

J. LICHTENSTEIN.
SLEDGE,
APPLICATION FILED NOV. 3, 1908.

966,454.

Patented Aug. 9, 1910.

Fig. 1

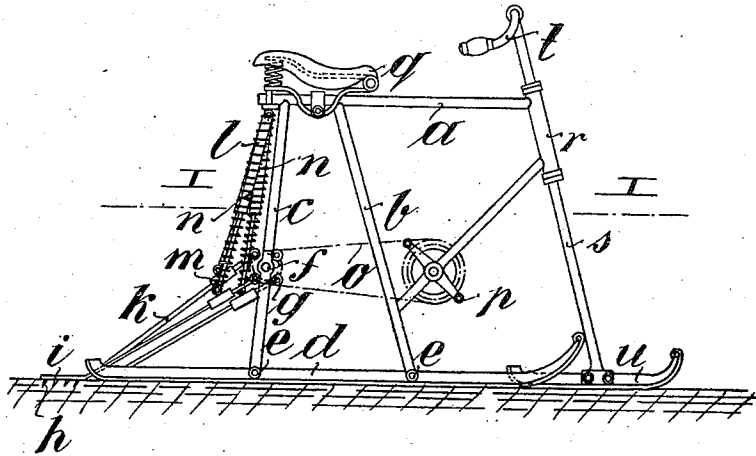


Fig. 2

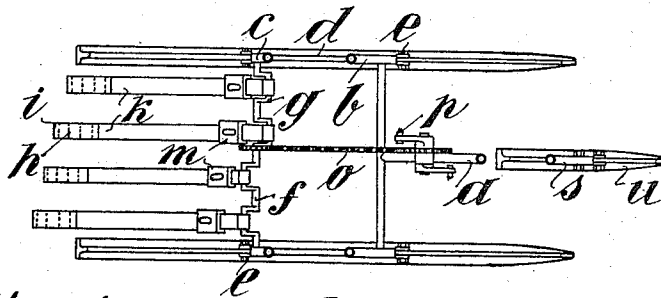


Fig. 4.

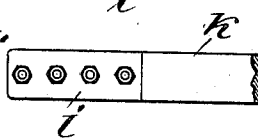
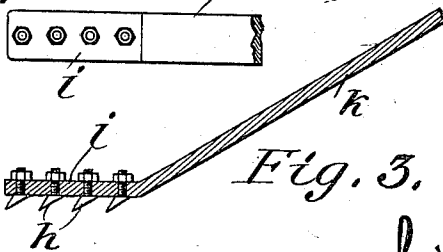


Fig. 3.



Witnesses
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JULIUS LICHTENSTEIN, OF LEIPZIG, GERMANY.

SLEDGE.

966,454.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed November 3, 1908. Serial No. 460,960.

To all whom it may concern:

Be it known that I, JULIUS LICHTENSTEIN, a subject of the German Emperor, and resident of 38 Scharnhorststrasse, Leipzig, Germany, have invented certain new and useful Improvements in and Relating to Sledges, of which the following is a specification.

The object of my present invention relates to a sledge and its new feature consists therein that the same is provided with a driving mechanism by means of which the sledge can be driven by the person carried by the same without using any other power as *e. g.* horses, human beings, or the like. This arrangement of course considerably increases the effect of the sledge.

In the accompanying drawing in which I have illustrated the nature of my said invention like letters of reference refer to like parts throughout the different views.

In said drawings, Figure 1 shows a side view of my improved sledge, and Fig. 2 shows a section according to line I—I of Fig. 1. Figs. 3 and 4 show details of Fig. 1.

The outer appearance of the sledge resembles a bicycle and it consists of a frame *a* the rear part of which preferably provides two pairs of supporting rods *b* and *c* to which the sledge runners are fastened by means of screws. The supporting bars *c* provide a bearing for a shaft *g* having several oppositely directed cranks *f*. Pivottally fastened to said cranks *f* are levers *k* serving to drive the sledge by means of their projections *i* being provided on their lower surface with pointed exchangeable teeth *h* or the like and having the form of shoes. These levers *k* are continually pressed down upon the bottom by means of spiral springs *l* which are at one end connected to the frame *a* and at the other end to the slid-

ing pieces *m* of the levers *k*. Inside the spiral springs I preferably arrange telescopically working rods *n* in order to attain an even working of said springs. The driving of the shaft *g* is effected by means of the chain wheel transmission *o* which is caused to rotate by means of pedals *p*. Mounted upon the upper cross bar of the frame *a* is an adjustable saddle *q*.

The steering of the sledge is effected by turning the rod *s* mounted in a vertical bearing of the front part of the frame and carrying the steering bar *t* on its upper end. At its lower end said rod *s* is connected to a bar *u* having the shape of a sledge runner.

In the present construction the frame is constructed for gentleman drivers but it can just as well be constructed for lady drivers.

What I claim as new and desire to secure by a United States Letters Patent, is:—

In a bicycle like driven sledge the combination of a crank shaft mounted in bearings of the frame, several levers pivottally fastened to said cranks, sliding pieces freely sliding on said levers, telescopically mounted tubes connecting said sliding pieces to the upper part of the frame, spiral springs surrounding said tubes adapted to continually press said levers against the floor, shoe like projections on said levers, located at their lower free ends, and detachable teeth fastened to the lower surface of said projections, substantially as described and for the purpose set forth.

In testimony whereof I have hereunto signed my name this 20th day of October, 1908, in the presence of two subscribing witnesses.

JULIUS LICHTENSTEIN.

Witnesses:

MAX TSCHARUHE,
RUDOLPH FRICKE.