JONES, EELLS & GRISWOLD.

Carriage-Spring.

No. 842. Patented July 16, 1838.

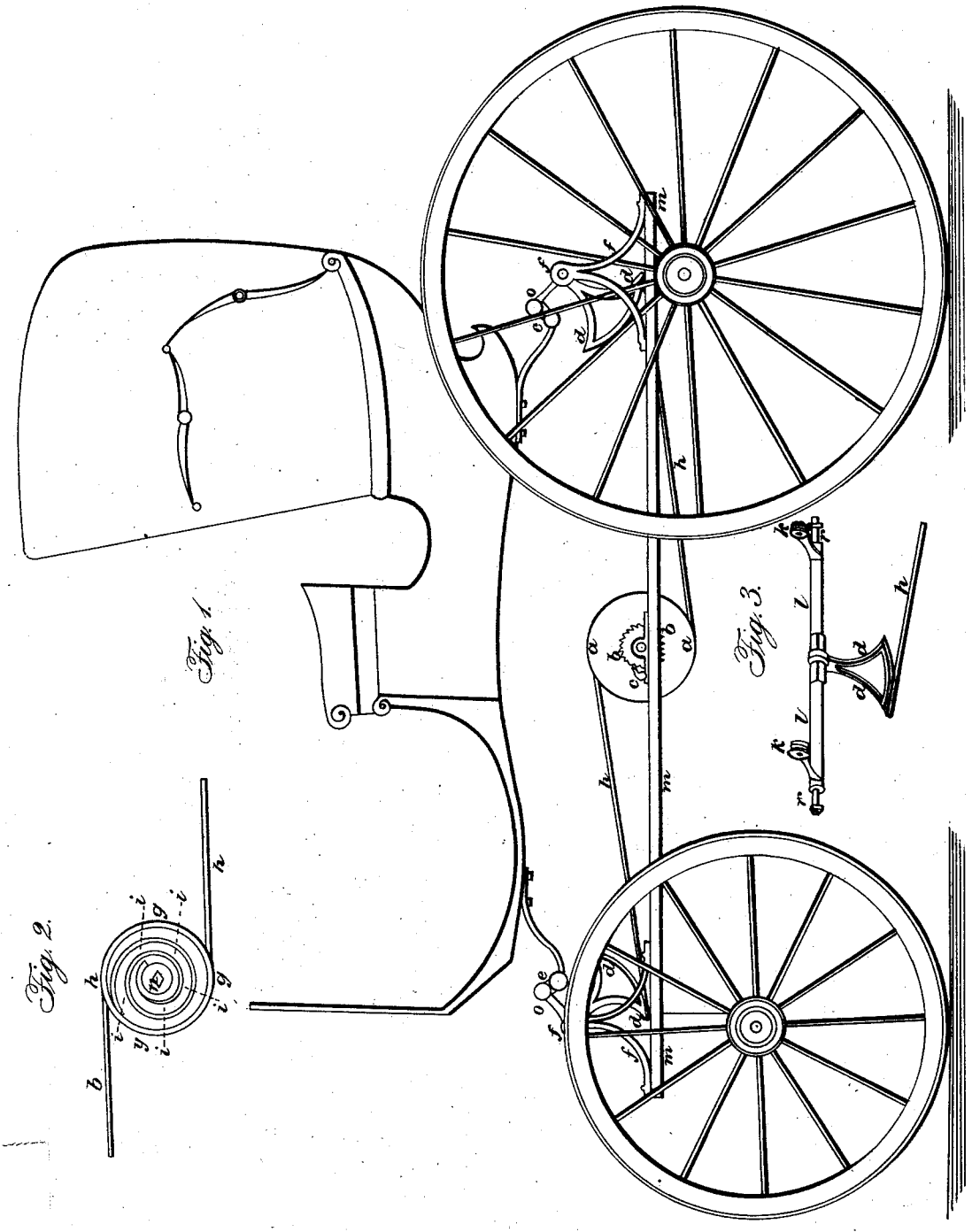

Fig. 1.

Fig. 2.

Fig. 3.

UNITED STATES PATENT OFFICE.

JOSHUA JONES, A. M. EELLS, AND HORACE GRISWOLD, OF DELAWARE COUNTY, NEW YORK.

MODE OF APPLYING SPRINGS TO CARRIAGES.

Specification of Letters Patent No. 842, dated July 16, 1838.

To all whom it may concern:

Be it known that we, JOSHUA JONES, ALAN M. EELLS, and HORACE GRISWOLD, of the county of Delaware and State of New York, have invented a new and Improved Mode of Applying or Adapting Coiled or Spiral Springs to Carriages of Pleasure or Burden; and we hereby declare the following to be a full and exact description.

A spiral spring similar in its construction to the main spring of a watch, inclosed in a barrel or cylinder of any convenient diameter, is fixed on axes near the middle of the perch of the carriage. From the periphery of the barrel containing the spring, and from opposite sides thereof two bands are extended one passing to the front and the other toward the rear of the carriage, each of which bands is attached to the end of a lever passing downward from a cross piece or bar passing across each end of the wagon above the axletree and parallel with it. At each end of these cross pieces or bars is also a shorter lever or arm passing toward the middle of the carriage in a direction at right angles (or nearly so) with the downward lever before mentioned. To these shorter levers or arms the carriage body or box is attached at each corner, by a connecting rod and shackles, or if thought preferable by thorough braces. The levers passing downward from the before mentioned cross bars, and to which the bands passing from the before mentioned spiral spring are attached, are longer than the arm projecting from the same bar to sustain the carriage, by which means the spring operates with increased power on the projecting arms for sustaining the body of the carriage. On the lower end of each downward lever is fixed the segment of a circle of which the lever is the radius, by which means the action of the spring is made more equal, the connecting band being kept at all times equidistant from the upper end or fulcrum of the downward lever. The cross pieces to which the arms and levers are attached rest upon perpendicular supports or standards of iron or other material, at each end of the bolster or axletree, and move upon their axes on the supports or standards as influenced by the vibrations of the spiral spring of the carriage. On one end of the cylinder containing the spiral spring, is placed a ratchet wheel and catch designed for winding up the spring to any degree of tension that may be required for sustaining either a light or a heavy burden.

Two or more spiral springs may be employed instead of one for heavy carriages, either by placing more than one spring in the barrel, or by placing any number of barrels on a connecting shaft, in which case a corresponding number of connecting bands will be required.

What we claim as our invention and desire to secure by Letters Patent is—

The combination of the mode of hanging the carriage body (by means of the axles, arms, downward levers, &c.) with the spring or springs constructed and operating substantially as herein described, and also, in combination therewith, the mode of regulating the tension of the spring or springs in manner as herein described.

Explanation of the drawings which are attached hereunto.

Figure 1. A profile view of a one horse carriage with the spiral spring fixed to the middle of the perch; *a*, *a*, the barrel containing the spiral spring; *b*, a ratchet wheel for holding the spring when wound to its required degree of tension; *c*, the catch for holding the ratchet wheel; *e e*, movable shackles connecting the body of the carriage with the arms projecting from the cross bar; *f f*, standards for sustaining the cross bars; *d d*, levers passing downward from the cross bars and operated on by the spring *a*, by means of the connecting bands *h*, *h*; *o o*, short arms or levers projecting from the cross bars for sustaining the body of the carriage.

Fig. 2. View of the spiral spring with the barrel which incloses it uncapped; *g g*, the barrel containing the spiral spring; *h h*, connecting bands which wind on the barrel as it revolves; *i i*, the spiral spring.

Fig. 3. One of the cross bars to which the levers are attached; *l l*, the bar, the gudgeons of which *v*, *v*, Fig. 3, pass through the standards at *f f* in Fig. 1; *k k*, the short arms or levers projecting from the cross bars for sustaining the carriage, showing the joints to which the movable shakles are attached; *d*, *d*, the lever passing downward from which the connecting band passes to the periphery of the barrel containing the spring.

JOSHUA JONES.
ALAN McEELLS.
HORACE GRISWOLD.

Witnesses:
CHAS. HATHAWAY,
E. M. LEAL.