(No Model.)

S. A. PHILLIPS.

MACHINE FOR BENDING TIN ROOFING CLEATS.

No. 305,757. Patented Sept. 30, 1884.

Fig 1

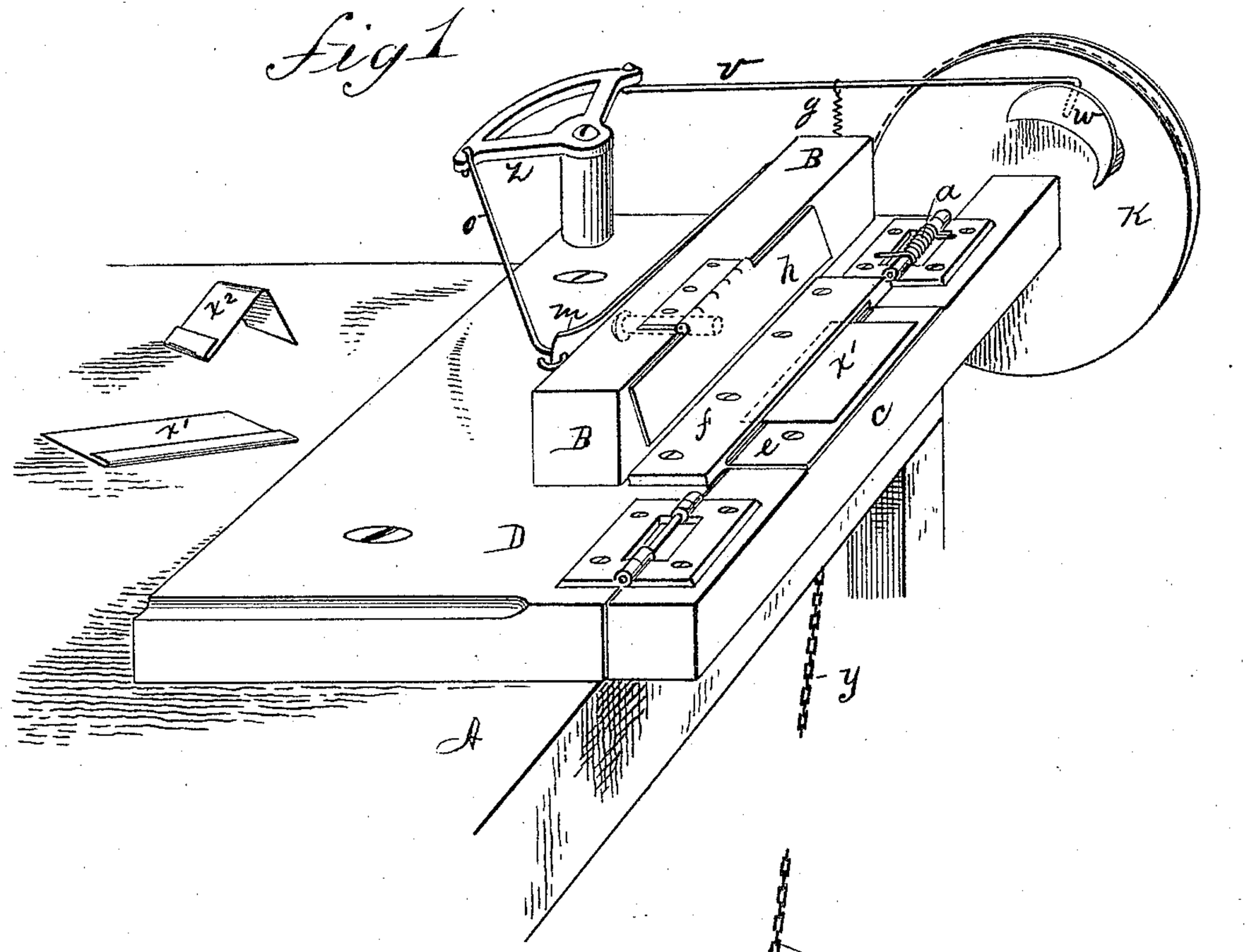
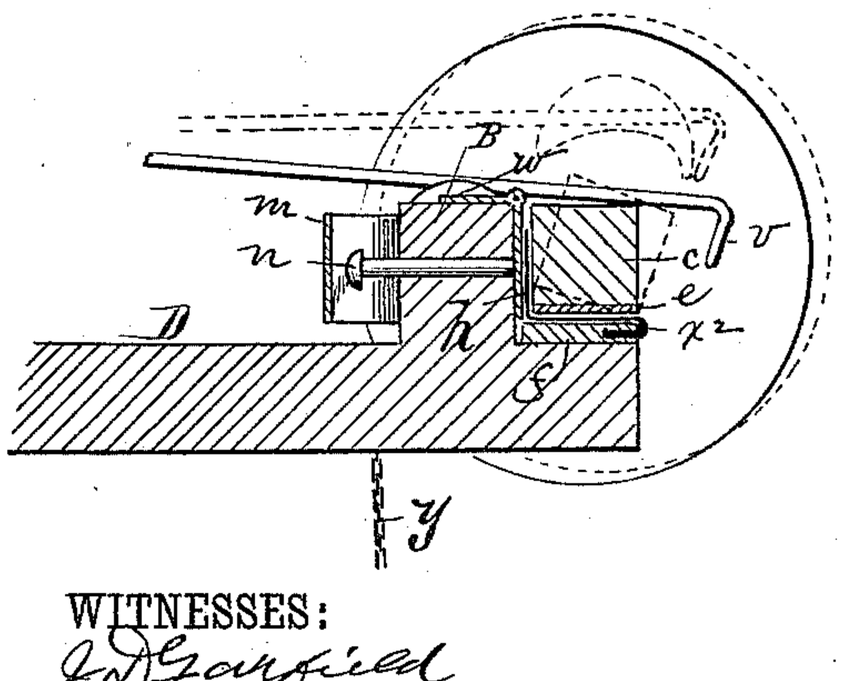


Fig 2



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MACHINE FOR BENDING TIN-ROOFING CLEATS.

SPECIFICATION forming part of Letters Patent No. 305,757, dated September 30, 1884.

Application filed March 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, STANLEY A. PHILLIPS, a citizen of the United States, residing at Amherst, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Machines for Bending Tin Roofing Cleats, of which the following is a specification.

This invention relates to improvements in machines for making tin roofing cleats, the object being to provide a machine for this purpose which, operated by a single reciprocating rotary movement of the bending-bar, completes the cleat and throws it from the machine ready for use.

In the drawings forming part of this specification, Figure 1 illustrates a cleat-bending machine constructed according to my invention. Fig. 2 is a detailed view.

In the drawings, A is a bench on which the machine is secured for operation. D is the bed of the machine, having hinged to its front edge the bending-bar *c*. A throw-over spring, *a*, is attached to the pintle of one of the hinges of bar *c*. A chain-wheel, K, is secured to one end of the bending-bar, over which a chain, *y*, runs, one end of the latter being attached to the wheel and the other to the foot-treadle *i*. A hook-catch, *w*, of segmental form, having its outer edge turned toward the periphery of wheel K, is secured on the side of the latter. The bending-bar has the face-plate *e* secured thereto, as shown. A plate, *f*, is secured on the bed D, back of plate *e*, between the front edge of which and the bed there is a recess. An abutment-block, B, is located on bed D back of the plate *f*, to which is hinged the throw-off plate *h*. A pin, *n*, passes through block B, and a spring, *m*, secured to the rear side of the latter, is adapted to strike the pin *n*, as and for the purpose hereinafter set forth. A bell-crank lever, *z*, is pivoted to a post on bed D, one arm of which is attached to the free end of spring *m* by the rod *o*, and to its other arm is secured the hook *v*, which reaches forward by the side of wheel K, as shown. A spring, *g*, attached to hook *v* and to the bed D, draws said hook downward against the catch *w* when the latter runs under the hook.

The operation of my improvements is as follows: A flat piece of tin or other suitable metal of proper size to make a roofing-cleat, x^2, is placed on the bending-bar *c* when it occupies the position shown in Fig. 1, and its back edge is pushed under plate *f*, as is the edge of plate x' in Fig. 1. The operator then bears down treadle *i*, thereby rotating wheel K, and turning bar *c* to the position shown in Fig. 2—that is to say, bringing plate *e* onto plate *f*, and binding the edge of the clip x^2 upon the edge of the latter, as shown in Fig. 2, and forcing the free end of the metal between bar *c* and the throw-off plate *h*, thereby finishing the bending of the cleat x^2. At this point in the operation of the machine the relative positions of the hook *v* and hook-catch *w* are as shown in full lines in Fig. 2. The operator now releases treadle *i*, and spring *a* throws over bar *c* with some force to the position shown in Fig. 1, and as wheel K turns the hook-catch passes under hook *v*, and, engaging with the latter, swings lever *z*, and draws the end of spring *m* away from abutment B; but when catch *w* has passed a little beyond the position shown in dotted lines in Fig. 2, hook *v* is disengaged from catch *w* by the rolling motion of the latter letting spring *m* strike the end of pin *n* with sufficient force to cause it to swing the plate *h* suddenly against the clip x^2, and throw it from the machine finished. The parts x' show a single-bend cleat, which is made with the same facility as cleat x^2.

It will be seen from the foregoing that by the use of this machine the operator's hands are at liberty to feed it, and that the bending of the cleats and their discharge from the machine is effected simply by the operation of the treadle.

What I claim as my invention is—

1. In combination, the folding-bar *c*, and means, substantially as described, for giving it a reciprocating rotary motion, the plate *f*, having a recess thereunder, the abutment B, the throw-off plate *h*, hinged to the latter and having a vibratory motion thereon, and means, substantially as described, for operating said plate *h*, substantially as set forth.

2. In combination, the throw-off plate *h*, pin *n*, spring *m*, and means, substantially as described, for operating said spring.

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