

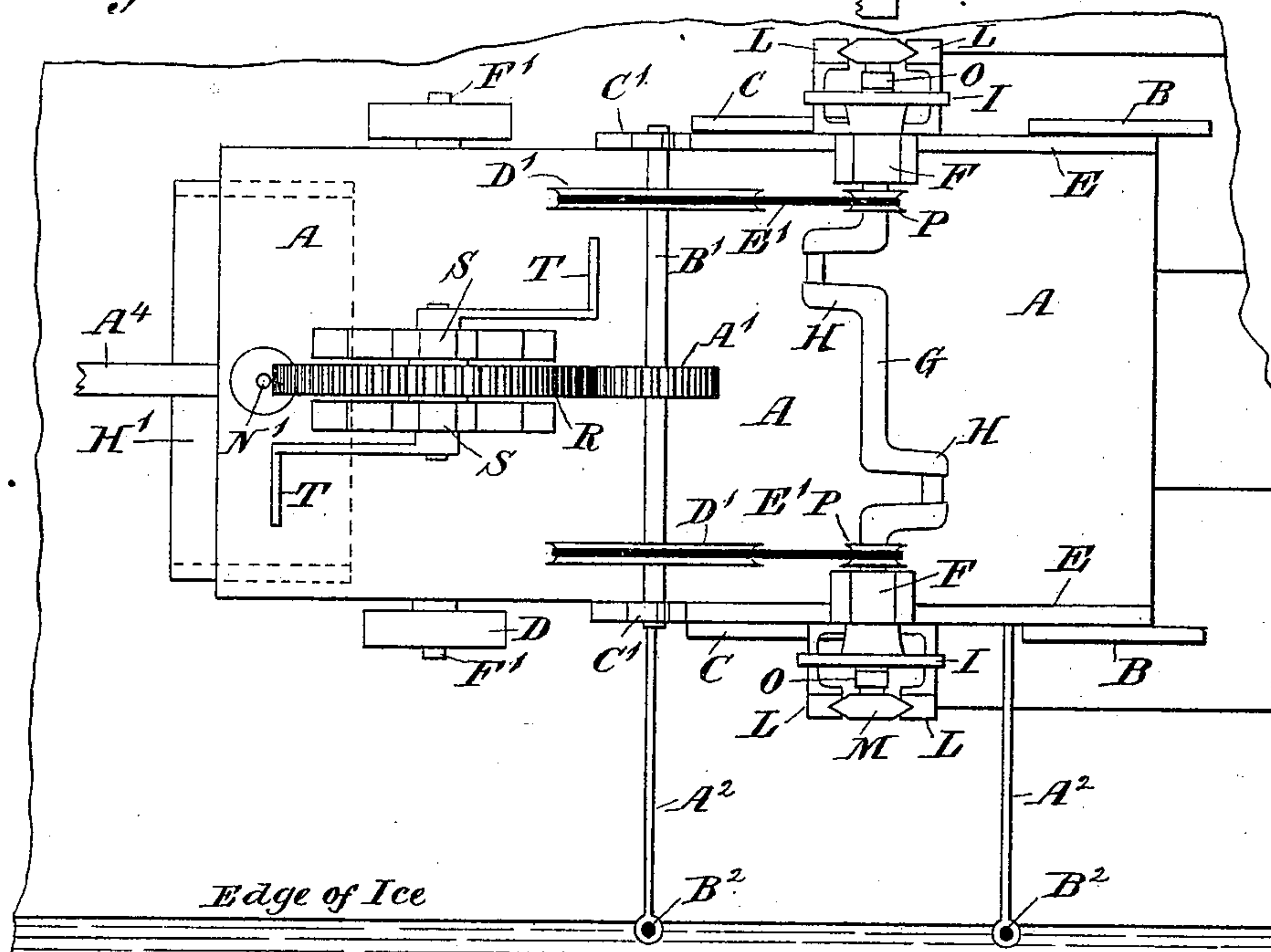
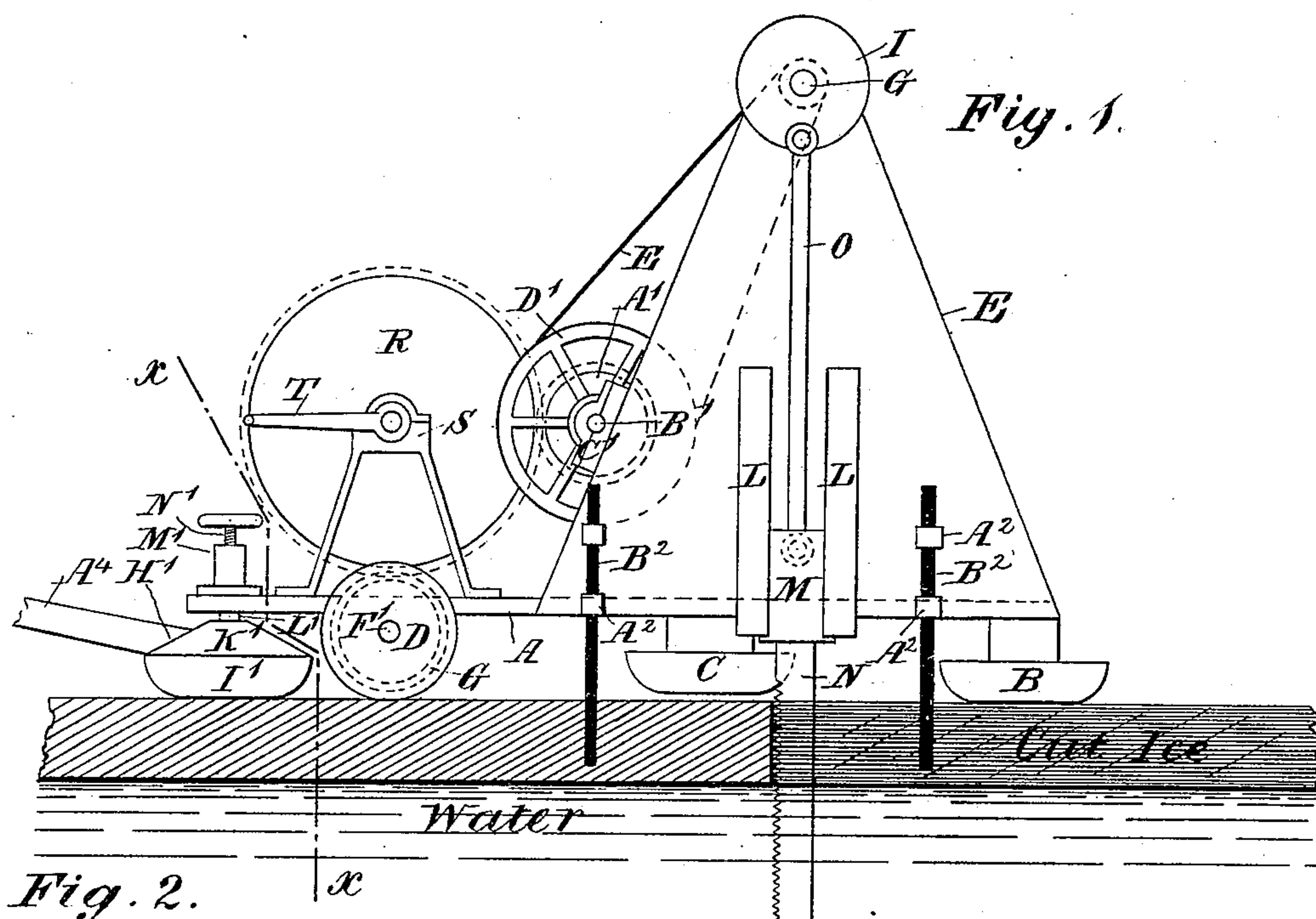
(No Model.)

2 Sheets.—Sheet 1.

F. L. D. PEARSON.
MACHINE FOR CUTTING ICE.

No. 253,223.

Patented Feb. 7, 1882.



Witnesses
W. H. Barnett.
J. Irwin.

Inventor
F. L. Decarré Pearson
By his attorney Charles L. Simpson

F. L. D. PEARSON.
MACHINE FOR CUTTING ICE.

No. 253,223.

Patented Feb. 7, 1882.

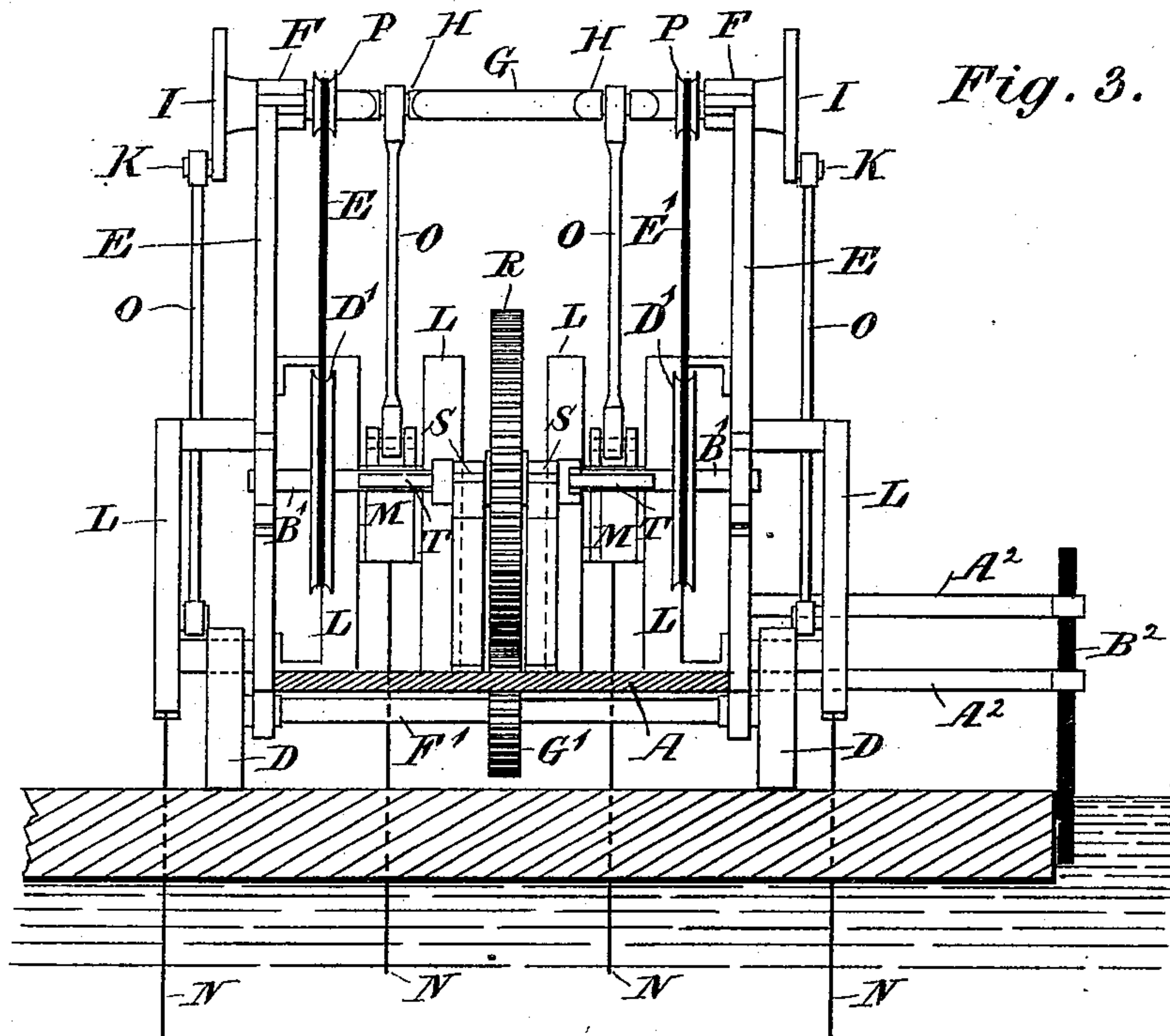


Fig. 3.

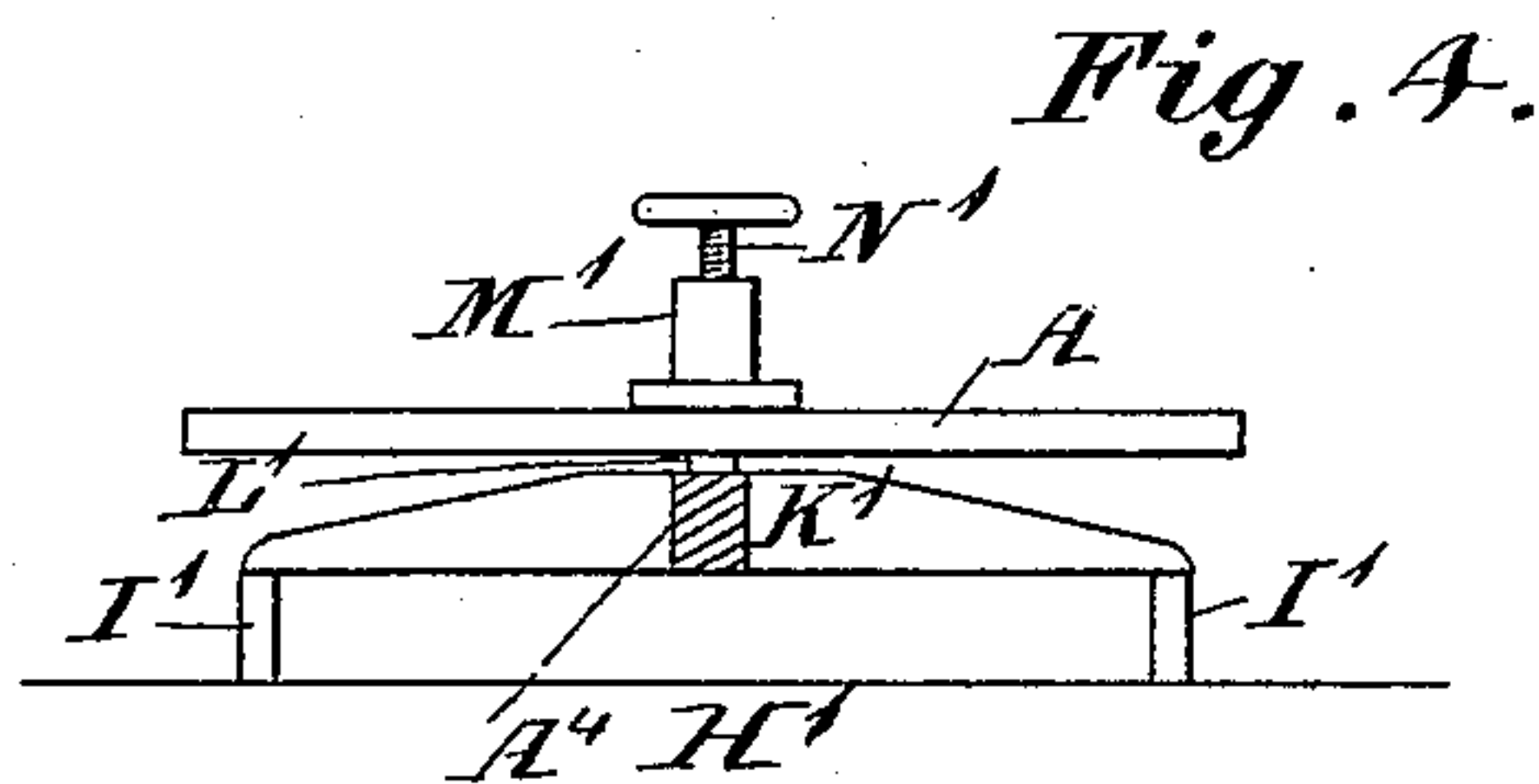


Fig. 4.

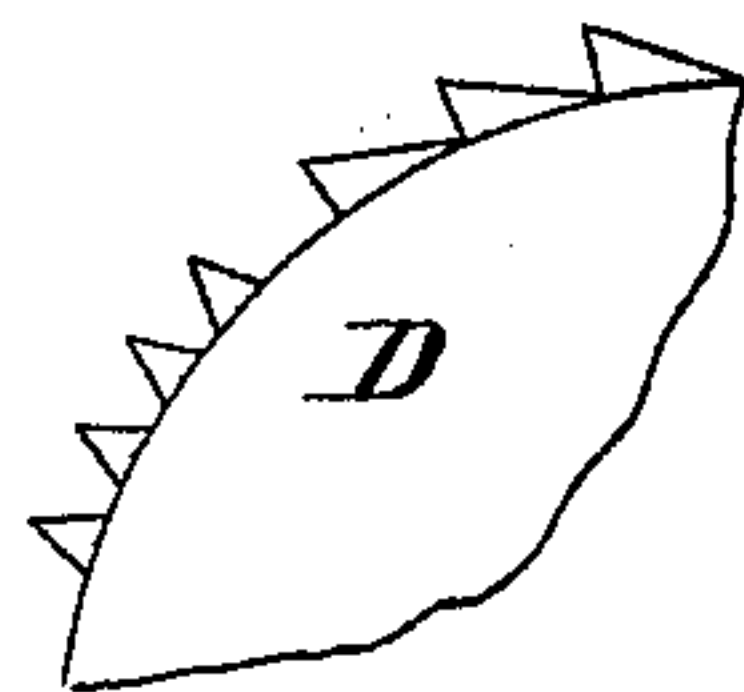


Fig. 5.

Witnesses
W. H. Barnett.
H. Irwin.

Inventor
F. L. Decarrie Pearson
By his Attorney

Charles G. Simpson

UNITED STATES PATENT OFFICE.

FELIX L. DECARRIE PEARSON, OF MONTREAL, QUEBEC, CANADA.

MACHINE FOR CUTTING ICE.

SPECIFICATION forming part of Letters Patent No. 253,223, dated February 7, 1882.

Application filed December 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, FELIX LOUIS DECARRIE PEARSON, of the city and district of Montreal, Province of Quebec, Canada, have invented
5 certain new and useful Improvements in Machines for Cutting Ice; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference to a machine
10 for cutting ice, so arranged that by simply turning a shaft the double operation of working the saws with which the machine is provided and the propulsion of the machine, according as the cutting of the ice takes place, is
15 effected.

In the drawings hereunto annexed, similar letters of reference indicate like parts, and Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a plan of Fig.
20 1. Fig. 3 is a front elevation of that part of the machine behind the line *xx*, Fig. 1. Fig. 4 is a front elevation of that part of the machine in front of the line *xx*, Fig. 1. Fig. 5 is a detail.

Letter A is a strong platform mounted upon
25 runners B and C and wheels D. It is provided with two sides, E, extending upward, as shown. These are provided each with an ordinary bearing, F, for carrying a crank-
30 shaft, G, provided with cranks H, situated between the said bearings, while on each end of the shaft G, extending beyond the said bearings, disks I are secured, each of which is provided with a crank-pin, K; or, instead of the disks I
35 and pins K, single cranks may be used, if desired.

If it is desired that the cuts of the saws N should be equally distant from each other, care
40 must be taken to make the distance between all the crank-pins equal as measured longitudinally on the shaft.

To the platform A and sides E are secured
45 guide-bars L. The inner ones are only shown in Fig. 3; but they are substantially similar to the outer ones, which are shown in Figs. 1, 2, and 3. Each pair of guide-bars is provided with a slide-block, M, to each of which is secured (in any ordinary way by which it may
50 be easily removed) a saw, N. Each slide-block is attached by a connecting-rod, O, to its corresponding crank, H, or crank-pin K,

so that by revolving the crank-shaft G the saws are moved up and down.

P are pulleys secured on the shaft G.

R is a gear-wheel, the axle of which is carried in bearings S, supported upon A. It is
55 rotated by crank-handles T, and gears with the pinion A' on the intermediate shaft, B', carried in bearings O', attached to the sides E. On B' two pulleys, D', are secured, which,
60 by belts E', revolve the pulleys P and crank-shaft H, it being so arranged that the crank-shaft will make quite a number of revolutions to one of the shaft B'.

On the axle F' of the wheels D a pinion, G',
65 is secured, gearing with R, so that the two pinions A' and G' are simultaneously revolved by the revolution of R. Therefore the saws are worked up and down and the wheels D
70 turned round to draw the machine forward and keep the saws up to their cut by the motion of R. For the purpose of giving D greater tractive force they may be armed upon their peripheries with spikes or teeth. (See Fig. 5.)

H' is a truck, consisting of a pair of runners, I', united together by a cross frame-work,
75 K', in which is secured a "king" or center pin, L'. This extends up into the socket M a considerable distance, the socket being bored out and the pin turned to fit each other; but the
80 bore of the socket is in the upper part—say for about one-quarter of its height—reduced in size and cut with a screw-thread to fit the screw N', so that by screwing down N' the front part of the platform may be lifted or
85 jacked up, raising the wheels D from the ice.

A² are arms attached on the side E, holding guide-bars B² for guiding the machine by the
said bars sliding along the edge of the ice.

In working the machine, whenever it has to be
90 removed from one place to another, as in bringing it down upon the ice or in removing it at the end of a cut to come back and commence a new cut, the saws are taken off, or the slide-blocks may be so arranged that the saws may
95 be slipped up clear of the ice or ground. The guide-bars B² are also raised, and for this purpose the sockets at their ends may be provided with pinching-screws. The front of the platform A is lifted by the screw N', raising the wheels
100 D from the ice, so that the machine stands upon the runners B and I'. As the runners C are clear

of the ice, the machine may be readily removed from place to place by any ordinary draft-pole or shafts, A⁴, attached to the truck H'. When the machine has arrived at the spot where it is intended to cut the ice, corresponding holes are cut in the ice for the saws to pass down through. These are now put in place and the machine is carefully guided in a straight line in the direction required while making the first cut, to do which the screw N' is raised, allowing the wheels D to rest upon the ice, the truck H' simply sliding along in front. After the first cut has been made the saws are raised or taken off and the machine jacked in front and brought back to begin a new line of cuts. The saws and guides B² are now put in place, as shown clearly in the drawings, especially Fig. 1, where the part of the ice section lined horizontally indicates the ice cut with the saws.

Although not shown in the drawings, the axle F' and runners B and C are set with a very small amount of bevel, (not shown because the amount is too small to show on so small a scale,) about an eighth of an inch to the foot, to incline the machine to work away from the edge of the ice, and thus keep the guide-bars B² at a fair bearing upon the edge of the ice. (See Fig. 2.)

When it is desired to commence a cut upon the edge of an open space in the ice, as if the part of the ice shown in Fig. 1 section-lined by horizontal lines had been removed, in this case the machine will be brought to the position shown in Fig. 1, only that the runners C will now rest upon the ice, and those B will be in the water, the machine thus standing on the runners C and wheels D, the weight in front being so great that there will be no danger of its falling over into the water. The machine may

be now started to work in the same manner as hereinbefore described, and as the cutting proceeds the runners B will come to and mount upon the ice, lifting the runners C clear of the ice.

Although the machine is shown and described as having four saws, I do not confine myself to that number. If made with a greater or less number, any person of ordinary skill will understand from the above what changes are to be made without further description.

What I claim, and wish to secure by Letters Patent, is as follows:

1. The combination of the saws N with an operating mechanism, substantially as described, and traction-wheels D, simultaneously operated to move the machine forward, and runners B, substantially as described.

2. The combination of the saws N, wheels D, runners B, and operating mechanism by which the saws and wheels D are simultaneously operated, and guides B², the whole substantially as and for the purposes set forth.

3. The combination of the saws N, wheels D, runners C, and operating mechanism by which the saws and wheels D are simultaneously worked, substantially as described.

4. The combination of the platform A, provided with runners B C, wheels D, truck H', and guides B², also jacking device for raising the wheels D, with the saws N, and an operating mechanism for simultaneously working the said saws and wheels, the whole substantially as and for the purposes set forth.

FELIX L. DECARRIE PEARSON.

Witnesses:

CHARLES G. C. SIMPSON,
A. M. A. SIMPSON.