

(No Model.)

2 Sheets—Sheet 1.

O. J. EBERT.
WIRE FEEDER.

No. 540,543.

Patented June 4, 1895.

Fig 1

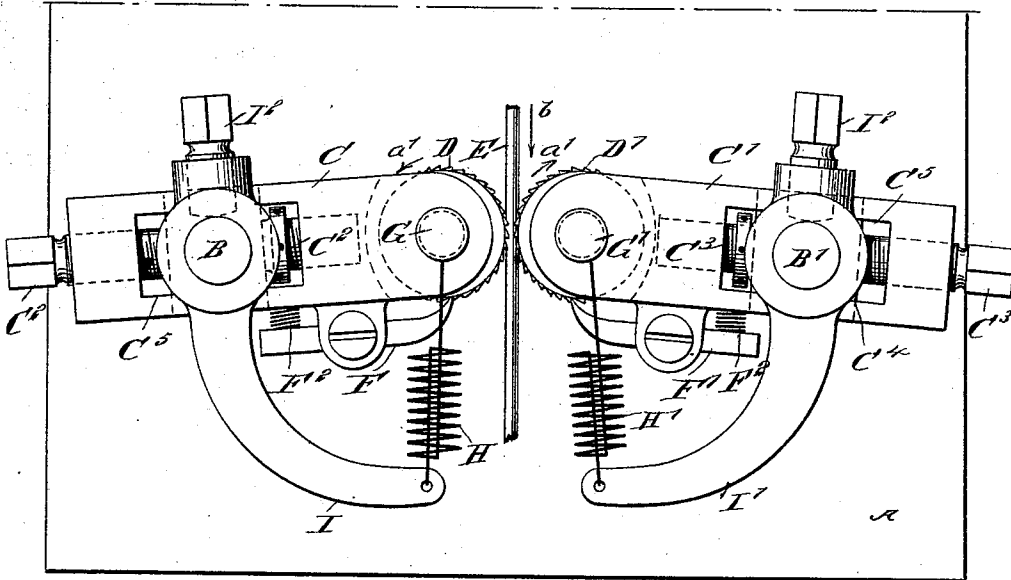
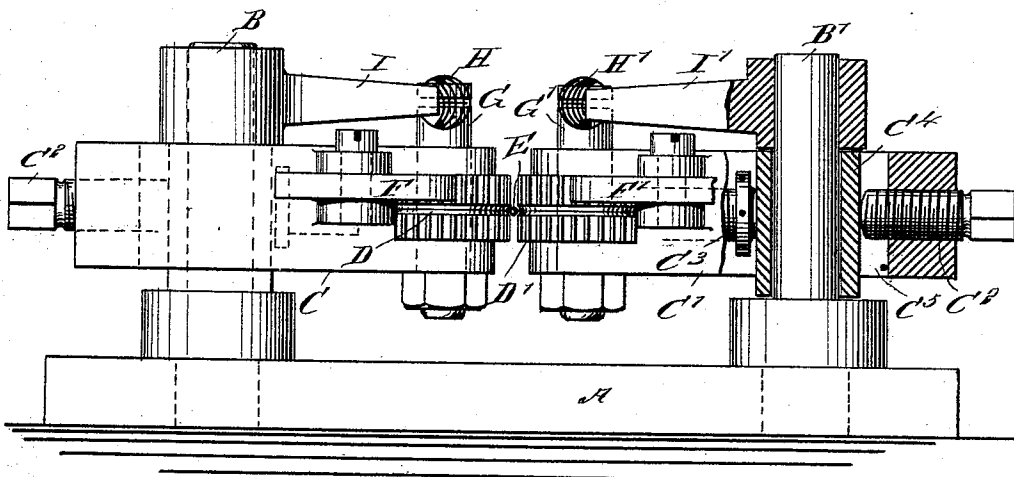


Fig. 2



WITNESSES:

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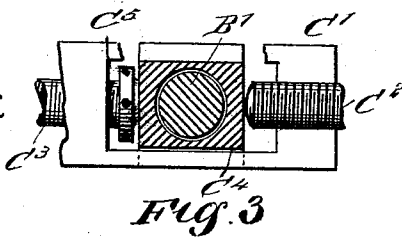


Fig. 3

INVENTOR

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OTTO J. EBERT, OF BEAVER FALLS, PENNSYLVANIA.

WIRE-FEEDER.

SPECIFICATION forming part of Letters Patent No. 540,543, dated June 4, 1895:

Application filed January 26, 1895; Serial No. 536,314. (No model.)

To all whom it may concern:

Be it known that I, OTTO J. EBERT, of Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented a new and Improved Wire-Feeder, of which the following is a full, clear, and exact description.

The invention relates to machines for making wire nails, staples and similar articles, and its object is to provide a new and improved feeding device for such machines, which device is comparatively simple and durable in construction, and arranged to insure a uniform and positive feeding of one or more wires to facilitate the proper formation of the wire nails, staples, &c., in the machine.

The invention consists principally of a spring-pressed pivoted arm carrying at its free end a grooved wheel engaging the wire to be fed, and a guide arranged opposite the said wheel, to enable the wire to be clamped between the said guide and the wheel.

The invention also consists of certain parts and details, and combinations of the same, as will be hereinafter fully described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement arranged with two spring-pressed arms. Fig. 2 is a side elevation of the same with part in section. Fig. 3 is a sectional plan view of part of the arm and its pivot. Fig. 4 is a plan view of the improvement as arranged with a single arm and bar. Fig. 5 is a side elevation of the same. Fig. 6 is a transverse section of the arm and its pivot on the line 6 6 of Fig. 5, and Fig. 7 is an enlarged side elevation of a wheel for feeding two wires simultaneously.

The improved wire feeder is mounted on a reciprocating carriage or base A, which may be part of the machine for making wire nails, staples and other articles. On this base A, as shown in Figs. 1 and 2, are arranged two pivots B and B', disposed vertically and carrying the arms C and C' respectively, provided at their adjacent free ends with wheels D and D', formed with annular grooves for the passage of the wire E, to be fed to the machine for making nails, staples, &c. The wheels D and D' are provided with ratchet

teeth engaged by pawls F and F' respectively, each pressed on by a spring F² so as to hold the free end of the pawl in engagement with the teeth of the corresponding wheel D or D'. The pawls F and F' are fulcrumed on the sides of the arms C and C' respectively, and permit the wheels D and D' to rotate in the direction of the arrows a' when the base is drawn forward in the direction of the arrow b, as indicated in Fig. 1, and movement of the wheels D and D' in the inverse direction of the arrows a' is prevented by the pawls F and F', at the time the wheels D D' clamp the wire in place on the return or feeding movement of the base A, the latter then moving in the inverse direction of the arrow b.

The wheels D and D' are mounted to turn loosely on shafts G, G', secured in the arms C, C' respectively, and connected at their upper projecting ends with springs H, H' respectively, attached to arms I, I', fastened to the pivots B and B' respectively by set screws I². Now by reference to Fig. 1, it will be seen that the arms C, C' normally stand at an obtuse angle relative to the wire E, and the springs H, H' exert a pull on the said arms to draw or hold the wheels D, D', in firm contact with the wire E, at opposite sides thereof. Now when the base A is drawn in the direction of the arrow b the wheels rotate without moving the wire, but as soon as the base returns then the wheels firmly clamp the wire and feed it forward the desired distance for forming the nail, staple or like article of the desired length in the machine.

In order to adjust the arms C and C' on their respective pivots B and B', I provide each arm at its pivot end with oppositely arranged screws C² and C³ engaging collars C⁴ held on the pivot pins, the collars being arranged to slide in suitable bearings in recesses C⁵ formed in the corresponding arm C or C'. Now it will be seen that by adjusting the two screws C², C³, the arm C or C' may be shifted on its pivot B or B', to increase or diminish the angle in which the two arms stand relative to the wire E.

As illustrated in Figs. 4 and 5, a single spring-pressed arm C with a wheel D is employed, and the wire E passes on one side through a slot J' in a bar J held adjustable in a post K, by a set screw K'. This bar J

in this case performs the same function of a guide or abutment for the wire E as the wheel D' in Figs. 1 and 2.

The slot J' is located directly opposite the annular groove in the wheel D, and one arm of the latter stands at an angle to the other, as will be readily understood by reference to Fig. 4.

When it is desired to feed two wires simultaneously, then the wheels D and D' are each provided with two or more annular grooves, as plainly indicated in Fig. 7, each groove forming a passageway for a single wire.

It will be seen that by the arrangement described, any desired number of wires can be fed simultaneously to a machine, and the wires are uniformly and positively fed to insure the making of nails of a uniform length.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the support, the arm pivoted thereto, the grooved wheel upon the arm, an arresting device for preventing the wheel from turning in one direction, and a guide arranged opposite the wheel and provided with a groove adapted to register with the groove of the wheel, substantially as described.

2. The combination of the support, the arm pivoted thereto, the grooved wheel on the arm and provided with teeth, an automatically engaged pawl fulcrumed on the arm and bearing against the teeth of the wheel, and a guide arranged opposite the wheel and provided with a groove adapted to register with the groove of the wheel, substantially as described.

3. A wire feeding device, comprising a fixed pivot, an arm held adjustable thereon and mounted to turn on the pivot, a grooved wheel journaled in the free end of the said arm, a guide arranged opposite the said wheel so that

the latter is carried toward or from the guide by the pivotal movement of the arm, to enable the wire to be clamped between the said guide and wheel a spring pressing on the arm, and a spring-pressed pawl in engagement with teeth on the said wheel, substantially as shown and described.

4. In a wire feeder, the combination, with a bar having a groove to engage one side of the wire to be fed, of a grooved wheel engaging the other side of the said wire, a spring-pressed arm carrying the said grooved wheel, and a pawl engaging the said wheel and fulcrumed on the said spring-pressed arm, substantially as shown and described.

5. In a wire feeder, the combination, with a bar having a groove to engage one side of the wire to be fed, of a grooved wheel engaging the other side of the said wire, a spring-pressed arm carrying the said grooved wheel, a pawl engaging the said wheel and fulcrumed on the said spring-pressed arm, and means for adjusting the said arm and its pivot, as set forth.

6. The combination of the support, the arm pivoted thereto, and mounted to slide on its pivot for adjustment, the grooved wheel upon the arm, and the guide arranged opposite the wheel and provided with a groove adapted to register with the groove of the wheel, substantially as described.

7. The combination of the support, the arm mounted to turn on the support and to slide longitudinally on its pivot so as to carry the end of the arm toward or from the pivot, the grooved wheel upon the arm, the guide arranged opposite the wheel, and means for preventing the wheel from turning in one direction, substantially as described.

OTTO J. EBERT.

Witnesses:

JOHN REEVES,

JAMES F. MERRIMAN.