

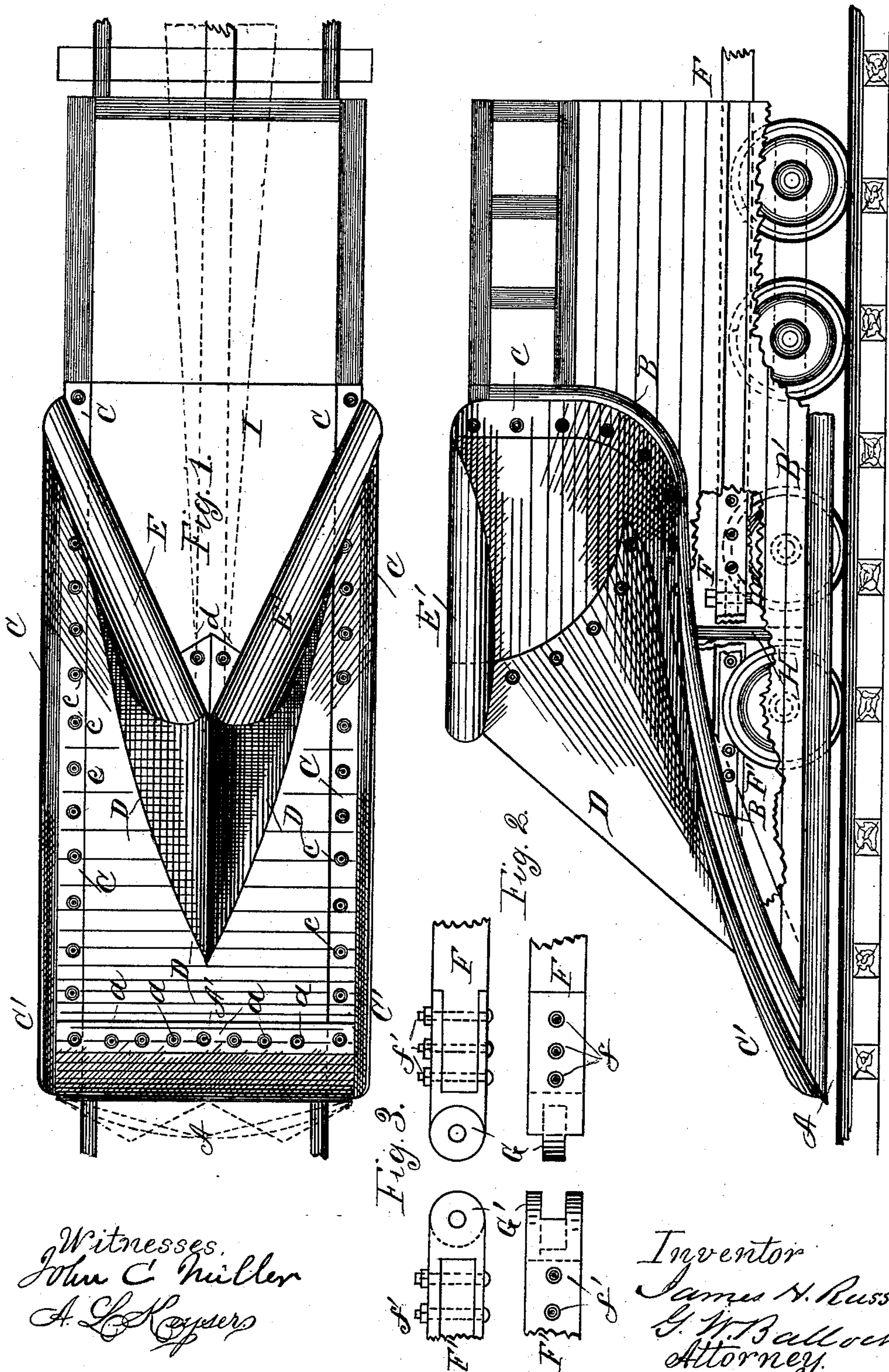
(No Model.)

J. H. RUSSELL.

SNOW PLOW.

No. 300,016.

Patented June 10, 1884.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES HENRY RUSSELL, OF ST. JOHN, NEW BRUNSWICK, CANADA.

SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 300,016, dated June 10, 1884.

Application filed March 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENRY RUSSELL, of St. John, in the county of St. John, and Province of New Brunswick, Dominion of Canada, have invented new and useful Improvements in Snow-Plows; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The objects of this invention are to do away with the resistance to the motion of the plow accruing from pressure and friction of the snow against its sides; economy of power for driving the same; a higher rate of speed, and more thorough execution than is attainable by the snow-plows of different construction in general use. These results are achieved by the mechanism illustrated in the drawings, herewith filed as part hereof, in which the same letters of reference denote the same parts in all the views.

Figure 1 is a top view. Fig. 2 is a side elevation, partly in section. Fig. 3 represents sectional views of parts detached for illustrating features of construction not fully shown in the other figures.

A A' is a chisel-shaped point, made of steel and boiler-iron, extending entirely across the front of the plow, and secured to the frame-timbers by bolts or screws *a*, the object thereof being to lift the snow in a straight line from one side of the track to the other. The plow-point may be made with a convexed curve; or it may have an angled or a double-angled point.

B represents a heavy sponging at each side of the plow, constructed of pitch-pine, about ten inches thick and twelve inches wide, and bolted to and on the outside of the grade-timbers. Beginning at the chisel-point, the plow is graded at an angle of about thirty degrees, or about one foot in two, to a distance of eight feet, (more or less,) and there curved and forming arcs for the remaining distance, the chord of which is about twelve feet and the rise six inches, so that the upper end of the spongings on a perpendicular line will be eight feet (more or less) from the hanging guards on the bottom of the plow. The spongings B', of similar dimensions and material, are bolted to the

hanging guards or frame-work at the bottom of the plow.

D is a centrally-located iron cutter of triangular form, with curved base and head. It is constructed of boiler-iron of suitable thickness, and begins about three feet from the chisel-point. It extends up the center, where it is bolted to the frame-timbers through the sheathing of the plow. The object of this feature of construction is to cut and divide the snow after the chisel-point has entered and raised it from the track, and throw it to each side and clear of the same.

C C are heavy iron plates suitably secured by bolts or screws to each side of the plow, and having upright flanges C' C' extending about eight feet along the upper spongings, for the purpose of holding the snow on the plow and carrying it from five to seven feet above the road-bed before it is discharged. From thence the plates C C conform to the body of the plow, and extend to the top of the upper deck, I, where their ends are suitably secured. The plates C C are made of boiler-plate iron twelve inches wide, and screwed or bolted to the grade-timbers. The flanged parts C' C' are to be of steel, welded thereto, and should be at least three inches high and one-fourth of an inch thick.

E E' are wings, to be made of iron one-fourth of an inch thick, substantially in the form shown, and suitably secured in the position shown. The object of this feature of construction is to throw the snow a long distance from the track and to prevent the locomotive from being showered with snow, and also to protect the man on the upper deck in charge of the plow.

F is a coupling-bar of suitable length, having a metal finish, G, at its inner end, which fits within a corresponding piece, G', on the projecting frame-timber F', ending midway between the axles of the forward truck. The parts are perforated for the reception of the king-bolt H, thus forming a semicircular socket-joint for applying the propelling-power to the forward part of the plow, and allowing it to turn curves easily and avoid being thrown from the track. The semicircular socket-joint connection may be made independent of the king-bolt of the truck. The coupling-bar F

is to be made of pitch-pine twelve inches wide and ten inches thick, and should be about twenty feet long. The rear of the plow-frame is provided with a slot of sufficient length to
 5 allow unobstructed oscillation of the coupling-bar when the plow is turning curves. The outer end of the bar F should be provided with suitable means of connection with the locomotive.

10 By reason of the sponsings B B' projecting from the sides of the plow-frame, and the chisel-point extending across the same, the cut of the plow will be so wide that the sides thereof will be relieved of the pressure and friction of
 15 the snow, and the plow can be driven with less power and at a higher rate of speed.

Having explained the construction and operation of my improvement, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the sides of the 20 plow, of the curved sponsings B, applied thereon, and the sheathing C, supported thereby at its margin, to cut wider than the plow itself, substantially as described.

2. In a snow-plow, the long coupling-bar F, 25 projected far forward and connected to the frame-timber F' at a point forward of the center of the plow, substantially as described.

3. The combination of the coupling-bar F and the frame-timber F', united by the semicircular 30 socket-joint connection G G', substantially as specified, for the purpose set forth.

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

JAMES HENRY RUSSELL.

Witnesses:

C. A. STOCKTON,
 J. J. PORTER.