of the parts. The swinging bar acts as a pawl, but by providing it with a series of teeth the strain is distributed, and the interengagement of the parts rendered more secure.

To change the hinge for the opposite end

or opposite side of the gate or door, it is only necessary to introduce the eye bar into the attachment plate from the opposite end thereof and to reverse the swinging bar 10.

For extraordinary conditions of service the swinging bar or pawl might be provided with a spring to hold it in engagement with the eye bar. However for ordinary use such spring is neither needed nor desirable.

In adjusting the gate or door to an elevated position the action of the hinge is automatic. In order to lower the gate or door the swinging bar 10 must be disengaged from the eyebar by manual effort.

From the above description it will be apparent that there is thus produced a device of the character described, possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in this form, proportion, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

Having thus described my invention I claim;

1. As an article of manufacture, a hinge comprising an attachment plate, an eye bar slidably mounted thereon, capable of being introduced into engagement with the plate from either side whereby the hinge may be made either right or left handed, and a reversible detent adapted to operatively engage the eye bar in either position of adjustment.

2. As an article of manufacture, a hinge comprising an attachment plate, an eye bar having therein a series of notches or teeth, a swinging bar pivotally supported on the plate having therein a plurality of notches or teeth corresponding with those of the eye bar and engaging therewith in such manner that the eye bar may move freely in one direction but the return movement thereof will be prevented.

3. As an article of manufacture, a hinge comprising an attachment plate, an eye bar having a plurality of notches or teeth formed in the opposite edges thereof, a swinging bar pivotally supported on the plate also having a plurality of notches or teeth formed in the opposite edges thereof and corresponding with those of the eye bar, whereby the eye bar and the swinging bar may be reversed in their relation with the plate and interengaged in either position.

4. As an article of manufacture, a hinge comprising an attachment plate, an eye bar longitudinally adjustable thereon, a detent adapted to maintain the eye bar in adjusted position, the eye of said eye bar being contracted about its medial line thereby forming an oppositely flaring or double conical opening therein.

5. As an article of manufacture, a hinge

comprising an attachment plate the opposite ends of which are bent upon itself to parallelism, and having perforations in such bent portions, an eye bar having a series of
5 notches therein slidably mounted in the perforations of the bent portions of the plate, and a detent engaging such teeth to hold the bar in adjusted position. 20

In testimony whereof, I have hereunto set my hand this 4th day of May 1910.

CHARLES K. WOLF.

Witnesses:

ALFRED McCRAY,
F. L. WALKER.

6. As an article of manufacture, a hinge
10 comprising an attachment plate perforated and bent adjacent to the opposite ends thereof to form integral keepers, a longitudinally adjustable eye bar having a series of notches
15 in the opposite edges thereof and a supporting surface adjacent to the notches on which

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