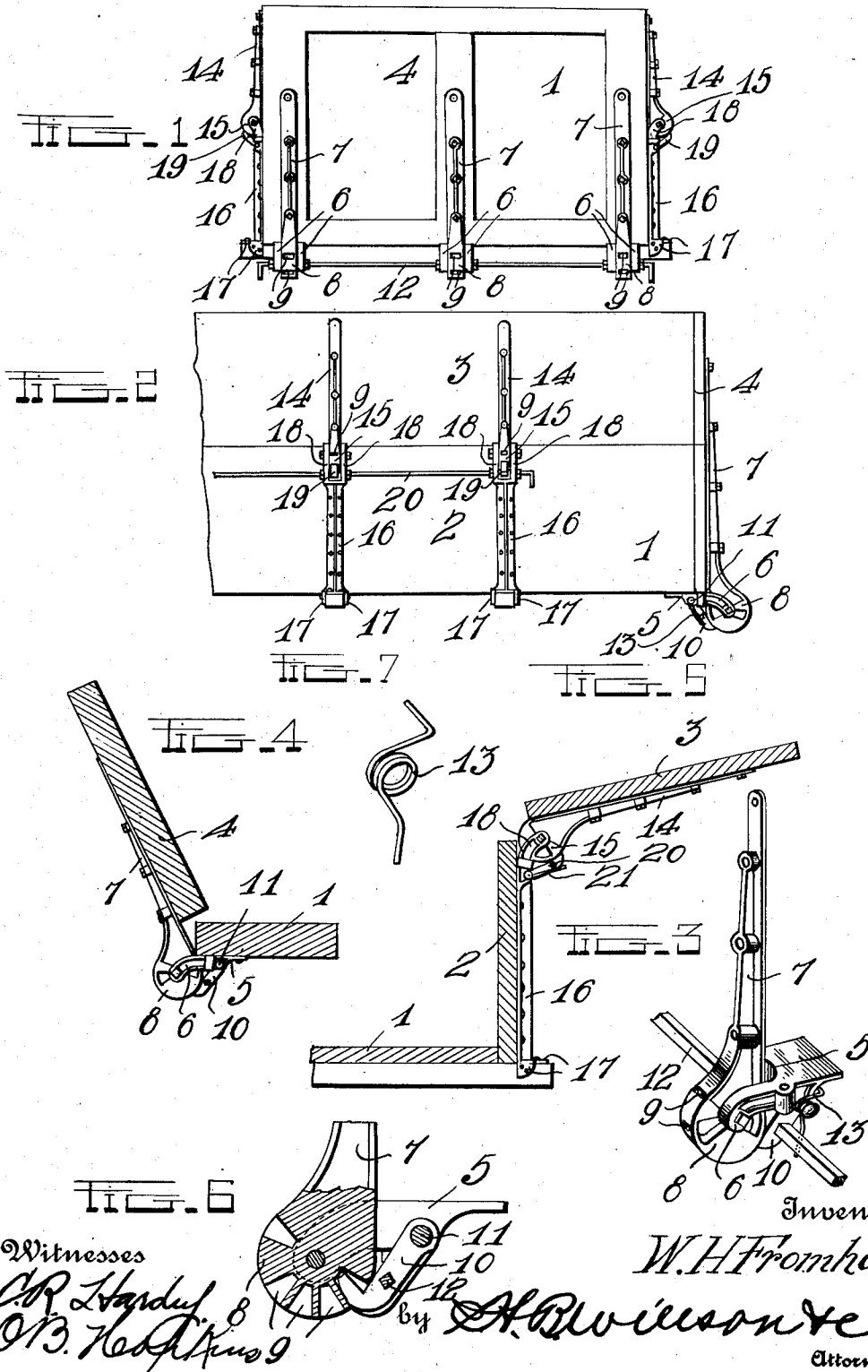


W. H. FROMHART.
HINGE.

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976,999.

Patented Nov. 29, 1910.



Witnesses

C. R. Linder
O. B. Koo

by

A. B. Wilson & Co.

Inventor

W. H. Fromhart

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. FROMHART, OF GOLDEN, COLORADO.

HINGE.

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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.

This invention relates to improvements in hinges and more particularly to hinges for pivotally connecting the end gate and sides of a wagon box.

One object of the invention is to improve the construction of hinge shown in United States Patent No. 907,768, granted to me December 29, 1908, whereby a more efficient and reliable fastening is provided for the locking member of the hinge.

Another object is to provide a hinge which may also serve as a brace when used on the side of a wagon body.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is an end view of a wagon box showing the hinge applied to the end gate and sides thereof; Fig. 2 is a side view of a portion of the wagon box showing more clearly the application of the side hinges of the box; Fig. 3 is a perspective view of one of the end gate hinges; Fig. 4 is a vertical section through the end gate and a portion of the bottom of the wagon showing the end gate partly open and supported by my improved hinges; Fig. 5 is a similar view through the side of the wagon body showing the manner in which the upper portion of the side of the wagon is swung down and supported in an inclined position by the hinge. Fig. 6 is an enlarged detail sectional view through the lower end of the upper member of the hinge and the adjacent portion of the lower member, showing the manner in which the upper member is held in its adjusted positions; and, Fig. 7 is a detail perspective view of the pawl operating spring of the hinge.

Referring more particularly to the drawings, 1 denotes a portion of a wagon box to which my improved hinges are applied.

The wagon box comprises upper and lower side pieces 2 and 3, and an end gate 4, said end gate and upper side piece being hingedly connected to the wagon body by my improved hinge.

The form of hinge employed for connecting the end gate to the wagon body and for supporting the same in an open or partly open position comprises a wagon body member 5 which is in the form of a bracket which is bolted or otherwise securely fastened to the under side of the bottom of the wagon and is provided with parallel downwardly curved apertured bearing lugs 6 between which is pivotally mounted the end gate engaging or movable member of the hinge.

The movable member comprises a bar 7 which is adapted to be bolted or otherwise fastened to the outer side of the end gate and which has formed on its inner end a substantially circular ratchet head 8 in the outer edge of which is formed a series of ratchet openings 9 with which is adapted to be engaged a hook shaped retaining pawl 10, the inner end of which is pivotally mounted between the inner portion of the bearing lugs 6 by a suitable pivot bolt 11.

The pawls 10 of the series of hinges arranged on the end gate are operatively connected together by a releasing bar 12 by means of which the pawls for the entire series of end gate hinges may be simultaneously released or disengaged from the ratchet notches in the heads of the gate members of the hinge thereby permitting said members and the gate to be swung down to the desired position after which the pawls will be engaged with other notches thus holding the gate in its adjusted position. In order to hold the pawls up in yielding engagement with the notches 9 I provide coiled springs 13 which are preferably arranged on the pivot bolts of the pawls and have one end engaged with the rear portion of the bracket members of the hinge and the other end engaged with the pawl releasing bar whereby the pressure of the spring is applied to said bar and through the same to the pawls to hold the same up in operative position.

The form of the hinge employed on the sides of the wagon for hingedly connecting the upper portion of the sides to the lower portion consists of an upper side engaging member 14 which is bolted or otherwise se-

cured to the upper side of the wagon body and which is provided with a ratchet head 15 constructed in the same manner as the head 8 of the end gate hinge. The stationary member of the hinge which corresponds to the bracket member 5 of the end gate hinge comprises a brace bar which is preferably in the form of a T iron bar which extends entirely across the width of the lower side piece 2 and is bolted or otherwise fastened thereto. On the lower end of the brace bar 16 are formed flanges 17 which embrace and are secured to the projecting ends of the cross sills of the wagon body thereby firmly bracing the sides of the wagon.

On the upper ends of the brace bars 16 are formed parallel apertured bearing lugs 18 which correspond to the bearing lugs 6 on the bracket 5 of the end gate hinge and between said lugs is pivotally mounted the lower end of the hinge member 14. Between the lugs 18 are also pivotally mounted the pawls 19 of this form of the hinge and through said pawls is arranged the operating bar 20 by means of which the pawls of the several side hinges are simultaneously released in the same manner as described in connection with the end gate hinges. The pawls 19 are provided with coiled springs 21 for holding the same in operative engagement with the ratchet end of the upper member of the hinges, said springs being arranged in the same manner as the springs 13 of the end gate hinge. One or both ends of the pawl releasing bars may extend a suitable distance beyond the end hinge of the end gate and side of the wagon and may be bent or provided with suitable handles for operating the same.

By means of a hinge constructed as herein described it will be seen that the upper por-

tion of the sides and the end gate of the wagon may be opened or swung back and held at any desired position for supporting the load carried by the wagon.

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 the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim is:

In a wagon box hinge, a stationary member comprising a bracket adapted to be secured to a fixed part of the wagon, sill engaging flanges formed on the lower end of said stationary member whereby the latter is adapted to form a brace, a pair of pivot lugs formed on the upper end of said stationary member, a movable hinge member pivotally mounted between said pivot lugs, said hinge member having formed therein a series of ratchet notches, a pawl pivotally mounted in said pivot lugs, an operating bar extending transversely through the pawl whereby to connect a series of the pawls for simultaneous operation and a spring fastened to said stationary member and engaging said operating bar.

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

WILLIAM H. FROMHART.

Witnesses:

ARTHUR C. LEKE,
CHARLES G. CLEAR.