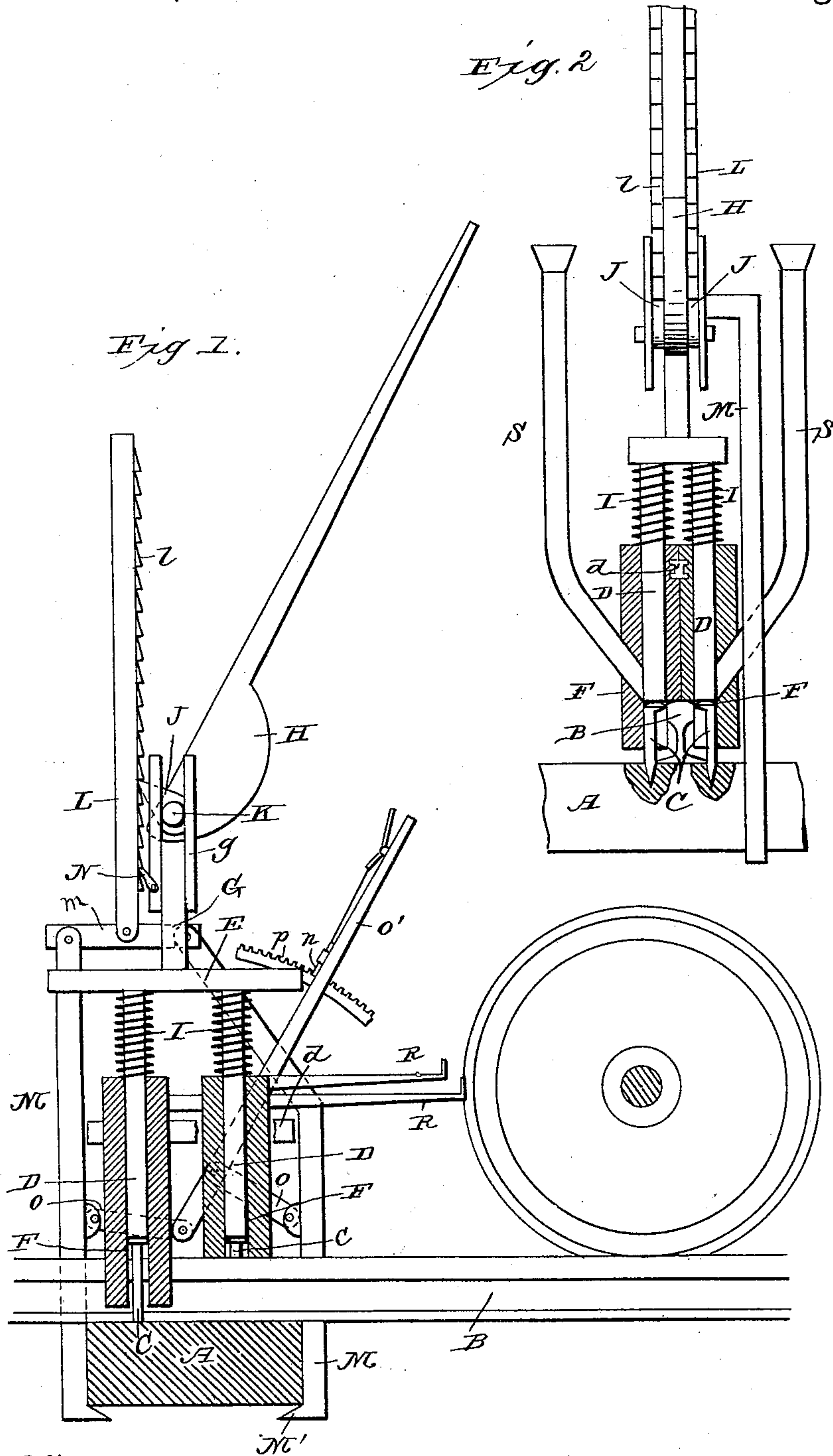


(No Model.)

M. SORENSON.
MACHINE FOR DRIVING SPIKES.

No. 434,529.

Patented Aug. 19, 1890.



Witnesses

Alex. Stewart.
E. D. Smith

Inventor

Marius Sorenson
By his Attorneys
Louis F. Allen & Co.

UNITED STATES PATENT OFFICE.

MARIUS SORENSON, OF ST. PAUL, MINNESOTA.

MACHINE FOR DRIVING SPIKES.

SPECIFICATION forming part of Letters Patent No. 434,529, dated August 19, 1890.

Application filed October 5, 1889, Serial No. 326,093. (No model.)

To all whom it may concern:

Be it known that I, MARIUS SORENSON, of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Machines for Driving Spikes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

The object of this invention is to provide a machine for driving spikes, particularly spikes or track-fasteners employed in railroad construction, which will do the work quicker, easier, and better than the old method of driving them in with the hammer, causing less injury to the spikes and ties by preventing the formation of splinters, splinters, and interstices which will admit air and water and cause the spikes and ties to rust and rot and in time the rails to work loose.

I will first describe my invention at length, and then point out what I deem to be the particular points of novelty in the appended claims.

Referring to the accompanying drawings, Figure 1 is a side elevation, partially in section, of a machine constructed in accordance with my invention. Fig. 2 is a view at right angles to Fig. 1.

Like letters of reference denote the same parts.

As before intimated, the machine is primarily designed for use in driving the spikes for fastening railroad-rails down to the ties, although it may be used for similar purposes anywhere, being, however, for the primary object mounted on a truck or frame-work, by which it is conveyed to the desired locality. This frame-work and truck form no part of my present invention, and I have therefore not deemed it necessary to illustrate or describe the same with particularity.

A indicates the tie, B the rail, and C C spikes or rail-fasteners held by guides F—one on each side of the rail—in position to be driven into the tie by bars or plungers D, adapted to be reciprocated within the guides. Guides F are located in different planes and are, together with the plungers, free to move independently forward or backward to bring

the spikes to the proper position, according to the size of the tie, levers R R being provided for moving the same, and a guide-rail *d* to keep them in proper alignment on opposite sides of the rail. A cross-bar E rests loosely on the upper ends of plungers D, being provided at the center with an upright G, working in guides *g*, secured to the frame. Above the upright G, and held from lateral movement by the guides *g*, with which its shaft K engages, is a power cam or lever H, which may be operated by hand or other power, and serves to force the spikes into the tie. The plungers are moved up by springs I and downward by power H, as just described.

M are gripping-jaws, connected at the upper end by the cross-piece *m* with the upwardly-extending portion L, at the center provided on the forward side with ratchet-teeth *l*, with which the pawls J on the shaft K engage to prevent the upward movement of the power-lever. Two pawls J are employed—one on each side of the power-lever—and in addition thereto a third pawl N is provided, mounted on the frame and also adapted to engage the ratchet-teeth *l*. This arrangement enables the gripping-jaws and ratchet-bar to be elevated and the spike-driving plungers to be depressed by simply moving the power-lever up and down.

The gripping-jaws M extend below the rail and have the inwardly-turned points M' for grasping the tie, links O being connected to each of said jaws and united by a lever O', held in adjusted position by the ratchet-bar and pawl *pn*, respectively. By this construction it will be observed that the gripping-jaws M can be operated to grasp any size of tie and clinch it up against the rail, thereby holding the tie, rail, and spike as in a vise and compelling the sharp-pointed spike to pass into its place without inflicting the least injury to any of the parts.

Connected to each side of the guides F are chutes S, extending upward some distance, and through which the spikes C may be introduced, as indicated in Fig. 2, such chutes being of proper shape to prevent the turning of the spikes in transit.

My machine, it will be seen, is at once simple and effective and enables a spike to

be driven on each side of the rail simultaneously and always in the correct position to prevent injury to the spikes or ties, thus insuring a maximum length of life to both.

5 Having thus described my invention, what I claim as new is—

1. The combination, with the independently-movable spike-guides and the plungers working therein, of the power-lever for depressing said plungers, substantially as described.

2. The combination, with the independently-movable spike-guides and the plungers working therein, of the cross-piece engaging said plungers, and the power-lever for depressing said cross-piece and plungers, substantially as described.

3. The combination, with the independently-movable spike-guides, the levers for moving the same, and the plungers working in said guides, of the cross-piece having the upright at the center, the power-lever for depressing the plunger, and the springs for elevating the same, substantially as described.

4. In a spike-driving machine for use in railroad construction, the combination of the oppositely-arranged spike-guides movable in different planes, whereby the spikes may be driven on opposite sides of the rail and at varying distances apart, and the plunger and power-lever, substantially as and for the purpose set forth.

5. In a spike-driving machine, the combination, with the spike-guides, plunger, and power-lever, of the gripping-jaws for holding the work in position, substantially as described.

6. In a spike-machine, the combination, with the spike-guides and plungers, as described, of the gripping-jaws and the lever for elevating said gripping-jaws, substantially as described.

7. The combination, with the spike-guides,

plunger, and power-lever for depressing the plunger, of the gripping-jaws connected to the power-lever, whereby they are elevated as the plungers are depressed, substantially as described.

8. The combination, with the spike-guides, plungers, and power-lever for depressing the plungers, of the gripping-jaws, and an adjustable connection between the jaws and power-lever, substantially as described.

9. The combination, with the spike-guides, plungers, and power-lever for depressing the plungers, of the gripping-jaws having the ratchet-bar thereon, and the pawls on the power-lever shaft engaging therewith, substantially as described.

10. The combination, with the spike-guides, plungers, and power-lever, of the gripping-jaws having the ratchet-bar at the upper end, the pawl on the power-lever shaft engaging said ratchet-bar to elevate the jaws, and the pawl on the frame for holding the same elevated, substantially as described.

11. The combination, with the spike-guides and plungers, as described, of the gripping-jaws movable toward and from each other and the lever for drawing said jaws together, substantially as described.

12. The combination, with the spike-guides, plungers, and power-lever, as described, of the gripping-jaws connected to the power-lever, the lever and links connecting said jaws, and the ratchet-bar and ratchet for holding said lever in position and the jaws together, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARIUS SORENSON.

Witnesses:

P. W. FARICY,
LOUIS FEESER, Jr.