

(No Model.)

L. HINKELMAN.
SELF LOADING AND DUMPING SLEIGH.

No. 477,365.

Patented June 21, 1892.

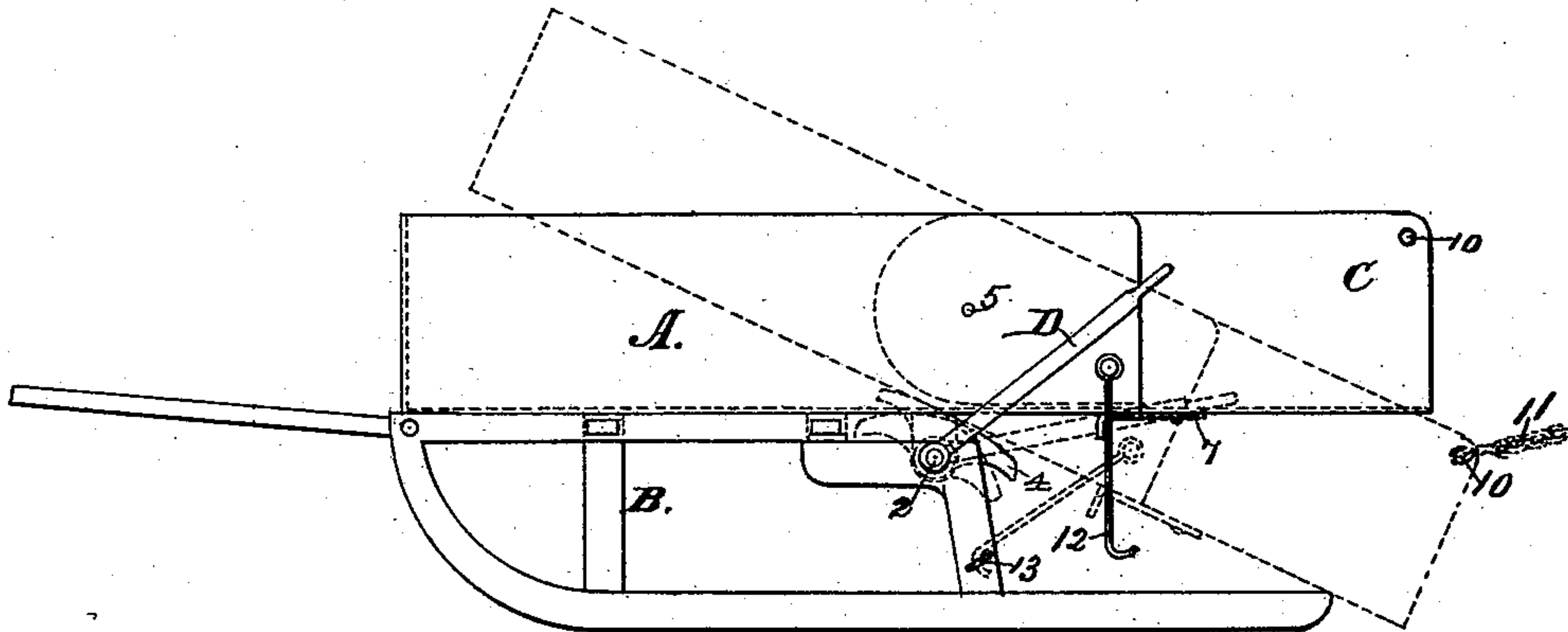


FIG. 1.

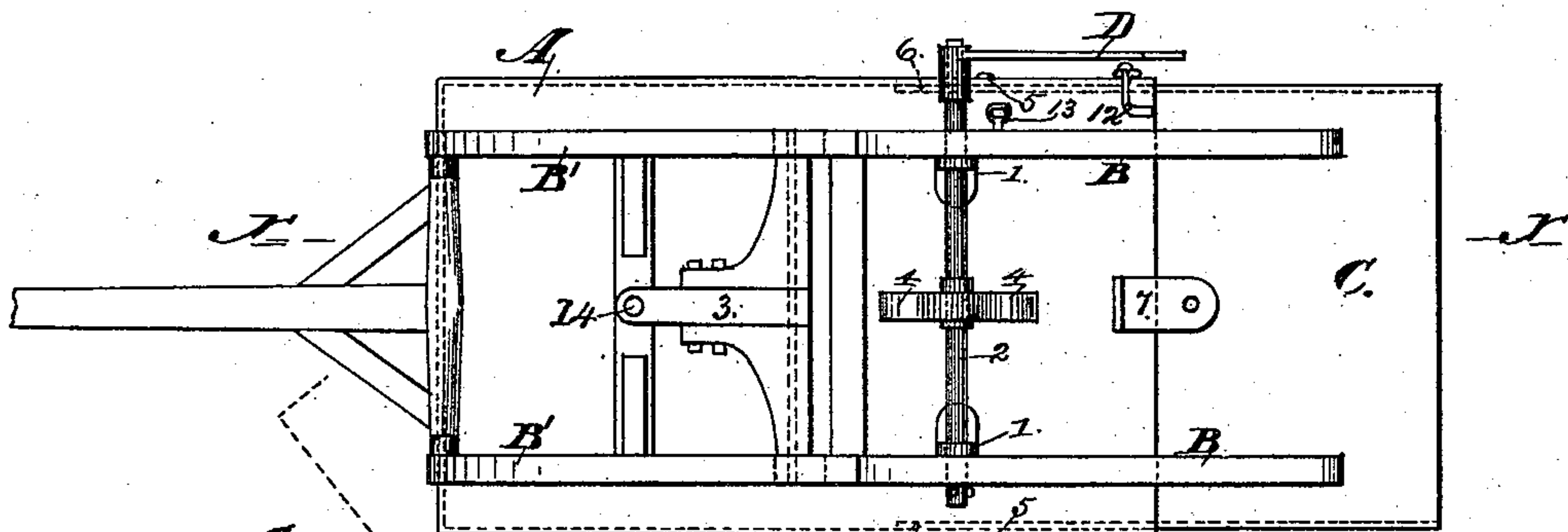


FIG. 2.

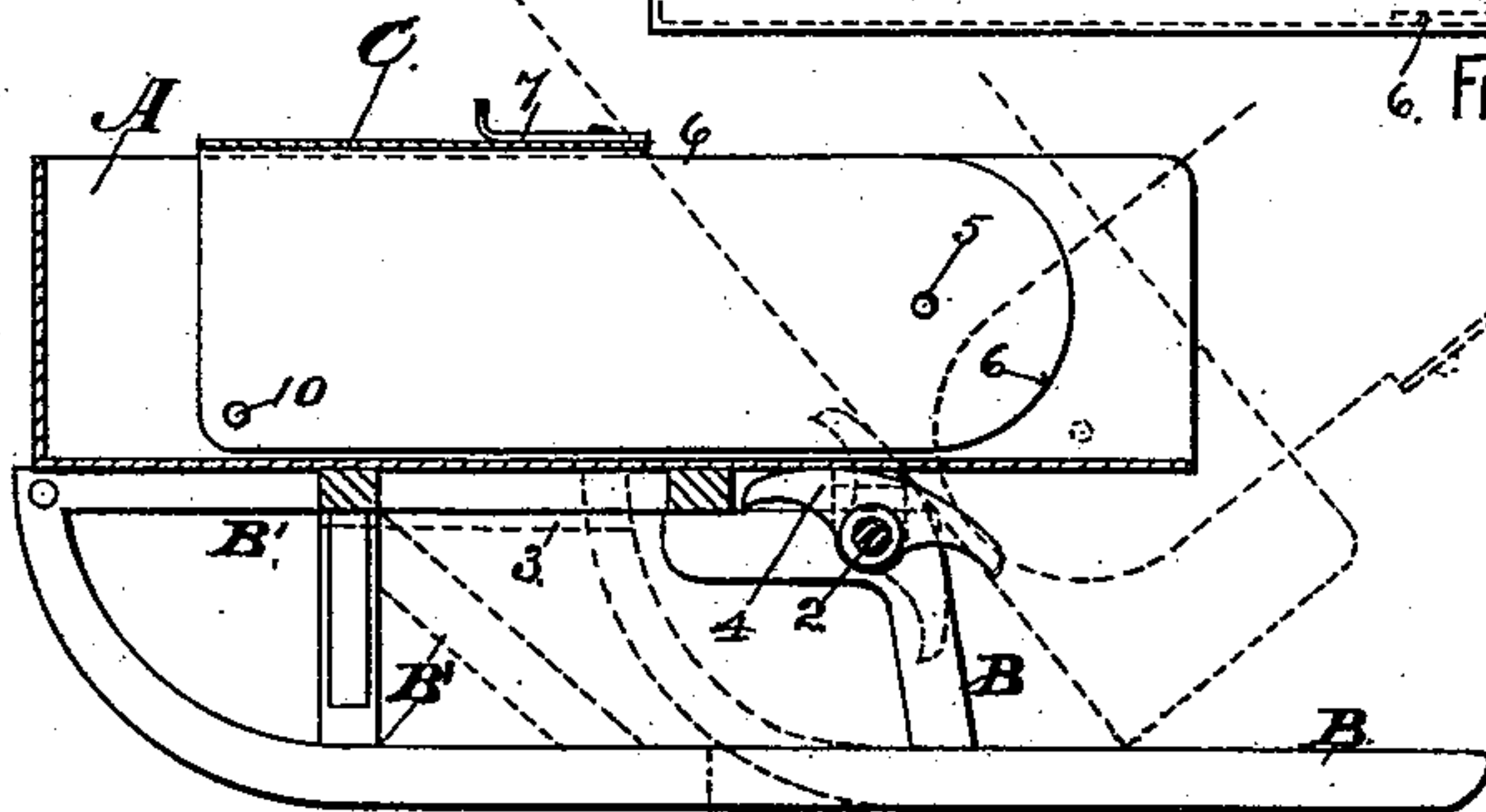


FIG. 3.

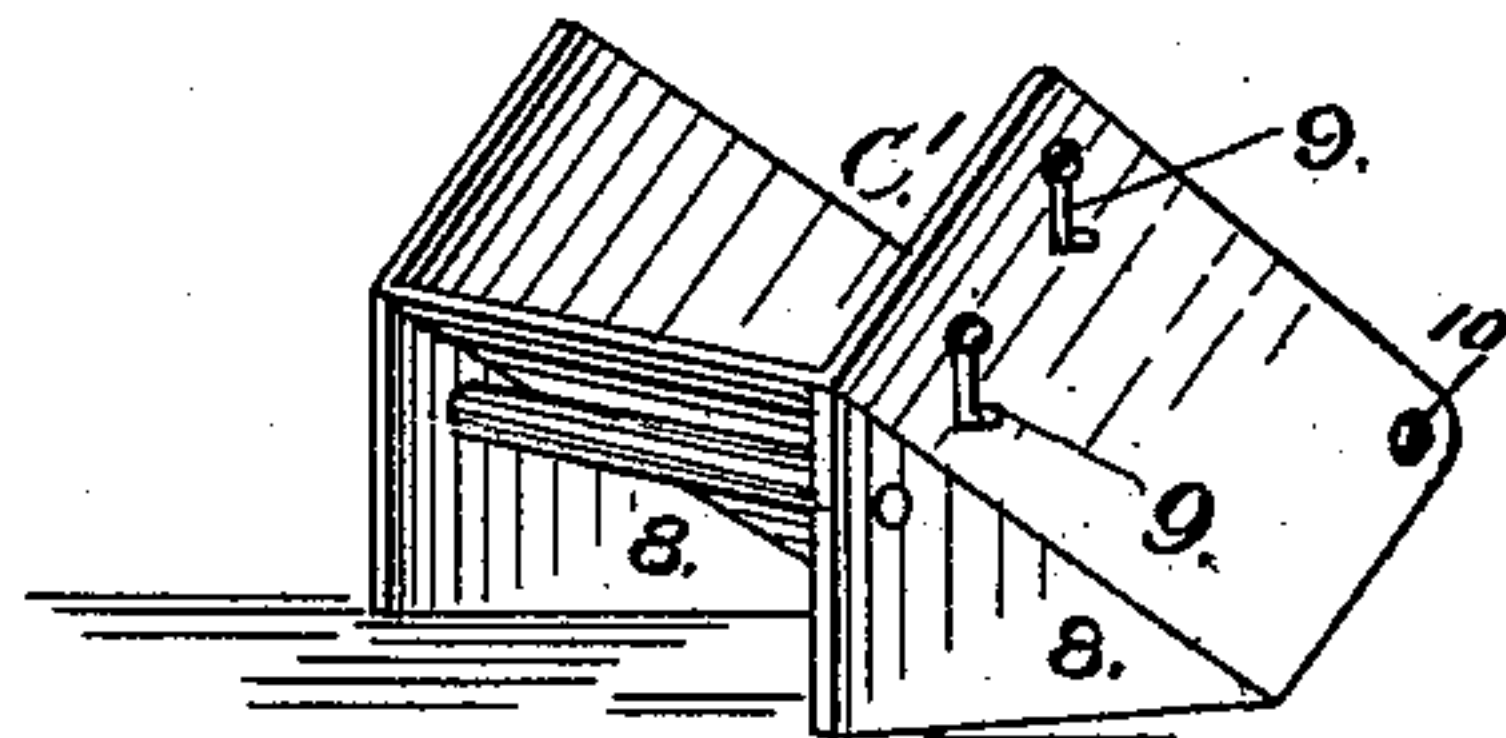


FIG. 4.

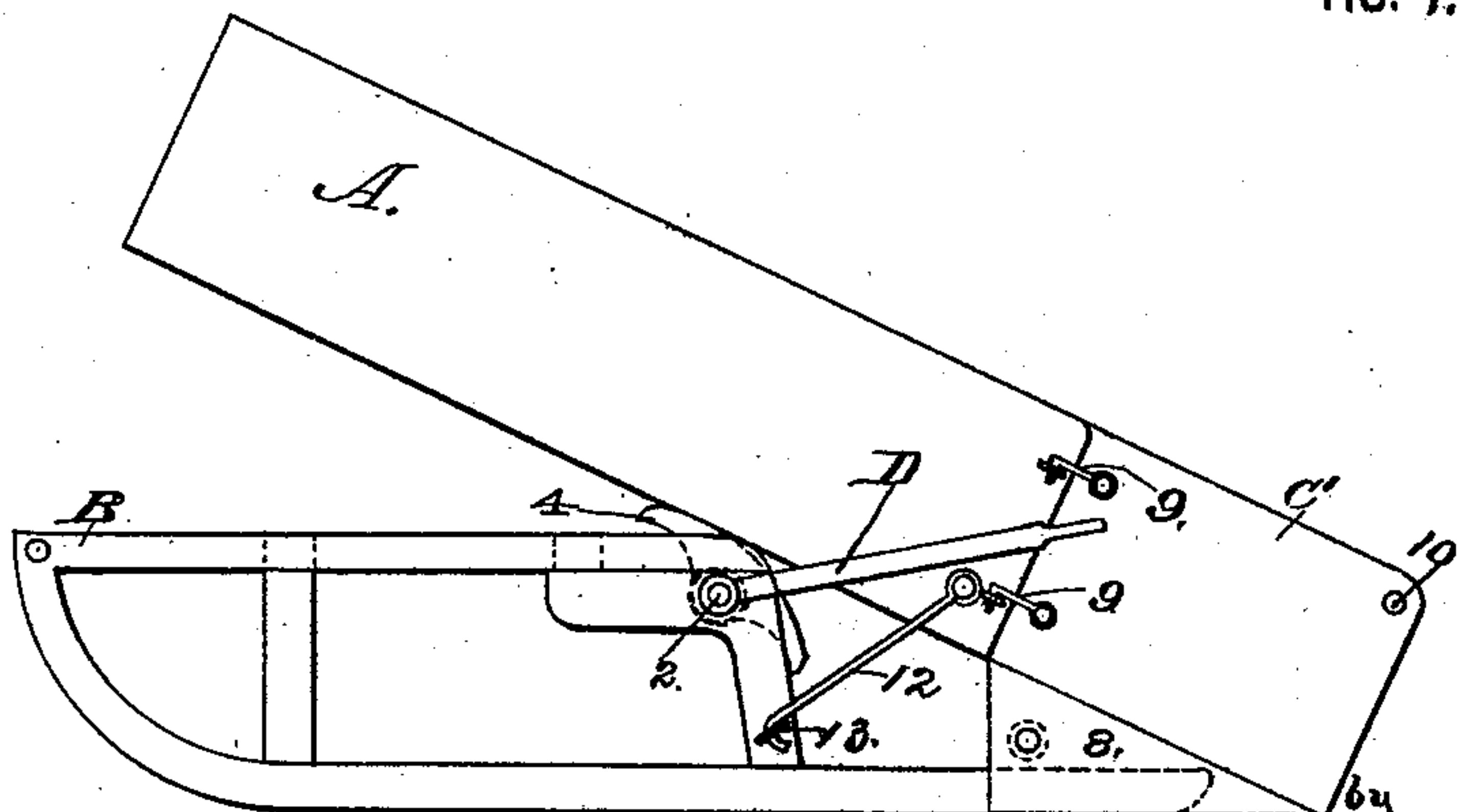


FIG. 5.

WITNESSES:

S. B. Brewster
Clarence Sturtevant

INVENTOR:

LOUIS HINKELMAN,

by *William W. Low*
Attorney

UNITED STATES PATENT OFFICE.

LOUIS HINKELMAN, OF ALBANY, NEW YORK.

SELF LOADING AND DUMPING SLEIGH.

SPECIFICATION forming part of Letters Patent No. 477,365, dated June 21, 1892.

Application filed August 5, 1891. Serial No. 401,748. (No model.)

To all whom it may concern:

Be it known that I, LOUIS HINKELMAN, of the city and county of Albany, in the State of New York, have invented new and useful
5 Improvements in Self Loading and Dumping Sleighs, of which the following is a specification.

My invention, while specially designed for removing snow from tracks of street-railways,
10 can be successfully utilized for many purposes; and said invention consists of an open-ended box mounted on sleigh-runners in such manner that said box can be readily tilted on
15 said runners without affecting the latter, said box being provided with a rearward extension, which may either be separable from said
20 box or permanently pivoted thereto, to operate as a shovel or scoop that will deliver the snow into the box while the sleigh is being
drawn rearwardly by animals or other suitable motive power, said sleigh being provided
with mechanism for effecting the tilting movements of the box, substantially as hereinafter described.

25 In the accompanying drawings, which are herein referred to and form a part of this specification, Figure 1 is a side elevation of a sleigh embodying my invention when made
30 with a single pair of runners, the rearward extension being projected as on a plane with the body of the box, the tilted position of the latter being indicated by dotted lines. Fig.
2 is an inverted plan view of my sleigh with the box in the position shown in Fig. 1 when
35 mounted on two pairs of runners or "bobs." Fig. 3 is a longitudinal section at a line corresponding to X X on Fig. 2 with the rearward extension turned over into the body of
40 the box, the bobs or pairs of runners being indicated by dotted lines. Fig. 4 is a perspective view of a modified or detachable rearward extension for the box of my sleigh,
and Fig. 5 is a side elevation of my sleigh with the box in its tilted position and having
45 the detachable rearward extension secured thereto.

As represented in the drawings, A designates the box of my sleigh, the same being made with an open rear end, as shown in Fig.
50 3, and it is hinged or pivoted by bearings 1 to a transverse shaft 2, which is journaled in the runners of the sleigh.

B designates the runners, to which the box A is pivoted by means of the shaft 2, and said runners may be a single pair of long ones, as
55 shown by the full lines of Figs. 1, 3, and 5, or they may be two pairs of short runners or bobs, as shown by full lines in Fig. 2 and indicated in dotted lines in Fig. 3. In the two figures
last named the foremost runners are designated by B', and they are connected to the
60 rear runners B by a reach 3, which is pivoted, as at 14, to the runners B', so that the latter can be deflected sidewise in turning about; but in both constructions the upper side bars
65 of the runners are not extended so far rearwardly as the lower side bars, for the reason that the upper ones cannot be carried back beyond the point at which the tilting of the
box A is provided for, and the lower side
70 bars are required to be extended rearwardly beyond said point, in order to bring the center of gravity of the load in said box in advance of the rearmost end of the runners.

Secured to the transverse shaft 2 are two
75 wipers or cams 4, which extend from said shaft, so that one of them will project toward the front and the other toward the rear of the sleigh. Said wipers are fitted to bear against
the under side of the box A, so that when the
80 shaft 2 is rocked in one direction said box will be tilted to its inclined positions—either the one indicated by dotted lines in Fig. 1, which is the position required for scraping
up the snow, or the one indicated by dotted
85 lines in Fig. 3, which shows the proper position of the box for dumping the snow therefrom. By rocking the shaft 2 in the opposite direction the box A can be tilted into its normal position, as shown by the full lines in
90 Fig. 1.

C designates the rearward extension for the box A, which is pivoted, as at 5, to the side
boards of said box to swing upwardly, as indicated by dotted lines in Fig. 3, when the box
95 A is tilted to dump its load. Said extension is made in a channel form which corresponds to the sides and bottom of the box A, and the front and rear ends of it are left open. The
side pieces of said extension are carried forward,
100 as at 6, beyond the bottom of same to extend into the body of the box A and receive the pivots 5, by which said extension is jointed to said box, and on the under side of said ex-

tension there is a turn-button 7 or other fastening, which will engage with the box A, so as to retain said extension in its extended position, as shown in Fig. 2.

5 In the modification of my invention shown in Figs. 4 and 5 a detachable rearward extension C' is provided, so that it can be readily attached to any sleigh-box of a like character to those herein shown and described. Said
10 extension is provided with shoes or runners 8, upon which it is borne while being moved from one place to another. Hooks 9 or other fastenings are attached to said extension for the purpose of securing the latter to the box
15 A, as represented in Fig. 5; but the attachment of said extension to the box A is only continued during the time that the snow is being delivered into the box, and when the
20 loading of the snow is accomplished said extension can be detached from the box A and held ready for attachment to another sleigh. Each of the rearward extensions, whether it is made in the form shown in Fig. 1 or in the
25 detachable form shown in Fig. 5, should be provided with openings 10 or other provision for attaching a drag-chain 11 thereto, so that the horses employed for drawing the sleigh forward can be fastened to said chain for the
30 purpose of drawing the sleigh rearward during the operation of filling the box A with snow, and during said filling the box A should be tilted, as shown by the full lines of Fig. 5 and indicated by the dotted lines of Fig. 1, and secured by a hook 12, which engages with
35 an eye or staple 13, fixed in the runners B, so as to hold said box at the required angle to allow the advancing edge of the rearward extension to perform its work with facility.

40 D designates a lever that is detachably connected to the shaft 2 for the purpose of rocking the latter to effect the tilting of the box A in either of its movements.

My invention is operated in the following manner: The sleigh being at the point where
45 its loading is to be effected, the box A is tilted by the wipers 4 into the inclined position indicated by dotted lines in Fig. 1 and shown by full lines in Fig. 5, and after the box A is secured by the hook 12 in said inclined position,
50 with the rearward extension C turned down and secured, as hereinbefore described, or with the detachable rearward extension C' secured to its place, the drag-chain 11 is connected to the harness of the animals, and by

the latter the sleigh is drawn rearwardly until the box A has become sufficiently filled
55 with the snow. When this has been accomplished, the rearward extension C, when the apparatus is so constructed, is turned up to stand at about right angles to the box A, and
60 the latter is tilted to its bearing on the top of the runners, or, in cases where the detachable rearward extension C' is employed, said tilting movement is made after the rearward extension C' is detached from the box A. The
65 loaded sleigh, the animals being attached to its forward end, is then drawn to the dumping-ground, where by tilting the box A into the position indicated by dotted lines in Fig. 3 the load of snow will slide easily from said
70 box and be deposited on the dumping-ground, after which the box A can be returned to its horizontal position by rocking the shaft 2 by means of the lever D, and the sleigh may then
75 return to the railway-track for a repetition of its work, as above described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a dumping-sleigh, the combination of a sleigh-box having its rear end open and un-
80 obstructed, said box being fitted to tilt in a rearward direction, sleigh-runners whose upper side bars are shorter than the lower ones, said upper side bars forming a seat for said
85 box when the latter is in its horizontal position, a transverse rock-shaft journaled on said runners and provided with wipers or cams by which the tilting movements of the sleigh-box are effected, and a rearward extension for
90 said sleigh-box, fitted to operate as a scraper or scoop for delivering snow into said sleigh-box, substantially as and for the purpose herein specified.

2. In a dumping-sleigh, the combination of a sleigh-box provided with an open rear end
95 and fitted to tilt rearwardly, sleigh-runners for carrying said box, provided with a rock-shaft having wipers or cams fitted to bear against the under side of said box, and a rearward extension for said box, detachable there-
100 from and provided with means for securing the same to said sleigh-box, substantially as and for the purpose herein specified.

LOUIS HINKELMAN.

Witnesses:

JOHN F. KINGS,
WM. H. LOW.