

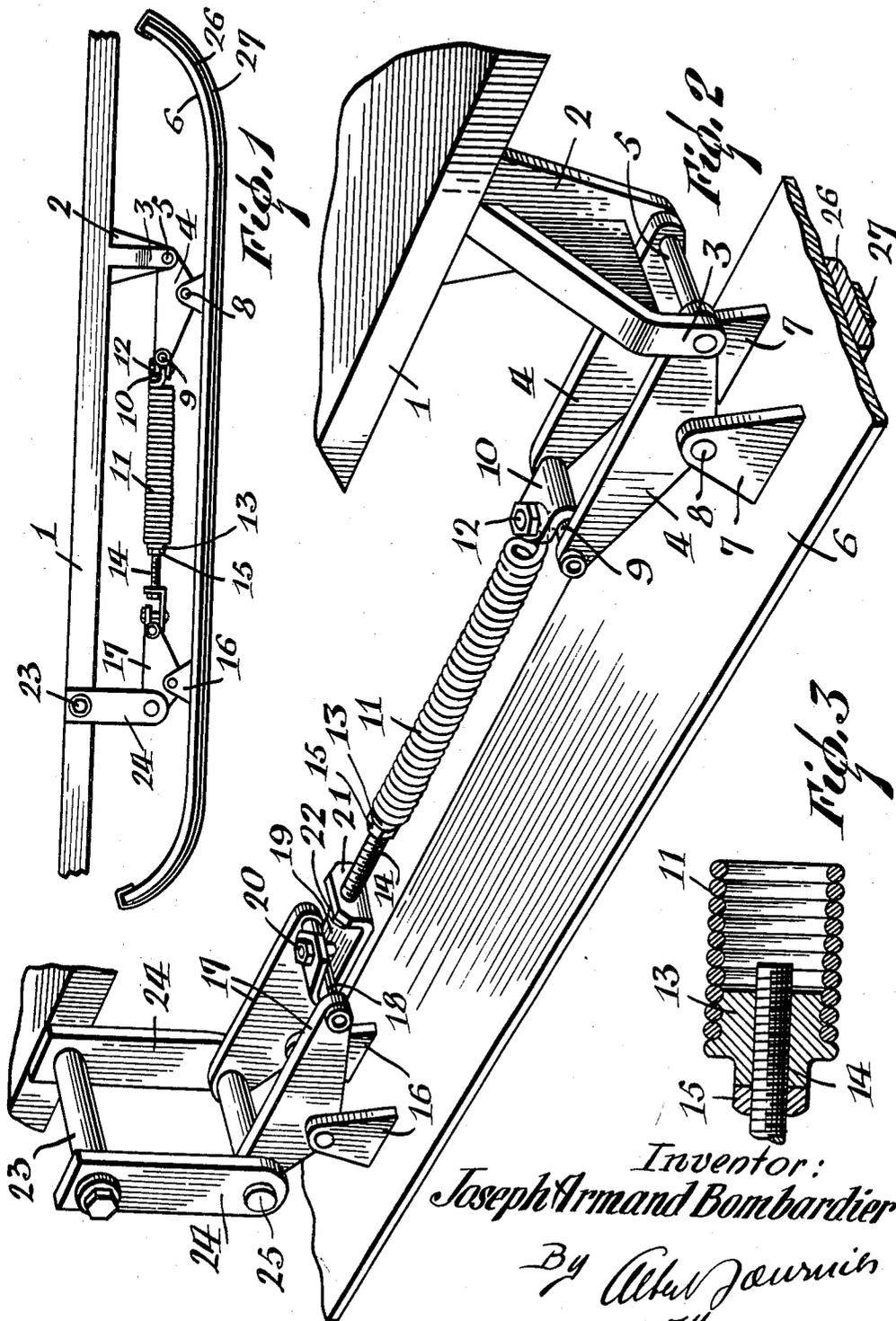
March 7, 1944.

J. A. BOMBARDIER

2,343,526

SKI SUSPENSION

Filed July 10, 1943



Inventor:
Joseph Armand Bombardier

By *Albert Journein*
Attorney

UNITED STATES PATENT OFFICE

2,343,526

SKI SUSPENSION

Joseph Armand Bombardier, Valcourt,
Quebec, Canada

Application July 10, 1943, Serial No. 494,145

6 Claims. (Cl. 280—25)

The present invention pertains to a novel ski suspension for snow vehicle bodies, such as motor sleds, trailers and the like.

The principal object is to provide a spring suspension in such a structure. Another object is to provide a smooth running, durable and inexpensive device of this character and one that is easily assembled and repaired.

These objects are accomplished by a leverage and spring system between each ski and the vehicle body. Briefly, a pair of lever arms are intermediately fulcrumed near the ends of the ski and joined by a spring connecting their inner ends. Their outer ends are suspended from the vehicle body, one by a rigid bracket and the other by a pivoted shackle. Displacement of the ski at either or both ends, or a load on the vehicle, causes movement of the levers relatively to the ski and hence tension in the spring.

The invention is fully disclosed by way of example in the following description and in the accompanying drawing in which:

Figure 1 is a side elevation of the device;

Figure 2 is a perspective view, and

Figure 3 is a detail section.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figures 1 and 2 is shown the floor, platform or other structural member 1 of a vehicle intended to run on skis such as a trailer, for example. The skis and their suspensions are provided in any given number at the desired locations.

For each such suspension there is provided a bracket 2 secured to and suspended from the member 1. Its lower end is forked at 3 to receive a pair of lever arms 4 pivotally held at one end by a shaft or pin 5. Beneath the bracket 2 lies a ski runner 6, on which are mounted two ears 7 to which the levers 4 are fulcrumed at 8. The remaining ends of the levers carry a pin 9 on which is mounted a U-shaped clip 10.

To this clip is attached one end of a coil spring 11 by means of a bolt and nut, or equivalent device 12. In the other end of the spring is fitted a plug 13, and into the plug is threaded a screw 14 locked by a nut 15.

The rearward portion of the runner 6 carries a pair of lugs 16 similar to the lugs 7. On these lugs are fulcrumed a pair of lever arms 17 similar to the members 4. The forward ends of the arms support a pin 18 to which is fastened one end of a clip 19 by a bolt 20. The other end of the clip is in the nature of an upturned flange

21 in which the rear end of the screw 14 is received and held by a nut 22.

Above the levers 17, a shackle is suspended from the member 1. It consists of a horizontal rod 23 fastened to the member 1 and having a pair of links 24 suspended therefrom. The lower ends of the links receive between them the rear ends of the levers 17, to which they are attached by a shaft or pin 25.

The ski 6 may be provided at its lower surface with a runner consisting of a longitudinal strip 26 and beneath it a metal strip 27, both secured to said surface in any suitable manner.

In the operation of the device, a displacement of the ski 6 relatively to the body member 1 results in a pivotal movement of the levers 4 and 17 and hence in expansion of the spring 11, accompanied by a pivotal movement of the links 24 on the pin 23. This action occurs whether the displacement is at either end or both ends. A load on the vehicle or a shock on the ski effects such displacement. Thus, the weight of the vehicle is sprung by the spring 11 at each of the runners.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim as my invention is:

1. In combination with a vehicle body, a runner beneath said body, a pair of levers having an intermediate pivotal point attached to said runner and spaced lengthwise of the runner, a spring joining the inner ends of said levers, and means pivotally connecting the outer ends of said levers to said body.

2. In combination with a vehicle body, a runner beneath said body, a pair of levers having an intermediate pivotal point attached to said runner and spaced lengthwise of the runner, a spring joining the inner ends of said levers, members suspended from said from said body, the outer ends of said levers being connected to said members.

3. In combination with a vehicle body, a runner beneath said body, a pair of levers having an intermediate pivotal point attached to said runner and spaced lengthwise of the runner, a spring joining the inner ends of said levers, a bracket suspended from said body, a shackle pivotally suspended from said body, the outer ends of said levers being pivotally attached respectively to said bracket and shackle.

4. In combination with a vehicle body, a runner beneath said body, a pair of lugs mounted on said runner and spaced lengthwise thereof, a pair of levers having an intermediate point attached to said lugs, a spring joining the inner ends of said levers, and means pivotally connecting the outer ends of said levers to said body.

5. In combination with a vehicle body, a runner beneath said body, a pair of transversely spaced levers pivotally mounted near each end of said runner and having an intermediate fulcrum, a pin passed through the inner ends of each pair, a spring joining said pins and lying lengthwise of said runner, and means pivotally

connecting the outer ends of said levers to said body.

6. In combination with a vehicle body, a runner beneath said body, a pair of transversely spaced levers pivotally mounted near each end of said runner and having an intermediate fulcrum, a pin passed through the inner ends of each pair, a spring joining said pins and lying lengthwise of said runner, a bracket suspended from said body, a shackle pivotally suspended from said body, the outer ends of said levers being pivotally attached respectively to said bracket and shackle.

JOSEPH ARMAND BOMBARDIER.