

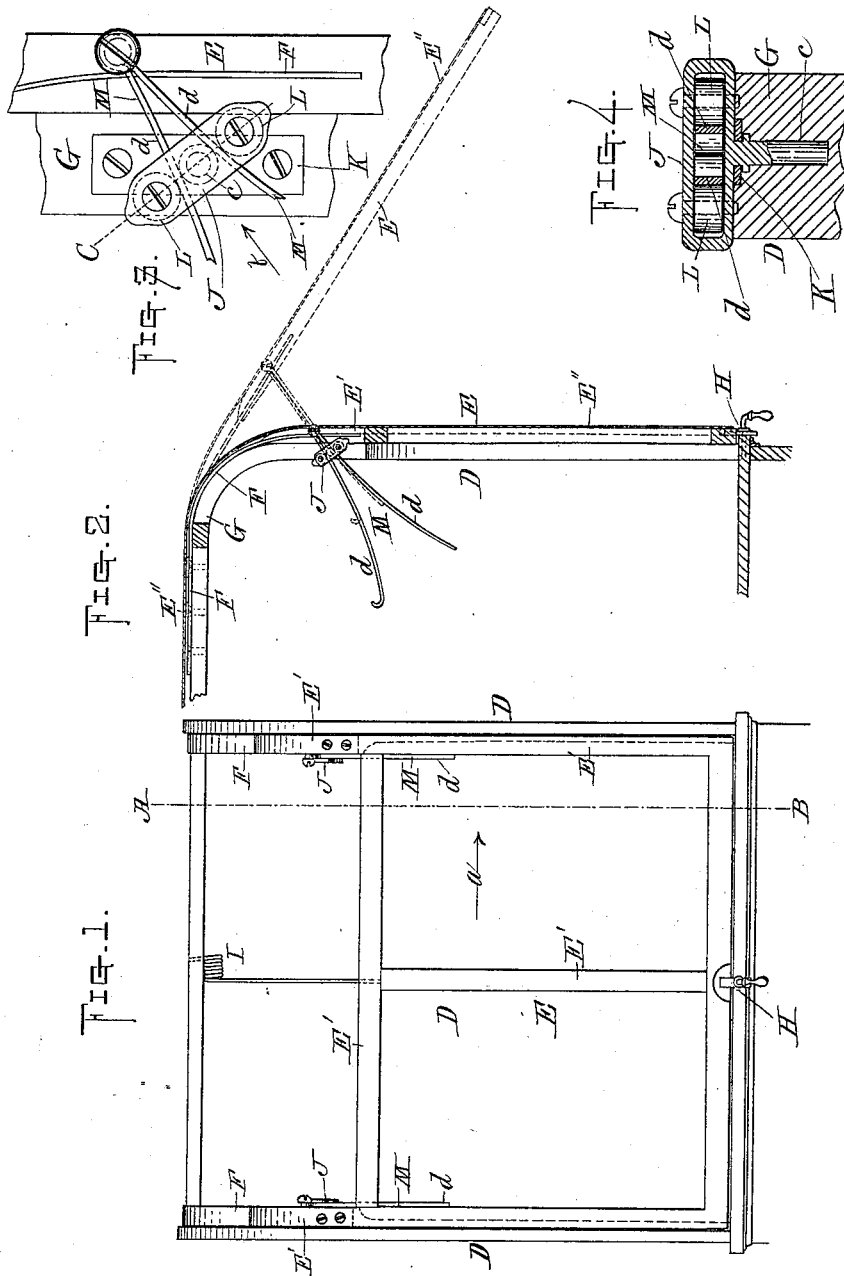
(No Model.)

W. HOWARD.

END GATE FOR COVERED WAGONS.

No. 306,756.

Patented Oct. 21, 1884.



Witnesses:

*John C. Dewey*  
*Henry Clayton*

Inventor;

*Warren Howard.*

# UNITED STATES PATENT OFFICE.

WARREN HOWARD, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HENRY SLAYTON, OF SAME PLACE.

## END-GATE FOR COVERED WAGONS.

SPECIFICATION forming part of Letters Patent No. 306,756, dated October 21, 1884.

Application filed February 23, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WARREN HOWARD, of the city and county of Worcester, in the State of Massachusetts, have invented certain new and useful Improvements in End-Doors for Covered Wagons; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and in which—

Figure 1 represents the rear end view of the upper part or body of a covered wagon with the door attached thereto, the canvas or covering for the frame part of the door being removed. Fig. 2 represents a section on line A B, Fig. 1, looking in the direction of arrow *a*, same figure, showing the double-spring device attached to the side of the door, for holding it in position when opened, the dotted lines representing the door partially opened, and the canvas or covering for the frame part of the door being shown in this figure. Fig. 3 represents, on a larger scale, the double-spring holding and adjusting device shown in Fig. 2; and Fig. 4 represents a section taken on line C, Fig. 3, looking in the direction of arrow *b*, same figure.

My invention relates to a door for the rear end of covered butcher-wagons or other covered wagons; and it consists in certain novel features of construction of the door and the parts connected therewith and their mode of operation, as will be hereinafter fully described.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, D represents the rear end and upper part or body of a covered wagon, and E represents the end-door attached to said wagon. The door E may be made in substantially the manner and of the shape of doors usually used at the rear end of covered wagons, having the frame part E' made of wood or other suitable material, which is covered with canvas E'' or its equivalent; but instead of hinges, which are generally used to attach the door at its top part to the top part of the wagon, I in this instance employ two strong flat springs, F, made of metal, one upon each

side of the door at its top part, one end of said springs F being securely fastened to curved pieces G, made of wood or of metal, and secured upon each side of the wagon, upon the inside, (see Fig. 2.) and the other end of said springs F being fastened by screws or otherwise to the frame part E' of the door, as shown. The springs F take the place of hinges for attaching the door to the wagon, and when the door E is closed they bend and fit closely against the curved parts G, which are made for the purpose, and are fastened upon the inside of the wagon, on each side thereof, to be used in connection with the door. A suitable device or catch, H, is used to hold the door E tightly closed. The canvas or covering E'' extends laterally over the lower part of the springs F, as shown by dotted lines, Fig. 2, in order to prevent anything getting inside of the wagon at its rear end when the door is tightly closed. One or more coiled springs, I, may be used in connection with the end-door, if desired, one end being fastened to the top part of the wagon and the other end to the frame part E' of the door, as shown.

In lieu of flat springs F, the door may be attached to the wagon by means of hinges in the usual manner, which, when used in connection with one or more coiled springs I and my double-spring holding device, to be hereinafter fully described, give very satisfactory results.

For the purpose of holding the door in position at different angles, when opened, I employ the device shown in the drawings. One of these is attached at each side of the wagon, upon the inside, and to each side of the door E, and consists in a slotted piece, J, having a stud or projection, *c*, extending out therefrom, which fits into a hole in the part G, or into a hole in the side of the wagon, and is held therein by means of a flat piece, K, in the usual manner, allowing the part J to be turned in either direction. Two small rollers, L, made of any suitable material, are pivoted in the part J, as clearly shown in Fig. 4. A double flat metal spring, M, is secured to the door E, in any suitable manner, the two parts *d* extending through the slotted part J, between the rollers L. (See Figs. 2 and 3.) One part, *d*,

is bent up at its point, as shown, to prevent the spring M from being drawn out of the part J. The spreading apart of the double spring M in the part J, in connection with the flat springs F or coiled spring or springs I, serve to hold the door in any desired position when opened. The rollers L allow the double spring M to be moved in and out in the part J more easily, and prevent wearing of the parts by contact and friction in opening and closing the door E.

I have stated that the double spring M and the part J are used upon each side of the door E, to hold the same in different positions; but they may be used upon only one side of the door, or in the middle part thereof, and in connection with a door attached to the wagon by means of flat springs F, or by means of hinges, in the usual manner, and using one or more coiled springs I.

Having described my improvements in end-doors for covered wagons, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. A door for the rear end of covered wag-

ons, provided with flat springs for attaching it to the wagon, in combination with a double spring, M, and the part J, constructed substantially as shown and described, and for the purpose stated.

2. The combination, with a door having flat springs F, of the double spring M and part J, provided with rollers L, substantially as shown and described.

3. The combination, with a door having flat springs F and one or more coiled springs, I, of the double spring M and holding part J, substantially as shown and described.

4. The combination, with a door, of a double spring, M, and holding part J, substantially as shown and described, and for the purpose stated.

5. The combination, with the part J, provided with rollers L, of the double spring M, for holding a door in different positions when opened, substantially as shown and described.

WARREN HOWARD.

Witnesses:

JOHN C. DEWEY,

HENRY SLAYTON.