

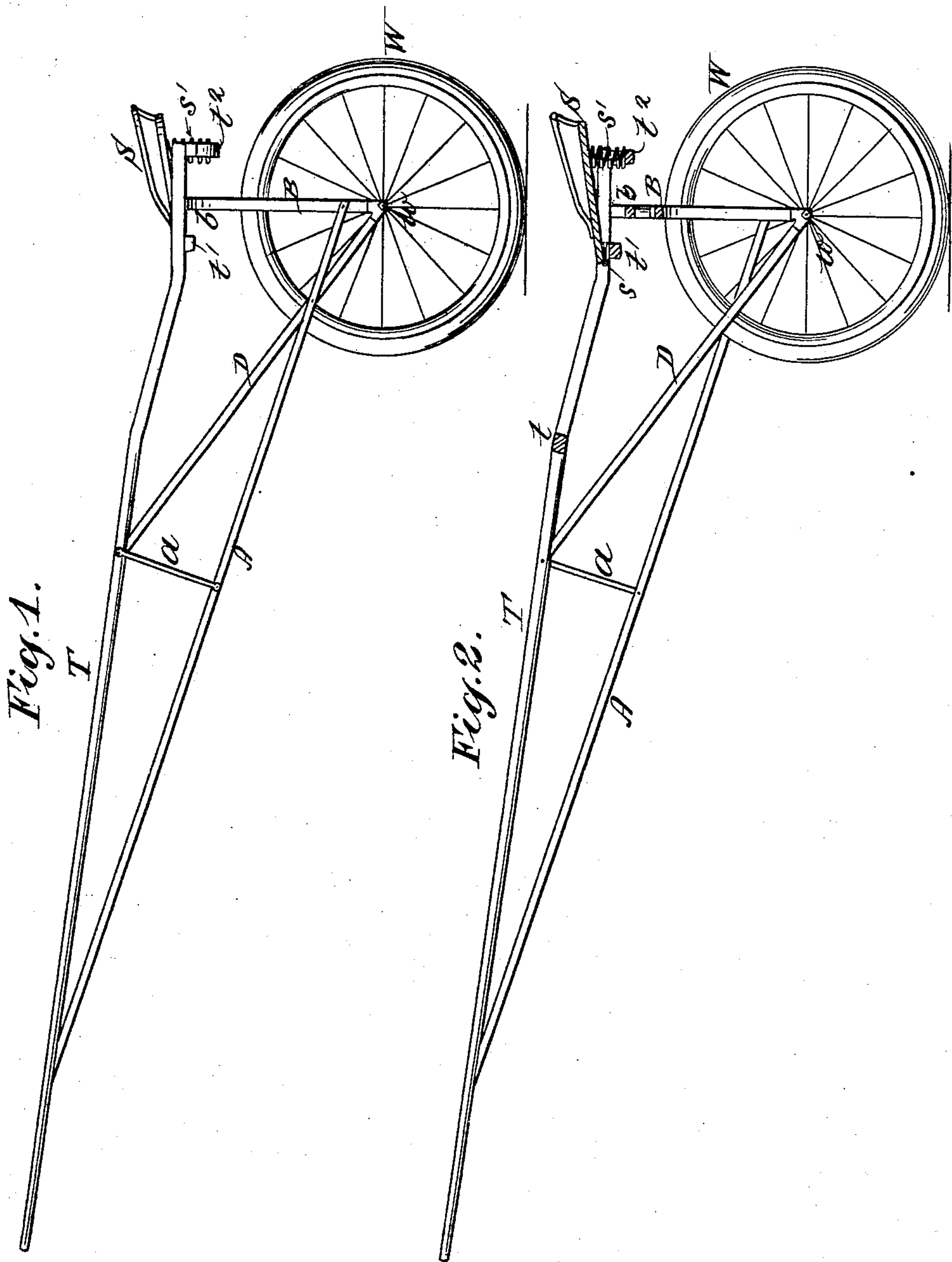
No. 862,836.

PATENTED AUG. 6, 1907.

H. J. MILLER.
SULKY.

APPLICATION FILED JUNE 2, 1906.

3 SHEETS—SHEET 1.



Witnesses:
H. W. Gardner.
George P. Brand

Inventor:
Henry J. Miller
By his Attorney
Geo. W. M. Malt

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Fig. 3.

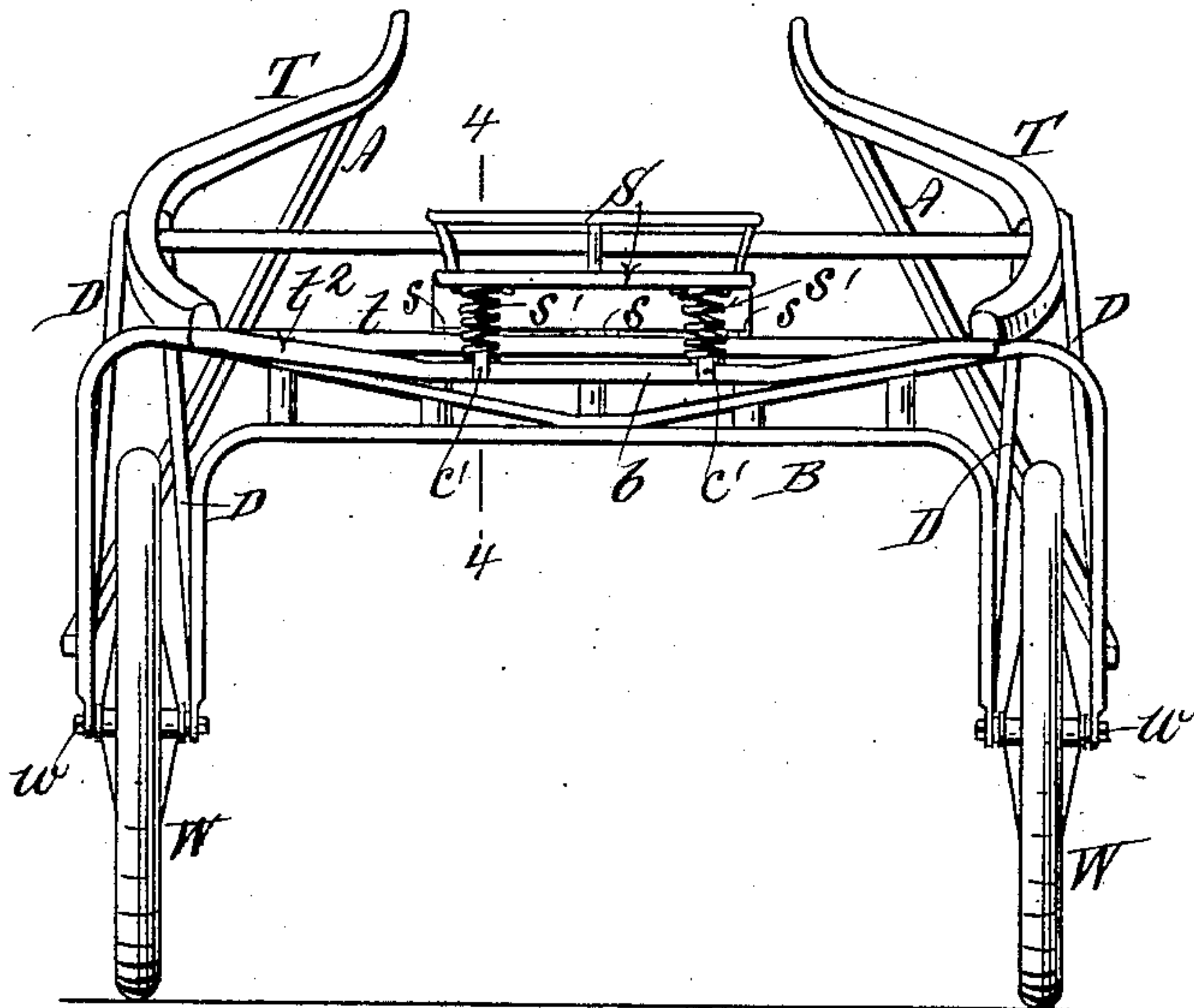


Fig. 4.

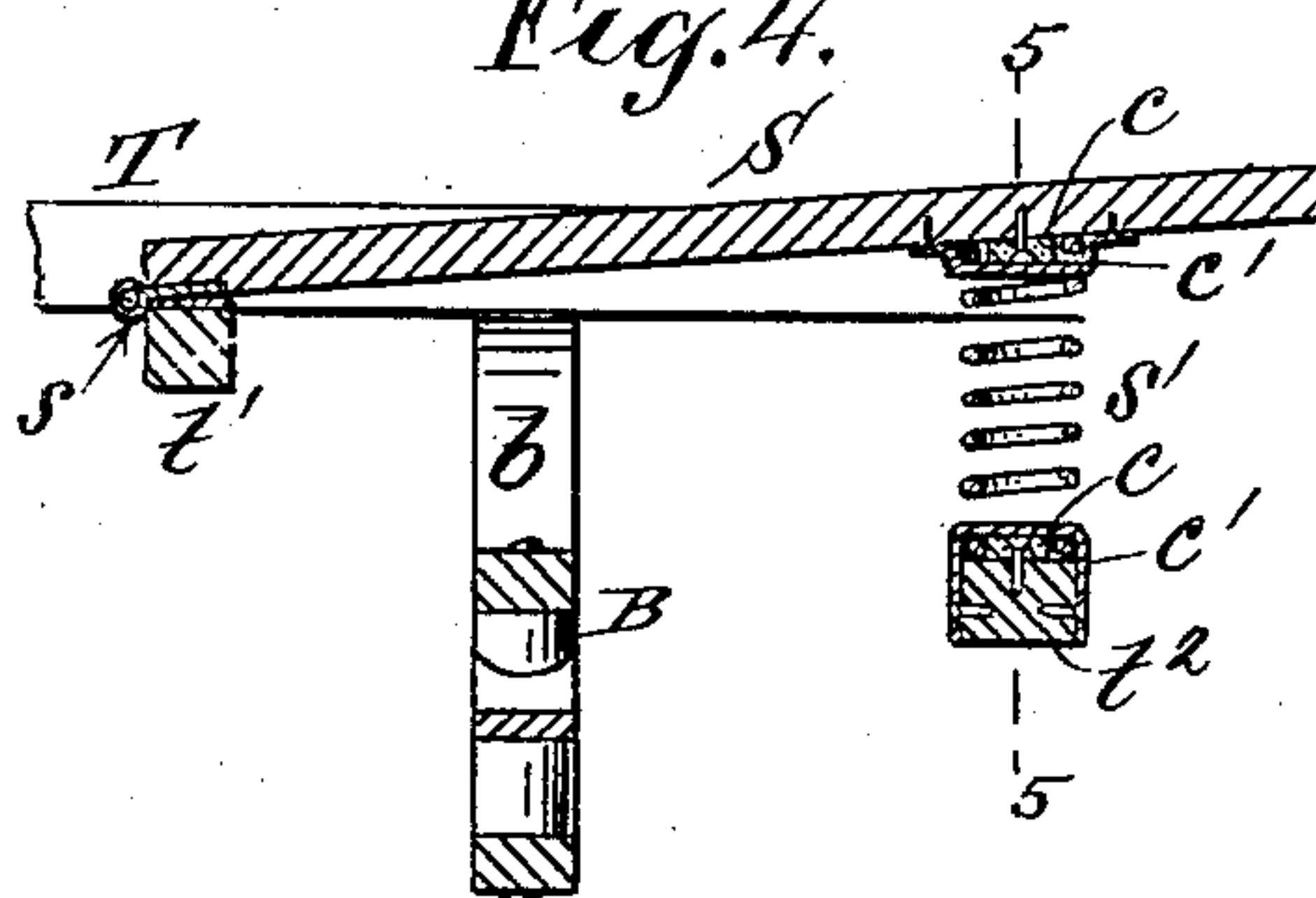
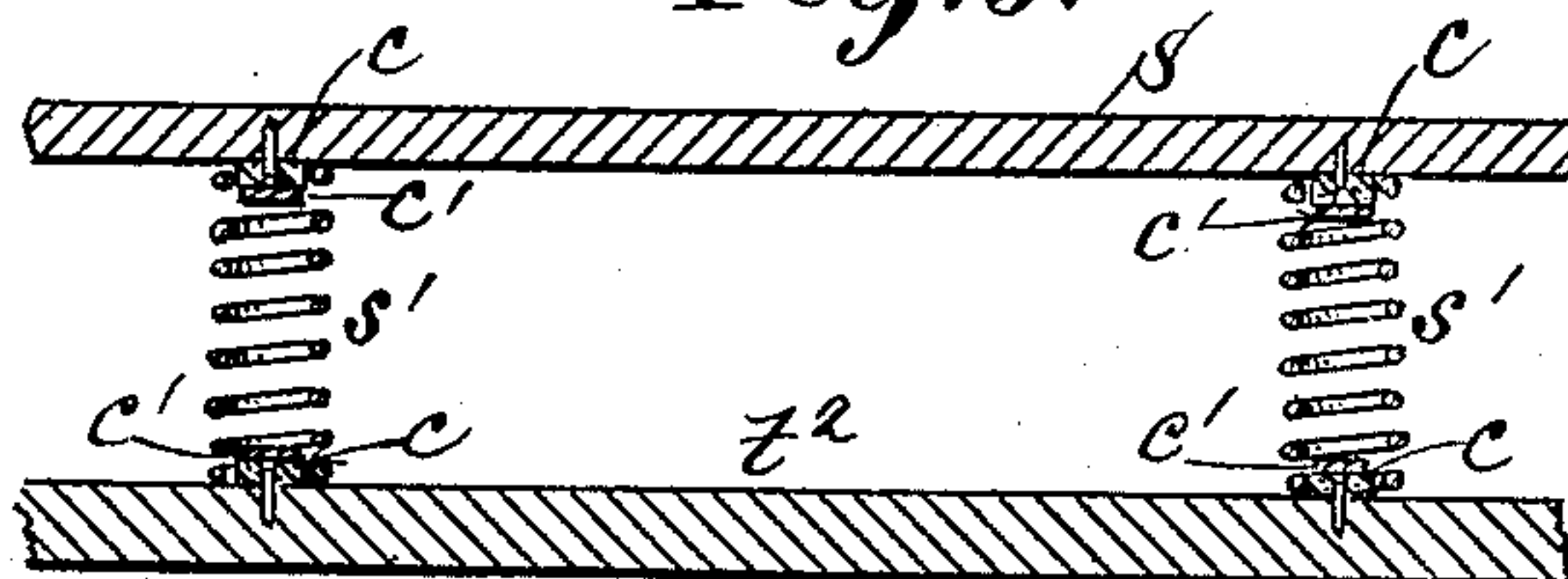


Fig. 5.



Witnesses:

W. Gardner.

George P. Brand

Inventor:

Henry J. Miller
By his Attorney
Geo. W. Minto

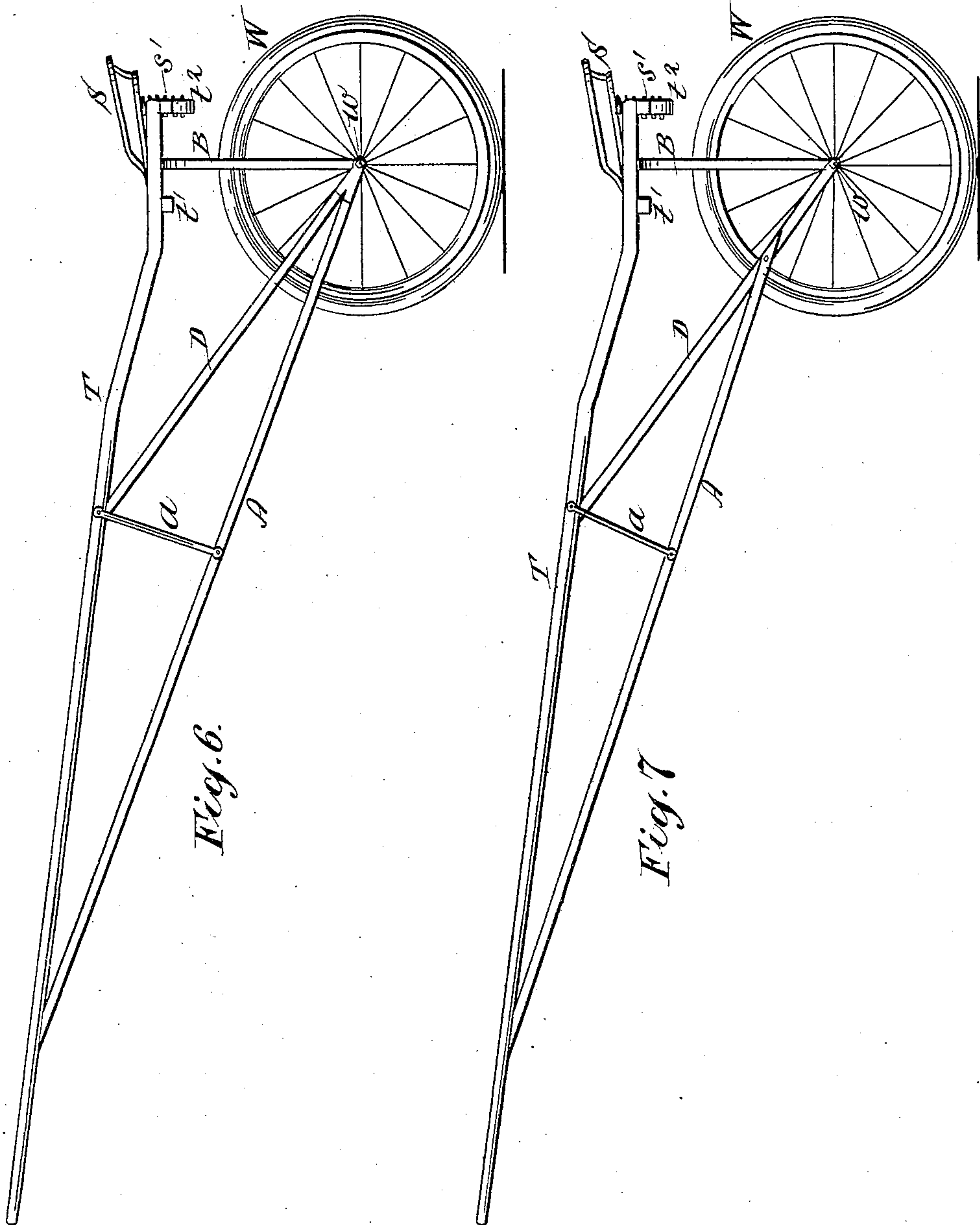
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3 SHEETS—SHEET 3.



Witnesses:
H. W. Gardner.
George P. Brand

Inventor:
Henry J. Miller
By his Attorney
Geo. W. M. M. M.

UNITED STATES PATENT OFFICE.

HENRY J. MILLER, OF GOSHEN, NEW YORK, ASSIGNOR TO HENRY J. MILLER, JR., OF
PATERSON, NEW JERSEY.

SULKY.

No. 862,836.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed June 2, 1906. Serial No. 319,812.

To all whom it may concern:

Be it known that I, HENRY J. MILLER, a citizen of the United States, residing at Goshen, Orange county, and State of New York, have invented certain new and useful Improvements in Sulkies and Similar Vehicles, of which the following is a specification.

My invention relates to light weight two wheel vehicles such as road carts, sulkies and the like, which are drawn by one horse and accommodate one person, the driver.

My present invention is designed to reinforce and sustain the thills of the vehicle against longitudinal vibration or deflection, at the same time making the draft more direct and effective, so that the vehicle will run more easily and with less exertion on the part of the horse. I also attain a maximum degree of rigidity with lightness of structure, and a minimum of wear, resulting in less "interference" with the motion of the vehicle and the movements of the horse,—the avoidance of "interference" rendering the vehicle "faster" for a given size and weight as compared with older structures. This result is contributed to also by my special and simple method of mounting the seat, whereby seat bars are dispensed with, lateral play or vibration avoided and the requisite degree of resilience attained by the use of compressible coil springs under the rear of the seat.

To this end, one feature of the invention consists in the use of supplemental or auxiliary thill braces in addition to the ordinary axle yoke drawn braces,—said auxiliary thill braces being rigidly connected at the rear, either directly or indirectly to the axle yoke braces or to the wheel truss at or near the axle bearings and being also rigidly connected to the thills well in advance of said axle yoke draw braces, preferably at points approximating the portions of the thills to which the harness "tugs" are applied. The usual axle yoke draw braces are retained as indispensable to the preservation of the alinement of the axles, and the auxiliary braces are resorted to to prevent vibration or play in the relatively long extensions of the thills beyond the said axle yoke draw braces. Incidentally the auxiliary braces advance and lighten the draft which is a matter of special importance in vehicles of this class.

The other distinguishing features of my invention consists in pivotally connecting the forward part of the seat to a cross bar between the thills and in front of the wheel truss and supporting the rear portion of the seat on compressible coiled springs mounted upon another cross bar between the thills at the rear of the wheel truss.

The invention also includes certain minor details of construction hereinafter described and claimed specifically.

In the accompanying drawings, Figure 1, is a side elevation of my improved vehicle; Fig. 2, a vertical longitudinal section thereof; Fig. 3, a rear view of the same;

Fig. 4, is a section upon an enlarged scale, taken upon plane of line 4—4—Fig. 3; Fig. 5, is a section upon an enlarged scale taken upon plane of line 5—5—Fig. 4; Fig. 6, is a side elevation of the vehicle showing a modification in the arrangement of the auxiliary braces; Fig. 7, is a similar view showing still another modification.

The axles w, w , of the wheels W, W , rest in and between bearings formed for their reception in the lower portions of the wheel truss B , and the lower ends of the axle yoke draw braces D , in the usual manner. The thills T are secured to the wheel truss B and in addition to the usual whiffle-tree bar t , are connected by a cross bar t' , in front of the wheel truss B , and with a cross bar t^2 , at the rear of the wheel truss B . These cross bars t' and t^2 , are secured to the under sides of the thills T , and the upper binding bar b , of the wheel truss B , is depressed centrally to admit of and accommodate the vertical play of the seat S . The front portion of the latter is hinged or otherwise pivotally supported upon the forward cross bar t' , hinges s, s , being shown in the drawings as used for the purpose as in Fig. 4. The rear portion of the seat S rests upon and is supported by compressible spiral springs s', s' , interposed between the under side of the seat S , and the upper side of the rear cross bar t^2 . In order to centralize these springs s', s' , and sustain them against lateral movement or displacement, I fasten disks c, c, c, c , to the under side of the seat S and the upper side of the rear cross bar t^2 , the disks on the seat coinciding in position with those on the cross bar. These disks c , fit into the end convolutions of the springs s' , and effect and preserve their alinement. The end convolutions of the springs s' , are secured in position over the disks c , by straps c', c' , which pass over said end convolutions of the springs as well as over the disks c , the straps c' , being secured to the under side of the seat S in one case and to the sides of the rear cross bar t^2 , in the other, as clearly shown in Fig. 4. This construction and arrangement of seat is simple and inexpensive and at the same time it affords an easy riding, resilient support for the driver, having no lateral sway, thereby tending to preserve the alinement and stability of the vehicle when in motion, and hence obviating any tendency to interference with the gait of the horse. Furthermore it dispenses with the seat arms heretofore used to couple the seat to the frame.

As heretofore constructed, the thills, in front of their juncture with the upper ends of the axle yoke draw braces, have been unsupported, and their flexibility makes them subject to vertical vibration which is objectionable in that it disturbs and interferes with the horse, thereby impairing the gait and speed of the animal. I obviate this by the use of my auxiliary braces A, A , rigidly attached to the thills T, T , in front of the axle yoke draw braces D , preferably in

proximity to the points at which the "tug" straps are applied to the thills in use. From these points of attachment to the thills, the auxiliary braces A, extend backward and downward, their rear extremities being
 5 attached to such parts of the wheel superstructure or frame as may be found most expedient, as I do not limit or restrict myself in this respect the essential feature in this connection consisting in reinforcing and supporting the outer ends of the thills by means of aux-
 10 iliary braces attached to and forming a part of the frame or superstructure resting upon the wheels W, W. Hence the rear portions of the auxiliary braces A, may be attached either to the wheel truss or to the axle yoke draw braces, or to both the truss and said braces
 15 as in Fig. 1; or they may be connected directly with the axles of the wheels, as indicated in Fig. 6, the result being essentially the same in either case in that the forward ends of the thills are reinforced and sustained against vertical vibration. Furthermore, the
 20 auxiliary braces perform a double function, since they not only thus render the thills practically rigid and unyielding during use, but also advance the line of draft, so that the vehicle rides easier and with less expenditure of force,—it being obvious that the nearer
 25 the line of draft approximates the "tug" straps, or the shoulders of the horse the more direct will be the draft as related to the axles of the wheels, and the less will be the strain, yielding, or displacement of the frame.

It is to be understood that in no case are the axle
 30 yoke draft bars to be dispensed with, my extra braces A, being supplemental and secondary thereto. The axle yoke draft bars are essential to the alinement of the axles, while my auxiliary braces relate more to the prevention of vibration and the forwarding of the line
 35 of draft.

Any desired number of truss rods *a, a*, may be used to reinforce and stiffen the auxiliary rods A, such rods *a*, extending between the thills and the auxiliary rods, or between the latter and any other portion of
 40 the framework as may be found most expedient.

While I prefer to place my auxiliary thill braces A, on the outer side of the wheels still it is obvious that if desired they may be arranged on the inside of the

wheels with practically like results; or such auxiliary braces may be used both inside and outside the wheels without departing from the spirit and intent of my invention.

What I claim as my invention and desire to secure by Letters Patent is,

1. In a vehicle of the character designated, the combination with the wheel truss, thills, and axle yoke braces extending from the axles to the thills, of auxiliary braces rigidly attached to the thills in front of said axle yoke braces and also rigidly attached to the frame below the thills and back of the points at which the axle yoke draw
 55 braces are attached to said thills, and truss rods rigidly secured to and between the thills and the auxiliary braces between the points at which the latter are secured to the thills and to the frame, for the purpose described.

2. In a vehicle of the character designated, the combination with the wheel truss, axle yoke draw braces and thills, of auxiliary braces rigidly attached to the thills in front of said axle yoke braces and also rigidly attached to said axle yoke braces below their points of connection with the thills, for the purpose described. 60

3. In a vehicle of the character designated, the combination with the wheel truss, thills, and axle yoke braces extending from the axles to the thills, of auxiliary braces rigidly attached to the thills in front of said axle yoke braces and also rigidly attached to said axle braces and
 70 to the wheel truss, for the purpose described.

4. In a vehicle of the character designated, the combination with the thills, of a wheel truss the upper bridge bar of which is depressed centrally, a cross bar secured to the under side of the thills in front of the wheel truss, a
 75 cross bar secured to the under side of the thills behind the wheel truss, a seat pivotally secured to the said cross bar in front of the wheel truss and compressible springs mounted upon the said rear cross bar and supporting the rear of the seat, for the purpose described. 80

5. In a vehicle of the character designated, the combination with the wheel truss and thills of a cross bar secured to and between the thills in front of the wheel truss, a cross bar secured to and between the thills behind the wheel truss, a seat pivotally secured to the said cross bar
 85 in front of the wheel truss, compressible springs interposed between said rear cross bar and the rear of the seat centralizing disks in the end convolutions of said springs, and straps securing said end convolutions respectively to the under side of the seat and to the said
 90 rear cross bar, for the purpose described.

HENRY J. MILLER.

Witnesses:

D. W. GARDNER,
 GEO. WM. MIATT.