

SLEIGH.

917,431.

2 SHEETS—SHEET i.

[illegible]

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SLEIGH.

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917,431.

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2 SHEETS—SHEET 2.

Fig. 3.

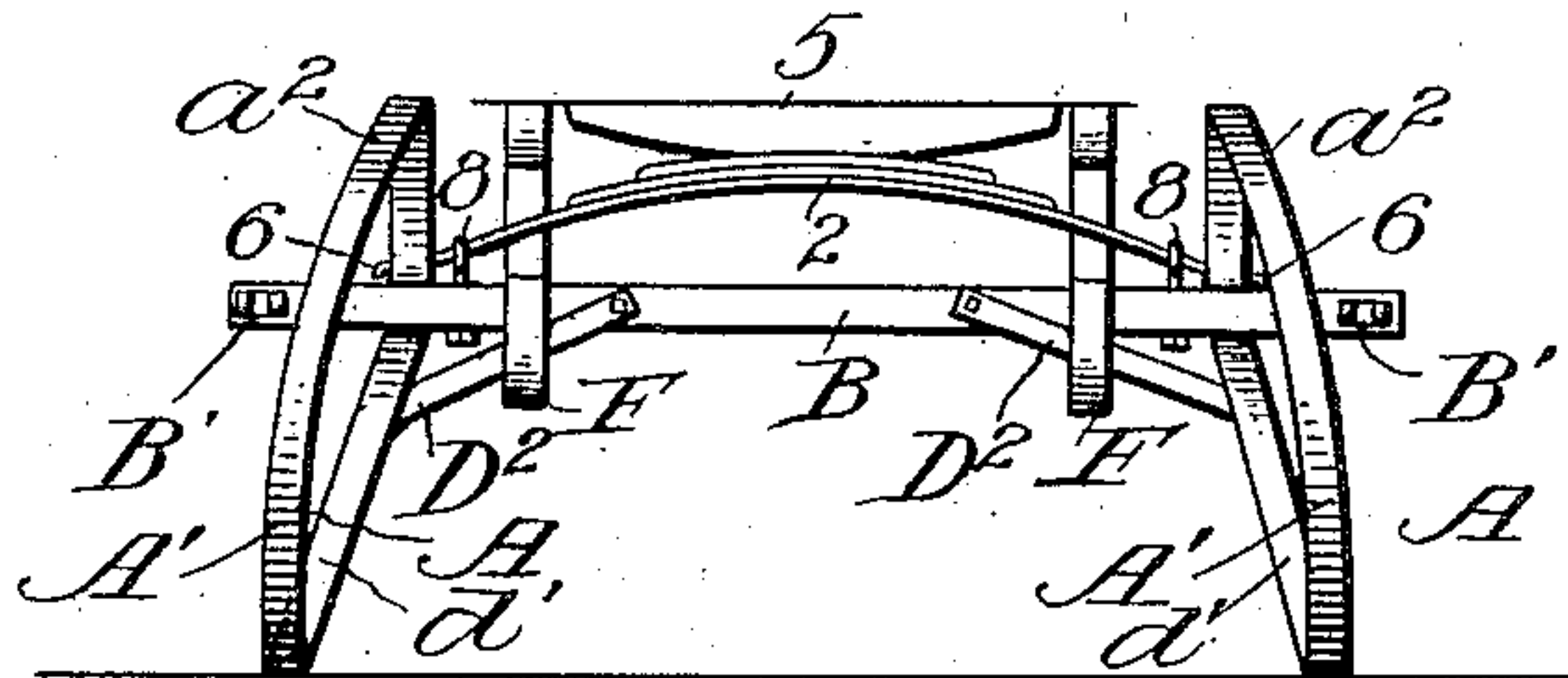


Fig. 4.

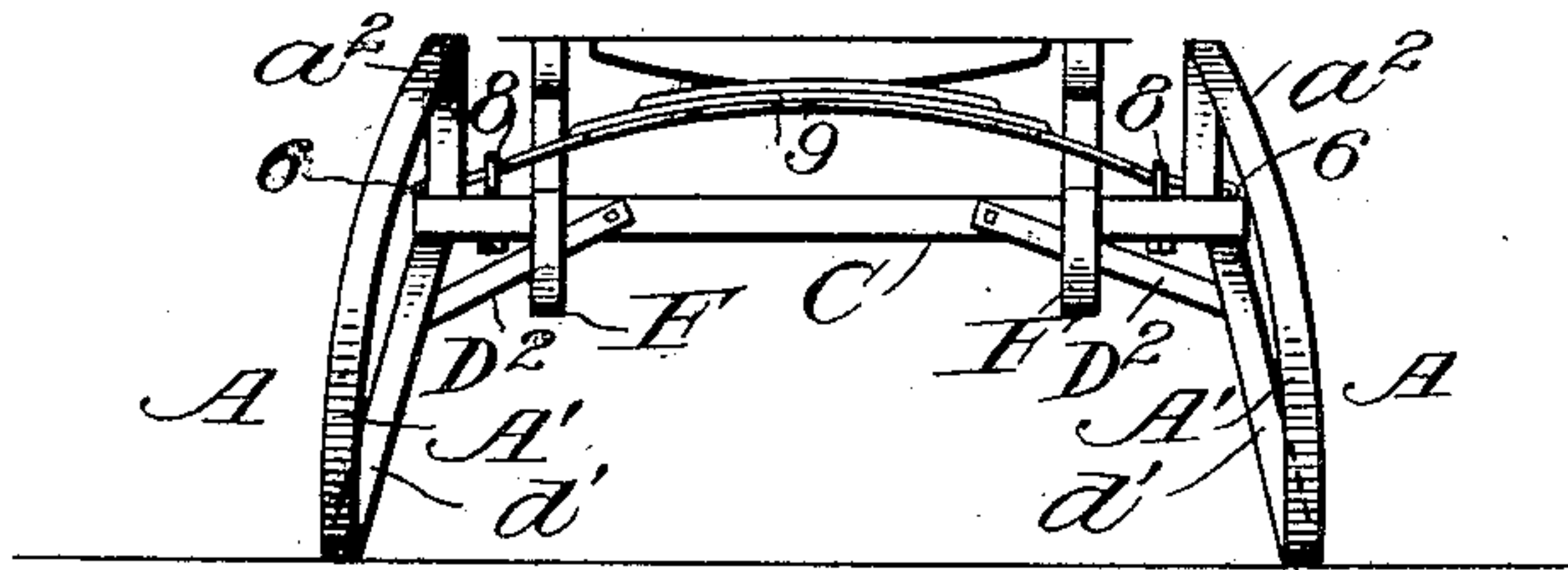
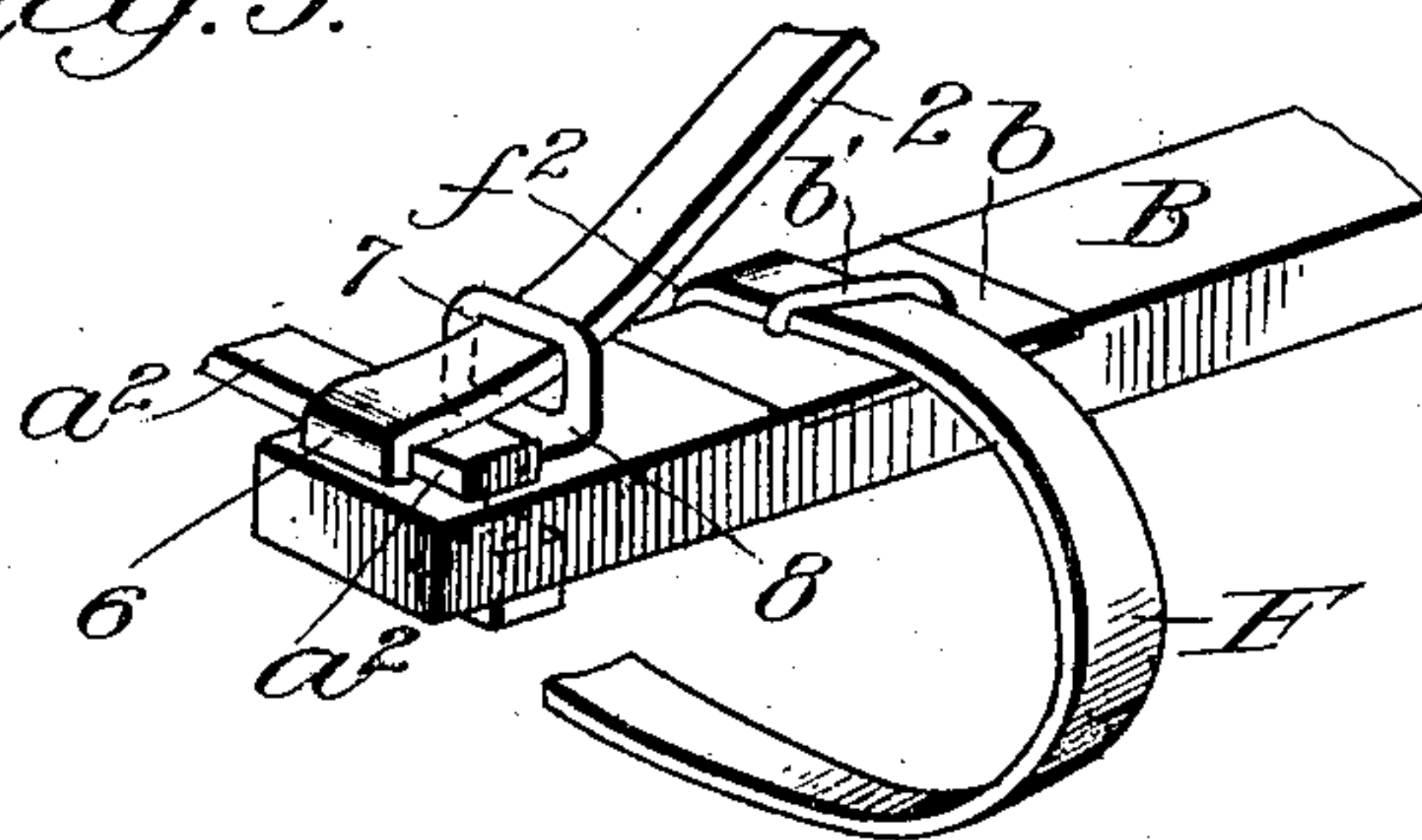


Fig. 5.



Witnesses

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SLEIGH.

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To all whom it may concern:

Be it known that I, JOHN EDWARD HOBBS, a citizen of the United States, residing at North Berwick, in the county of York and State of Maine, have invented new and useful Improvements in Sleighs, of which the following is a specification.

This invention relates to running gears for sleighs, pungs or wheel-vehicles.

One object is to provide a structure wherein the parts thereof may be quickly assembled and readily disassembled, the improvements be equally applicable to all types of vehicles.

Another object resides in the provision of a unitary frame-work independent of the vehicle body to which it may be attached, and including as a characteristic feature, springs having connection at their ends with the frame work and in the rear of their centers with the body of the vehicle.

A still further object of the invention is to provide a structure wherein a pair of springs may have yieldable connection with the elements of the frame work while another pair of springs may have yieldable and slidable connection with elements of the frame work.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts herein-after more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings: Figure 1 is a side elevation of a structure embodying my invention; Fig. 2 is a plan view of a running gear for sleighs. Fig. 3 is a front elevation; Fig. 4 is a rear elevation; Fig. 5 is a detail perspective view illustrating one of the cross-bars and the connection therewith of one spring of each pair thereof. Fig. 6 is a front elevation of one of the end springs mounted upon one of the cross-bars, the dotted lines showing the position of the parts when depressed.

Referring now more particularly to the accompanying drawings, A, A indicate counterpart runners, which are connected at their front extremities by the cross-bar B and at their rear extremities to the cross-bar

C. Each runner includes a wooden base-bar A', whose opposite ends a' are curved upwardly, as clearly shown in Fig. 1. Each base bar A' is provided with a shoe A², of iron or steel, the extremities a^2 of which project beyond the curved ends a' of the base-bar and are respectively secured to the cross-bars B, C. These cross-bars B and C are rigidly secured to the base-bars A' and the trusses D, which latter are fixed at their crowns d to said cross-bars and provided with downwardly divergent limbs d' , fixed upon said base-bars. Each truss D is braced by standards D², the feet d^2 of which are fixed upon the respective base-bars A' intermediate of the limbs d' of the trusses. The standards are secured to the limbs d' of the trusses at d^3 intermediate of their height and extend laterally beneath the respective cross-bars B and C, to which latter they are secured at d^4 . The proximal limbs d' of the trusses D upon the respective cross-bars A' are connected by respective tie-bars E, which are secured to said limbs d' at d^3 , and said tie-bars E are connected with the said base-bars intermediate their ends by means of the brackets e .

The pair of springs F, which are arranged longitudinally of the body I, and which connect the cross-bars B and C parallel with the base bars A', preferably comprise four or more leaves arched, as shown in Fig. 1, the lowermost of the respective leaves f of said springs F being extended beneath the respective cross-bars B and C and upturned and recurved, so as to overhang said cross-bars. The overhanging ends of said springs F are mounted upon bearing plates b and c upon the respective cross-bars B and C, to which they are secured by the clip bolts b' , which preferably extend across the ends of the springs diagonally, as best shown in Fig. 5, so as to distribute the strain upon each spring and to lessen the possibility of splitting the bars. The downwardly turned ends f^2 of said springs F engage the inner edges of said cross-bars B and C, as clearly shown in the drawings and prevent longitudinal displacement of the springs. The cross-bar C terminates laterally slightly beyond the outer faces of the opposed runners A; but in one form of the invention, the ends of the front cross-bar B project laterally beyond the runners A to a greater extent than the slightly projecting ends of the cross bar C, and are provided with couplings B' to engage the thills H, so that

the said bar B constitutes the draft-bar of the structure above described, which is so constructed and arranged as to be self-supporting independently of any vehicle body. If preferred, however, both cross-bars B and C may terminate slightly beyond the outer faces of the opposed runners; that is, about one inch therebeyond or sufficiently far as to give the fastening bolts a firm hold on the cross-bars. In such an event, a draft-bar not shown could be provided to extend across the nose of the runner and be connected up with the front cross-bar B in any suitable manner.

From the foregoing it will be understood that, while I illustrate a sleigh in the accompanying drawings, and disclose my improved gear as applied thereto, that I intend to cover my invention in the appended claims in such manner as to include the use or application of the gear to, pungs, wheel-vehicles and the like. It will be seen that I illustrate a double-seated body and that the bottom thereof is of the "drop bottom" variety. At any rate regardless of the nature of the body and whether it be of the single or double seat variety, the body is located upon the side springs about where it will evenly balance with two persons on one or upon each seat; that is, the body is preferably mounted upon the side springs in the rear of the centers of the latter, thereby cushioning or distributing the strain incident to pressure exerted upon the body. It will also be seen that the front seat of the body is higher than the rear seat thereof, thereby providing space for the interposition of a cross-spring 2 between the bar B and the flat part 3 of the floor immediately in the rear of the bent up portion or dash board of the vehicle. I might state that in the case of a pung body, where the load is usually distributed over the bottom of the body, the bearing may, if desired, if not preferably be disposed in the center of the springs.

The cross-spring 2 is preferably composed of two or more leaves and has its crown secured to the bottom of the body in any suitable manner, there being, of course, a yoke 5 between the crown and the body. It might be remarked that a single leaf may be preferred under certain conditions. Each end of this spring 2 or the lowermost leaf of a series of them, is bent to form a lip 6 designed to lie normally in engagement with the outer edge of the projecting portion a^2 of the shoe A^2 of the respective runners, upon which latter the body portion of said spring rests at its opposite ends, as clearly shown in the drawings. In order to insure the ends of said spring 2 to rest upon the upper faces of said projecting portions a^2 of said shoes, the ends of the spring are passed through the eyes 7 of the clips or bolts 8, which pass through the front cross-bar B upon the inner side of the projecting portions a^2 . These

clips or eye bolts 8 are similar to the bolts or clips b' which hold the side springs on the aforesaid cross-bars B and C. It is evident that if these elements 8 are drawn tight upon the ends of the end springs, the possibility of rattling is obviated, and also, that the ends of said springs will be forced outwardly upon downward movement of the body I, due to pressure, and that said elements 8 will prevent the body from moving sidewise or bounding upwardly to any appreciable extent when the body is relieved from pressure.

Coöperating with the aforesaid side and end springs, is another end spring 9 mounted upon the rear cross-bar C in precisely the same manner as is the front cross or end spring mounted upon the front cross-bar B, with its crown portion secured in a manner similar to the securing of the crown portion of the front end or cross-spring to the body I. The only difference in the two springs at the ends of the body resides in their location, one being secured to the front of the body, as explained, and the other being secured to the rear of the body immediately beneath the overhanging rear seat.

The structure above described is so arranged that the weight of the body I and its contents is distributed by the springs F to the cross-bars B and C in such a manner as to tend to separate said cross-bars in the direction of the length of the runners and said runners are braced against the strain placed upon them by the trusses D having their limbs fixed to the base-bars A' . The tie-bars E also serve to brace the trusses D against displacement in the direction of the strain placed upon them by said springs and tend to stiffen the base-bars A' . However, regardless of any particular structure or frame work, I wish it understood that my invention, in this instance, resides in the co-operation of the end pair of springs or one of them with the pair of side springs; and also, in the securing of the side springs in the rear of their centers. By virtue of the downwardly directed or overhanging ends f^2 of the side springs F the latter are not disengaged or movable upon the bars B and C incident to a downward pressure upon the body and springs, although under a downward pressure the ends of the end springs 2 and 9 slide in the aforesaid eyes or clips of the bolts 8. The result is that the maximum strength of the runners is had without interference with the light and graceful appearance of the latter. Moreover, although the base-bars A' , braced and connected as above described, form a very rigid and substantial base for the vehicle, the superimposed springs and parts connected therewith are so arranged as to afford the maximum resiliency of connection between the vehicle-body and base-bars, insuring comfort to occupants of the vehicle. Furthermore, since the bearing of the present

gear on the floor or ground is only about four feet four inches in direct contradistinction to a six or twelve inch longer bearing, as is common upon a single seated sleigh, and has its bearing in the rear of the center thereof, the sleigh rides easier and turns more evenly and readily than if constructed otherwise.

Obviously, the present arrangement is applicable to a single seated sleigh, and if desired, in this latter application of the invention, one of the transverse or cross springs at one end of the body may be dispensed with. Jarring incident to passing over cradle-holes in the roadway is obviated.

15 What is claimed is:

1. In a vehicle, the combination with surface engaging members; of a body mounted above the members; cross bars superimposed between said members and body; a spring disposed at each end of the body and having slidable connection with the corresponding cross bar; and a spring arranged longitudinally of the body and having its ends engaged with the inner faces of the bars.

25 2. In a vehicle, the combination with surface engaging members; of a body mounted above said members, cross bars superimposed between the members and body; a spring secured to each end of the body and having slidable connection with the respective cross bars; and a spring connected to the body upon each side thereof, each of the side springs connecting said cross bars, the ends of the side springs overlapping the bars with their extremities directed downwardly against the inner face of the bars.

3. In a vehicle, the combination with surface engaging members; of a body mounted above the said members; cross-bars superimposed between the said members and body; springs connecting the cross-bars; and a spring disposed at each end of the body and having slidable connection with the corresponding cross-bar.

45 4. In a vehicle, the combination with surface engaging members; of a body mounted above said members; cross-bars superimposed between the members and body; springs connecting the cross-bars and body; and a spring having connection with the body at the one end thereof and mounted for sliding movement upon the ends of one of the cross-bars.

5. In a vehicle, the combination with surface engaging members; of a body mounted above said members, cross bars superimposed between the members and body; a spring secured to each end of the body and having connection with the respective cross bars; and a spring connected to the body upon each side thereof, the ends of the side springs overlapping the cross bars with their extremities directed downwardly against the inner faces of the latter.

65 6. In a vehicle, the combination with sur-

face engaging members; of a body disposed above the said members; cross-bars superimposed between the members and body; springs connecting the cross-bars and having connection in the rear of their centers with the said body; and springs having connection with the ends of the body and the respective cross-bars.

7. In a vehicle, the combination with surface engaging members; of a body disposed above said members; cross-bars arranged between the members and body; springs connecting the cross-bars and having connection upon one side of their centers with the body; and a spring arranged at each end of the body and connected therewith, the ends of the last named springs having slidable connection with the respective cross-bars.

8. In a vehicle, the combination with surface engaging members; of a body disposed above said members; cross-bars between the said members and body; a spring arranged upon each side of the body and having connection therewith upon one side of its center, each of said springs having its ends in engagement with the respective cross-bars; a spring connected to the body at each end thereof directly over the corresponding cross-bar; and a connection between the cross-bars and the opposite ends of the corresponding springs whereby the end springs may have sliding movement upon the cross-bars longitudinally thereof.

9. In a vehicle, the combination with surface engaging members, of a body, cross bars disposed between the said members and body, springs connected upon the rear side of their centers to the body and engaging the cross bars; and springs secured one at each end of the body and having movable connection with the corresponding cross bar.

10. In a vehicle, the combination with surface engaging members; of a body mounted above the members; cross bars between the body and members, a spring secured to each end of the body; a spring secured to each side of the body, the ends of the latter springs embracing the bars and terminating adjacent the inner faces of the bars.

11. In a vehicle, the combination with surface engaging members including shoes; of a body mounted above the members; cross bars between the body and members; a spring secured to each end of the body with its free ends slidably mounted upon the corresponding cross bar; other springs connected to said body with their ends overhanging the cross bars, the free ends of the first mentioned springs being directed downwardly for engagement with the free ends of the shoes of the surface engaging members to limit the inward sliding movement of the former.

12. In a vehicle, the combination with surface engaging members; of a body; cross

bars arranged beneath the body; springs connecting the cross-bars and having connection with the body upon one side of their centers; and a spring arranged at one end of the body
5 and having connection with the corresponding cross-bar.

13. In a vehicle, the combination with surface engaging members; of a body; cross bars disposed beneath the body; yieldable
10 elements connecting the cross bars; and

yieldable elements mounted upon each cross-bar, each of the latter elements having its ends slidable upon the respective cross-bar.

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

JOHN EDWARD HOBBS.

Witnesses:

THEODORE GOULD,
FRED W. PEAKES.