W. TODD.

Making Chains.

No. 8,029. Patented April 8, 1851.

Fig. 1

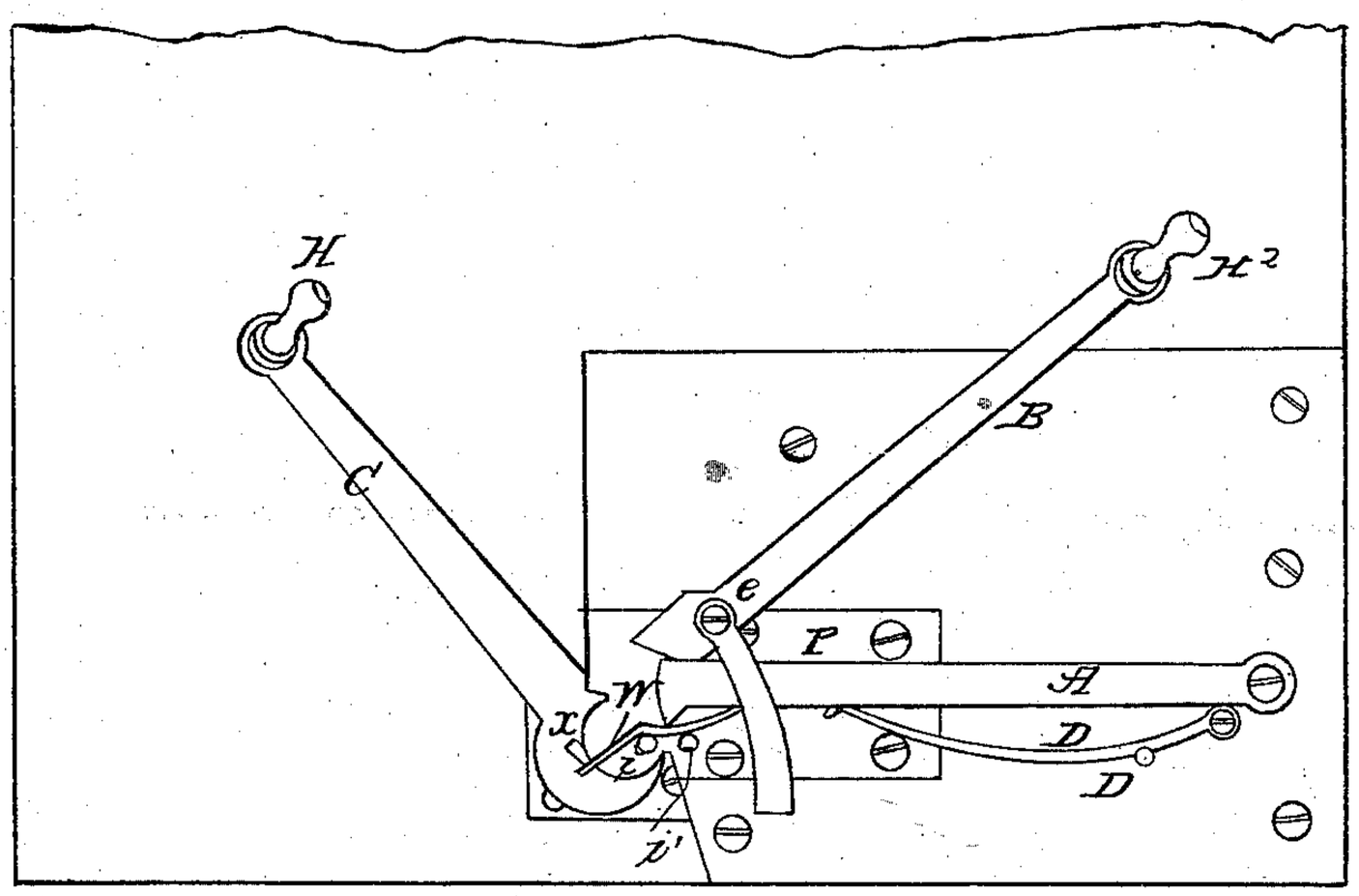
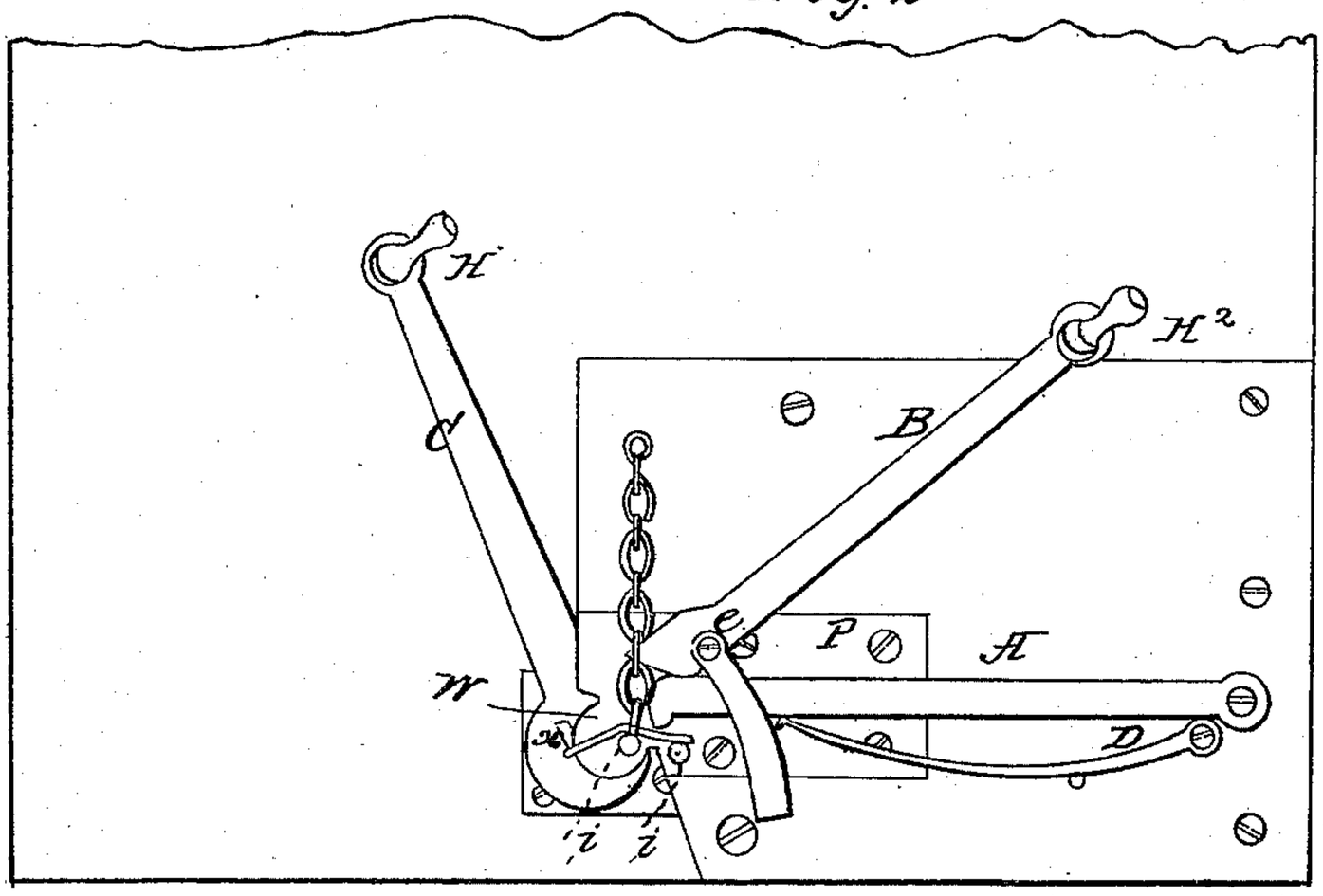
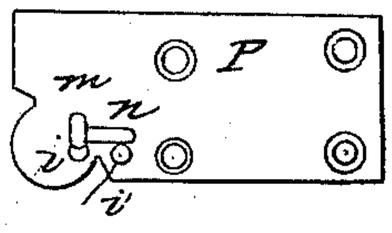


Fig. 2





UNITED STATES PATENT OFFICE.

WM. TODD, OF STAMFORD, CONNECTICUT, ASSIGNOR TO CHAS. ATWOOD AND GEO. KELLOGG, OF DERBY, CONNECTICUT.

TOOL FOR MAKING JACK-CHAINS.

Specification of Letters Patent No. 8,029, dated April 8, 1851.

To all whom it may concern:

Be it known that I, WILLIAM TODD, of Stamford, in the county of Fairfield, State of Connecticut, have invented new and useful machinery for making jack-chains from wire by two successive operations of machinery actuated by hand and constituting both together a single pair or set; and I hereby declare the following, taken in connection with the accompanying drawings, to be a full and exact description of my invention.

The nature of my machinery is to receive pieces of wire of suitable lengths for one link each, and by placing one length at a time, by the hand, in machine No. 1, and operating the levers as hereinafter described, the first bow of a link is bent around a stud-pin of suitable size, thus forming one bow or a half-bent link, which is laid by to be transferred to machine No. 2, which is much like the other machine, the stud pin however having a groove or recess in it large enough to receive and partly cover the wire of a bow placed in it, while the straight end of a half-bent link is put through the bow and against the grooved pin, and bent around it embracing the stud-pin with the wire of a bow in its recess; and thus the second bent bow interlocks with a first bent bow, and so on successively—machine No. 1, bending all the first bows, and machine No. 2 bending all the second bows of each link—interlocking and finishing the chain. The half-bent link may be put a second time in machine No. 1 and the straight part bent together around the pin within about the diameter of the wire, so that the closed bow of another link may be hooked in, and the link closed by a hammer, vise or press, but I prefer to use the two machines.

I call my machinery, hand machines, to distinguish them from Atwood and Kellogg's chain machine which is for the most part very different and not actuated by hand, but it has the grooved or fluted stud-pin the same as used in mine.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and application.

I place each machine of a set on a bed of wood of a size and thickness varying according to the size of the wire intended to be worked on it. For the largest wire commonly worked it is convenient to use plank about two and a half feet long and one foot wide and one and a half inches thick for the lower part of this bed, and for the upper part of the bed, another piece laid upon it of the same breadth and thickness about one foot and a half long. The two parts fastened together constitute the bed, which is to be attached to any suitable work bench. On the upper part of the bed I fasten the foundation plate marked P in the plan drawing hereto annexed. At one corner of P, it is formed into a shape resembling a rule-joint. At the center or under it is placed the pivot of the bending lever C, which can sweep around upon or above the lower part of the bed about half a circle, having a handle at H, and at its pivot end a broad circular pad turning on a pin placed under the center of the rule joint, and the hole for this pin or pivot should be at or near one side of the pad, as may be seen in the drawings. In the pad of the bending lever C is the bending stud x, which reaches above the foundation plate P, about the diameter of the wire, and is so placed from the pivot of C, that, taking the wire by its end before it when the lever is turned, and bringing the stud x between the stud-pins i and i', the inside of the stud x will be the diameter of the wire distant from the stud-pin i. By this kind of arrangement of the stud pins i and x and the lever C, the bending stud x is made to approach the stud i by a scroll like or eccentric motion, winding the wire around the stud i without slipping or rubbing and enabling the lever to be brought back without unwinding the wire and the link to be readily removed.

In the plate P, and in the rule joint part of it near the circular edge of it where it joins the plate in front is set the stud-pin i, and across the place of junction of the rule joint in front, about $1\frac{1}{8}$ inch distant (for this size of chain), is another pin marked i'; across these two pins, i and i', a length of wire, w, is laid, and the holding-dog, A, is pressed down on it by the cam, or section of an eccentric, on the lower end of the lever B, which has a handle at H^2 at its outer end, thus bending the wire into a suitable shape at that place to form a link, and holding it while the bending stud x winds the wire around the stud i carrying

the end of the wire before it till it meets the body wire under the holding dog, and thus the first bow is bent. To release it the bending lever, C, is thrown back to its first position, and by moving the lever B toward the front a little distance the dog A is relaxed and moved back by the spring D, and the half-bent link is taken from machine No. 1, which is ready to receive another length of wire, and so on as before.

Machine No. 2, has all the parts, forms and action the same as those of No. 1, the same letters referring to the same parts, excepting that it has a groove or recess in its stud-pin to receive the previously formed bow of a link and partly cover it while the second bow is bent and thus locking the links together, as has been before sufficiently described. It has also a small sink or depression cut in the foundation plate near the pin i' to receive the bow of a half bent link while the other bow is bent, and is marked n. Another sink is also made, marked m to receive the bow of a finished link while the other is being bent.

Having now fully described my invention I disclaim all right to the grooved pin.

But I claim the combination of the stud-pins i and i' with the bending stud and holding dog, arranged and acting substantially as described.

WILLIAM TODD.

Witnesses:
J. M. COLLUM,
FLOYD T. PALMER.