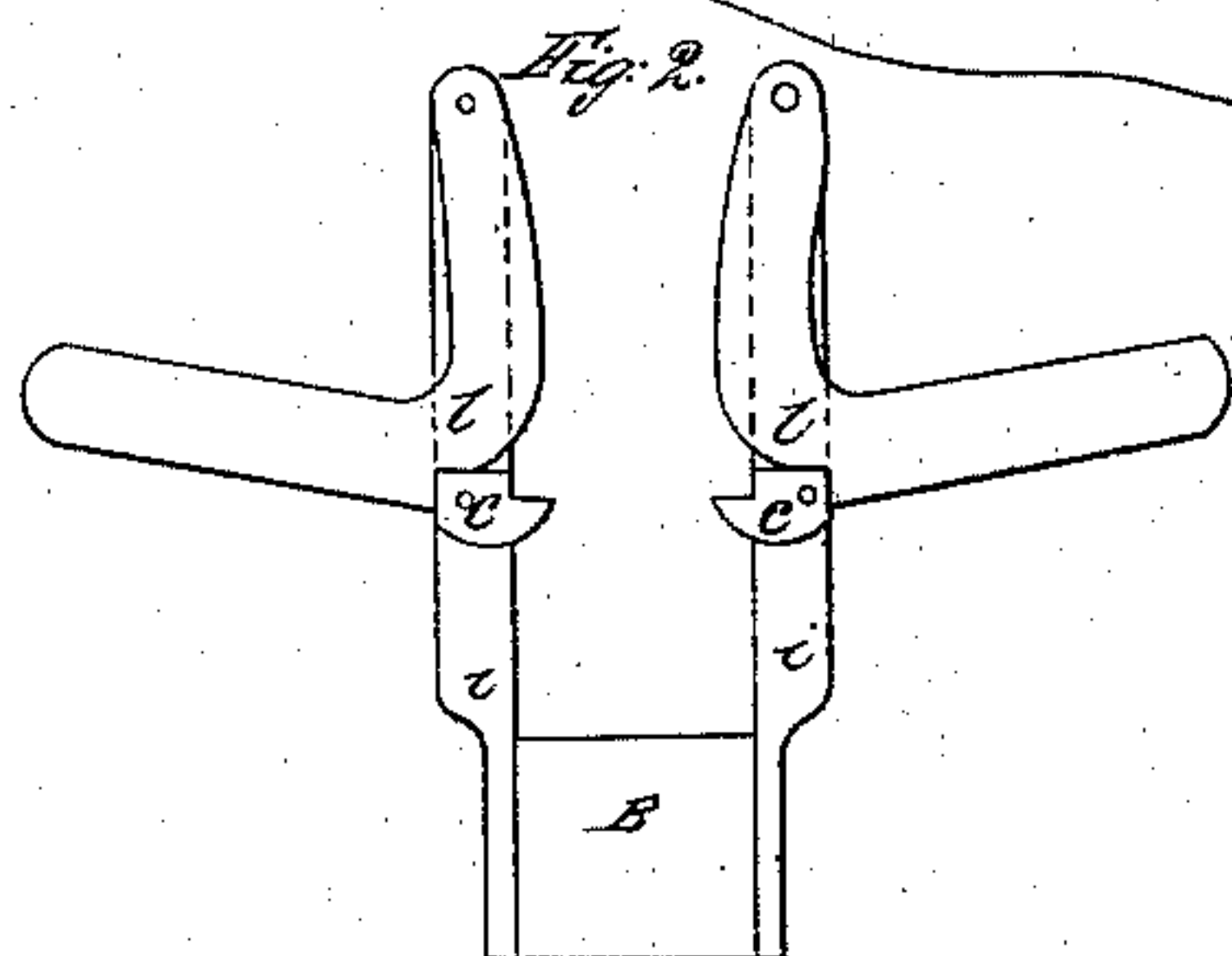
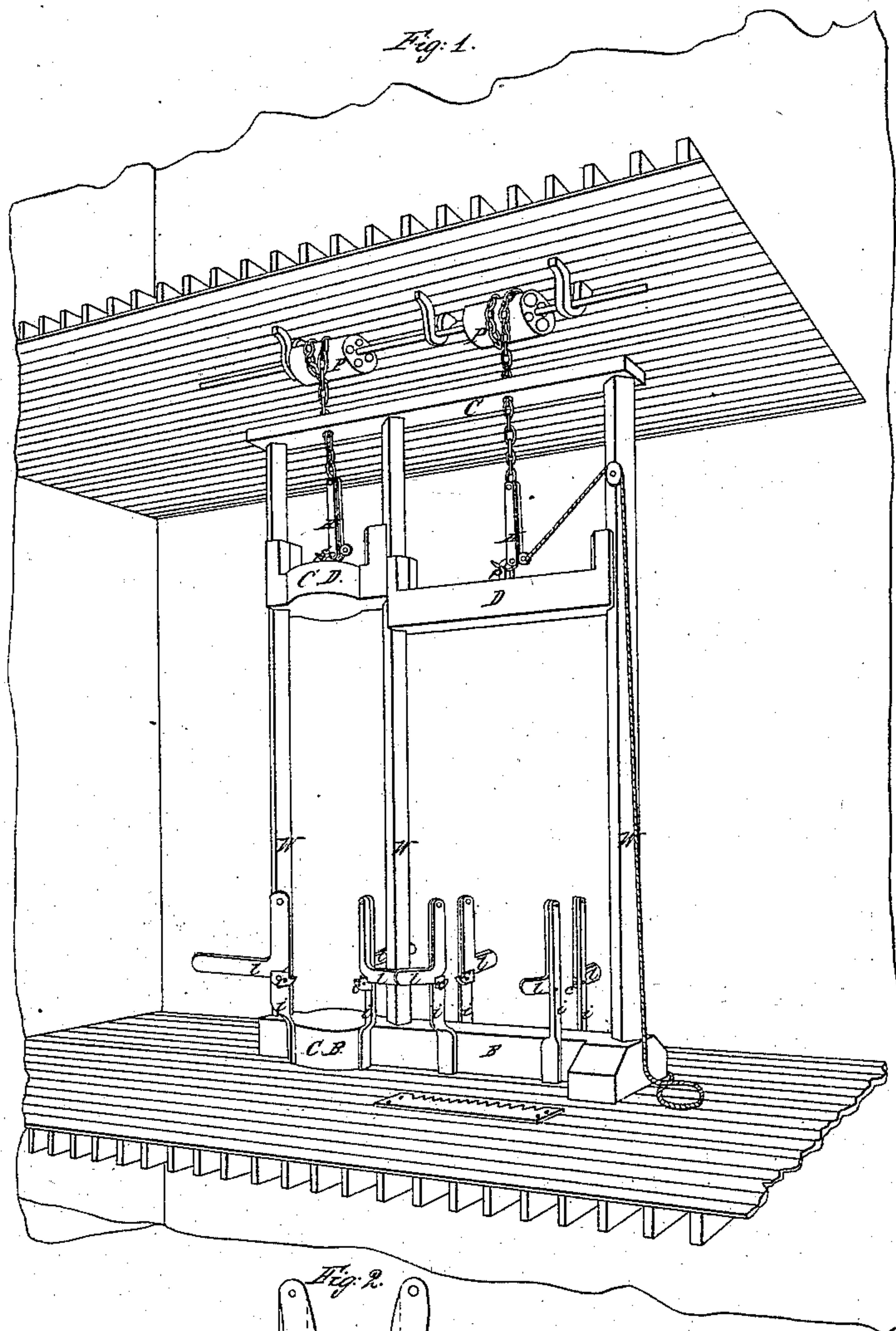


No. 8,115.

PATENTED MAY 27, 1851.

H. WATERMAN.
MACHINERY FOR HARDENING AND STRAIGHTENING SAWS, &c.



UNITED STATES PATENT OFFICE.

HENRY WATERMAN, OF WILLIAMSBURG, NEW YORK.

MACHINERY FOR HARDENING AND STRAIGHTENING SAWS, &c.

Specification of Letters Patent No. 8,115, dated May 27, 1851.

To all whom it may concern:

Be it known that I, HENRY WATERMAN, of Williamsburg, Kings county, New York, have invented a new and useful Improvement for Straightening, Compressing, and
5 Hardening Saw-Plates at One Operation.

When saw plates are hardened in the usual way they come out warped and irregular, and with a want of equal density
10 the steel wanting that compactness so valuable in cutting tools and which is never effected when the plates come from the roller. To straighten the saw plates and at the same time to regularly condense and
15 harden them is the object of my invention.

The construction is as follows cast iron bed plates are formed of proper dimensions that lettered B in the drawing being for straight saws and C, B, for circular saws,
20 the faces of these beds should be made perfectly level and true and that for the circular saws may have a pin or mandrel projecting up from the center onto which the saw fits while being straightened. From
25 each side of the bed constructed for either purpose standards, checks or guides W, W, project upward parallel with each other and reaching to a proper height for the fall of the drop D, or C, D, and are braced by a
30 cross piece C at the top, on each side of the bed are standards (i), to the tops of which are jointed arms or bent levers (l) by a bolt attaching them by their upper ends, thence the arms hang down a portion
35 of them being bent back at right angles as clearly shown in Fig. 2, in the drawing; at the angles of these levers notches are formed which catch onto projecting fingers or cams (c) and hold them in a horizontal
40 position and prevent their turning, then fingers project over the bed and are secured to the standards (i) by a bolt on which they turn when freed from the levers above named a portion of which also
45 project beyond the line of the standards as clearly represented in Fig. 2, so as to be struck by the drop in its descent and thus free the fingers so as to permit them to turn down out of its way. This latter apparatus
50 is for the purpose of sustaining the steel plate above the bed till it is struck by the

drop so that no part of the plate shall come in contact with the bed as otherwise it would get chilled and be unfit for the action of the blow upon it. The drop is hung
55 upon one of my improved cat hooks suspended to a cord or chain passing up over a drum P above by which it is raised. The drop consists of an oblong or other suitable formed casting D, or C, D, of about
60 half a ton weight more or less according to the work to be performed, at either end it is fitted to the guides W above described which steady it in its descent, its under surface is perfectly trued to corre-
65 spond with the bed.

The operation of this apparatus is as follows the drop is hoisted to its proper position as shown in the drawing and the cams or fingers set, the saw plate sufficiently
70 heated is then placed on the fingers at an elevation of some inches above the bed and in a horizontal position and the drop is then let go. In descending it strikes away the lever and fingers and carries down the
75 plate with it striking a powerful blow sufficient to straighten and condense the plate in a proper manner for use, making every portion thereof of equable density and perfectly stright by which the danger of its
80 afterward becoming warped while using or grinding is obviated. The superiority of the article manufactured by this process is at once determinable on inspection.

Having thus fully described my improve-
85 ments in the method of straightening and hardening saws &c what I claim therein as new and for which I desire to secure Letters Patent is—

The employment of the apparatus above
90 set forth for straightening and hardening steel plates for saws &c at one operation consisting of the fingers or cams substantially as described which support the article to be straightened compressed and hard-
95 ened, combined with and aided by the drop in the manner and for the purpose above specified.

HENRY WATERMAN.

Witnesses:

T. C. DONN,
J. J. GRENOUGH.