G. R. PIERPONT. 2 Sheets—Sheet 1.

Ice-Cutting Apparatus.

No. 209,711. Patented Nov. 5, 1878.

Fig: 1.

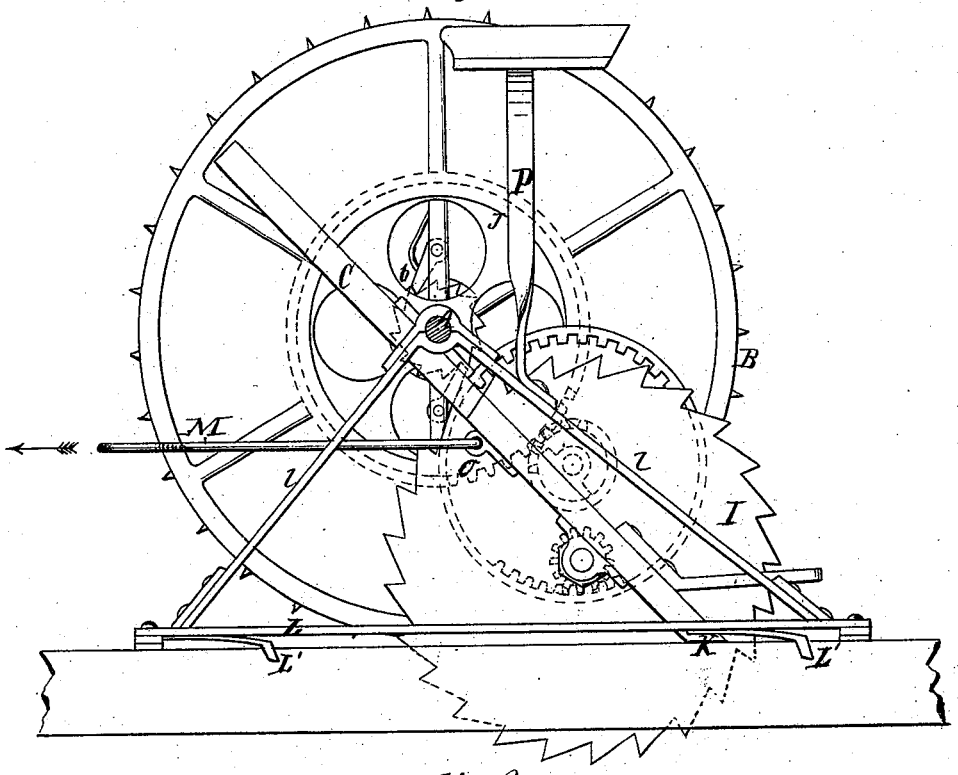
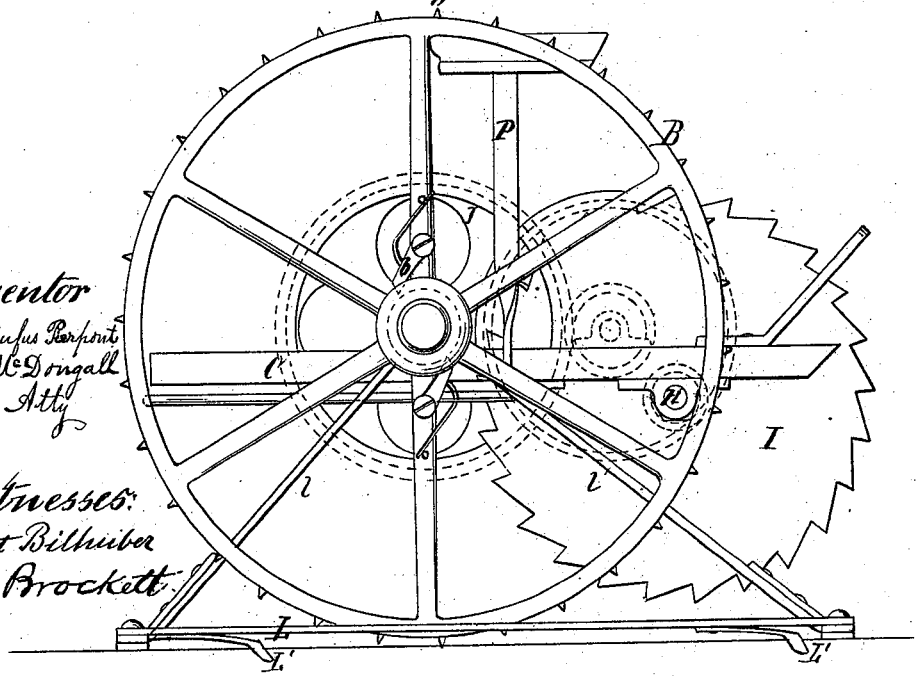


Fig: 2.



Inventor
George Rufus Pierpont
Per J. J. McDougall
Atty

Witnesses:
Ernst Bilhuber
A. E. Brockett

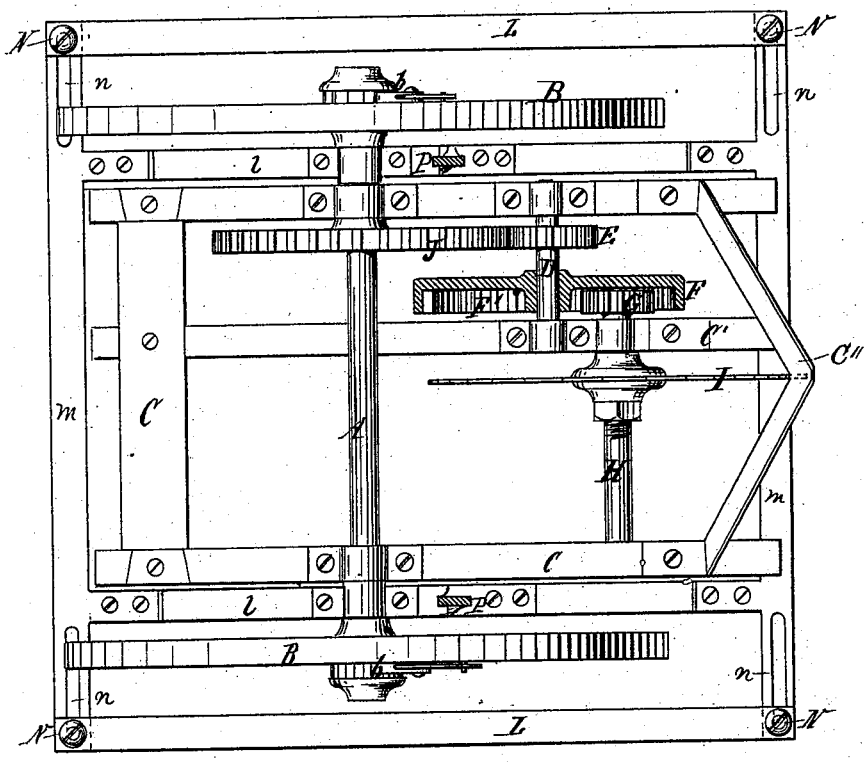
2 Sheets—Sheet 2.

G. R. PIERPONT.

Ice-Cutting Apparatus.

No. 209,711. Patented Nov. 5, 1878.

Fig: 3.



Witnesses:
Ernst Bilhuber
A. E. Brockett

Inventor:
George Rufus Pierpont
Per S. T. McDougall Atty

UNITED STATES PATENT OFFICE.

GEORGE RUFUS PIERPONT, OF NORTH HAVEN, CONNECTICUT.

IMPROVEMENT IN ICE-CUTTING APPARATUS.

Specification forming part of Letters Patent No. **209,711**, dated November 5, 1878; application filed October 24, 1877.

To all whom it may concern:

Be it known that I, GEORGE RUFUS PIERPONT, of the town of North Haven, county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Ice-Cutting Machinery, of which the following full, clear, and exact description is a specification:

My invention relates to certain improvements in the framing and the saw-hanging devices of ice-cutting machinery.

These improvements consist in providing the framing with adjustable end pieces, constituting gages for use in determining the width of successive cuts, such pieces having spring-guides acting to keep the frame in straight lines; also, in the provision of stays depending from the driving-axle, carrying the gage and supporting in the rear of said axle the driver's seat independently of the saw-frame and draft-bar, so that the driver's position will be unaffected by the motion of the saw-frame and his weight thrown upon the gage so as to hold it in its place; also, in a saw-frame, arranged as described, having the draft-bar of the machine attached to its under side, so as to insure a direct draft, and acting as a pressure mechanism and guide for the saw.

In the drawings, forming part of this specification, Figure 1 is a side elevation of my machinery in position for working. Fig. 2 is a similar view when at rest, and Fig. 3 is a top-plan view.

The letter A represents a main driving-shaft, provided with the wheels B B. The peripheries of these wheels may be roughened in any of the well-known modes to adapt them to travel over the ice without slipping. The shaft A is mounted in a frame, C, of appropriate construction. This frame has, if desired, a longitudinal brace or bar, C′, and between said brace and one side of the frame is journaled a shaft, H, to which the saw I is keyed or otherwise secured. This frame, at the end in which the saw is hung, is provided with a V-shaped cross-piece. The side bars of the frame are beveled off at their ends, so as to rest flat upon the ice to gage the depth to which the saw shall cut.

On the end of shaft H, which projects beyond the brace C′, is fixed a toothed wheel, G, which may mesh with an internal gear-wheel, F, on a counter-shaft, D, said shaft being secured in bearings on the frame C, and having a pinion, E, that meshes with a toothed wheel, J, on the driving-shaft A.

In order to prevent the saw from being revolved when backing, the wheels B are attached to shaft A by a ratchet-and-pawl mechanism, *b*.

Stays *l* are secured to the shaft A, and descend therefrom at either end at an angle, and have secured to their lower ends and support a gage composed of end bars, *m*, and side bars, L. These end bars, *m*, have slots *n* in their ends, and the side bars, L, are adjustably secured to said bars *m* by bolts N passed through the slots *n*. At the ends of bars L are secured spring-guides L′.

M is a draft-bar secured to the under side of the saw-frame by a bracket or coupling or clip, O, so as to impart a direct draft to the machine and afford a pressure and guide mechanism for holding the saw to its work.

The width of the cut having been determined, the frame *m* L is adjusted to correspond, and the weight of the machine will press the spring-guides up against the bars L. When the first cut is made the guides L′ enter said cut at the beginning of the next cut, and their points lying against the edge of the ice serve to insure a straight cut. The guides L′ may also serve as markers.

P P are seating supporting-standards rising from the stays *l*, and the driver's foot-rest may be the end bar of the frame C, so that he may conveniently lift and depress the saw. The seat is secured to the rear of the axle, so as to bring the weight upon the saw side and to the gage-frame, so as to furnish sufficient weight to keep it in place.

What I claim is—

1. The described adjustable gage, provided with spring-guides and combined with the driving-shaft and supports, substantially as specified.

2. In an ice-cutting machine, the stays *l*, depending from the main axle and serving to support the driver's seat, which is arranged thereupon in the rear of the axle, and to carry the gage independently of the saw-frame and the draft-bar, whereby the driver's position

will be unaffected by the motions of the saw-frame, and his weight thrown upon the gage, so as to keep it in place, substantially as described.

3. An adjustable gage for an ice-cutting machine provided with spring-guides and combined with stays or supports for attaching it to the machine, substantially as described.

4. In an ice-cutting-machine having a frame-work, a saw, and operating mechanism, the combination of the saw-carrying frame, hung upon the main axle independently of the frame-work of the machine, and the draft-bar attached directly to the under side of the saw-frame, so as to insure a direct draft and acting as a pressure mechanism and guide, substantially as described.

GEORGE RUFUS PIERPONT.

Witnesses:
S. T. McDOUGALL,
JACOB DUBOIS.