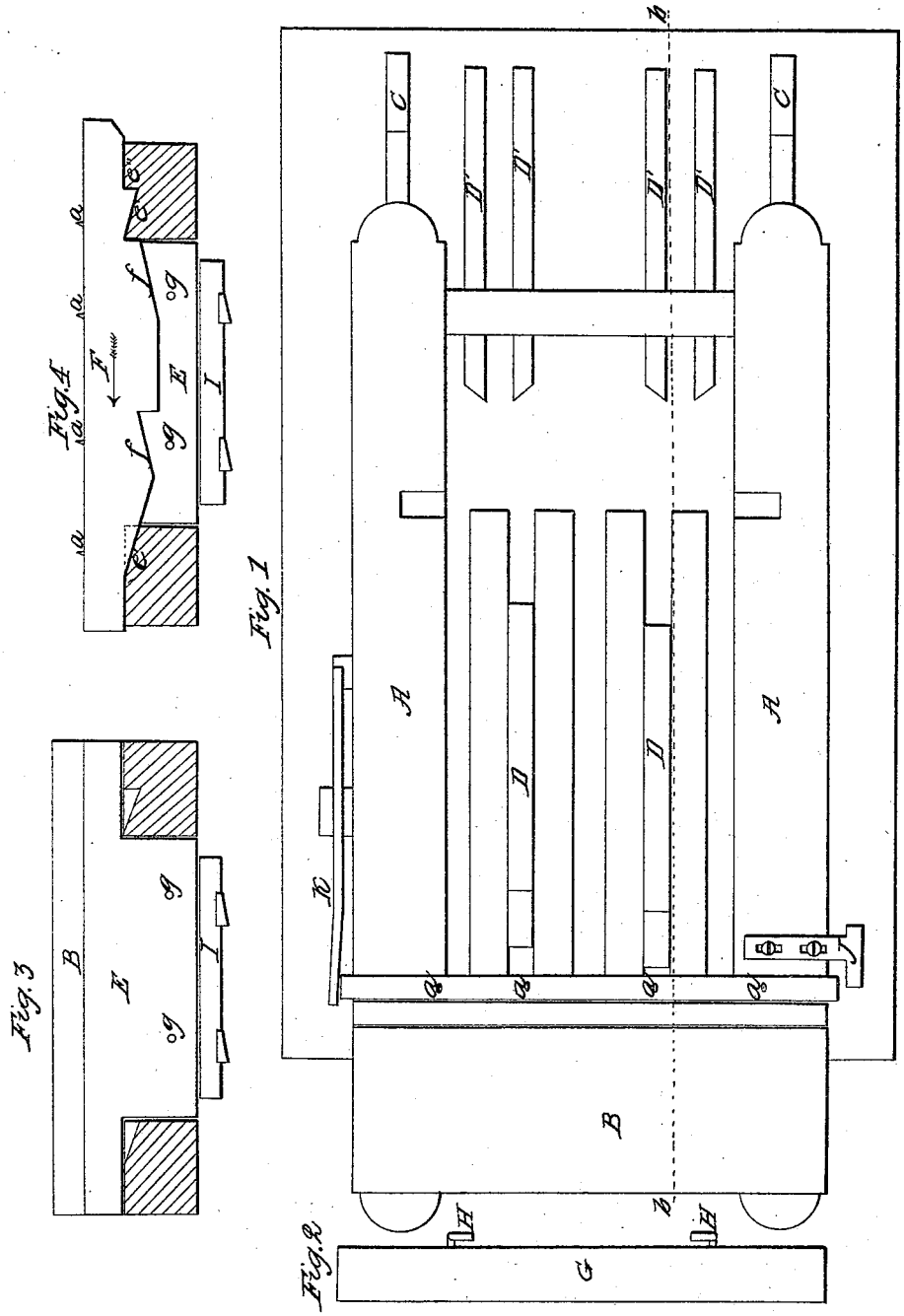
3 Sheets-Sheet 1.

L. Heald,

Sarr-Mill Head-Block.

No. 3,123. Patented June 3, 1843.



3 Sheets-Sheet 2.

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No. 3,123. Patented June 3, 1843.

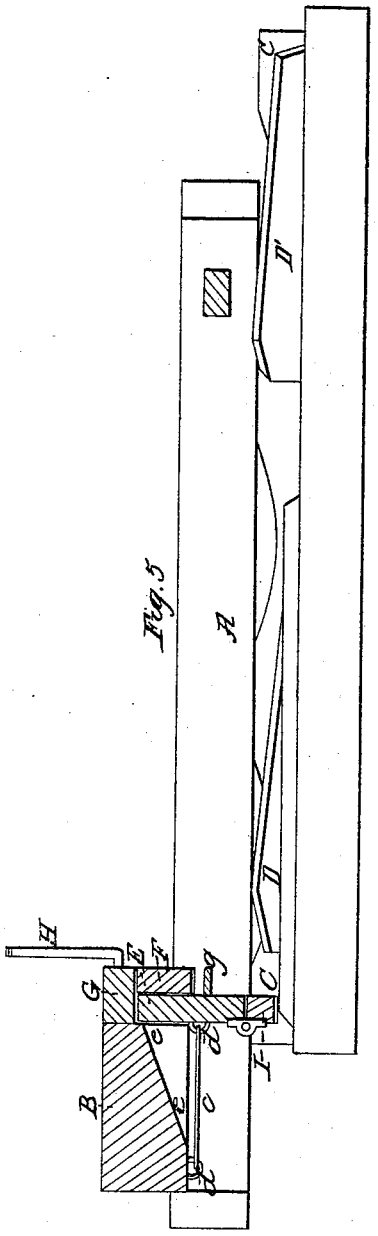

Fig. 5

3 Sheets-Sheet 3.

L. Heald,

Saw-Mill Head-Block.

No. 3,123. Patented June 3, 1843.

Fig. 7

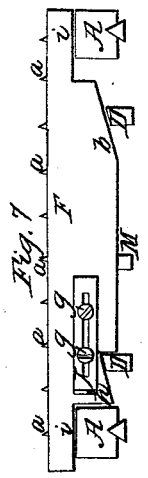

Fig. 6

UNITED STATES PATENT OFFICE.

LEVI HEALD, OF BARTLETT, OHIO.

SELF-SETTING HEAD AND TAIL BLOCKS FOR SAWMILLS.

Specification of Letters Patent No. 3,123, dated June 3, 1843.

To all whom it may concern:

Be it known that I, LEVI HEALD, of Bartlett, in the county of Washington and State of Ohio, have invented a new and useful Manner of Constructing Head and Tail Blocks of Sawmills, by which They are Rendered Self-Setting; and I do hereby declare that the following is a full and exact description thereof.

The main body of my head or tail block is formed in the usual way, but the part upon which the ends of the log rest is peculiar in its construction, being composed of three principal pieces. Two of these pieces, which may be of two-inch plank, are placed edgewise, resting on the sides of the carriage, within the main block, and form by their combination a bearing of four inches for the log; and upon these is laid the third piece of timber which may also be of two-inch plank, and be four inches wide; this latter piece forms the actual bearing for the log, being placed flatwise upon the two former; to this uppermost piece the dogs which are to hold the log in place are attached. The two pieces of plank first named do not, when the log is being sawed, stand at precisely the same height from the carriage, the outermost piece, or that which is immediately against the main block being a little, say a fourth of an inch, lower than the innermost piece, so that, at the time of sawing, the weight of the log is actually borne by the latter. In the act of backing the carriage, the outermost of the two pieces of plank is raised up by means of inclined planes placed on the floor of the sawmill, which operate upon a strip hinged to its lower edge, and which allows the carriage to pass in one direction without raising said pieces. When the log is raised so as to bear its whole weight on the outermost pieces of plank, the innermost pieces are forced endwise by the action of a spring, and are thus brought up against a gage duly set to the thickness of the stuff; and these pieces rise, at the same time up an inclined plane at each end. When the hinged pieces on the outermost bearing blocks are liberated from the inclined planes on the floor of the mill, the weight of the log resting on the innermost pieces, they slide down their inclined planes, are brought up against a shoulder on the carriage, and the setting of the log is thereby completed.

In the accompanying drawings, Figure 1, is a top view of a saw-mill floor and carriage with a part of their appurtenances. A, A, are the carriage sides; B, the tail block; C, C, the ways on which the carriage runs. The head block is not shown, as its construction, so far as my improvement is concerned, is the same with that of the tail block. D, D, D′, D′, are pieces of timber fastened to the floor of the mill, and constituting inclined planes for raising the log when it is to be set for a fresh cut. At the head block end there are two pair of these, as the parts concerned in raising and setting the log have to be divided into two, admitting the saw between them. E, is the outermost, and F, the innermost of the pieces of two-inch plank upon which the end of the log is to rest.

G, Fig. 2, is a piece of plank four inches wide, which is to be placed on the top of the pieces E, F. H, H, represent the dogs driven into this piece; *a*, *a*, *a*, are points driven into the upper side of the piece F, which, entering into the under side of the piece G, obviate all tendency to the slipping of the log upon it.

Fig. 3, is a vertical section of the saw carriage in the line of junction between the planks E, and F.

Fig. 4, is a similar section in front of the plank F.

Fig. 5, is a longitudinal, vertical section of the carriage and floor, in the line *b*, *b*, of Fig. 1. The plank E, is connected to the head block B, by bolts *c*, held by staples *d*, *d*; recesses *e*, *e*, being cut in the head block to admit said bolts when the plank E, is made to rise. D, D′, are inclined planes which serve to raise the plank E; but in the position in which the tail block B, is represented, which is that in which the log has just been set, the hinged piece I, would pass over the inclined planes D, without raising said plank; and in like manner similar pieces attached to the head block (but not represented), would pass over the inclined planes D′. The inclined planes D, are made adjustable on the floor to adapt them to the length of the log. The lower edge of the plank F, I cut in the general form shown in Fig. 4; the parts *e*′, *e*′, constitute inclined planes which are received into notches in the upper side of the carriage, and it will be apparent that were this plank slipped laterally in the direction of the arrow, its tendency would be to resume its present po-

sition were a weight, as that of a log, to be brought down upon it; this, it will presently appear, is one of the principal elements in my mode of setting the log. The parts *f*, *f*, also form two inclined planes against which projecting pins *g*, *g*, are brought into contact when the plank E, is made to rise; these pins serve to lift the inclines *e'*, *e'*, clear of their bearings on the saw carriage, and render it easy to move the piece E, laterally, when required.

J, Fig. 1, is a gage, having set screws, to determine the setting of the log.

K, is a spring, which may be of wood, and bears upon one end of the plank F, in order to move it laterally against the gage J, when the weight of the log is removed.

From the foregoing description of the respective parts, the manner of setting the log will be readily understood. When a cut has been made, and the carriage is being backed, the hinged pieces I, on the lower edges of the plank E, constituting posts to the head and tail blocks, are brought into action on the inclined planes D, D', by which the log is raised, say to the height of an inch, or more, above the plank F, which is consequently freed from its pressure, and said plank is then forced endwise by the spring K, against the gage J. When the log descends, its whole bearing is transferred to the plank F, through the intermedium of the dog plank G, and the plank F, carrying the log, will then descend the inclined planes *e'*, *e'*, until brought up by the shoulder *e''*, which will complete the operation of setting.

Having thus, fully described the construction and operation of my self-setting saw mill, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The manner herein set forth in which I have arranged the movable parts of the head and tail blocks, and combined them with the saw carriage, so that by the operation of the separate planks E, and F, conjoined with that of the dog plank G, and the hinged pieces I, operated upon by the inclined planes D, D', the log shall be raised so as to take its whole weight from the plank F, and allow of the lateral movement of the latter against the gage, in the manner, and for the purpose, set forth; and so that the weight of the log when again brought to bear upon the piece F, shall complete the setting, by the action of the inclined planes *e'*, *e'*.

2. I do not claim either of the individual parts above described when taken separately and alone; but I do claim to have invented a new combination and arrangement of the respective combination and arrangement of the respective parts concerned in the rendering the setting of a log on the saw-mill self-acting, which is new and distinctive in its character; and I therefore claim the said arrangement under any of the modifications of which it is susceptible, while the same character is preserved, and the instrument remains substantially as described, in its mode of action.

LEVI HEALD.

Witnesses:
THOS. P. JONES,
EDWIN L. BRUNDAGE.