Dec. 5, 1939. C. W. BASH 2,182,548

GATE HINGE

Filed April 18, 1938

Fig. 1.

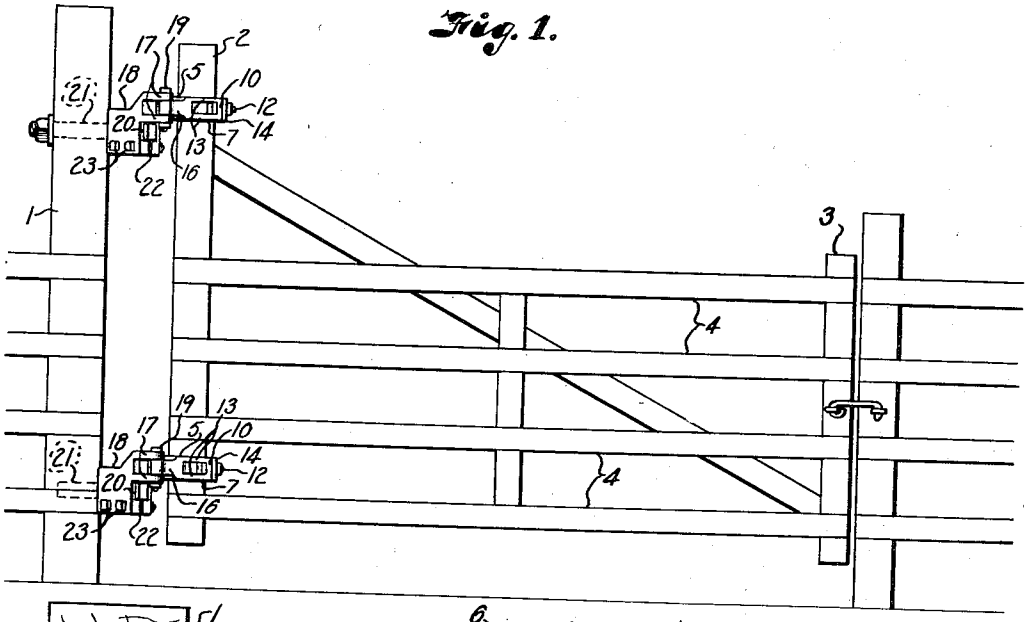


Fig. 2.

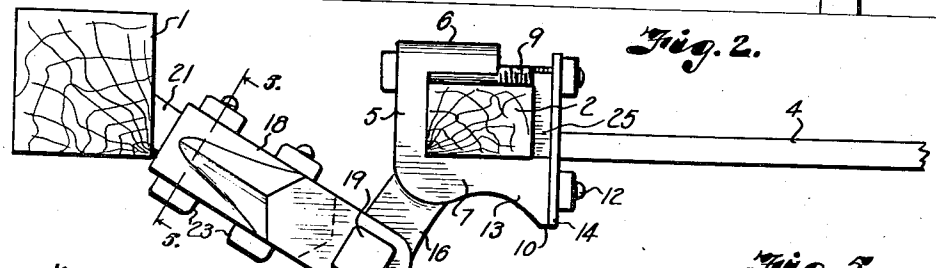


Fig. 3.

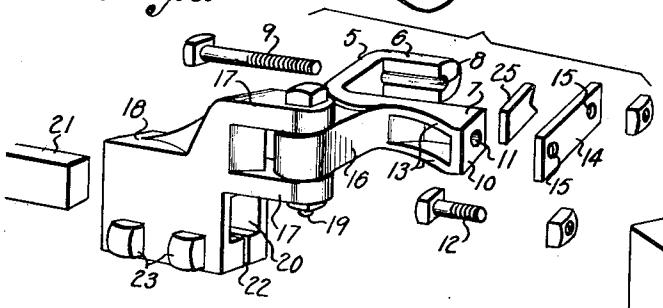


Fig. 5.

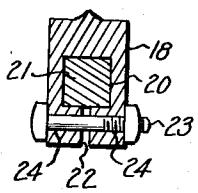


Fig. 6.

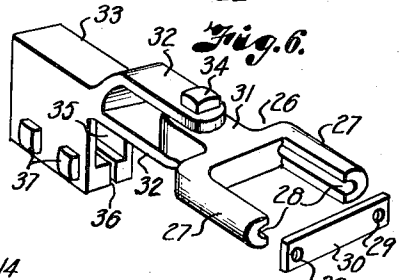
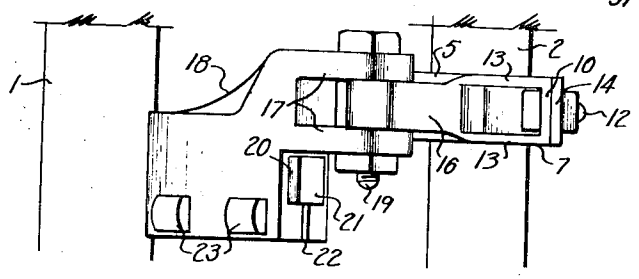


Fig. 4.



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GATE HINGE

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Application April 18, 1938, Serial No. 202,626

4 Claims. (Cl. 16—158)

This invention relates to improvements in a gate hinge, and more particularly to a hinge arranged to permit releveling of a gate in the event the gate sags or its supporting post becomes tilted, as well as to permit levelling of a gate when its supporting post has not been planted perpendicularly.

The hinge is particularly adapted for use on stock pens and other places where gates are subjected to frequent and hard usage and where it is desirable that the gate can be swung back against the wall or fence in which it is mounted.

It is a well known fact that gates in stockyards, farms and similar places sag readily so that their free ends rest on the ground and when this occurs the gate is generally grasped at a convenient height and pulled open with its lower free end dragging along the ground, which twists the gate, loosens its joints and causes a further sag so that in a short time the gate becomes so rickety that it must be taken from its hinges and recoopered in order to save it from total destruction.

I am aware that gates have been supported against sagging by the use of rods, chains or even twisted strands of wire, but such methods have required an extremely long supporting post and unless a rather expensive connection was placed at the upper end of the post, such as a swivel plate on the top of the post, it was impossible to swing the gate clear back against the fence or through an arc of 180°, but in most installations an arc of about 90° was the best that could be obtained, and it also is the rule rather than the exception to have the pivot point of such supporting member out of vertical alignment with the hinge pivots which causes a constant variation of strain on the free end of the gate, moving it up and down as the gate is opened and closed, causing the joints of the gate to loosen, and if these are not continually tightened the gate will ultimately come apart.

My device is co constructed that the hinge members carried by the supporting post are movable to and from the post on pins and thereby enable a gate to be properly lined up without any additional supporting means or taking off the hinges and resetting them, and in making such adjustment of my hinge the only tool required is a wrench.

In accomplishing these and other objects of the invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawing, wherein:

Fig. 1 is a face view of a pair of my hinges in position on a gate.

Fig. 2 is an enlarged top plan view of one of the hinges attached to a gate and gate post.

Fig. 3 is a perspective view of my hinge with parts in disassembled position.

Fig. 4 is a face view of Fig. 2.

Fig. 5 is a section taken on the line 5—5 of Fig. 2.

Fig. 6 is a perspective view of a modified form of hinge.

Referring to the drawing:

1 indicates a gate post, 2 and 3 the stiles of a gate, and 4 the rails or bars.

Carried by the stile 2 is a hinge member comprising a substantially U-shaped socket or bifurcated member 5 having legs 6 and 7 whose facing sides are parallel. The leg 6 is shorter than the leg 7 and is provided with a longitudinally extending recess 8 in which a bolt 9 is received or extends. The arm 7 is provided on its outer end with a web 10 extending outwardly therefrom, which web is provided with a bolt opening 11 to permit the passage of a bolt 12 therethrough. The web 10 is reinforced by means of ribs 13 which are so spaced as to provide a socket for the reception of the head of the bolt 12. A tie plate 14 is provided with openings 15 for the passage of the bolts 9 and 12 therethrough.

The member 5 is also provided with an outwardly projecting perforated lug 16 which extends at an angle to the longitudinal axis of the member 5 and is designed to be inserted between parallel perforated ears 17 carried by the post member 18 and to be pivotally secured therein by a bolt or hinge pin 19. The lower portion of the member 18 is provided with a longitudinally extending opening or passageway 20 for the reception of a pin 21 which is designed to have one portion secured in the gate post 1 and the other portion freely slidable in the passageway 20. The portion of the member 18 below the passageway is split as indicated by the numeral 22 so that when bolts 23 which pass through openings 24 are tightened, the lower portion of the member clamps in position on the pin 21. In fact the member 18 may well be said to have a longitudinally extending clamp at its lower portion.

In the event the stile 2 is narrower than the length of the leg 7, a shim 25 is employed.

In Fig. 6 I have shown a modified form of construction in which a substantially U-shaped gate member 26 is shown, having legs 27 of equal length and provided with parallel facing sides. The legs are provided with longitudinally ex-

tending, substantially semi-circular grooves 28 in which bolts extend as has been previously described. These bolts extend through openings 29 formed through a tie plate 30.

The member 26 is provided with a central rearwardly extending perforated lug 31 which fits between perforated ears 32 carried by the post member 33 of the hinge, and is pivotally secured therebetween by means of a bolt or hinge pin 34. A passageway 35 extends longitudinally through the member 33 adjacent its bottom and the bottom is split as at 36 so that when bolts 37, which pass laterally through the member 33 below the passageway, are tightened, the lower portion of the member becomes a clamp and is firmly secured to a pin similar to the pin 21, and in this manner the member 33 can be adjusted to and from the gate post for lining up the gate as previously mentioned.

The manner of hanging a gate by means of the hinges shown in Fig. 1 is as follows:

The hinge members 5 and 18 are preferably in assembled position and are secured on the stile 2 by slipping the member 5 over the outer edge of the stile so that the stile will be between the legs 6 and 7. The tie plate 14 is then placed against the web 10 of the arm 7 with the openings 11 and 15 in alignment; the bolt 12 is then inserted through these openings with its head in the recess formed by the ribs 13 and a nut tightened on the bolt. The bolt 9 is then inserted in the member 5 and extends along the recess 8, its end passing through the remaining opening 15 in the plate 14.

Should the stile be narrower than the length of the leg 7, a shim 25 is inserted between the stile 2 and the tie plate 14 to at least completely fill out any space therebetween. A nut is then screwed onto the bolt 9 and tightened, which will move or pull the end of the tie plate 14 toward the end of the leg 6, thus securely clamping the hinge members to the stile. The pins 21 are then secured in the gate post 1 as by driving or screwing in such a manner as to be substantially at right angles to the lugs 16 in the closed position of the hinge member 5. The projecting ends of the pins 21 are then inserted in the passageways 20 of the sections and clamped thereon by tightening the bolts 23. Should the gate then need leveling, one of the clamps may be loosened, and by moving the member to or from the post, the free end of the gate may be moved up or down until the desired position is attained, and should the spacing of the pins be different from the spacing of the hinge members 5 on the stile 2, this error can be readily rectified by loosening the bolts 9 and 12 of one of said members 5 and shifting it up or down as required. Also by loosening the bolts 9 and 12 of both members 5, the gate may be bodily moved to and from the ground as desired.

In hanging a gate equipped with the modified form of hinge, the same procedure is followed except that the pins in the gate post extend in the same direction as the lug 31 in closed position of the hinge member 26 and that the stile of the gate which is between the legs 27 of the member 26 should be slightly wider than the length of these legs; otherwise a shim must be used in order that the tie plate 30 may secure the hinge members on the stile in order to get a clamping action.

While I have disclosed the pin 21 as being rectangular in cross section, it is obvious that the cross sectional shape of the pin can be varied without any changes in the structure other than making a corresponding change in the cross sectional shape of the passageways 20 or 35.

What I claim and desire to secure by Letters Patent is:

1. In a hinge, a bifurcated member having legs of unequal length provided with parallel facing sides, an outwardly extending web provided with a bolt opening formed on the end of one of said legs, the remaining leg being provided with a bolt-receiving recess, a bolt carried by said web, a second bolt carried by said bifurcated member and extending in said recess, means including a tie plate carried by said bolts for attaching said bifurcated member to a gate stile, a perforated lug projecting horizontally from said bifurcated member, a second member, a clamp on said second member, a pin adapted to be secured in a fence post and extended adjustably into said clamp, means for tightening said clamp, perforated ears projecting horizontally from said second member and adapted to have the perforated lug of the first mentioned member inserted therebetween, and means passing through the perforations of said lug and ears for pivotally uniting said members.

2. A hinge for swingingly supporting a gate from a post or the like at one side of an opening to be closed by the gate, including a pin adapted for projecting support from the post, a pair of hinge members, means attaching one of said members to a stile of the gate, a clamp-like sleeve on said other member to clampingly engage said pin and having spaced ears offset vertically with respect to said pin, said member attached to the stile having an ear engaging between the spaced ears of the other member, and means hingedly connecting said ears.

3. A hinge for swingingly supporting a gate from a post or the like at one side of an opening to be closed by the gate, including a pin adapted for projection from the post at an angle to the plane of the gate when the gate is in closed position, a hinge member adapted for connection to a stile of the gate and having a lug extending from said member at an angle with respect to the plane of the gate, a hinge member having spaced ears to engage said lug, a clamp-like sleeve offset vertically with respect to said ears for clampingly engaging the pin, and a pivot member hingedly connecting the ears with said lug.

4. A hinge for swingingly supporting a gate from a post or the like at one side of an opening to be closed by the gate, including a pin adapted for projection from the post at an angle to the plane of the gate when the gate is in closed position, a hinge member adapted to be connected with a stile of the gate, a cooperating hinge member having a sleeve-like clamp for clamping engagement with said pin, and means hingedly connecting said members and having a pivotal axis offset laterally from the plane of the gate.

CHARLES W. BASH.