(No Model.)

J. T. GURNEY.

SLEIGH.

No. 253,694. Patented Feb. 14, 1882.

Fig. 1.

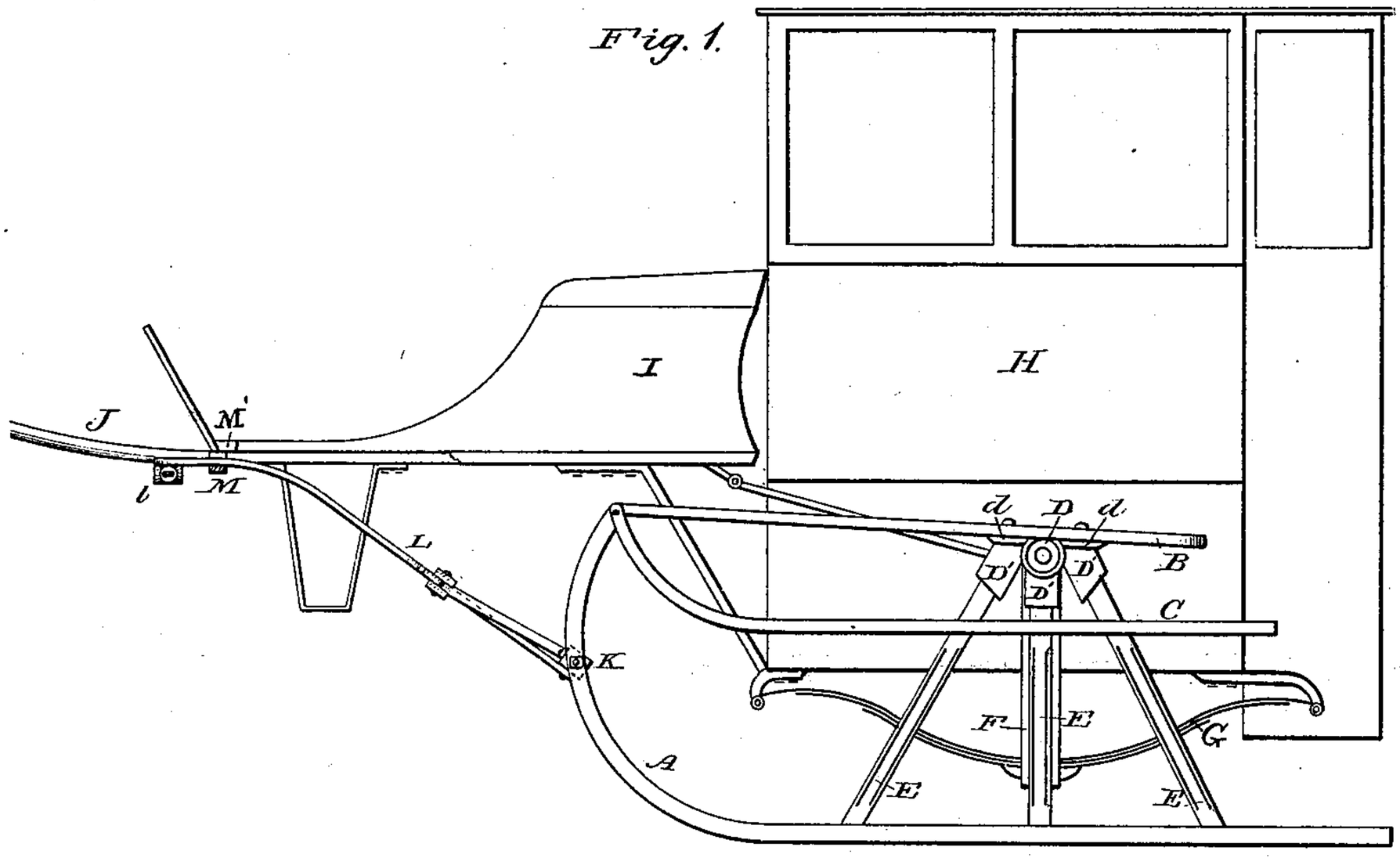


Fig. 2

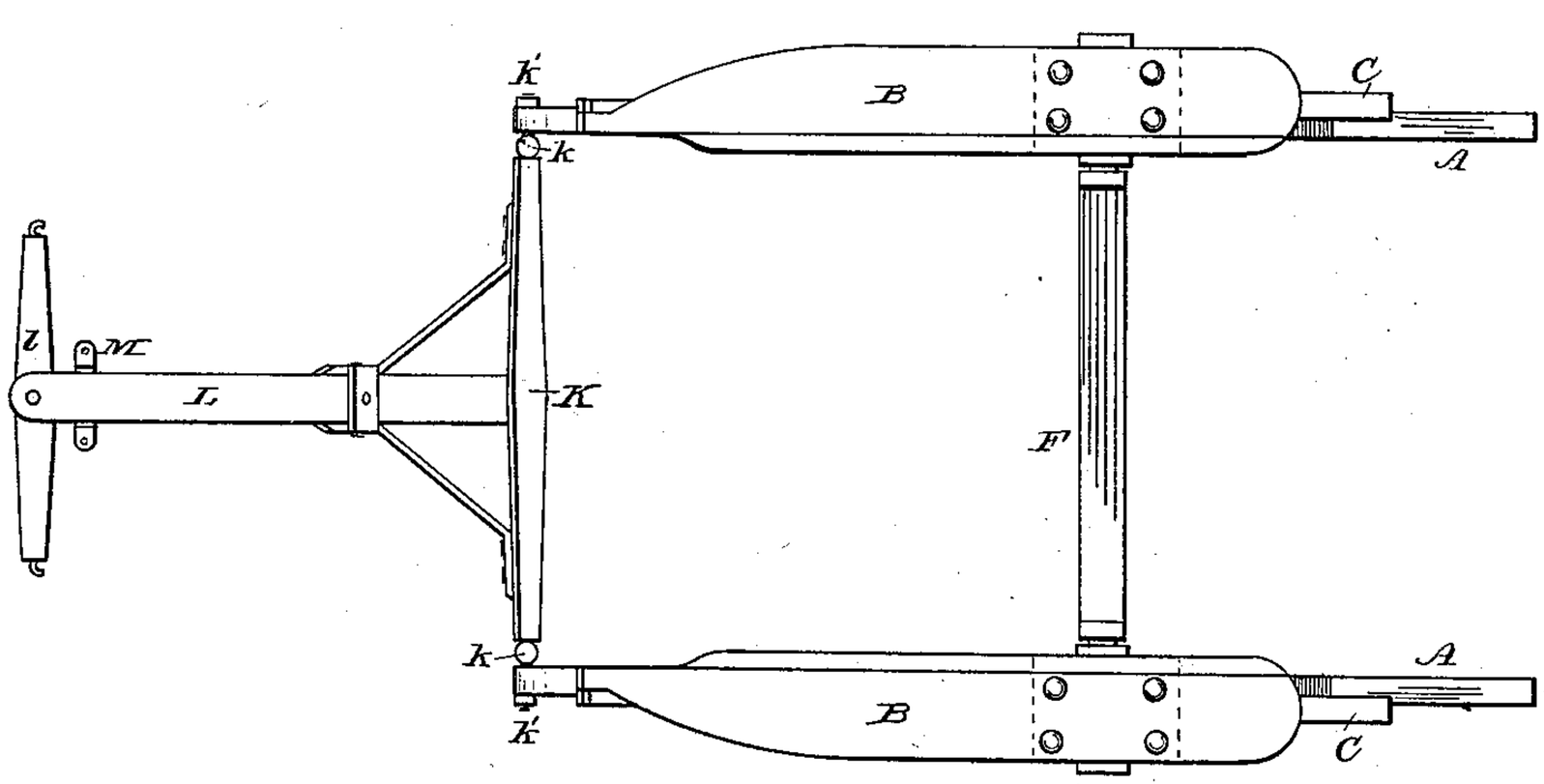
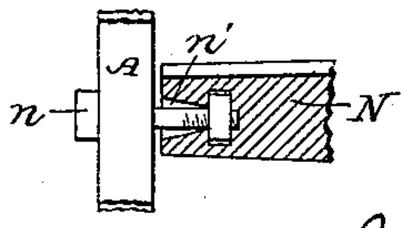


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

J. THEODORE GURNEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO SAMUEL LITTLE, OF SAME PLACE.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 253,694, dated February 14, 1882.

Application filed December 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, J. THEODORE GURNEY, a citizen of the United States of America, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my improvement applied to what is commonly known as a "Herdic." Fig. 2 is a plan view of so much of Fig. 1 as is necessary to illustrate my invention. Fig. 3 is a vertical section of a modified form of one end of the roller.

Similar letters of reference indicate like parts in all the figures.

The portion A of the runner which rests upon the ground, the rave B, and fender C may be of any usual or approved construction.

D D′ is a metallic bearing-piece, of which the part D is substantially cylindrical in form, of a suitable length to receive the end of an axle from which the wheel of the vehicle has been removed, and is expanded near its upper surface to form flanges or ears *d*, provided with bolt-holes, through which pass the bolts that are employed to bolt this bearing-piece to the rave B. The portions D′ are provided with radial sockets adapted to receive the tenons of ordinary spokes E, to the lower ends of which the part A is secured by any usual or approved devices which are commonly employed for that purpose. In order to have the hub part D, the socket portions D′, and the securing-flanges *d* all formed in one piece, and in order at the same time to preserve the continuity of the rave B from end to end, I so shape the part D D′ *d* that it shall all lie entirely below the rave, the latter (when the runner is in place on the vehicle) being situated above the axle and hub. The bearing-pieces which have been heretofore used for receiving the hub, and also the runner-braces, have been formed in two or more parts bolted together, and so arranged as to throw the axle above the rave. By casting this bearing part all in one piece and situating the socket portion D′ relatively to the part D as I have, I am enabled to make a much neater, stronger, and cheaper support than those heretofore employed.

K is a draw-bar or roller connected at each end to one of the runners by means of a flexible connection, which in Figs. 1 and 2 consists of a ball-and-socket joint, *k k′*, the pin *k′* being rigidly attached to the runner, while the socket part *k* is rigidly attached to the roller end.

In Fig. 3 I have shown a modification of this connection, which consists of a joint-bolt, *n*, passing through the part A of the runner and into the end of the roller N, which is provided with an elongated vertical slot, *n′*, said slot being by preference tapering, as indicated, the inner end of the bolt being connected with the roller by a pin passing transversely through an eye in the end of the bolt by a nut seated in a mortise or by other equivalent device.

In the drawings, I have shown a method of mounting a vehicle upon two runners only and connecting each runner with the vehicle-body by a single pivot. The draft devices are rigidly attached to the body part, and when in place in the harness of the horse operate to hold the body firmly in place upon its opposite trunnions or pivots. I have shown also how, with a vehicle thus mounted upon a single runner on each side and rigidly connected to its draft devices, may be combined a flexible draft apparatus connected directly to the front ends of the rollers and to the draft portions of the harness.

H represents the body of a vehicle; J, the thills or tongue, and I the thill-frame and seat, the latter connecting the thills or tongue rigidly to the body H. The body H is mounted upon the runners, there being only one runner upon each side hinged to the body of the carriage by the end of the axle in the socket D, these axle ends operating as trunnions or hinges. The points of the pivotal connection between the runners and the body are at the center, or preferably a little in the rear of the center, of the body H, and considerably in rear

of the centers of the runners. The rigid connection of the thill-frame or tongue-frame prevents too great a swinging of the body upon the runners in either direction, and the hinge of the runners when situated substantially as shown gives great ease and freedom of movement of the runners relatively to the body.

The runners are connected to the harness by the following devices:

L is a supplemental tongue attached to the roller or draw-bar, and carrying at its forward end a whiffletree, *l*. The front end of this supplemental tongue is suspended below the shafts of the vehicle, (shown in a loop or strap, M,) which is secured to the transverse bar M′, the loop being of such size and placed in such position relative to the whiffletree *l* as to permit the tongue to slide backward and forward through the loop a short distance, for a purpose which will soon be explained; or, when preferred, the front end of the supplemental tongue may be suspended by means of a vibrating link or links. But I prefer the method shown, and when a pole is used for the purpose of attaching two horses to the vehicle the supplemental tongue L may be hung from the hounds or other suitable and convenient part of the running-gear. When preferred, however, an ordinary wagon-hub or such part thereof as is necessary may be employed instead of the metal bearing D D′, and yet retain some of the features of my invention.

Although I have shown in the drawings and described above a special construction of vehicle, and have pointed out the advantages of that construction when mounted in the manner described, yet it will be seen that some of the features of my invention can be readily applied to vehicles of other forms.

While I prefer to connect the roller K to the runners at about the point indicated, yet it is apparent that it might be attached at some point above or below, or it might be attached to the rave, or at the junction of the rave and the runner, without departing from the spirit of my invention; and instead of connecting these parts by means of bolts or pins fastened through the runners, such bolts or pins might be connected with the runners by means of eyes or clips. Hence I do not wish to be limited to the precise construction shown.

What I claim is—

1. The combination of the body H, the thills J, and thill-frame, which are rigidly attached to said body, the runners connected to the body by a single pivot situated behind the centers of the runners, and devices, substantially as described, which connect the front ends of the runners together and to the thill-frame.

2. The combination of the runners, the tongue L, hinged to the runners and adapted to have the draft applied thereto, the body H, connected to the runners by a single pivot on each side, the thills J, and the thill-frame, arranged, substantially as described, to prevent the body from swinging forward when the thills are connected to the harness.

3. The combination of the body H, the thills J, connected to the body independently of the runners, the supplemental tongue L, and whiffletree *l*, connected to the shaft-frame loosely, whereby said tongue and whiffletree can slide forward and back independently of the thills, substantially as set forth.

4. The combination of the body H, the runners mounted upon pivots or trunnions, whereby they can rock independently of the body, the thills and thill-frame connected with the body independently of the runners, the draw-bar K, connected at its ends with the runners by universal joints, and the supplemental tongue L, and whiffletree *l*, supported loosely upon the thills and thill-frame, as and for the purposes set forth.

5. The herein-described metallic connecting and supporting piece for a hub-runner, consisting of the flanges *d* at the upper side, the cylindrical bearing-piece D below said flanges, and the sockets D′ D′, all cast in one piece of metal.

6. The combination, with the spokes or braces E E, the runner A, and the rave B, of the metallic connecting and supporting part D D′ *d*, situated at the upper end of said braces or spokes E and arranged to support the rave B above the axle, and the bar D therefor, substantially as set forth.

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

J. THEODORE GURNEY.

Witnesses:
JOHN BROOKS,
HENRY H. PAGE.