

(No Model.)

2 Sheets—Sheet 1.

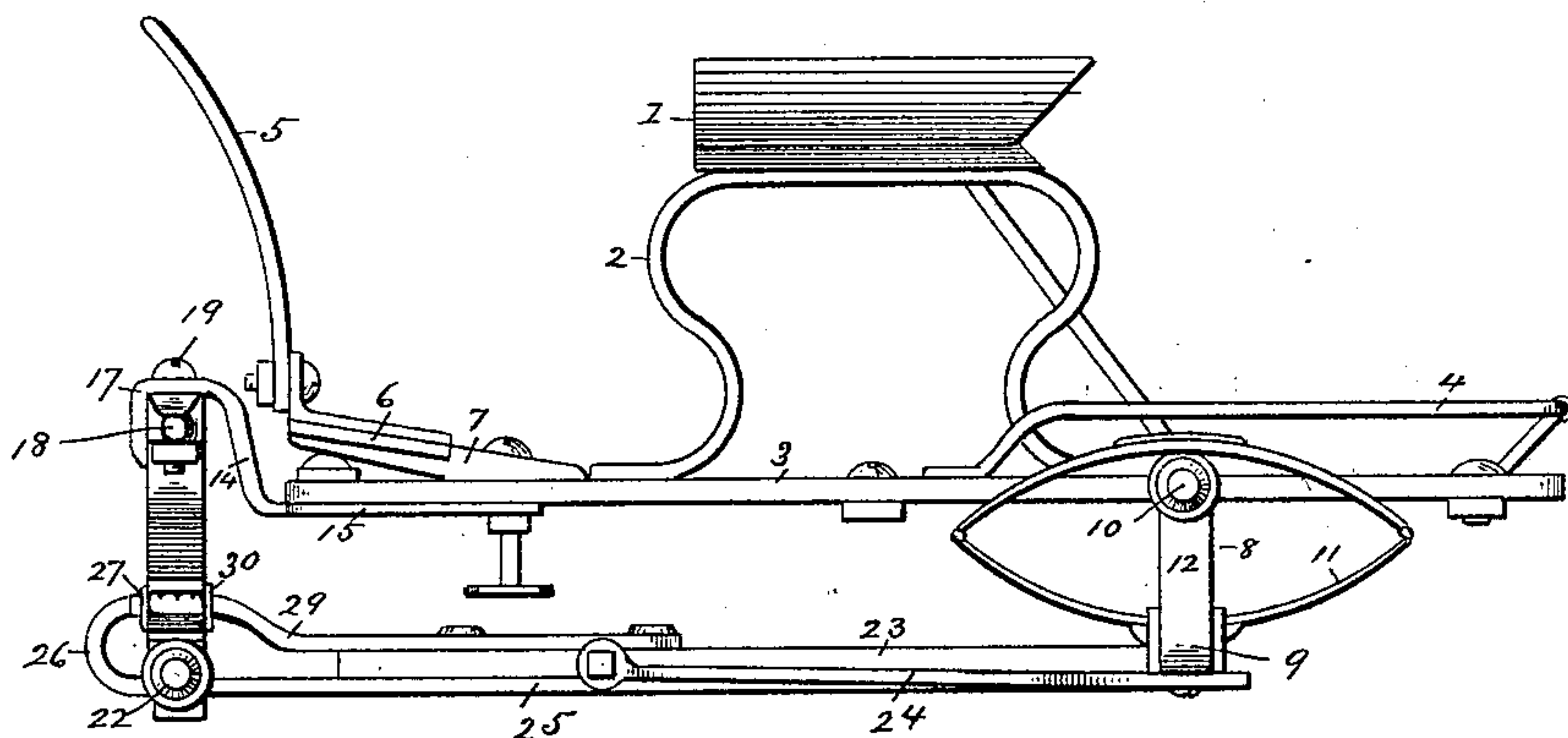
W. LEPPERT & W. I. GARDINER.

BUCKBOARD WAGON.

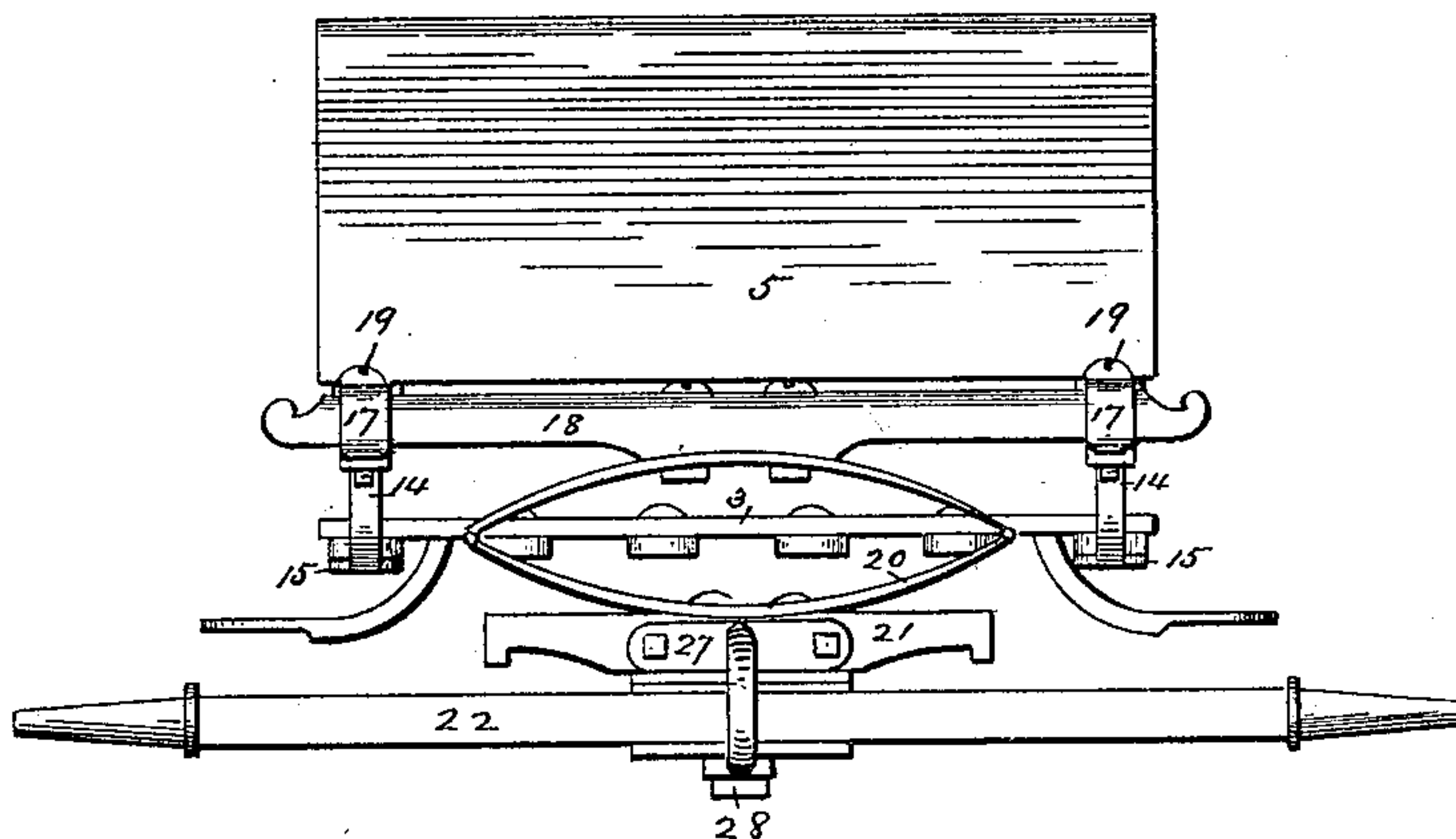
No. 386,141.

Patented July 17, 1888.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*T. R. Stuart*

*J. C. Barr*

*Inventor:*

*William Leppert*

*William I. Gardiner*

*By*

*Marble & Mason*

*Attys.*

(No Model.)

2 Sheets—Sheet 2.

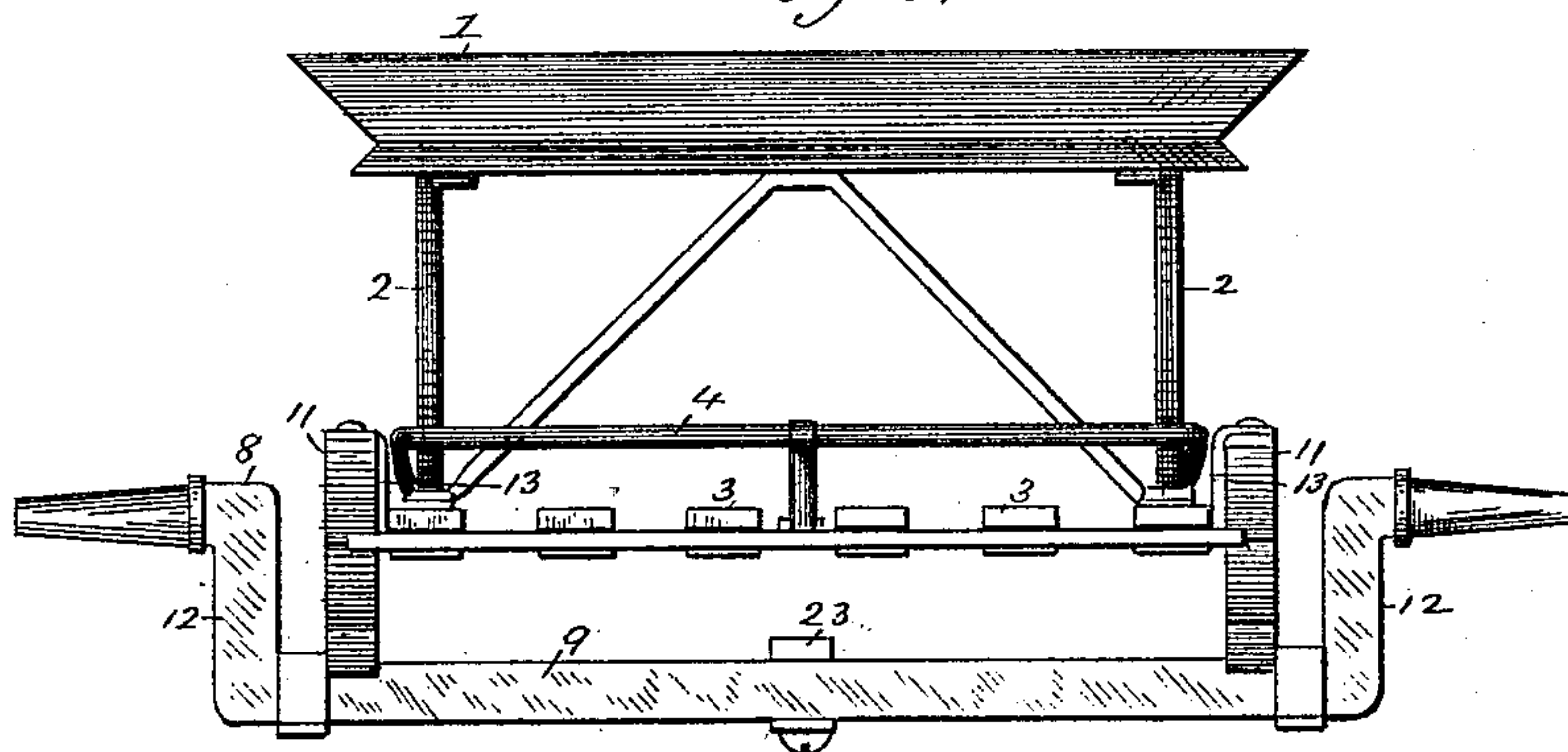
W. LEPPERT & W. I. GARDINER.

BUCKBOARD WAGON.

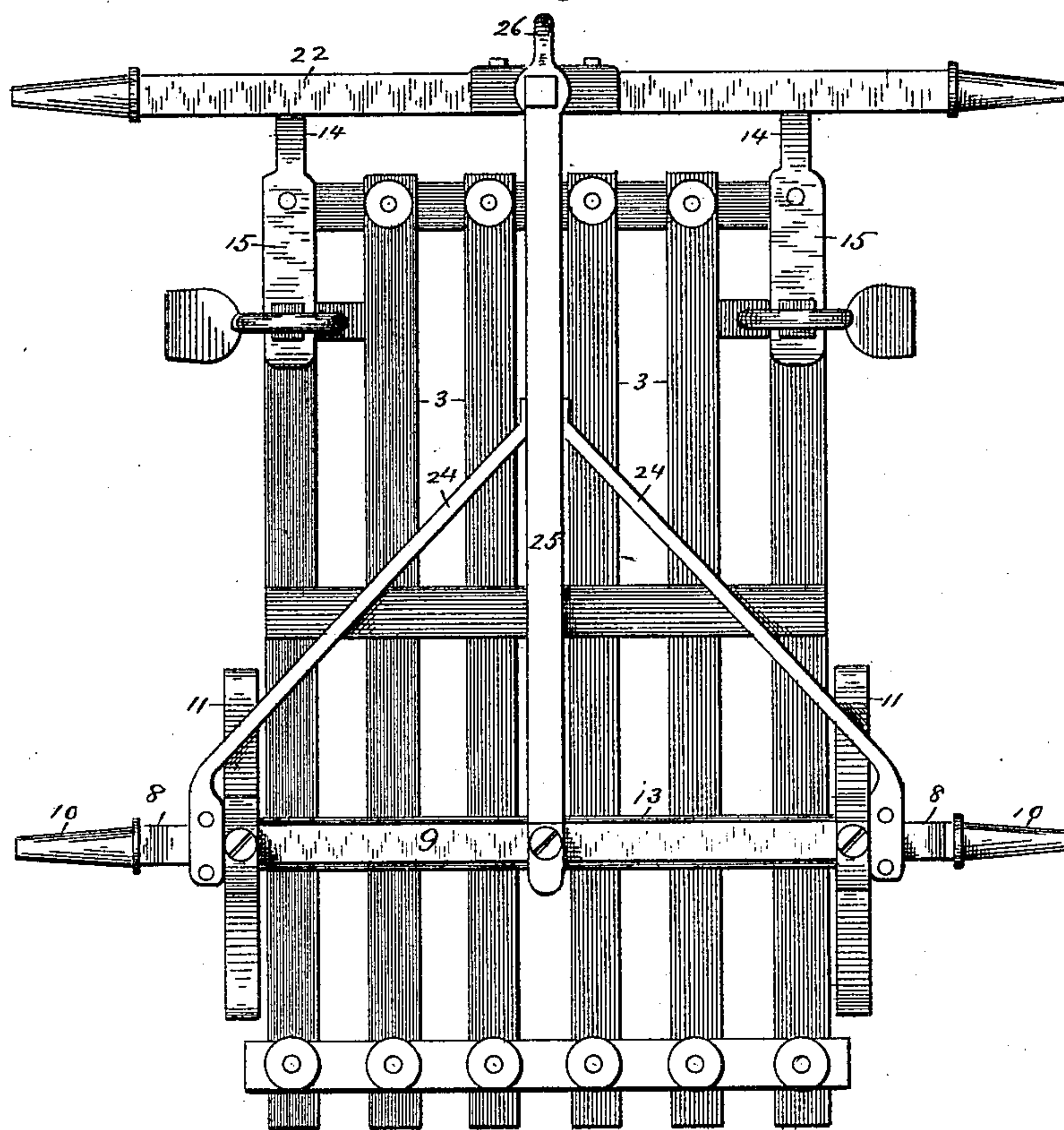
No. 386,141.

Patented July 17, 1888.

*Fig. 3.*



*Fig. 4.*



*Witnesses:*

*F. R. Stuart.*  
*J. L. Barr-*

*Inventor:*

*William Leppert.*  
*William I. Gardiner.*

*By Marble & Mason*  
*Attys.*



# UNITED STATES PATENT OFFICE.

WILLIAM LEPPERT AND WILLIAM I. GARDINER, OF SEYMOUR, INDIANA.

## BUCKBOARD-WAGON.

SPECIFICATION forming part of Letters Patent No. 386,141, dated July 17, 1888.

Application filed March 27, 1888. Serial No. 268,717. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM LEPPERT and WILLIAM I. GARDINER, citizens of the United States, residing at Seymour, in the county of Jackson and State of Indiana, have invented certain new and useful Improvements in Buckboard-Wagons; and we do hereby 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.

Our invention relates to wagons of the class commonly known as "buckboards;" and it consists in the improved construction and arrangement or combination of the parts composing such a wagon, in which the rear portion of the slat bottom is supported upon two elliptic springs arranged longitudinally of the wagon, and the front portion upon one transversely-arranged elliptic spring, in which the rear axle is dropped or bent in such manner as to bring its spindles in a plane with or above said slat bottom, in which the front support for the slat bottom is sufficiently dropped or lowered to allow for the increase in height caused by the arrangement of the front spring, and in which the rear axle is arranged some distance in advance of the rear end of said slat bottom and the forward axle is pivotally supported in advance of the forward end of the same, so as to produce a short coupling of the running-gear, and at the same time free play for the front wheels in turning the wagon, as will be hereinafter fully disclosed in the description, drawings and claims.

The object of our invention is to provide a buckboard-wagon which is simple in construction, strong, and comparatively inexpensive to manufacture, one in which the slat bottom is supported by springs for the purpose of additionally cushioning the seat, which is secured upon the slats to support the slat bottom in such manner that it will be hung as low or lower than the slat bottoms in ordinary buckboard-wagons with and without springs, and to support said slat bottom above the running-gear in such manner that the coupling of said running-gear between the front and rear axles will be comparatively short, whereby an easy-riding and easily guided and turned wagon will be produced.

The construction of the wagon is clearly

illustrated in the drawings accompanying and forming a part of this specification, in which the same numerals of reference indicate the same or corresponding parts, and in which—

Figure 1 represents a side view of the body and running-gear of our improved buckboard-wagon, the wheels being removed; Fig. 2, a front view of the same; Fig. 3, a rear view thereof, and Fig. 4 a view of the under side or bottom of the same.

In the accompanying drawings, the numeral 1 indicates the seat, which is mounted by braces 2 upon the slat bottom 3 in the usual manner. This bottom is provided with the usual guard or rail, 4, around its rear portion, and at its front portion with a dash-board, 5, which is secured to an inclined foot-board, 6, which is supported by inclined brackets 7 upon the forward portions of the side slats of the bottom. The rear axle, 8, is dropped or bent so as to bring its central portion, 9, down in a plane below its spindles 10, and two elliptic springs, 11, are suitably secured to the ends of the central or lower portion of this axle immediately adjoining the upwardly-bent portions 12 thereof. A bar, 13, is secured transversely beneath and to the slat bottom and directly above the rear axle. The ends of this bar are bent upward and outward, and are secured to the upper sides of the upper halves of the elliptic springs, this bar and said springs serving to yieldingly support the rear portion of the slat bottom at its sides and directly over the rear axle. This transverse bar is also secured to the bottom at a sufficient distance from its rear end to cause the rear ends of the springs to terminate slightly forward of its rear end, thus causing the support for the rear end of said bottom to fall just in rear of the seat, where the weight of the load mainly falls. Two upwardly-curved brackets, 14, are secured with their lower and rearwardly-extending ends, 15, to the under sides of the forward ends of the two outside slats of the bottom, the upper ends of these brackets being bent forward and downward at right angles, so as to form rectangular hooks or supports 17, which are open at their under sides. In these hooks or supports a cross-bar, 18, is secured near its ends, nutted bolts 19 passing through said hooks or supports and cross-bar. The upper portion of an elliptic



spring, 20, is secured along its middle to the center of the cross-bar 18, and its lower portion is secured to the bolster 21, to the under side of which the front axle, 22, is pivoted.

5 The reach or coupling-pole 23 is rigidly secured to the middle of the rear axle, and has hounds or braces 24 secured to its middle and diverging to the ends of the lowered portion of said rear axle, where they are suitably  
10 bolted; also, said reach has a metallic bar, 25, secured to its under side, which is extended forward and curved upward at its front end, 26, where it is provided with a cross-head, 27, which is secured by suitable bolts to the for-  
15 ward face of the bolster 21.

The king-bolt 28 has its lower end journaled in the forward portion of the metallic bar 25. The front axle is pivoted between said bar near its curved portion and the bolster 21, the  
20 latter being braced on its rear side by an upwardly and forwardly extending bracket or brace, 29, which is bolted to the upper side of the reach and secured by its cross head 30 to said rear side of the bolster. Thus said front  
25 axle is securely pivoted, and all strain from draft is removed from the front spring and borne by the reach and its braces, which convey it back to the rear axle.

It will be observed from the foregoing that  
30 this slat bottom will yieldingly support the seat, as is usual in buckboard-wagons, and also that the springs will again transmit a yielding support thereto through the bottom, so that, therefore, said seat will have a doubly-yielding sup-  
35 port; also, that the dropped or lowered rear axle and the bent brackets at the forward end of the bottom will lower the latter sufficiently to overcome the objectionable rise ordinarily caused by the use of springs, and that this bot-  
40 tom will be supported at the same level as, or possibly lower than, that in a buckboard-wagon having no springs, this improvement thus doing away with the principal objection to the ordinary spring-supported buckboard-wagon—  
45 viz., the extra height of the springs and bottom and their consequent weakness and unsteadiness.

The hooks or supports formed on the forward ends of the brackets firmly secure the  
50 cross-bar upon the spring, as their downwardly-bent portions remove all strain from the bolts; also, by having the front axle and the fifth-wheel arranged forward of the slat bottom said axle can have considerable play and the wagon  
55 be easily turned in a comparatively narrow space; also, by bringing the rear axle forward under the bottom, and thus shortening the coupling of the wagon, the latter is still further adapted to turn in narrow space.

60 Having thus fully described our invention, what we claim as new is—

1. In a buckboard-wagon, the combination of the slat bottom, the dropped or bent rear axle, the longitudinally-arranged elliptic  
65 spring supporting the rear end of said bottom, the transverse forward elliptic spring, the front

axle pivoted beneath the same, the cross-bar secured to the upper side of the same, and the curved brackets supporting the forward end of said bottom in rear of said spring, substan- 70  
tially as described.

2. In a buckboard-wagon, the combination of the slat bottom, the dropped or bent axle, and the springs secured to the sides of said bottom and also to said axle, substantially as 75  
and for the purpose described.

3. In a buckboard-wagon, the combination of the slat bottom, the dropped or bent axle, and the transverse bar formed with ends which are bent upward and outward, with the ellip- 80  
tic springs secured to said dropped or bent portion of the axle and to the bent ends of said transverse bar, substantially as and for the purpose described.

4. In a buckboard-wagon, the combination 85  
of the slat bottom, the forward axle, the transverse spring, the cross-bar secured to said spring, and the upwardly-curved brackets supporting said bottom and having rectangularly-hooked ends resting upon said cross-bar, sub- 90  
stantially as and for the purpose described.

5. In a buckboard-wagon, the combination of the slat bottom, the transverse bar secured thereto near its rear end and formed with bent ends, and the upwardly-curved brackets at the 95  
forward end of said bottom, with the dropped or bent rear axle, the springs secured to its bent portion and to the bent ends of said transverse bar, the forward spring, the front axle, and the cross-bar, to which are secured said 100  
brackets, substantially as and for the purpose described.

6. The combination of the slat bottom 3, the cross-bar 18, and the forward elliptic spring, 20, with the upwardly-curved brackets 14, having 105  
their ends 17 bent forward and downward, and nutted bolts 19, passing through said forwardly-bent portions of the bracket ends and through said cross-bar, substantially as and for the purpose described. 110

7. The combination, with the slat bottom 3, the upwardly-curved brackets 14, the forward cross-bar, 18, secured to said brackets and to the forward elliptic spring, 20, the bolster 21, also secured to said spring, and the front axle, 115  
22, pivoted under said bolster, of the reach 23, the metallic bar 25 upon its under side, which is curved forward and over said front axle and secured by its cross-head 27 to the forward face of said bolster, and the bracket or brace 29, bolted 120  
to the upper side of said reach and secured by its cross-head 30 to the rear face of said bolster, substantially as and for the purpose described.

In testimony whereof we affix our signatures 125  
in presence of two witnesses.

WILLIAM LEPPERT.

WILLIAM I. GARDINER.

Witnesses:

O. H. MONTGOMERY,

E. M. BUSH.