

(No Model.)

2 Sheets—Sheet 1.

W. H. SPARKS.
SPRING FOR BUCKBOARDS.

No. 446,395.

Patented Feb. 10, 1891.

FIG 1

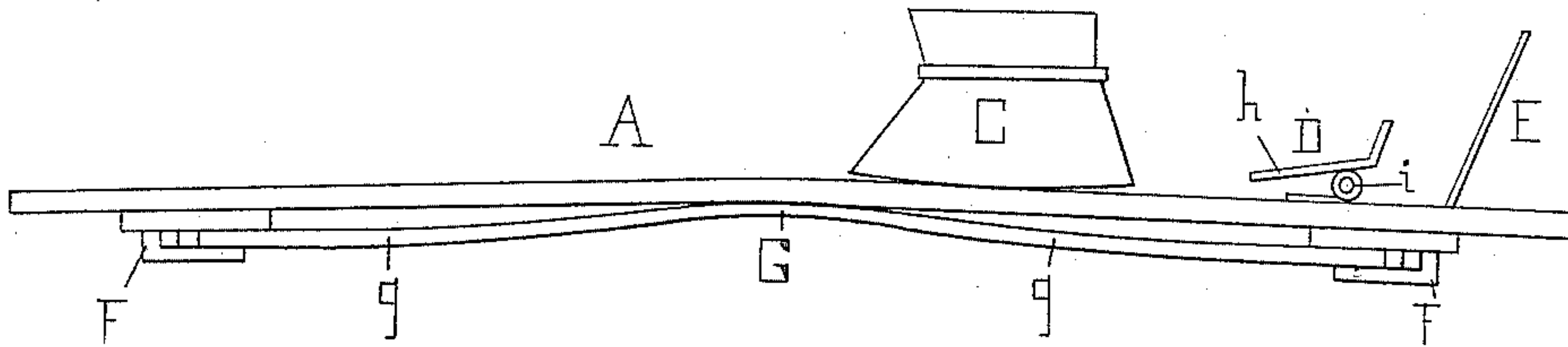


FIG 2

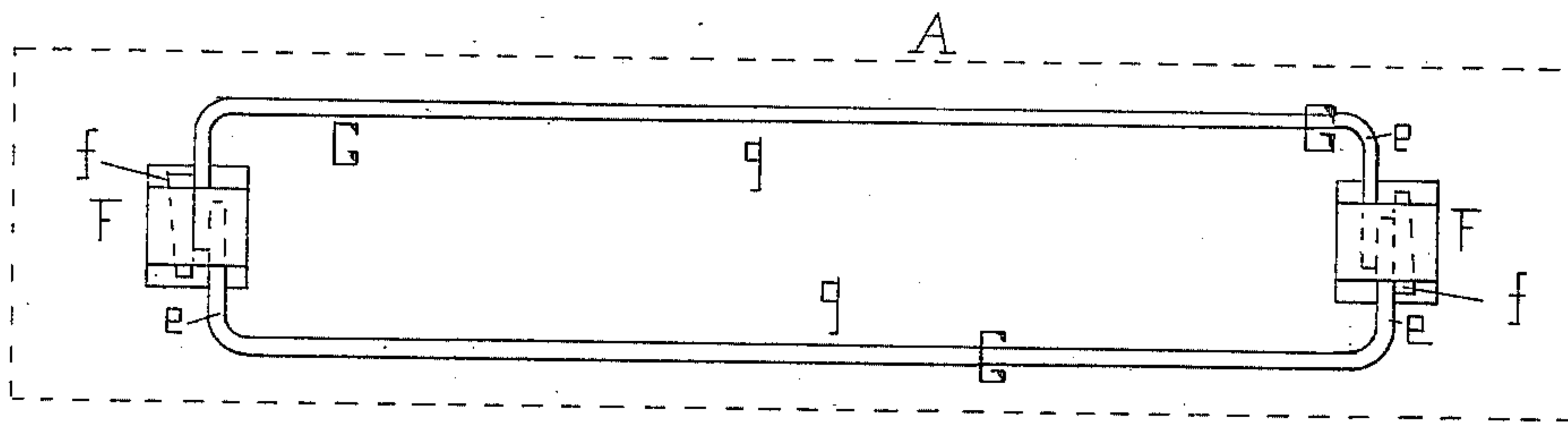


FIG 3

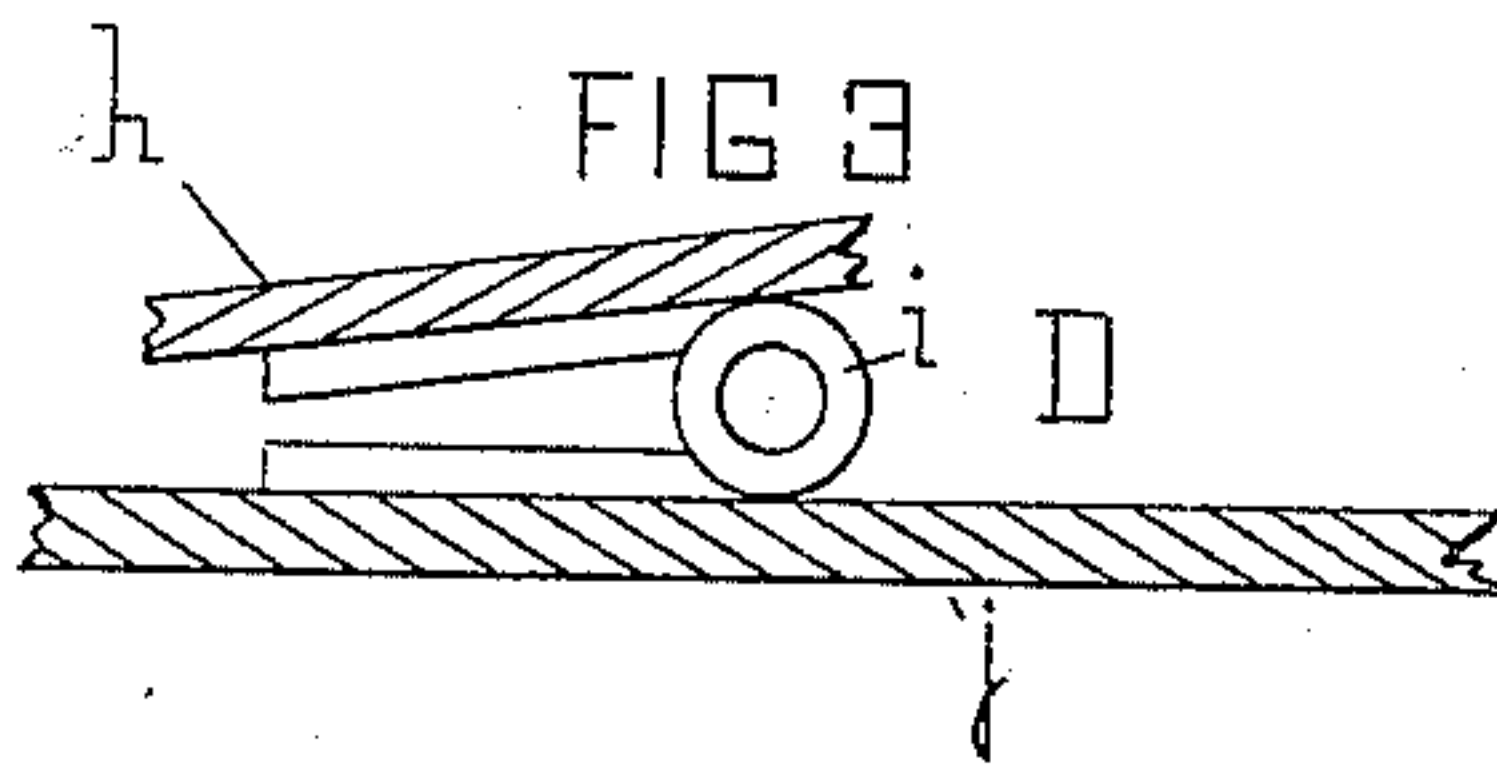
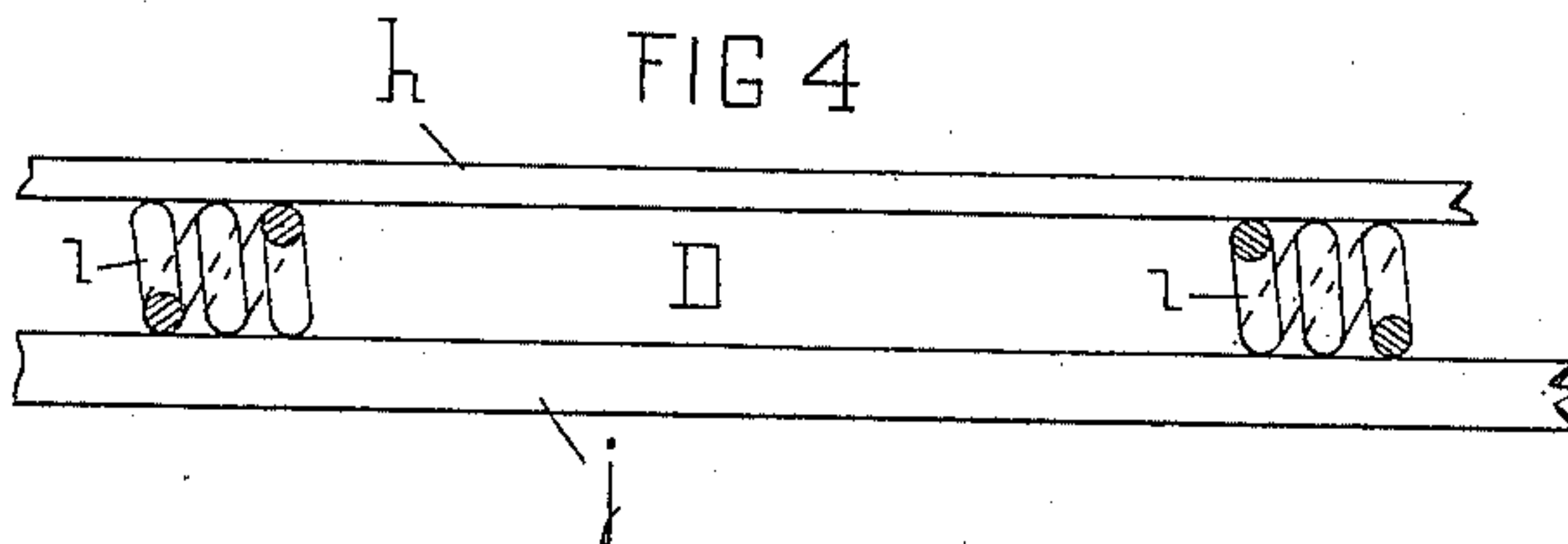


FIG 4



WITNESSES

Wm. J. Hoffman.
A. Martin

INVENTOR

William H. Sparks
by Francis D. Pastorek
Solicitor

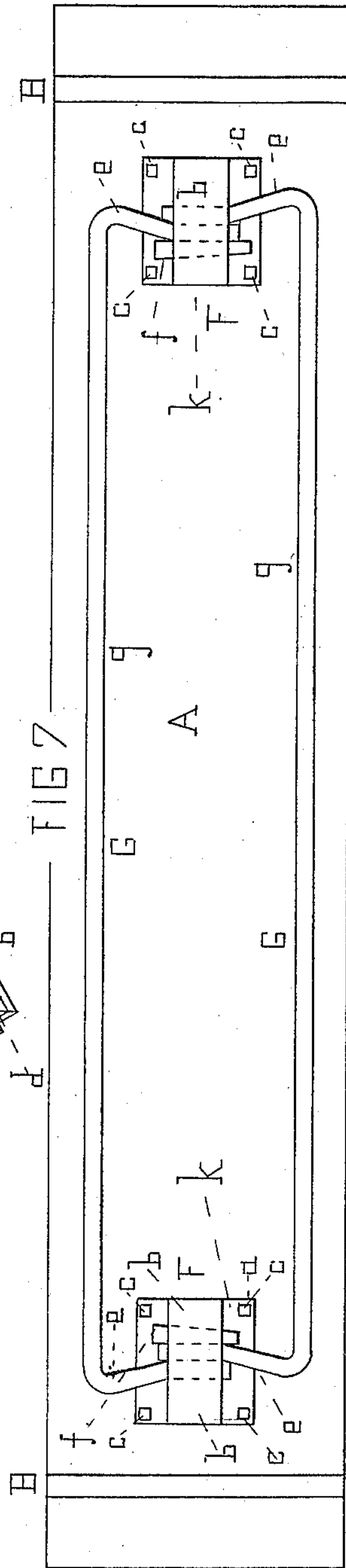
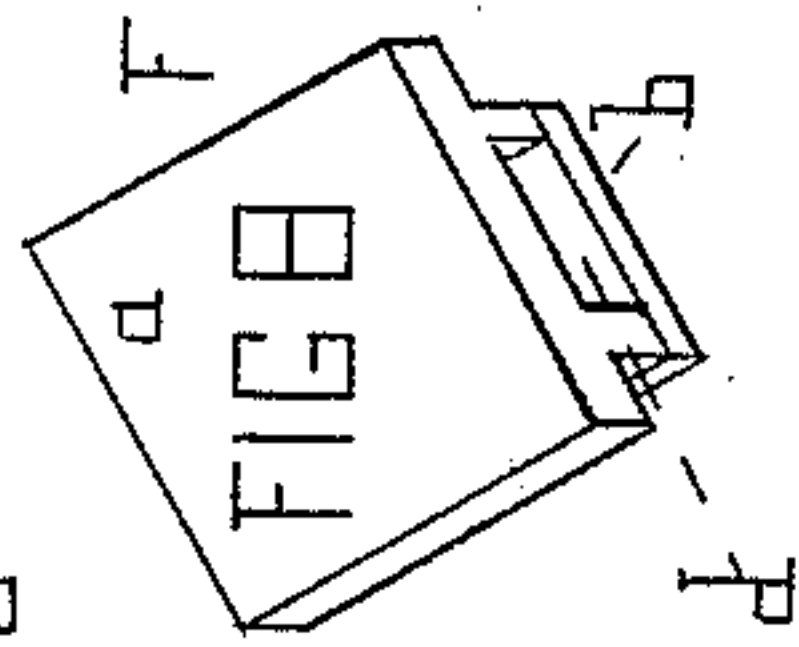
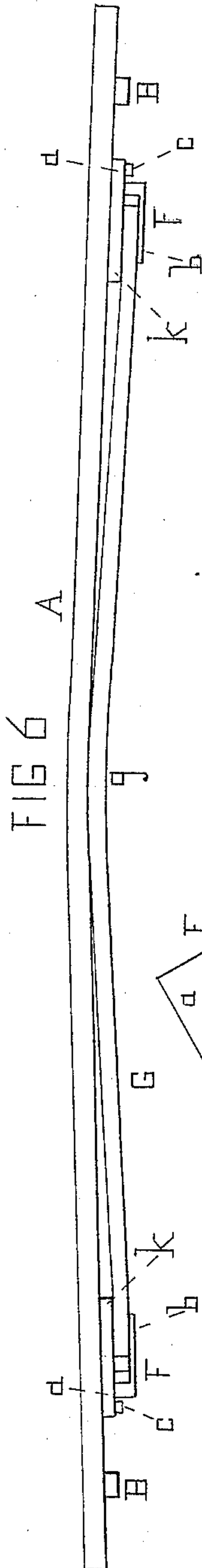
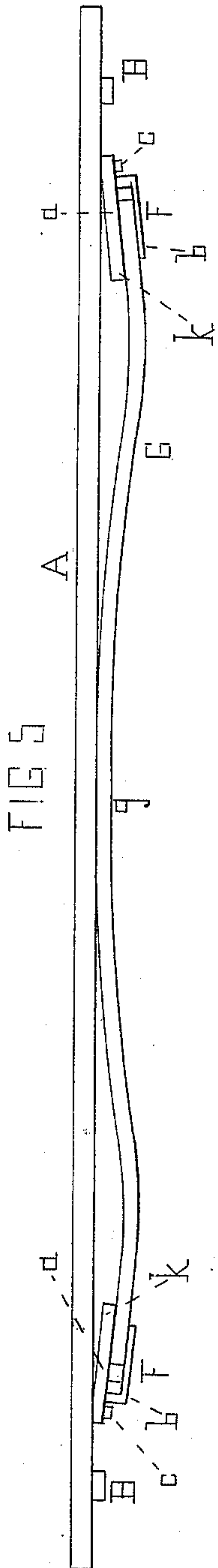
(No Model.)

2 Sheets—Sheet 2.

W. H. SPARKS.
SPRING FOR BUCKBOARDS.

No. 446,395.

Patented Feb. 10, 1891.



WITNESSES
Peter A. Gallagher
R. M. Thomas

INVENTOR
William H. Sparks
by Francis D. Pastorius
Solicitor

UNITED STATES PATENT OFFICE.

WILLIAM H. SPARKS, OF CAMDEN, NEW JERSEY.

SPRING FOR BUCKBOARDS.

SPECIFICATION forming part of Letters Patent No. 446,395, dated February 10, 1891.

Application filed February 25, 1890. Serial No. 341,773. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SPARKS, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented new and useful Improvements in Buckboard - Wagons, of which the following is a specification.

My invention relates to improvements in buckboard-wagons, which consists in bracing up the buckboard and preventing it from retaining the sag occasioned by the pressure of the load or weight of those riding on it. Spring-braces are placed near each edge of the under side of the buckboard, the ends of which are turned transversely and inwardly, and are immovably fixed in connections of the board. The longitudinal parts of the spring-braces curve upwardly and contact with the under side of the buckboard with sufficient thrust to spring it back to its normal plane when its load is removed and brace it against the pressure of its gravity. The longitudinal parts of the spring-braces have a vertical and the transverse ends a longitudinal and torsional elasticity. To relieve the occupant of the wagon of the jolting caused by connecting the buckboard to the front axle-bolster, a spring foot-rest is placed behind the dasher.

On reference to the accompanying sheet of drawings, making part of this specification, Figure 1 is a side view of the unloaded buckboard, seat, foot-rest, and spring-brace. Fig. 2 is a bottom plan view of the relative positions of the buckboard, (in dotted lines,) spring-braces, and connections. Fig. 3 is a sectional side elevation of the spring foot-rest. Fig. 4 is a front view of Fig. 3. Fig. 5 is a side view of the buckboard, spring-brace, and the connections partly bolted to the buckboard before twisting the transverse ends of the spring-braces, and imparting a torsional elasticity to them for pressing against the bottom of the board. Fig. 6 is a side view of the buckboard and spring-brace after the connections have been fully bolted in place and a torsional elasticity imparted to the transverse ends. Fig. 7 is a bottom view of the buckboard, spring-braces, connections, and the position of the torsional and transverse ends of the spring-braces when the

wagon is loaded; and Fig. 8 is a view of the connections.

In the several views the running-gear of the wagon is omitted.

Similar letters refer to similar parts in the several views.

A is the buckboard of a buckboard-wagon on the axle-bolsters B; C, the seat; D, the spring foot-rest, and E the dasher.

F are connections fixed to the bottom of the buckboard, composed of a base *a*, cap *b*, and bolts *c*, Figs. 5, 6, 7, and 8, with an intervening groove *d* for the transverse or torsional ends *e* of the spring-braces G, which are entered a convenient distance and immovably fixed together by a wedge *f*. The longitudinal parts *g* of the spring-braces are placed conveniently apart at the under side of the buckboard, and curve upwardly until they contact with it.

The spring-braces G, composed of the torsional or transverse ends *e* and the longitudinal parts *g*, must be made with a view to lightness and elasticity, not to interfere with the free springing of the buckboard, and have sufficient upward thrust to spring them back when the pressure of the load is removed. To that end a torsional elasticity is given to the part of the transverse ends *e* not included within the connection F, as follows: The spring-braces G have an upward curve given to them, and their ends *e* firmly fixed in the connections F by the wedges *f*, which are then bolted at their outer ends to the bottom of the buckboard, the curve of the part *g* bearing against it, as shown in Fig. 5. The upward turning of the inner ends *k*, Figs. 5, 6, and 7, of the connections F when being fully bolted in place, Fig. 6, imparts a twist or torsion to the transverse ends *e* for thrusting the curved lengths *g* against the buckboard sufficient for the purpose of returning it to its normal plane when the pressure of its load is taken away, and bracing it against sagging by its own gravity.

In practice the spring-braces G develop three motions—viz., a torsional elasticity of the transverse parts *e*, a vertical spring of the horizontal parts *g*, and a horizontal springing of the ends *e*, as shown at Fig. 7, caused by and to adapt to the springing of the parts *g*.

In their normal condition, when not subject to the pressure of a load, the spring-braces G should have thrust sufficient to brace up and retain the buckboard in a horizontal plane, 5 or, if preferable, to slightly upwardly curve it without detracting from its elasticity. The torsion or twist imparted to the ends *e*, in connection with the original curve and spring of the longitudinal parts *g*, permit of a smaller 10 and finer spring and a thinner and more elastic buckboard being used without departing from structural strength.

To spare the feet of the rider the consequences of the jolting of the front end of the 15 buckboard incident to the rigid fastening of that end with the axle-bolster B, a spring foot-rest D is placed behind the dasher, Figs. 1, 3, and 4. It is composed of a foot-board *h*, one or more suitable springs *i*, and a base *j*.

20 For the ease of formation and tempering the spring-brace G is shown in two lengths or parts G G on opposite sides of the buckboard, the transverse ends of which are immovably

held in connections F; but I do not confine myself to the said spring in two parts, and, 25 if convenient, will make it in a single piece, with the transverse ends or parts confined in the same connections for the purpose of torsional elasticity. I also do not confine myself to the connections F, as shown and described. 30 Any ordinary connection that will clamp and hold the extreme ends of the transverse part of the spring-brace from turning under the pressure of torsional twist will answer. 35

I claim as my invention—

A buckboard A, provided with a spring-brace G, composed of spring side lengths *g* and transverse torsional ends *e* in connections F, for the purpose shown and described. 40

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SPARKS.

Witnesses:

FRANCIS D. PASTORIUS,

JOHN L. SEMPLE.