

(No Model.)

J. W. RUSSELL.

SLED.

No. 251,468.

Patented Dec. 27, 1881.

Fig. 1.

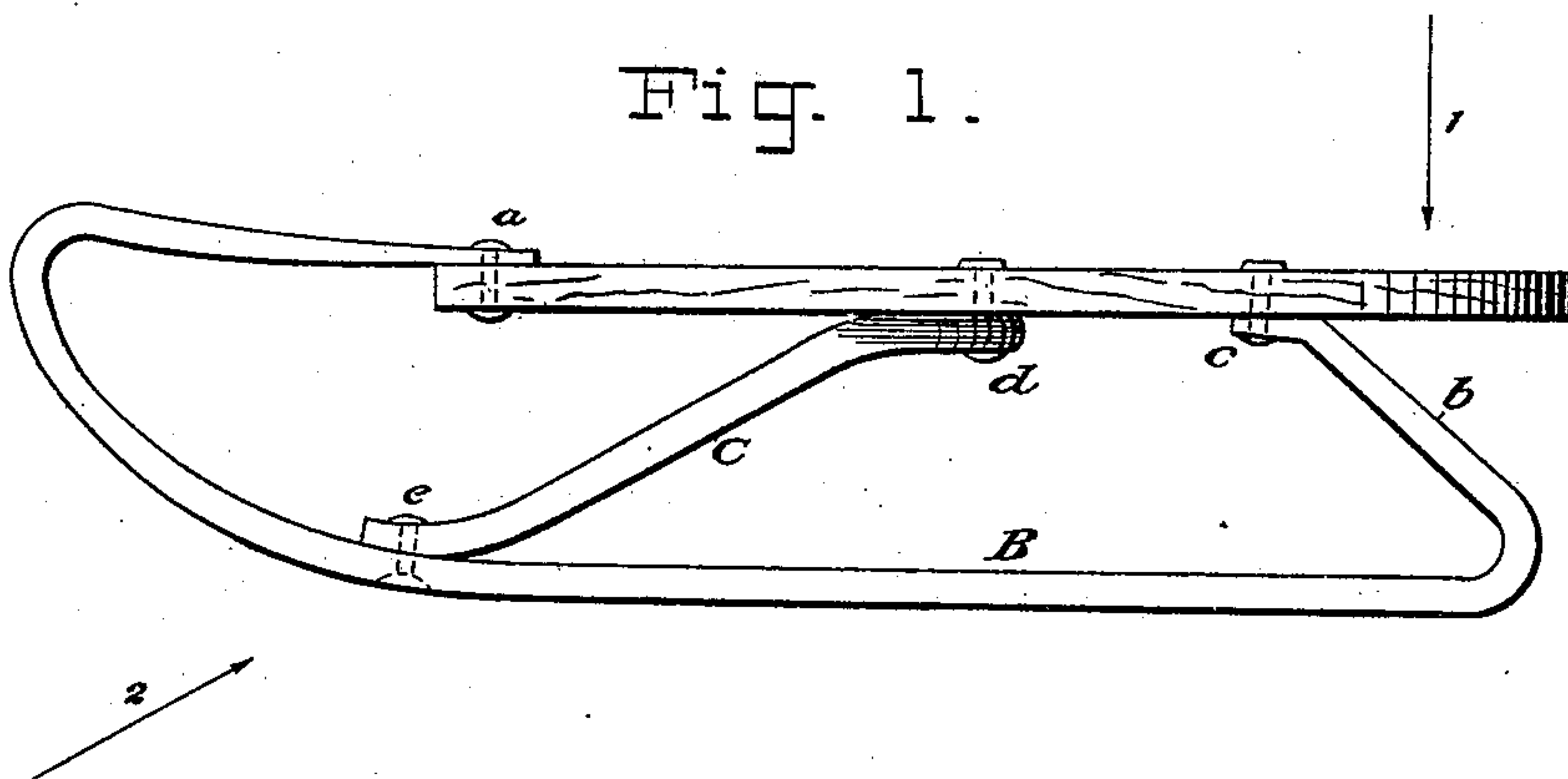


Fig. 2.

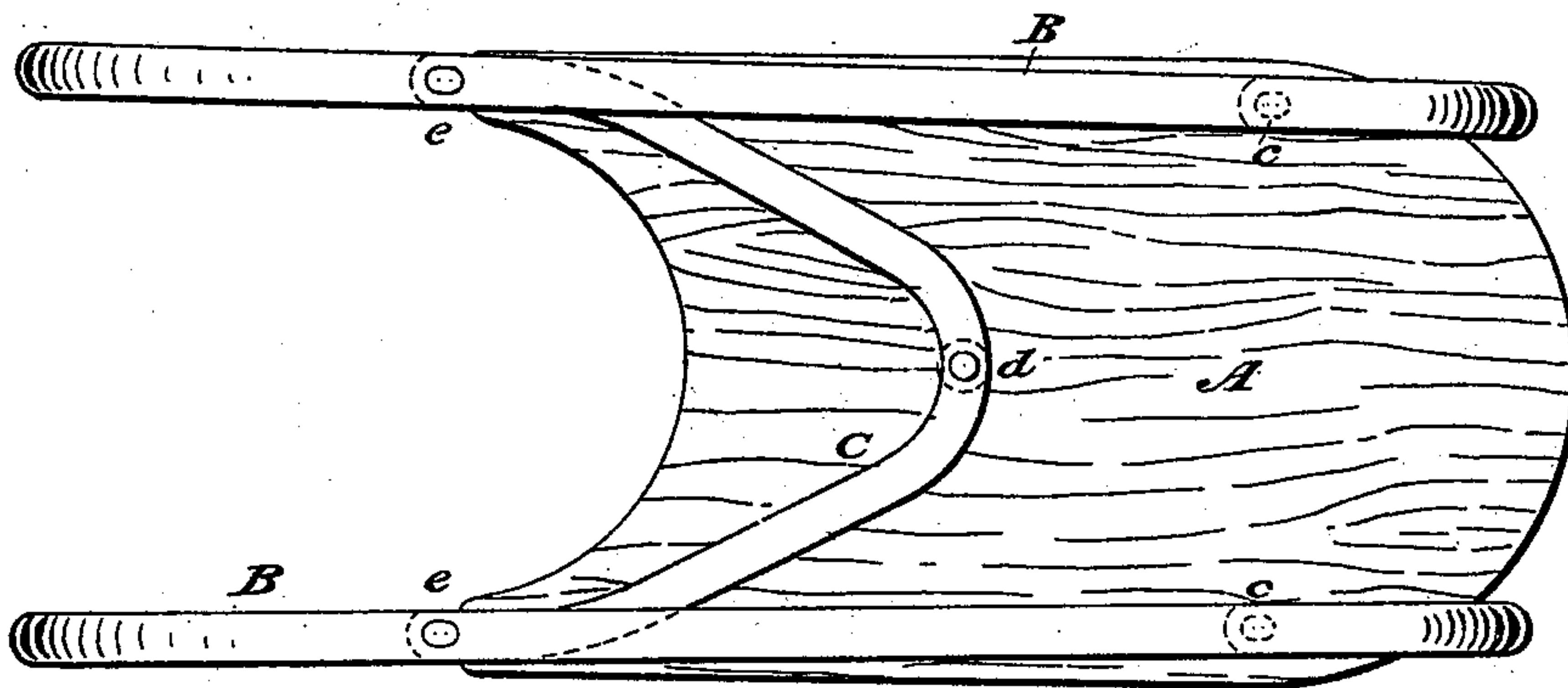
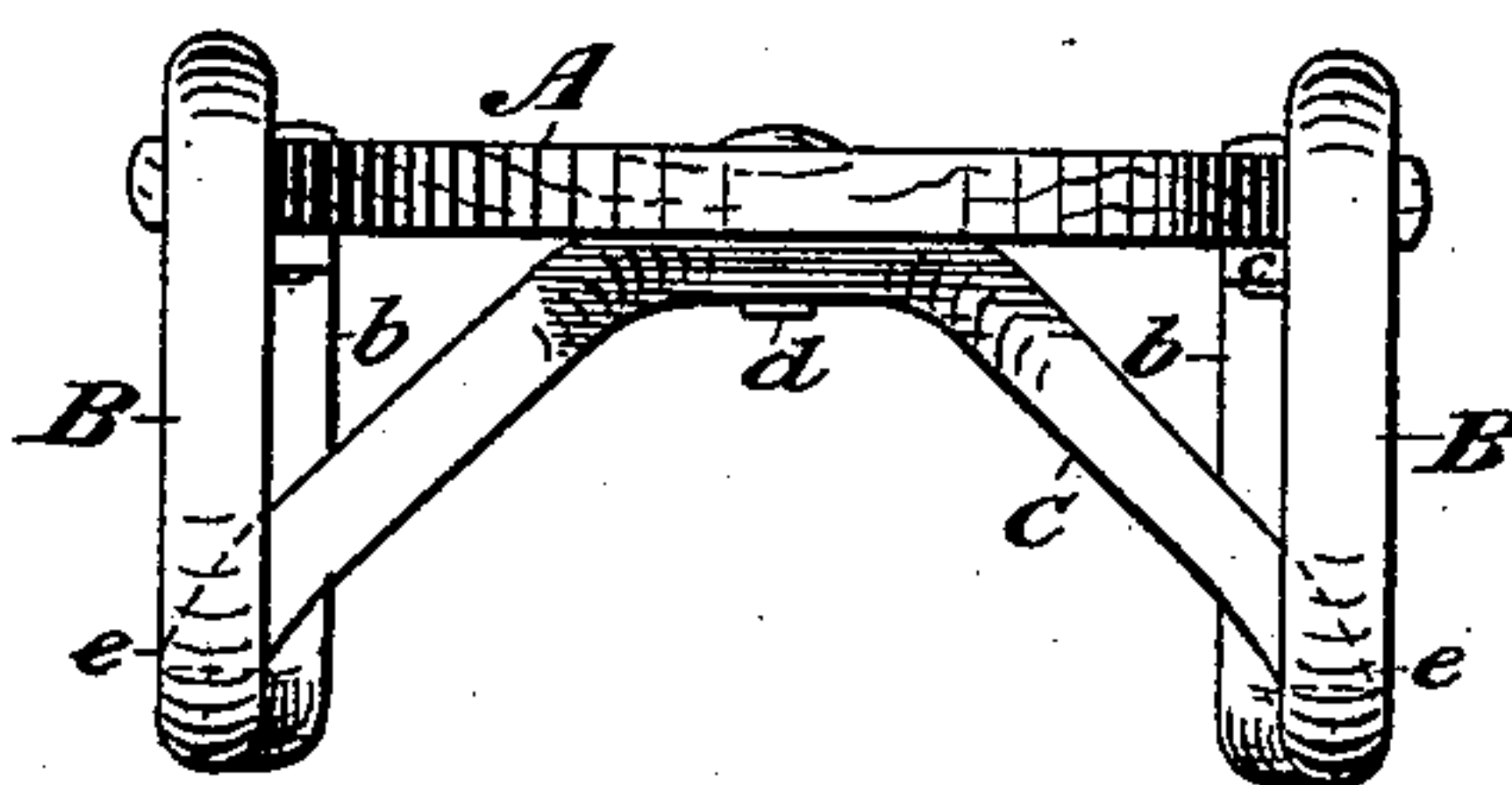


Fig. 3.



WITNESSES:

E. B. Bolton
Geo. Bainton

INVENTOR:

James W. Russell,

By his Attorneys,

Burke, Trauer & Bennett

UNITED STATES PATENT OFFICE.

JAMES W. RUSSELL, OF ELLENVILLE, NEW YORK.

SLED.

SPECIFICATION forming part of Letters Patent No. 251,468, dated December 27, 1881.

Application filed September 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. RUSSELL, a citizen of the United States, residing at Ellen-
ville, in the county of Ulster and State of
5 New York, have invented an Improved Sled,
of which the following is a specification.

This invention relates to boys' sleds, used
chiefly in coasting; and its object is to pro-
duce a strong and rigid sled of cheap and
10 simple construction.

In the accompanying drawings, Figure 1 is
a side elevation of my sled. Fig. 2 is an in-
verted plan thereof, and Fig. 3 is a front ele-
vation.

15 A is the top board or seat, and B B the run-
ners. Each runner is bent back in front and
fastened to the top of the board at *a*, and its
rear end is bent diagonally upward and for-
ward at *b* and fastened underneath the board
20 at *c*, a little forward of the rear end of the
latter.

A sled constructed as thus far described is
subject chiefly to three kinds of strain: First,
the weight of the boy's body, bearing down-
25 ward on the board, usually near the rear end
thereof, as indicated by the arrow 1 in Fig. 1;
second, the diagonally-upward strain against
the runners by striking obstacles and passing
over uneven ground in coasting, as indicated
30 by the arrow 2 in Fig. 1; and, third, the tend-
ency, from various causes, of the runners to
spread apart or bend toward each other. To
enable the sled to most effectually resist these
strains, I provide it with a brace, C, which
35 consists of a bar bent into substantially V
shape, its bend being fixed at *d* to the under
side of the board, at a point about midway of
the length thereof, and its two ends, being
bent to the same distance apart as the run-
40 ners, are fastened one to each runner at *e e*, so
that its two arms extend from *d* diagonally
forward, downward, and outward, as shown,
and at substantially the angle represented.
The forward and downward direction of the
45 brace C is, as nearly as possible, in line with
the percussive strain on the runners in coast-
ing, as shown by arrow 2, so that it serves to
directly resist that strain, and its stiffness is
sufficient to counteract the tendency to de-
50 flect the runners toward or from each other.
It also transmits to the runners a portion of
the strain due to the coaster's weight, and
serves as a fulcrum on which the board A
may act as a lever, so that the weight press-

ing down, as shown by arrow 1, at its rear 55
end may exert an upward pressure against
the runner ends at *a a*. The diagonal portions
b b of the runners also contribute to the stiff-
ness of the sled.

The advantages of my brace C may be real- 60
ized with runners constructed otherwise than
as shown, and it is not absolutely essential
that the brace be of V shape, as a brace of U
shape would be nearly as efficient.

I am aware that a sled has been made in 65
which the board is connected to the runners
by three arched or semicircular frames of
wood, the bases thereof resting on the run-
ners, and the board resting on the crowns,
the center frame standing in a vertical plane, 70
the rear one inclined downwardly backward
and the forward one downwardly forward.
The inclination of these frames is very slight,
being little more than perceptible, and can
have no appreciable effect in strengthening 75
the sled against the percussive strains on the
runners in coasting. In fact, they are supple-
mented by the four diagonal iron rods com-
monly used as braces in sleds. In this con-
struction, also, the forward frame, answering 80
nearest to my brace C, connects with the board
at its extreme front edge, instead of back near
its center, as does mine.

I claim as my invention—

1. A sled consisting of the combination of 85
board A, runners B B, connected to said board
at their ends, and the brace C, consisting of
a substantially V-shaped bar, its ends fixed to
the runners at *e e*, its arms extending thence
diagonally backward and upward at approxi- 90
mately the angle shown, and its bend fixed to
the under side of the board at *e* about mid-
way of the length of the board, substantially
as set forth.

2. The combination of board A, runners B 95
B, having inclined portions *b b*, their rear
ends fixed to the under side of the board,
their forward ends fixed to the upper side of
the board, and the brace C, fixed to the under
side of the board and connecting it diagonally 100
with the runners, substantially as set forth.

In witness whereof I have hereunto signed
my name in the presence of two subscribing
witnesses.

JAMES W. RUSSELL.

Witnesses:

CLARK EATON,
WM. D. FULLER.