No. 750,146. PATENTED JAN. 19, 1904.

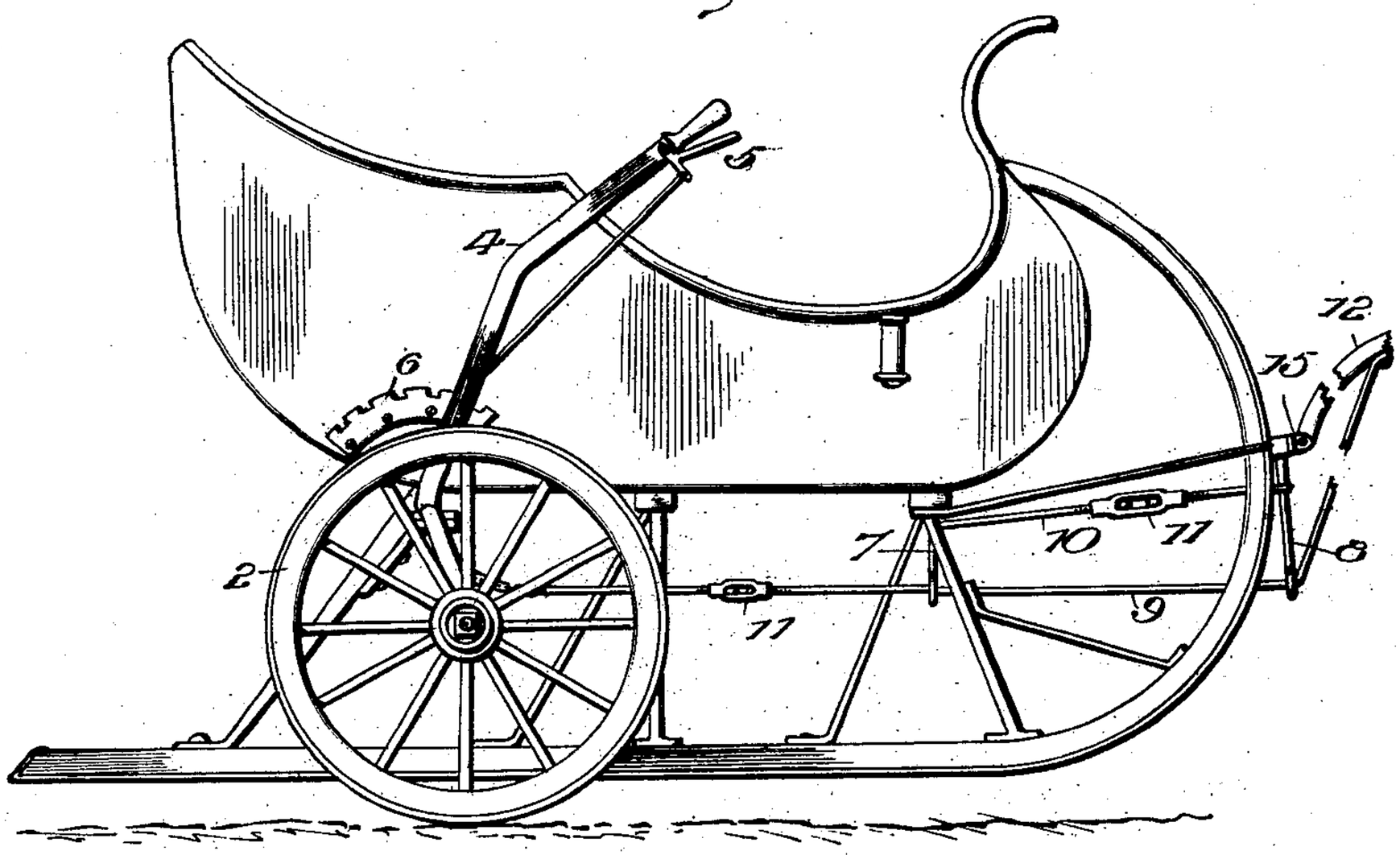
J. H. WOLF.

WHEELED SLEIGH.

APPLICATION FILED JUNE 13, 1903.

NO MODEL. 3 SHEETS—SHEET 1.

FIG. 1.



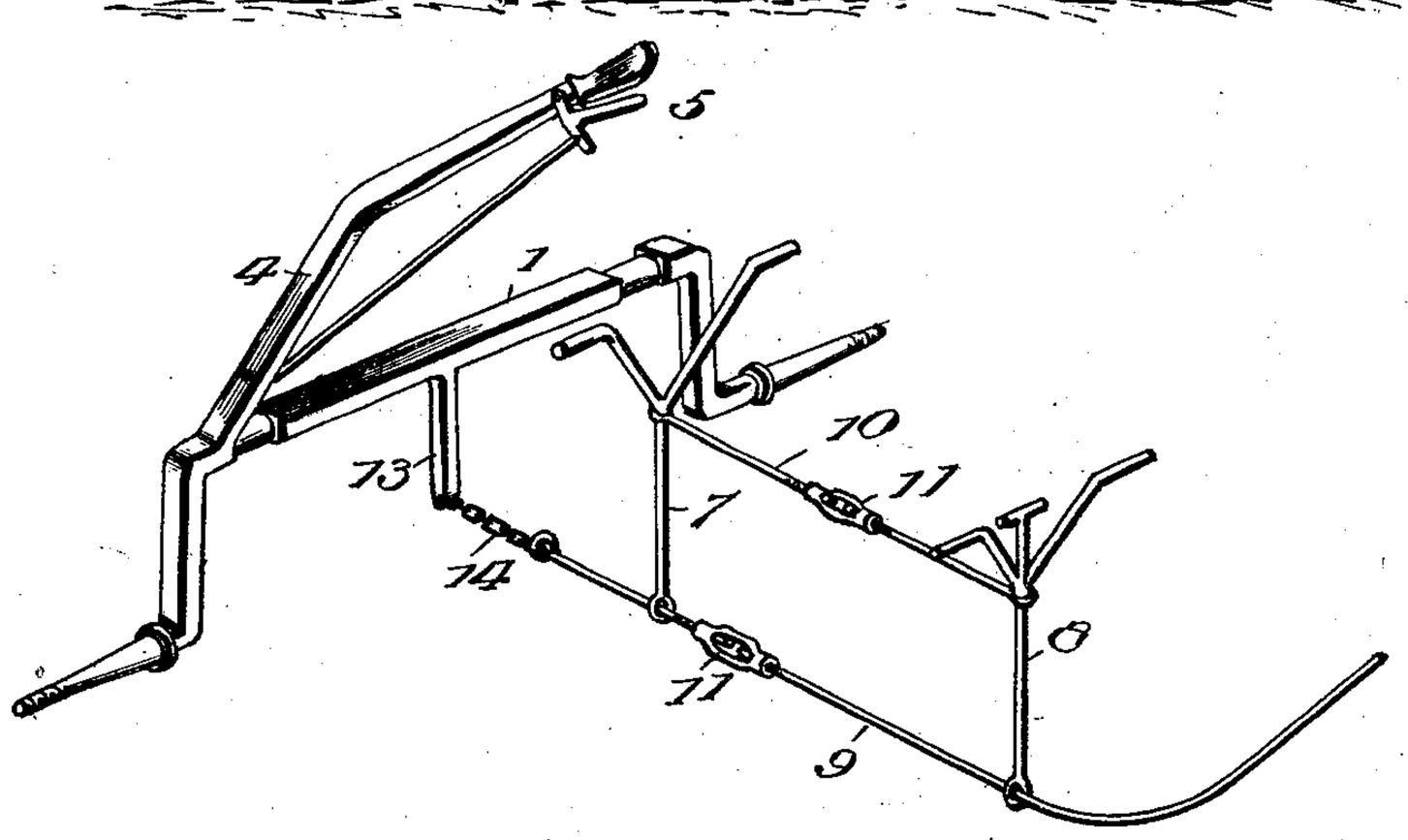


FIG. 2.

WITNESSES:

Emily H. England.

Gennie Matthews

INVENTOR

John H. Wolf.

BY, R. S. & A. B. Lacey. Attorney's.

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NO MODEL. 3 SHEETS—SHEET 2.

FIG. 3.

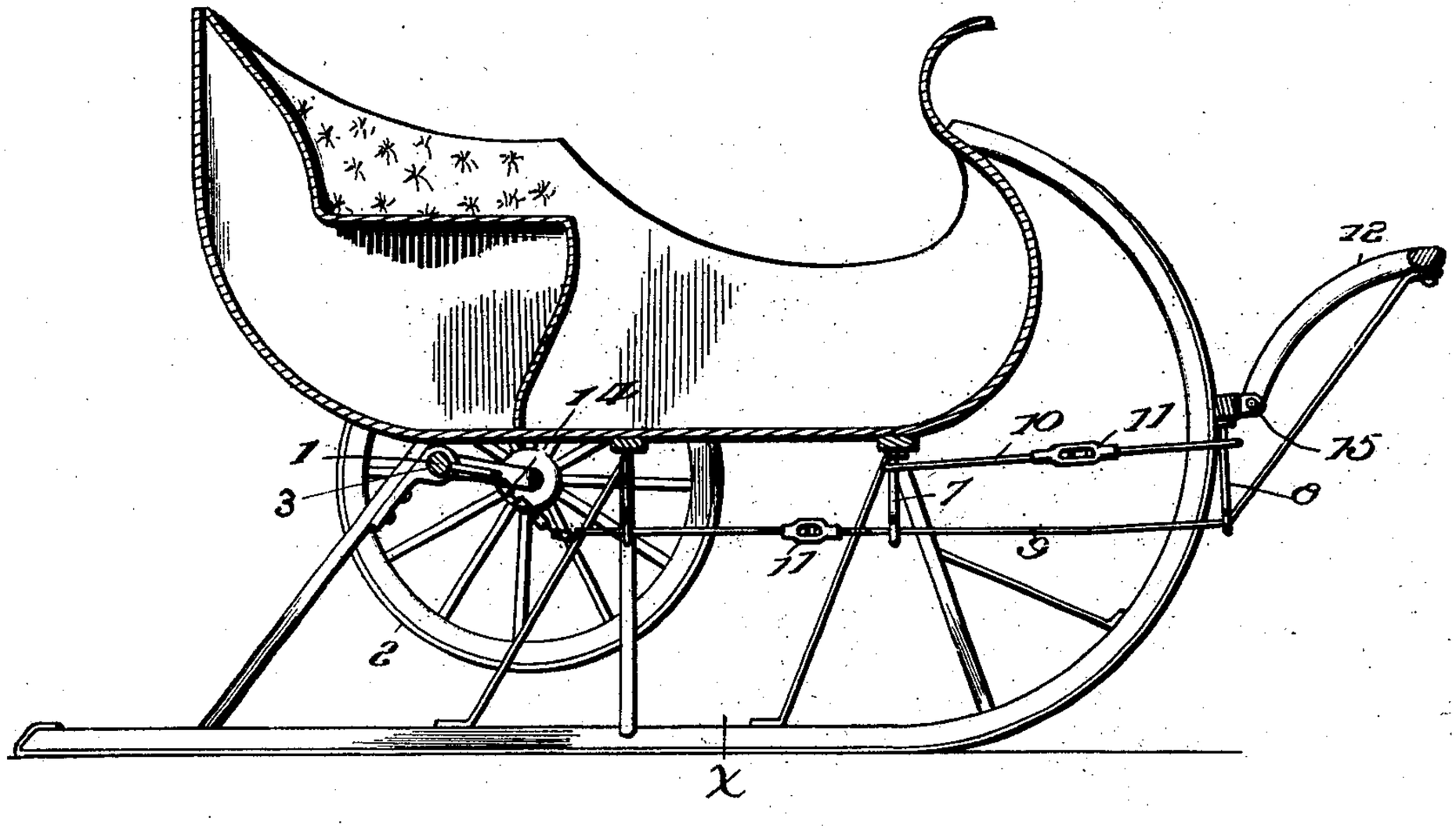
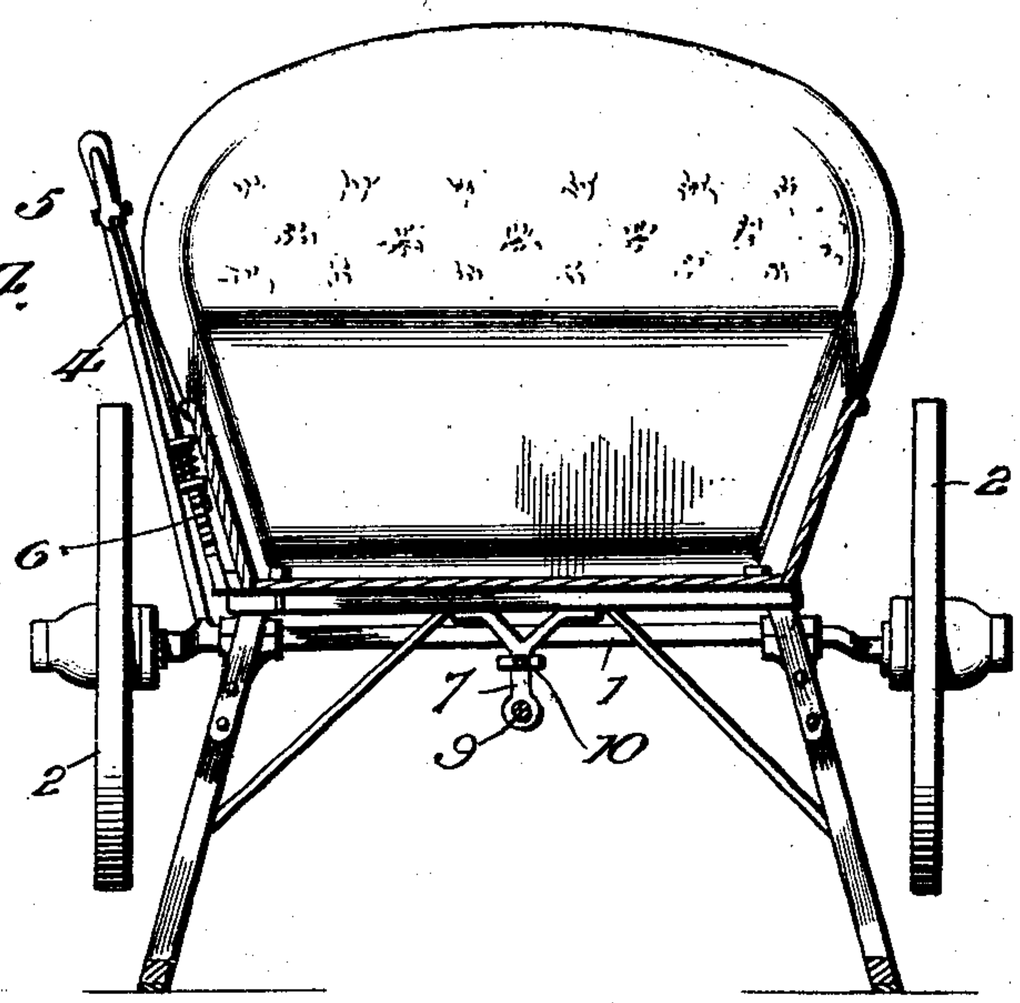


FIG. 4.



WITNESSES:

Emily H. England,

Fenwick Matthews

INVENTOR

John H. Wolf.

BY, R. S. & C. B. Lacey, Attorneys.

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APPLICATION FILED JUNE 13, 1903.

NO MODEL. 3 SHEETS—SHEET 3.

FIG. 5.

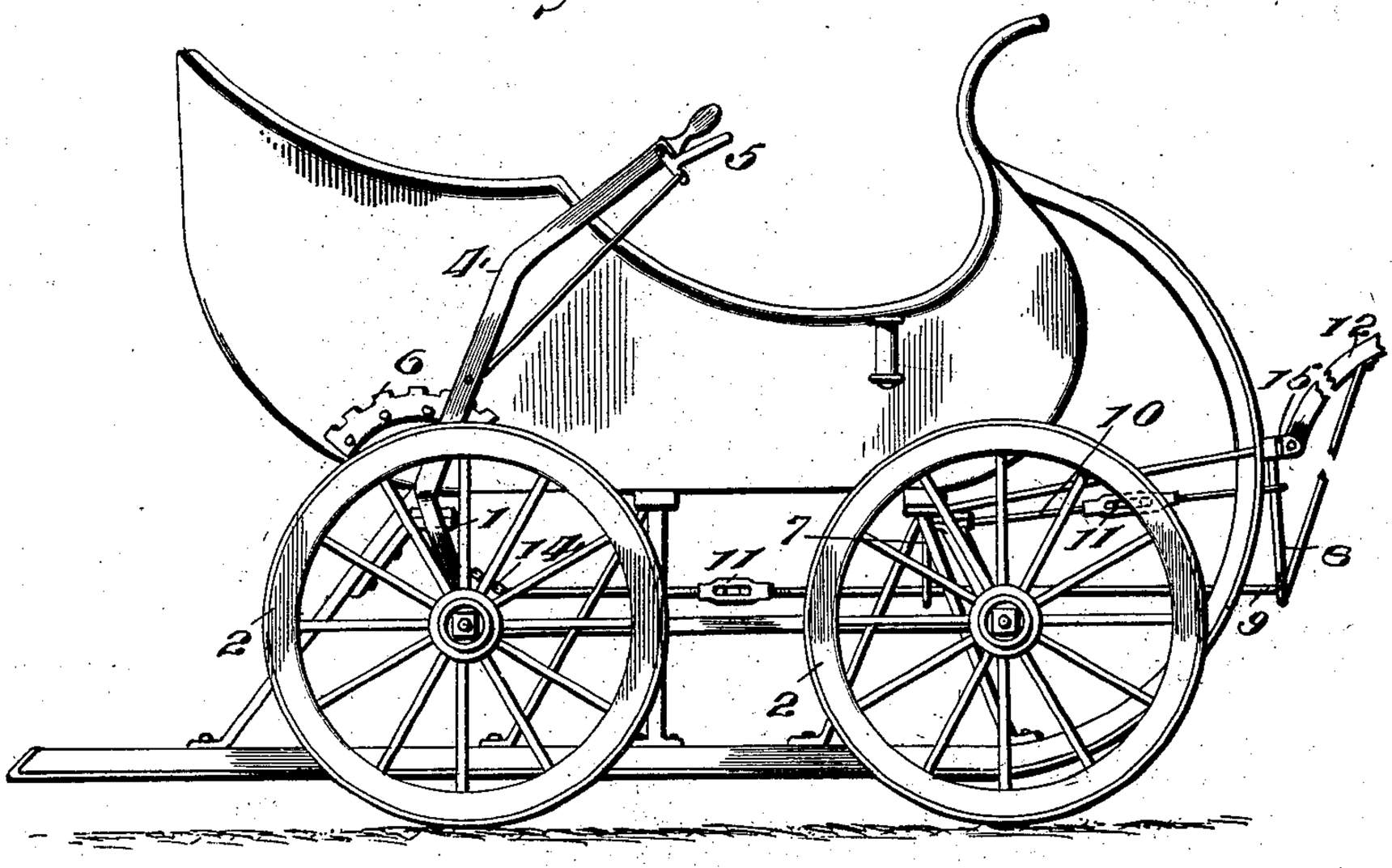
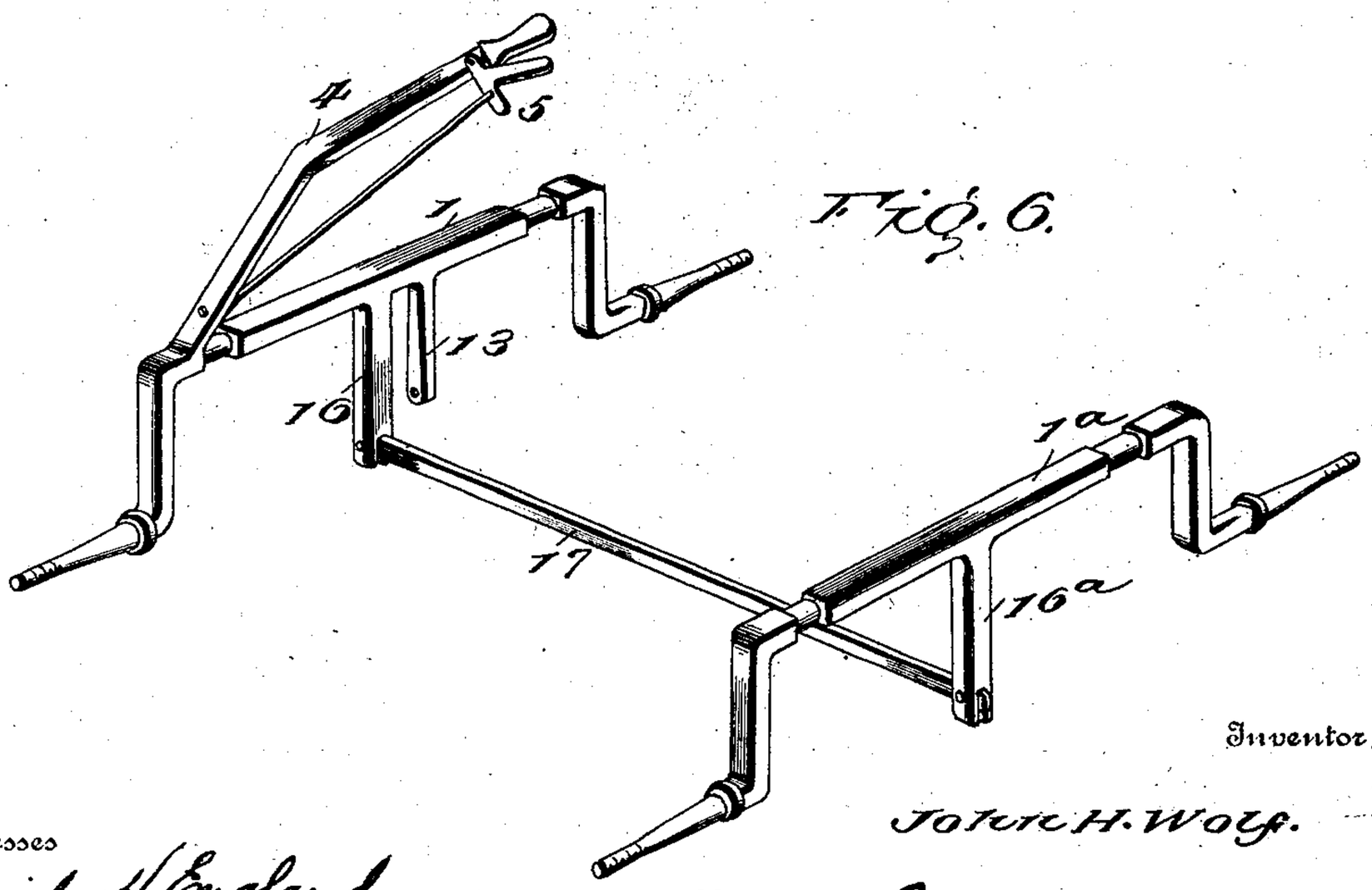


FIG. 6.



Witnesses

Emily H. England.

Geo. Matthews

Inventor.

John H. Wolf.

By, R. S. & A. B. Lacey. Attorneys

No. 750,146. Patented January 19, 1904.

UNITED STATES PATENT OFFICE.

JOHN H. WOLF, OF SUN PRAIRIE, WISCONSIN.

WHEELED SLEIGH.

SPECIFICATION forming part of Letters Patent No. 750,146, dated January 19, 1904.

Application filed June 13, 1903. Serial No. 161,383. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WOLF, a citizen of the United States, residing at Sun Prairie, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Wheeled Sleighs, of which the following is a specification.

This invention relates to sleighs, the purpose being to combine therewith in a novel manner wheels for holding the runners off the ground or road-surface when ice or snow is not present thereon, thereby preventing unnecessary wear of the runners and increasing the draft to no purpose.

An essential feature of the invention is the provision and combination of peculiar connections between the truck and pole or thrills, whereby the sleigh may be lifted from the ground and balanced upon the carrying-wheels, the construction being such as to admit of the supporting-wheels being thrown into or out of action at will without necessitating the driver leaving his seat in the sleigh.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a sleigh embodying the invention, showing the wheels lowered so as to elevate the sleigh from the ground or road surface. Fig. 2 is a detail perspective view of the arched axle, operating-lever, and connections. Fig. 3 is a central longitudinal section of the sleigh, showing the position of the parts when the supporting-wheels of the truck are elevated. Fig. 4 is a transverse section on the line X X of Fig. 3 looking to the rear, as indicated by the arrow. Fig. 5 is a view similar to Fig. 1, showing the invention applied to a sleigh equipped with four wheels. Fig. 6 is a detail perspective view of the front and rear axles and the connecting means between them for effecting simultaneous movement.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The sleigh and adjunctive parts may be of any construction and design and are illustrated to show a practical application of the invention.

The truck coöperating with the sleigh consists, essentially, of the axle 1 and supporting-wheels 2. The axle 1 is of the arched type, and its horizontal portion is journaled in bearings 3, secured to the knees of the sleigh. The supporting-wheels 2 are mounted upon the crank-arms of the arched axle, hence are adapted to be raised and lowered by turning the axle 1 in its bearings 3. An operating-lever 4 is rigidly connected to an end portion of axle 1 and is provided with hand-operated latch 5 for coöperation with notched segment 6, secured to a side of the sleigh-body, so as to hold the axle in the required adjusted position. The lever 4 has its upper end extended within convenient reach of the occupant of the sleigh, so as to be operated therefrom to raise or lower the supporting-wheels without requiring the person to leave his seat in the sleigh.

Hangers 7 and 8 are pendent from the body of the sleigh and are firmly attached at their upper ends thereto and are provided at their lower ends with eyes through which a sectional rod 9 is slidably mounted. The upper ends of the hangers 7 and 8 are forked or branched, so as to brace the same laterally. A tie-rod 10 connects the hangers 7 and 8 at a point between their upper and lower ends, so as to brace them longitudinally. In order to provide for adjustment of the tie-rod 10 and connecting-rod 9, each is composed of sections having their inner end portions threaded and connected by means of a turnbuckle 11 in the well-known manner. The connecting-rod 9 has its front end portion curved upward and secured to the pole or thills 12 and its rear end connected to arm 13 of axle 1 by a chain or analogous connection 14. The arm

13 is rigidly connected to the horizontal portion of the arched axle and is pendent therefrom, so as to occupy a position about in the plane of the crank-arms. When the supporting-wheels are elevated, as shown most clearly in Fig. 3, rod 9 and flexible connection 14 are loose; but when said supporting-wheels are lowered, so as to elevate the sleigh, rod 9 and flexible connection 14 are under tension, as indicated most clearly in Fig. 1, thereby resulting in balancing the sleigh upon the truck. This latter result is attained by having the front end of rod 9 connected to the pole or thills 12 forward of the pivotal connection 15 thereof with the sleigh. When the axle 1 is turned to bring the supporting-wheels in contact with the ground, the end of arm 13 moves downward and rearward and draws upon the connection 9 14 and braces the joint 15, whereby the weight of the front portion of the sleigh is thrown upon the team, the sleigh being held in suspension by means of the truck and the team, as will be readily comprehended. Obviously a four-wheel truck may be used instead of the two-wheel truck illustrated, the connections being the same in every other respect.

Figs. 5 and 6 illustrate the application of the invention to a four-wheel truck, the latter comprising the rear axle 1 and front axle 1ª. An arm 16 is pendent from the horizontal portion of the axle 1 and a corresponding arm 16ª is pendent from the horizontal portion of the axle 1ª, and these arms are connected by a rod or bar 17, whereby rocking movement imparted to the axle 1 by the means hereinbefore stated is transmitted to the axle 1ª through the connections 16, 17, and 16ª.

Having thus described the invention, what is claimed as new is—

1. In combination with a sleigh, a truck comprising an arched axle journaled to the sleigh, an arm pendent from the horizontal portion of the arched axle, a connection joined at one end to the outer end of said pendent arm and secured at its opposite end to the pole or thills in advance of the pivotal connection thereof with the sleigh, and a hanger pendent from the sleigh and deflecting said connection near its front end in the rear of the pivotal connection of the pole or thills with the sleigh, substantially as set forth.

2. In combination with a sleigh, a truck comprising an arched axle journaled to the sleigh, means for raising and lowering the supporting-wheels of the truck by turning the arched axle in its bearings, a hanger pendent from the front portion of the sleigh, a connection slidable in the lower end of said hanger and having its front portion upwardly deflected and secured to the pole or thills in advance of the pivotal connection thereof with the sleigh, and an arm pendent from the arched portion of the axle and having the rear end of said connection attached thereto, substantially as specified.

3. In combination with a sleigh, an arched axle journaled thereto, supporting-wheels applied to the spindle-arms of the axle, an operating-lever projected from the arched portion of the axle to admit of turning same in its bearings, means for securing the lever in an adjusted position, an arm pendent from the arched portion of the axle, hangers pendent from the sleigh, a tie-rod connecting said hangers intermediate of their upper and lower ends, a connection slidable in the lower ends of the hangers and having its front portion upwardly deflected and attached to the pole or thills in advance of the pivotal connection thereof with the sleigh, and a flexible connection between said pendent arm of the arched axle and the aforementioned slidably-mounted connection, substantially as and for the purpose set forth.

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

JOHN H. WOLF. [L. S]

Witnesses:
A. C. HOPPMANN,
HARRY L. REEVS.