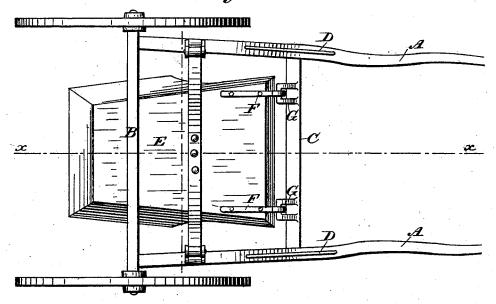
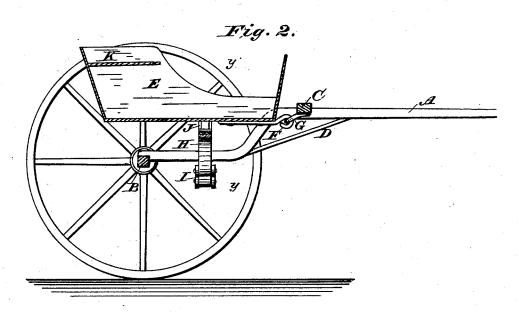
## J. ROBINSON.

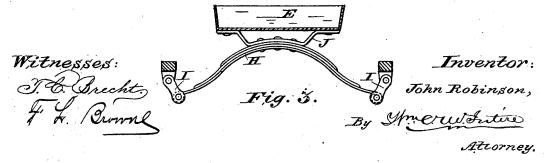
SULKY.

No. 266,895.

Fig. 7. Patented Oct. 31, 1882.







## UNITED STATES PATENT OFFICE.

JOHN ROBINSON, OF OTTUMWA, IOWA.

## SULKY.

SPECIFICATION forming part of Letters Patent No. 266,895, dated October 31, 1882.

Application filed September 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, John Robinson, a citizen of the United States, residing at Ottumwa, Wapello county, Iowa, have invented new 5 and useful Improvements in Sulky Road-Wagons, of which the following is a specification.

My invention relates to certain new and useful improvements in the construction of sulky

road-wagons.

It has for its objects to secure ease and comfort in riding, and to relieve the back of the animal from undue weight, while at the same time the usual jar upon the wheels is avoided; and with these ends in view my invention con-15 sists of the peculiar construction and arrangement of parts hereinafter fully described and specifically claimed.

In order that those skilled in the art to which my invention pertains may fully under-20 stand the same, I will describe its construction and advantages, referring by letter to the ac-

companying drawings, in which-

Figure 1 is a bottom plan view of a sulky or two-wheel road-wagon embracing my in-25 vention. Fig. 2 is a longitudinal central section taken at line x x of Fig. 1, but with the wagon in running position; and Fig. 3, a crosssection at the line y y of Fig. 2, with the wheels removed.

Similar letters indicate like parts in the

several figures.

A A represent the two shafts, which are connected at their back ends to the axle B. These shafts are bent in rear of the cross-bar 35 C, as clearly shown at Fig. 2, and then continue horizontal or parallel with the plane of

that portion forward of such bend. The rear ends of the shafts are preferably rigidly secured to the axle by bolts or otherwise. The 40 angle formed by bending the axles, as seen at Fig. 2, is braced by a brace-bar, D, to se-

cure strength.

E is the body of the wagon, which is secured at its forward end to the cross-bar C by 45 means of hooks F, which engage with loops G, secured to the cross-bar. The loops G, as seen more particularly at Fig. 1, are wider than the hooks F for the purpose of permitting a sufficient lateral movement of the body 50 in an obvious manner.

Between the bend in the shafts and the axle l

B is arranged one or more springs, H, the ends of which are connected by double or single shackles I to the straight rear portion of the shafts, and the central portion is bolted to a 55 suitable yoke or bridge, J, on the bottom of

the wagon-body, as best shown at Fig. 3.

From the construction shown and described it will be seen that the shackles I and hookconnections F G readily permit of all neces- 60 sary lateral movement of the body without strain upon the spring E. The bending of the shafts in rear of the cross-bar, which is the point of pivotal movement of the body, provides space for the vertical vibrations above 65 the axle, and the spring, being arranged between the bar C and the axle B, gives a leverpurchase on the spring when in use, and thus tends to relieve the wheels from unnecessary jar. The body E should be so proportioned to 70 the distance between the cross-bars C and axle B that the seat K will lie about over or back of the axle to provide against any toppling-

While I have shown in the drawings a sin- 75 gle spring, I do not wish to confine myself to this particular, as it is apparent that I may

use two, if desirable.

What I claim as new, and desire to secure by Letters Patent, is-

1. In combination with the cross-bar C and body E, the hooks F and loops G, the latter constructed, as described, to permit lateral movement of the body, as set forth.

2. The spring H, connected to the under side 85 of the body A, and having its ends connected to the rear portions of the shafts by double shackles I, whereby vertical and lateral motions are permitted, substantially as set forth.

3. In a two-wheeled wagon in which the 90 body is pivotally connected at its forward end, a spring, H, arranged between such pivotal connection and the axle, as and for the purpose set forth.

In testimony whereof I have hereunto set 55 my hand in the presence of two subscribing witnesses.

JOHN ROBINSON,

Witnesses:

FRANK L. ROOT,

J. H. Rogers.