RELEASABLE HINGE FOR STOCK GATE

Fig. 4

Fig. 5

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This invention relates to gate constructions and more particularly to a novel releasable hinge for a stock gate or the like.

The primary object of the present invention resides in the provision of a novel arrangement of hinge hook members which are journaled in hinge brackets and are so arranged as to provide either hinges for the gates or release of the latches.

A further object of the invention resides in the provision of a novel gate construction adapted for trucks, pick-ups or trailers, for doors of garages, barns or for fence gates, wire gates, wood gates, iron gates or the like or such other gate as may be desired.

Still further objects and features reside in the provision of a releasable hinge for stock gate that is simple in construction, inexpensive to manufacture, and extremely easy to utilize.

These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this releasable hinge for a stock gate, preferred embodiments thereof being shown in the accompanying drawings, by way of example only, wherein:

Figure 1 is an elevational view of the releasable hinge for a stock gate comprising the present invention;

Figure 2 is a horizontal sectional view as taken along the plane of line 2—2 of Figure 1;

Figure 3 is an exploded partial perspective view illustrating the construction of the hinge and hinge bracket comprising the most important elements of the present invention;

Figure 4 is an elevational view of the gate construction comprising the present invention;

Figure 5 illustrates the invention and more particularly the hinge hooks as mounted on the top of truck racks or an end gate;

Figure 6 is an enlarged sectional detail view as taken along the plane of line 6—6 of Figure 5;

Figure 7 is an elevational view illustrating a gate construction incorporating the concepts of the present invention;

Figure 8 is a plan view of the embodiment of the invention shown in Figure 7.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, and with initial attention directed to the embodiments of the invention as shown in Figures 1 and 4, reference numerals 10 and 12 generally designate stakes which are arranged in spaced relationship and to which fence rails or the like as indicated at 14 and 16 are adapted to be attached for forming a fence or the like. It is to be recognized that the gate construction comprising the present invention may be utilized for various purposes as fence gate construction, for various buildings.

Secured to the stake 10 in any convenient manner are a plurality of hinge brackets 18 and hinge brackets 20 are secured to the stake 12. Journaled in the hinge brackets 18 are suitable hinge members 22 which include substantially horizontal portions 24 which are rotatably mounted in apertures extending through the brackets 18 and which further include lever arms 26 and hooks 28. It is noted that the hook 28 is angularly offset with respect to the lever arm 26 for each of the hinges 22 and that pivotally secured to the lever arms 26 by means of pins as at 30 is a tie rod 32 interconnecting each of the lever arms 26 or the extending operating arm 34 forming an extension of one of the lever arms 26. The operating arm 34 enables the proper operation of the device by simultaneously raising and lowering all of the lever arms 26 thence operating all of the hooks 28.

Integrally formed or affixed to the brackets 18 are projecting blocks 36 of any suitable size and shape which cooperate with the hooks 26 to form an enclosure so that the spindle rod 38 forming a gate member of a gate 40 may be rotatably mounted therein. Hence, with the spindle rod 38 in the position as is shown in Figures 1 and 3, the gate is closed. Should the other side of the gate be opened, the hooks 28 together with the blocks 38 form an enclosure for the spindle rod 38 whereby the gate may be rotated about the spindle rod 38 as an axis.

With the handle 34 in the lowered position, the hooks remain in the closed position as is shown in Figures 1 and 3. However, with the handle 34 in the raised position as is shown in phantom lines in Figure 1, the spindle rod 38 will be completely released.

It is to be noted that the gate includes a spindle rod 42 receivable between the hooks 44 which are journaled in the brackets 20, and which are held in place by the hooks 44 cooperating with projecting blocks provided thereon.

Referring now to Figures 5 and 6, wherein there is shown an arrangement of parts for use as a back end gate on a truck or trailer or the like wherein a plurality of brackets 50 are secured to the peripheral frame 52 of the truck body and which hinge members 54 are journaled therein. The hinge members 54 include operating levers 56 as well as hooks 58 angularly offset from the levers 56 and are adapted to engage the frame member 60 of a gate assembly 62 so as to lockingly hold it in position when the operating arm 56 interconnected by the tie rod 66 is actuated. At the bottom of the assembly, there are provided a plurality of brackets 70 which have hinge members 72 journaled therein so that the lower end of the gate assembly 62 can optionally be released and then raised or pivoted as desired about the frame member 60 as an axis. The actuation of operating arm 76 will release all of the lever arms 78 of the hinge members 72 through the action of the tie rod 80 so as to permit the gate assembly 62 to either be pivoted about the frame member 74 as an axis or to be completely released.

In the embodiment of the invention as is shown in Figure 7, the gate assembly 90 is adapted to be pivoted at one side or another depending upon the manner of operation of the operating levers 92 or 94. With the operating levers 92 and 94 in the position as is shown, the gate assembly 90 will be held in position. However, upon raising either of the operating levers 92 and 94, the respective tie rods 96 or 98 will cause operation of all of the lever arms 100 or 102 causing the hooks 104 or 106 which are angularly offset from the lever arms of the respective hinges which are journaled in each bracket 108 and 110 to be released. Hence the gate assembly 90 may be pivoted so as to be opened on either side or to be completely released as may be desired.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those
3 skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A hinge construction comprising a hinge bracket, a hinge journaled in said hinge bracket and including a lever arm and a hook on the opposite ends thereof, a spindle rod engageable by said hook, said bracket including a projecting block spaced from said hinge, said spindle rod being rotatably received between said hook and said projecting block with said hook and said bracket cooperating to encompass said spindle rod to form a pivotal connection between said bracket and said spindle rod, said spindle rod being removable from said bracket upon rotation of said hinge to a released position, said lever arm being angularly offset with respect to said hook.

2. A gate construction comprising a stake, a plurality of hinge brackets secured to said stake, hinges journaled in said hinge brackets and including lever arms and hooks on the opposite ends thereof, a gate member detachably engageable by said hooks, a tie rod pivotally connected to said lever arms, said brackets including projecting blocks spaced from said hinges, said gate member being rotatably received between said hooks and said projecting blocks with said hooks and said brackets cooperating to encompass said gate member to form a pivotal connection between said stake and said gate member, said gate member being removable from said stake upon rotation of said hinges, and an operating lever forming an extension of one of said lever arms, said lever arms being angularly offset with respect to said hooks.

3. A gate construction comprising a pair of spaced stakes, hinge brackets secured to said stakes, hinges journaled in said hinge brackets and including lever arms and hooks on the opposite ends thereof, a gate member including spaced spindle rods detachably engageable by said hooks, tie rods pivotally connected to said lever arms, said brackets including projecting blocks spaced from said hinges, said spindle rods being rotatably received between said hooks and said projecting blocks with said hooks and said brackets cooperating to encompass said spindle rods to form pivotal connections between said stakes and said spindle rods with said gate member being entirely removable from said stakes upon rotation of said hinges to a released position, operating levers forming extensions of said lever arms, said lever arms being angularly offset with respect to said hooks.

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