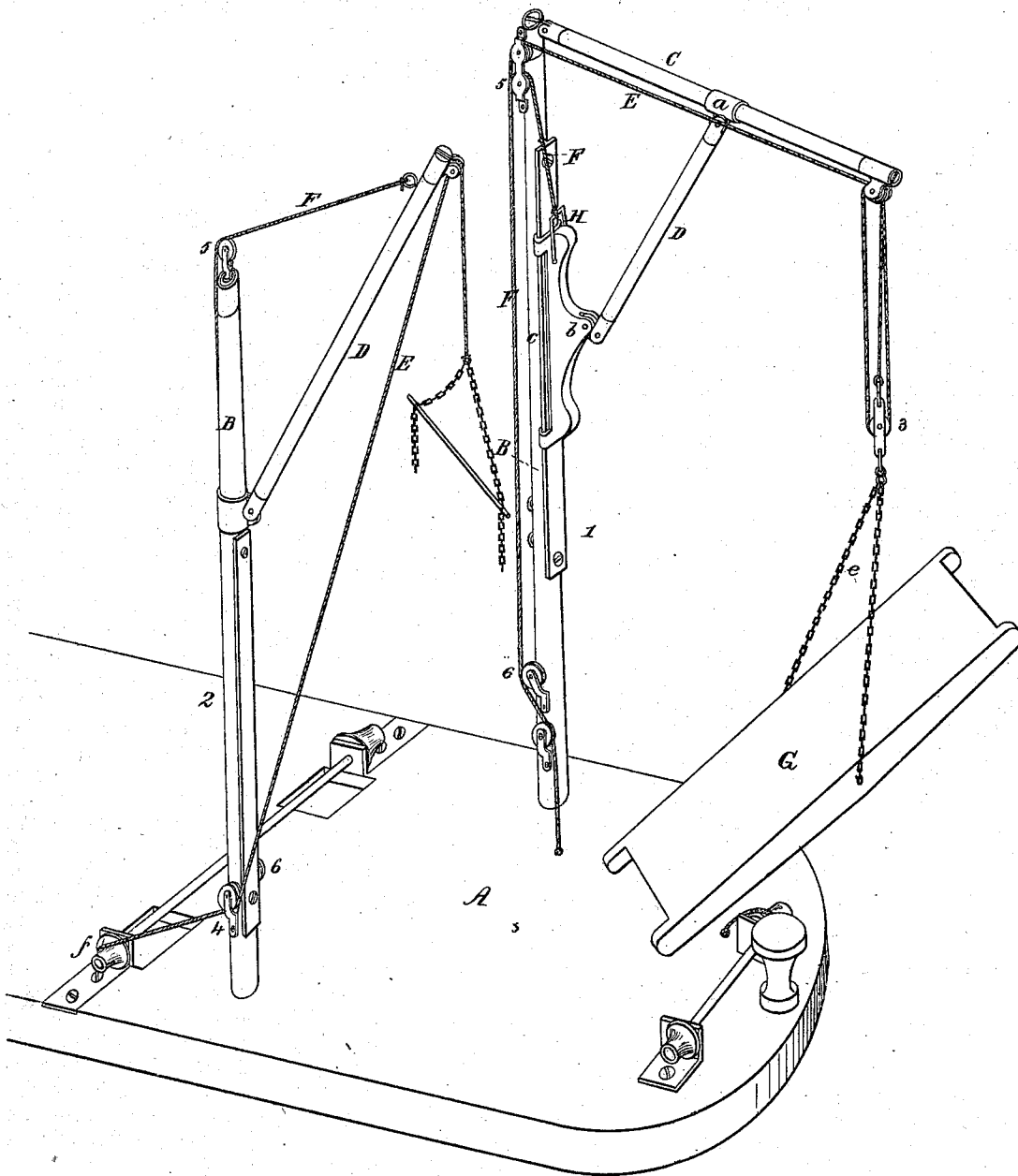


H. S. BLOOD.

Improvement in Derricks.

No. 124,878.

Patented March 26, 1872.



Witnesses:

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HANNIBAL S. BLOOD, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN DERRICKS.

Specification forming part of Letters Patent No. 124,878, dated March 26, 1872.

I, HANNIBAL S. BLOOD, of the city of New Orleans, and State of Louisiana, having obtained Letters Patent No. 103,834, dated June 7th, 1870, for an Improved "Derrick or Hoisting-Crane;" and having expended much time, labor, and expense to introduce my said invention into general use; and it having proved in practice of such great utility, not only to steamboat companies but to the public generally, as to have induced parties to attempt infringements upon my patent to my great injury and detriment—that I may be the better enabled to protect myself against the said infringement, I wish to improve my said patent of June 7th, 1870, by this second application with an improved model, drawing, specification, and claim.

My improvement, like my former patent, to which reference is above made, relates particularly to a means for avoiding the labor, expense, and delay which are incident to the duty of putting out and taking in the heavy and cumbersome "stages" as they are technically called, which are used on steamboats and other vessels by hand, at every landing they make. But my invention is equally applicable as a labor and time-saving instrumentality for a great variety of other purposes, which need not be specially mentioned, which means, may, in general terms, be said to consist of a sectional folding-derrick or crane that is so contrived that the projecting crane-arm may be raised and braced at any angle up to a right angle, or higher if necessary, and then lowered or dropped down again in a pendent position against the mast; neither operation requiring more than a few seconds of time to effect it.

But my invention can be better described and understood by referring to the drawing, on which it is illustrated in connection with the section of the deck of a steamboat and "stage," such as are used on American river steamboats and other vessels, especially those navigating the Mississippi river and other waters tributary thereto.

On the drawing, A may be supposed to be a section of the fore-castle or front part of the deck of an ordinary steamboat, on which it is usual to place two derricks, as shown on the drawing, and whereon, for reference, I have numbered them 1 and 2, respectively, and the similar letters refer to the corresponding parts

thereof. B is the mast or upright portions of my improvement; C, the crane-arm of the same; and D, the shifting-brace, to sustain and strengthen said crane-arm. On crane No. 2, represented on the right side of the deck, the above crane-arm C is omitted, and the shifting-brace D answers sufficiently well instead thereof for all practical purposes. The connection in crane No. 1, between the mast B and the crane-arm C, at the top of the former, is established by means of an articulating-joint, of any proper form or construction, which will allow the said arm to be raised until it projects at right angles to the mast B, or higher if necessary, and then to be brought down as low as may be required in practice. Under these conditions it will, of course, be understood that the crane-arm may be stopped and held at any intermediate point between a pendent or folded position alongside the mast, and a position of extreme elevation. The brace D is secured to the crane-arm at its upper end by means of a fixed or immovable sleeve-clamp, *a*, to which it (the brace) is connected by a pivot-joint, while at its lower end it is connected with the mast B, either by means of a loose sleeve, as in my former patent, and as shown in No. 2, or by the sliding clamp *b* and bar *c*, to which it is also pivoted or secured by a pivot-joint. The sliding clamp *b* moves easily up and down the bar attached to the mast, and hence allows the foot of the brace D to accommodate itself to the movement of the crane-arm, whether the same is being raised or lowered, and always to occupy a relation which will make it subserve the purpose for which it is designed. Other equivalent alternative arrangements for the sliding clamp or bar just described might be adopted without in the least degree deviating from the general principles of my invention. At the upper end of the mast B, and also at the outer extremity of the crane-arms C, a pulley or pulleys, are placed for carrying a cord or rope, E, which, fastened to the end of the crane-arms C, by any proper means passes through or under a detached block or pulley, 3, to which is attached a bracket or bail, *e*, or to two pendent ropes of equal length, with hooks secured to them at their lower ends, the object being in either case to provide a suitable connection with the stage G. The connection between the bail *e* and the stage may

be made by means of holes in the ends of the former, to slip over projecting pins on each side of the stage; or, if ropes or chains be used, eye-bolts or hooks may be substituted for pins in the sides of the stage. The rope E leads down the mast to a pulley, 4, attached to the bottom thereof, and thence to a drum, *f*, around which it may be wound one or two turns, and thence handled easily by one man, as the said drum is revolved either by hand or steam-power applied for this purpose, and by which means it is operated, and the stage lifted and thrown out or lowered, and drawn on board whenever desired. Another pulley, 5, at the top of the mast, establishes a means for the easy movement of another rope, F, which connects with the sliding clamp *b* through the agency of a chain or other bridle, H, and after being passed over said pulley 5 leads down to another pulley, 6, or its equivalent, substantially as shown. This rope F lifts and lowers the lower extremity of the brace D in the practice of the invention, and thereby actuates the crane-arm C, and raises or lowers it accordingly as the exigency of the case may require. The mast B must either have a socket-joint in it or be stepped in a socket in the deck of the boat, in such manner as to be freely rotated on its axis, in order that the crane may describe a complete orbit or circle, and thus be brought over any point around the mast at pleasure.

Two of my improved devices are required for every boat, one on each side of the fore-castle deck, but not near enough to the edge of the guards to make them liable to be knocked down by projecting objects, such as trees or the like from the banks of the river at the landings.

The operation of my invention is very simple. As a boat approaches a landing the crane-arm is elevated by the means herein described, and, in being elevated, is thrown out beyond the guard of the boat its whole length, if necessary, one man, or at most two, keeping hold of the inner end to guide and keep it in proper position until the boat touches the bank or wharf, as the case may be, when it is instantly lowered to its place, as shown in the drawing. If necessary, the bail *c*, or the ropes that are used instead thereof, are now disconnected in order to allow free space for the receipt or discharge of the freight over the stage; but, unless the freight be in packages or bales that extend over the sides of the stage, it will scarcely ever be necessary to disconnect either the bail or the ropes if the latter be used instead of the

former. For the landing or reception of passengers no disconnection will ever be necessary. When the boat is ready to leave the landing, the bail or ropes—if they have been disconnected from the stage—are reconnected thereto, and the boat may push off even before the stage is moved, since, obviously, it can be thrown in afterwards with the same ease as if the boat was motionless. Hence it follows that my invention saves time when the boat lands and when it departs again, the full measure of which can be estimated with something like precision, when it is understood that the stages of cotton and sugar-carrying boats on the Mississippi and other southern rivers have to be from three and a half to four and a half feet wide, and from thirty to fifty feet long; that they weigh from fifteen hundred to two thousand pounds, and require at all times from fifteen to twenty men to put them out and take them in; and when they have to be handled from the top of cotton-bales, piled on the deck of the boat, sometimes as many as thirty men are necessary to perform the duty.

With my invention a stage of any length or weight can be handled or managed by three men, and without the slightest danger or risk; whereas, as stages are now managed, there is always a great risk and danger that some of the men may be knocked overboard, or hurt in some way, particularly in the operation of getting out the same; and there is scarcely ever a trip made by the large cotton-carrying boats without an accident from this cause.

My invention, although especially designed for the handling of stages on boats, may plainly be applied to many useful purposes on shore, such as loading of railroad-cars and drays with cotton and sugar and pork, and other heavy things too numerous to mention.

I therefore claim the right of applying it to such purposes.

I claim as my invention—

The combination of the vertical mast B with the articulating and folding crane-arm C, when the same is sustained and strengthened by means of the shifting brace D, when all the parts are constructed, united together, and operated as herein described, by means of two ropes, E and F, and their adjuncts, as specified, for the purposes set forth.

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Witnesses:

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