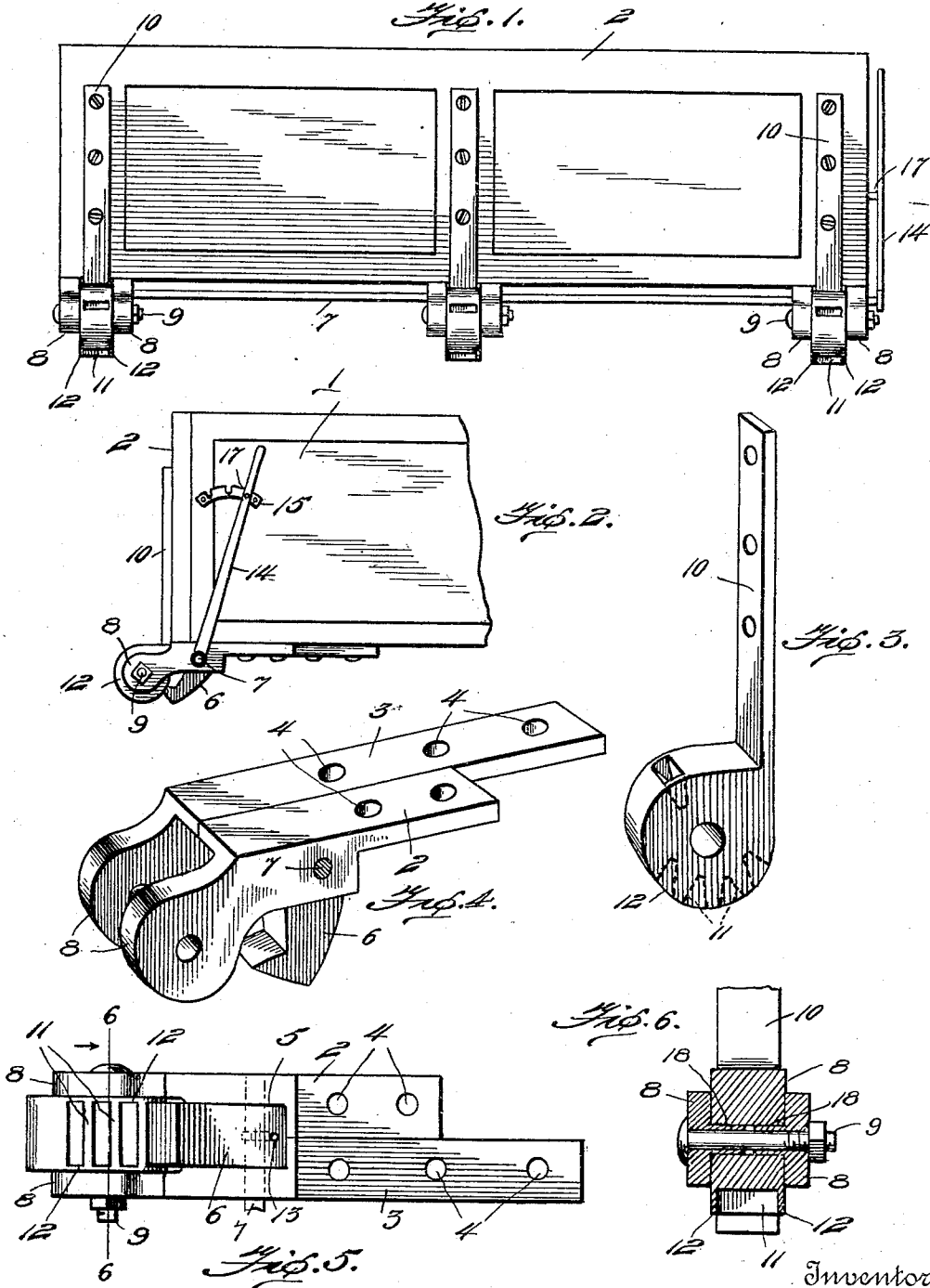


W. H. FROMHART.
HINGE.

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931,857.

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Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. FROMHART, OF GOLDEN, COLORADO.

HINGE.

931,857.

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To all whom it may concern:

Be it known that I, WILLIAM H. FROMHART, a citizen of the United States, residing at Golden, in the county of Jefferson and State of Colorado, have invented certain new and useful Improvements in 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.

My invention relates to hinges and particularly that type which are adapted for the support of end or tail gates of wagons.

The object of this invention is to provide a device of this character whereby the gate may be supported in any suitable adjusted position in order that load conditions may be accommodated.

A further object of my invention is an improvement on the device illustrated in my application filed October 5, 1908, Serial No. 456,185, and allowed November 24, 1908. In this device it has been found that by only having one ear upon the body leaf that the pivotal pins were liable to break off. The rack teeth of the upper or tail gate leaf were also weak and frequently broke off so that all adjustments could not be obtained.

It is the object of this invention to obviate these difficulties and broadly speaking consists of providing a reinforcement for the rack teeth and a double eared body leaf.

In the accompanying drawings, Figure 1 is a rear elevation of a wagon showing the hinge applied thereto, Fig. 2 is a detail side elevation of the body, Fig. 3 is a detail perspective view of the tail-gate leaf of the hinge, Fig. 4 is a detail perspective view of the body leaf of the hinge, Fig. 5 is a bottom plan view of the hinge removed from the wagon body, and Fig. 6 is a section taken on the line 6—6 of Fig. 5.

Referring more especially to the drawings 1 represents a wagon body and 2 the tail-gate which is adapted to be pivotally secured thereto. In order to secure these parts together I preferably provide a device with three hinges one arranged adjacent each end of the tail-gate and one intermediate its length all being controlled simultaneously by a suitable lever to be hereinafter described.

The hinge comprises a lower or body leaf and an upper or tail-gate leaf. The first of these members is composed of separate sec-

tions 2 and 3 each having suitable bolt holes 4 to receive attaching bolts which are adapted to secure the leaves to the bottom of the wagon body in their proper position. Each half 2 and 3 of the body leaf is provided with a cut away portion on its under side which is adapted to form a socket 5 in which a locking pawl 6 is pivoted upon a transverse rod 7 which passes through the sections 2 and 3.

Pivoted between the extension lugs 8 upon a bolt 9 which extends therethrough and locks the sections together is the upper or tail-gate leaf 10 having formed upon its lower end the rack teeth 11 which are adapted to be engaged by the pawl 6 so as to hold the leaf 10 in any adjusted position. These rack teeth heretofore have been a source of considerable trouble by their inherent weakness and in order to avoid this I have formed the leaf with a reinforcing web 12 which connects all of the teeth in the manner shown in Fig. 5. This web may be secured upon the end of the leaf in any suitable manner but is preferably formed thereon by casting it integral with the leaf.

The rod 7 upon which the pawl 6 is hinged passes through all the hinges and is connected to the pawl by suitable pins 13 so that when the lever 14, which is connected to the end of the rod, is operated, all of the pawls are engaged or disengaged from the rack teeth simultaneously. In order to hold this lever in its adjusted position I provide a perforated plate 15 which is secured to the side of the wagon body and is provided with a segmental series of holes 16 which are adapted to receive a locking pin 17 carried upon the latter. It will be seen from this construction that the double section body leaf with its ears 8 projecting on opposite sides of the rack head of the tail gate leaf and with the reinforced rack teeth thus provided I am enabled to provide a much stronger and more durable hinge which can be just as cheaply produced.

In order to strengthen the bolt 9 I provide integral sleeves 18 on the ears 8 which extend inwardly and enter the head of the leaf 12 so that this leaf is pivoted thereon instead of directly upon the connecting bolt.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

What I claim as my invention is:

1. A hinge comprising a pair of leaves pivoted together, one of said leaves having a series of rack teeth thereon, a pawl pivoted on the other of said leaves and adapted to engage said rack teeth to hold the aforesaid leaf in adjusted position, and means integral with the leaf to reinforce the rack teeth.

2. A hinge comprising a number of leaves pivoted together, rack teeth upon one of said leaves and a pawl pivoted to the other of said leaves and adapted to engage the rack teeth to hold the first mentioned leaf in ad-

justed position and an integral web connecting all of said rack teeth to reinforce the same.

3. In a device of the class described, a hinged leaf comprising a pair of separable sections, pivoting sleeves integral with said sections, a leaf hinged upon said sleeves, a connecting bolt passing through said sleeves to join said sections together and means pivoted between said sections of the first mentioned leaf for locking the second leaf in adjusted position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. FROMHART.

Witnesses:

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