W. W. Martin,

Making Spikes,

No. 62,553. Patented Mar. 5, 1867.

Fig. 1.

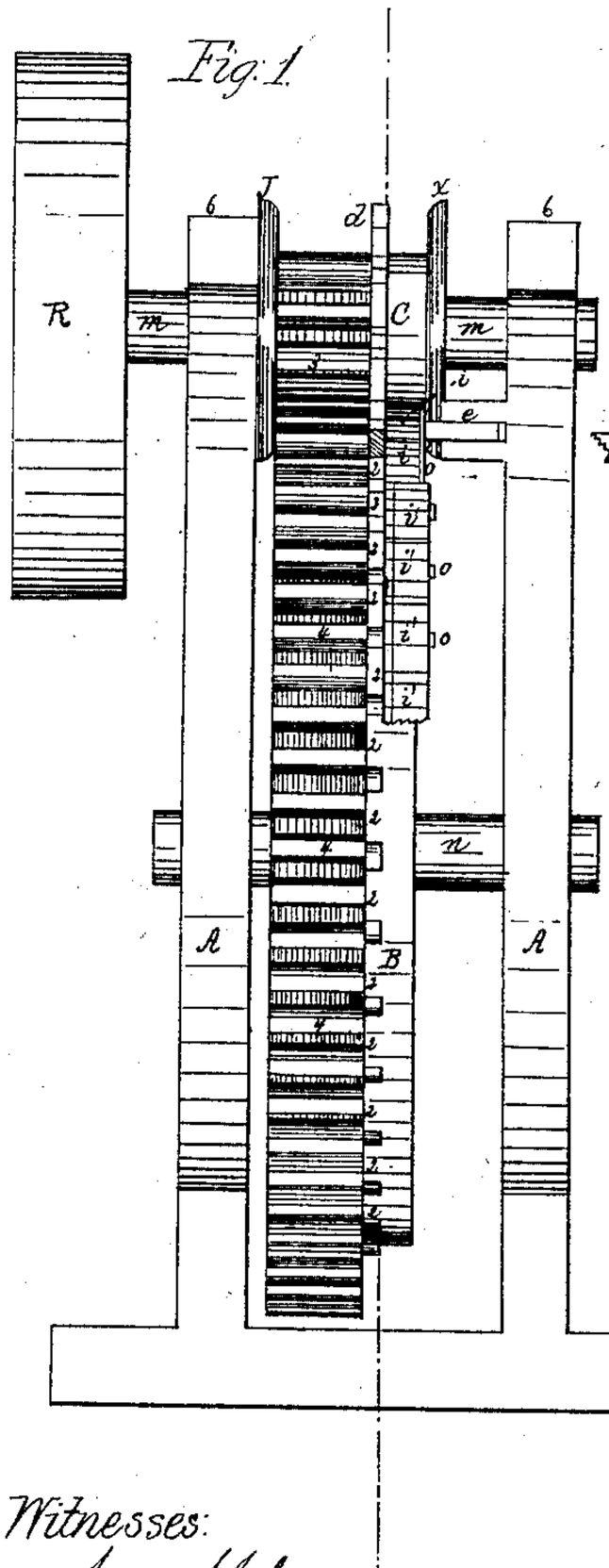
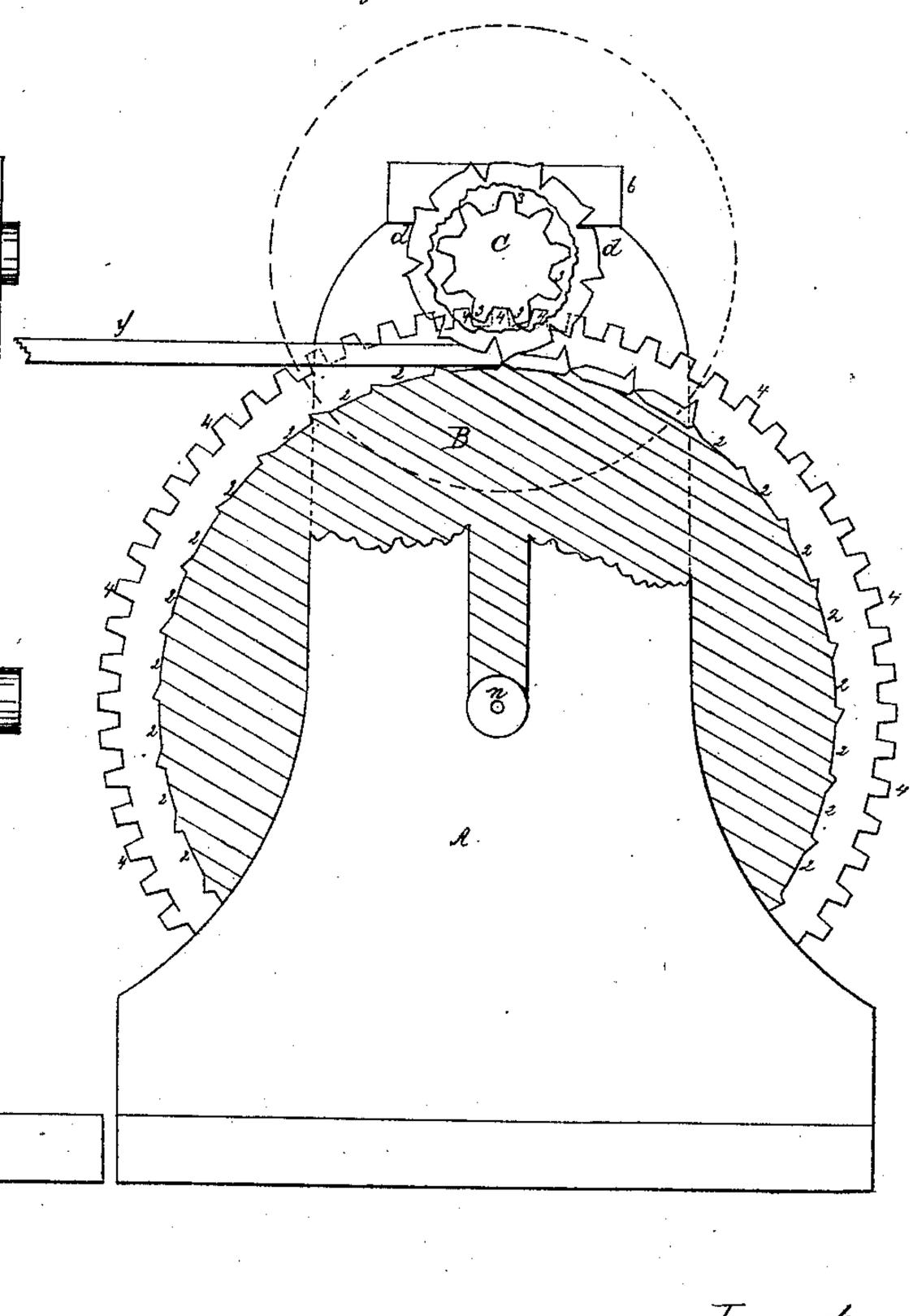


Fig. 2.



Witnesses:

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United States Patent Office.

WILLIAM W. MARTIN, OF ALLEGHENY CITY, PENNSYLVANIA.

Letters Patent No. 62,553, *dated March* 5, 1867.

IMPROVED SPIKE MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM W. MARTIN, of the city and county of Allegheny, and State of Pennsylvania, have invented a certain new and useful improvement in Spike Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the combination and arrangement of two rolls, furnished with suitable dies and spring-clamps, said spring-clamps being operated by a flange or friction-roller, and said rolls being geared together, and constructed and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the accompanying drawings—

Figure 1 represents a front elevation of my improved spike machine.

Figure 2 represents a side elevation of the same, showing a transverse section of the two rolls, cut through at line 5 in fig. 1, and also representing the dies which form the spike, and also the manner of gearing the rolls together.

In the drawings, A represents the bearings or frame of the machine. B represents the large roll. C represents the small roll. 3 and 4 represent cogs, which are used for gearing the rolls B and C together. *d* represents the dies on the small roll, and 2 represents the dies on the large roll. The relative size or diameter of the rolls should be such that the whole number of divisions of the dies on the small roll should divide into the whole number of divisions of the dies on the large roll; that is to say, if the die *d* on the small roll is divided up so as to form one side of nine spikes, (as shown in fig. 2,) then the die 2 on the large roll should be divided up so as to form one side of twenty-seven, thirty-six, forty-five, or fifty-four spikes. *m* represents the axle of the small roll; *n* represents the axle of the large roll. On the axle *m* of the small roll is placed a driving pulley, marked R. 6 represents caps or plumber-blocks, which are used for holding the axle *m* and the small roll C in the proper position. J and X represent flanges on the small roll, and are used for the purpose of preventing the dies from shifting sideways, and may be used for operating the spring-clamps marked *i* and *i'*. The clamps *i* and *i'* are secured to the side of the large roll by means of springs, marked *o*. The clamps are used for forming one side of the spike, and for making any indentation in the side of the spike which may be desired; and are also used with relation to the roll B and its dies, for the purpose of forming one side of the die for each spike, and so arranged, that after the spike is formed, it springs back and relieves the spike, so that it may drop from the die at the proper time and place. *e* represents a friction-roller, and is used for forcing up the clamps *i* and *i'* to complete the die for each spike as it is formed by the rolls C and B and the dies *d* and 2.

The operation of my improvement in spike machines is as follows: Having all things constructed and arranged as herein described and represented, I apply power to pulley R, which will revolve the shaft *m* and roll C, which, with its cogs marked 3, which gear into the cogs 4, will revolve the roll B, and the revolving of the rolls C and B will revolve the dies *d* and 2. I then take rods or bars of iron of the desired size and form, as they come in the "last pass" from the rolls, or I heat them in a suitable furnace, and enter the bars or rods between the dies *d* and 2 of the rolls C and B, as indicated by the rods marked *y*, and as the rolls and their dies revolve, the clamps *i* and *i'* are forced up by the friction-roller *e* so as to form one side of the spike, and after they have performed their office and passed from under the friction-roller *e*, the spring *o* will cause them to spring back and relieve the spring from all pressure of the dies, and the spikes, at the proper time and place, will drop from the rolls and dies in the receptacle provided for them. The arrangement of the dies for forming the head and point, and for cutting the spikes off as they are formed, will readily be seen and understood by reference to the accompanying drawings.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention is—

1. The side clamps *i* and *i'*, when used in combination with the dies 2 on the roll B, as herein described, and for the purpose set forth.

2. The friction-roller *e*, when used in combination with the side clamps *i* and *i'*, as herein described, and for the purpose set forth.

3. The flanges J and X on the roll C, when used in combination with the roll B and side clamps *i* and *i'*, as herein described, and for the purpose set forth.

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Witnesses:

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