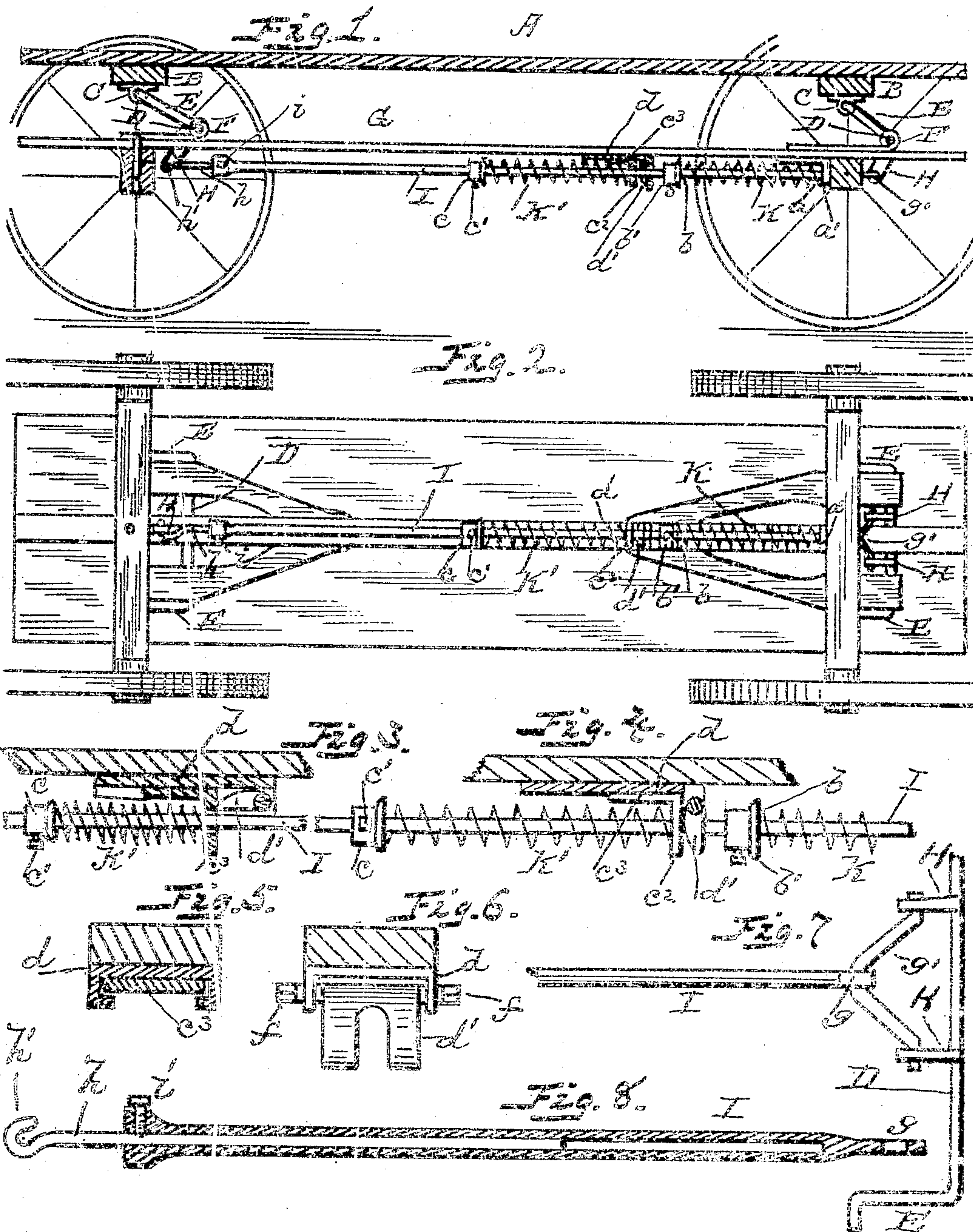


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PATENTED APR. 4, 1905.

W. WEBBER.
WAGON SPRING.
APPLICATION FILED JULY 28, 1904.



WITNESSES
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WILLIAM WEBBER, OF WESSINGTON SPRINGS, SOUTH DAKOTA.

WAGON-SPRING.

SPECIFICATION forming part of Letters Patent No. 786,614, dated April 4, 1905.

Application filed July 28, 1904. Serial No. 218,496.

To all whom it may concern:

Be it known that I, WILLIAM WEBBER, a citizen of the United States, residing at Wessington Springs, in the county of Jerauld and State of South Dakota, have invented new and useful Improvements in Wagon-Springs, of which the following is a specification.

This invention has relation to improvements in vehicle-springs, and more particularly to that class of vehicles used in carrying heavy weights, such as lumber and hay wagons and the like; and the object of the invention is to provide a spring that shall be inexpensive and effective and so constructed that the load will be evenly distributed no matter in what part of the body of the wagon it may be placed; and to that end the invention consists in a series of rocking crank-shafts provided with suitable connecting mechanism, combined with one or more horizontal springs of proper length and capacity and so arranged that its tension may be increased or diminished, as desired, all of which will be hereinafter more fully described, and particularly pointed out in the appended claims.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a vertical sectional view of my device. Fig. 2 is a bottom view of the same. Fig. 3 is a detail sectional view of the connecting rod or tubing, spring-cam, and portion of the reach of the running-gear of the wagon, showing the spring compressed. Fig. 4 is also a detail sectional view similar to that shown in Fig. 3, except that the spring is shown in its normal position—*i. e.*, relaxed position. Fig. 5 is a detail view of the reach in cross-section, showing the slide and grooved slideway. Fig. 6 is a detail view in cross-section of the reach, showing the cam journaled in the slideway. Fig. 7 is a detail view of the rear crank, showing the connection between the same and the rear end of the tubular rod; and Fig. 8 is a longitudinal sectional view of the tubular bar, showing the solid rod connected thereto and detached from the vehicle.

Referring by letter to the accompanying drawings, A designates the platform of the vehicle, which rests upon the cross-cleats B B, to the under side of which, at the outer ends, are the boxes C C.

D D are rock-shafts provided at their outer ends with cranks E, the ends of said cranks being journaled in the boxes C, while the shaft itself is supported in bearings F on the running-gear G.

H H are cranks secured to or forming a part of the shaft D about midway of its length, and said cranks H extend downwardly and approximately at right angles to the cranks E.

I designates a tubular connecting-rod connecting the respective cranks H H on the shafts D D, so that any motion given to either shaft will be communicated to the other, thus operating the cranks H H simultaneously.

K K' are twin springs which are arranged upon the tubular rod. The end *a* of the spring K abuts against an angle-iron *a'*, that is secured to the under side of the reach, while the opposite end *b* presses against a collar *b'*, having a set-screw whereby the collar may be held firmly in position on the rod. The spring K' on the tubular rod is interposed between a sliding angular plate or iron *c*³ and a collar *c*, having a set-screw *c'*. This sliding angular plate has its horizontal movement in a grooved guide-plate *d* on the under side of the reach, and to this guide-plate is journaled a cam *d'*, which has its bearing against the vertical portion *e*² of said sliding angular plate, as clearly shown in Figs. 3 and 4 of the drawings.

The particular features of this device is that when the weight or load is placed on any part of the platform it will be equally and evenly transmitted to the springs, as if the weight had been distributed over the whole surface, and when there is an unusual heavy load upon the vehicle the operator simply applies a wrench to the end *f* of the journal of the cam and gives the cam a turn, which latter acts upon and forces the angular sliding plate upon the tubular rod toward the collar, thus compressing the spring K' interposed between these two points, and thereby giving said

spring stronger tension and permitting the springs to bear more readily the heavy weight or load.

The tubular rod is constructed with an eye 5 or bearing g at its rear end, that engages a V-shaped crank g' , which is interposed between said rear end of the tubular rod and the crank-arms of the rear rocking shaft, thus providing a flexible connection between the same, there- 10 by giving an easy movement to the tubular rod and preventing binding of the same. The solid rod h of the connecting-rod is provided at its forward end with a hook h' , that connects with the central crank-arm of the front 15 rock-shaft, and said solid rod enters the tubular rod, whereby the connecting-rod may be lengthened or shortened in adjusting the running-gear of the vehicle in changing the same for a lumber-wagon or to a short-body 20 vehicle, and the two parts of the connecting-rod after such adjustment are held in a fixed position by the set-screw i .

It will be readily observed that by my construction of a vehicle-spring the rear spring 25 can be readily reinforced should a heavier weight be placed upon the spring simply by the operator turning the cam, which contracts and strengthens the spring K' , thus resisting the heavy weight, and it will also be seen that 30 several of these springs may be employed when greater strength is required for heavy loads and by the adjustment of the sliding plates through the medium of the cams the springs are caused to reinforce one another, 35 and the tension of the springs can be adjusted to a nicety for light loads, riding, or for heavy loads, and a device as herein described is durable, the parts easily and quickly adjusted and firmly bolted to the running-gear, and at 40 the same time cheap to manufacture.

I do not wish to be confined to the exact construction of my improved vehicle-spring,

as various changes may be made in its construction without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a vehicle-spring, the combination with the crank-shafts, connecting-rod, springs, of the angular sliding plate, grooved slideways and cam, substantially as described.

2. The combination with the crank-shafts, connecting-rod and coiled springs, of the sliding plate, grooved slideway, cam and the V-shaped crank, interposed between the rear end of the connecting-rod and the rear crank-shaft, substantially as described.

3. The combination with the crank-shafts, sliding angular plate, grooved slideway, springs, cam and V-shaped crank of the tubular connecting-rod provided with the solid rod having the hooked end and the tubular rod provided with the set-screw, the rear end of the tubular rod having the eye or bearing, substantially as described.

4. The within - described vehicle - spring, comprising the front and rear rock-shafts provided with the cranks; the tubular rod connecting these rock-shafts, said rod having the solid rod sliding therein, and the V-shaped crank interposed between the rear end of said tubular rod and rear crank-shaft, the grooved slideway, an angular sliding plate, a cam, angular plate a' , coiled springs, and collars, having the set-screws, the whole adapted to operate as described.

In testimony whereof I have signed my name in the presence of two witnesses.

WILLIAM WEBBER.

Witnesses:

E. H. BATES,
W. E. WRIGHT.