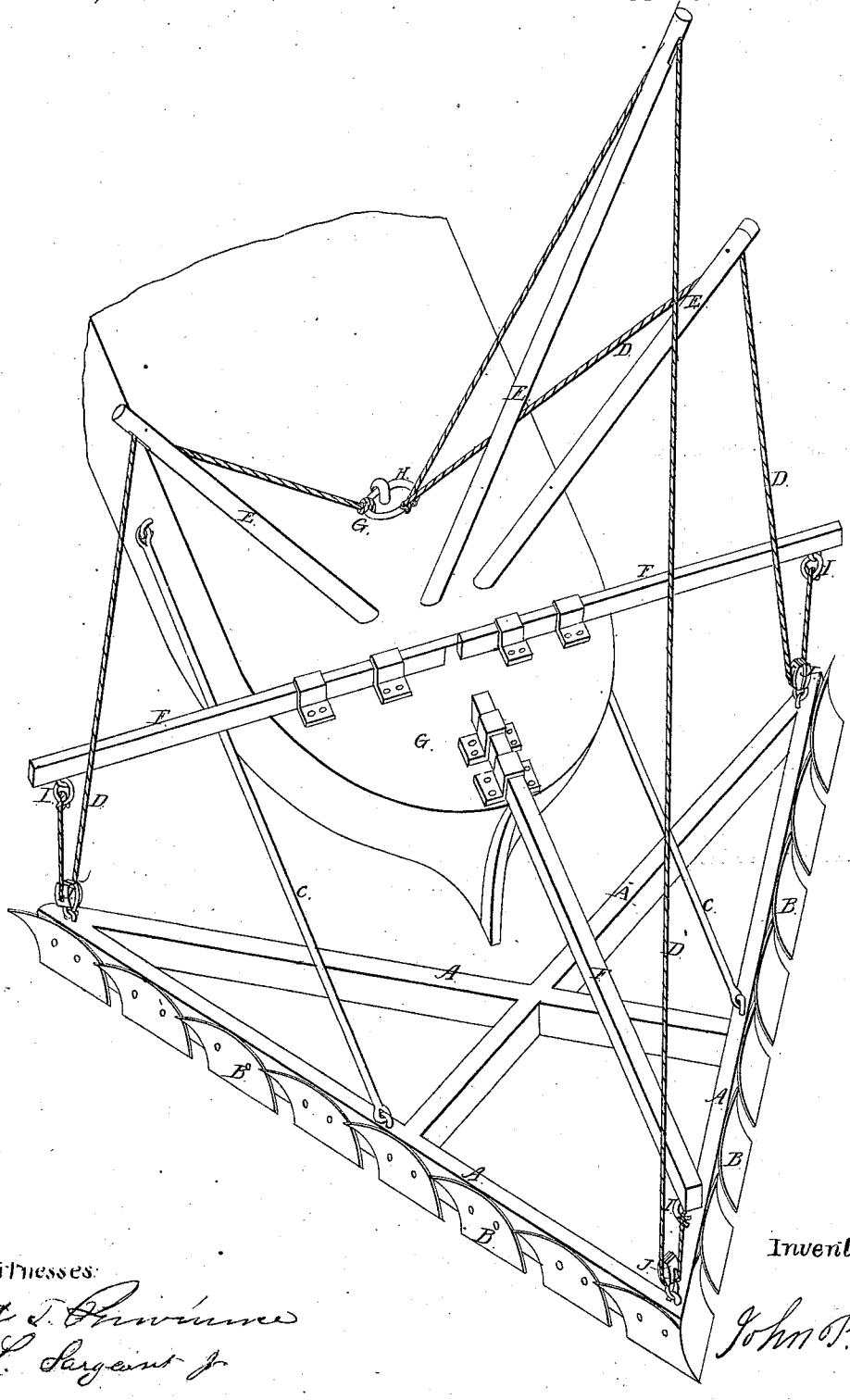
J. P. Hayes,

Dredger,

No. 30,819. Patented Dec. 4, 1860.



Witnesses:

A. J. Rivinus

L. Sargent Jr.

Inventor:

John P. Hayes

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN P. HAYES, OF HENNEPIN, ILLINOIS.

EXCAVATOR.

Specification of Letters Patent No. 30,819, dated December 4, 1860.

To all whom it may concern:

Be it known that I, JOHN P. HAYES, of Hennepin, in the county of Putnam and State of Illinois, have invented a new and useful Machine for Removing Sand-Bars in the Bed of Rivers, to be called a River-Plow; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Letter "A" represents a frame to be made of wood; letter B represents shares and mold boards, constructed of iron, and bolted to the triangular frame; letter C represents propelling rods, running from the sides of a common steamboat to the said frame; letter D represents ropes for raising and lowering the plow; letter E represents spars on steamboat; letter F represents timbers supporting the plow; letter G represents the bow of the steamboat; letter H represents a ring to attach ropes to on deck; letter I represents rings on the ends of the plow supporters; letter J represents pulleys for raising and lowering the plow.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I construct my plow of wood in a triangular form and of sufficient size to form the channel of the desired width. On the outside I attach mold board and shares of plows bolted to the frame. The same is propelled by common steamboat in front of the same, by rods attached to the boat and plow, to be arranged so as to be manageable by an individual standing on the bow of the boat, and elevated or depressed at pleasure.

The propelling rods, must be of sufficient length to keep the plow from touching the boat and the spars, and timber used to support the plow must be so arranged that when the plow comes in contact with any obstruction when it is in motion it can move far enough to prevent damage to the plow. It is to be managed by means of pulleys, as represented.

I claim as my invention and wish to secure by Letters Patent—

The manner of suspending, adjusting, attaching and propelling plows driven by steam and used in the bed of rivers for the purpose of removing sand bars therefrom.

JOHN P. HAYES.

Witnesses:

JOHN P. GERBERICH,

I. SARGEANT, Jr.