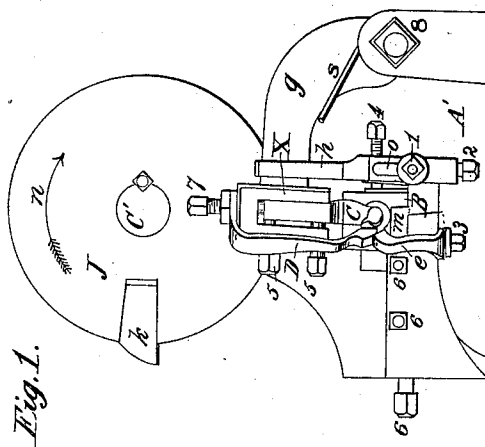
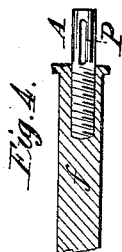
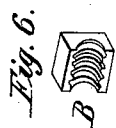
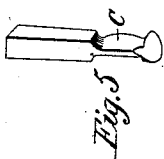
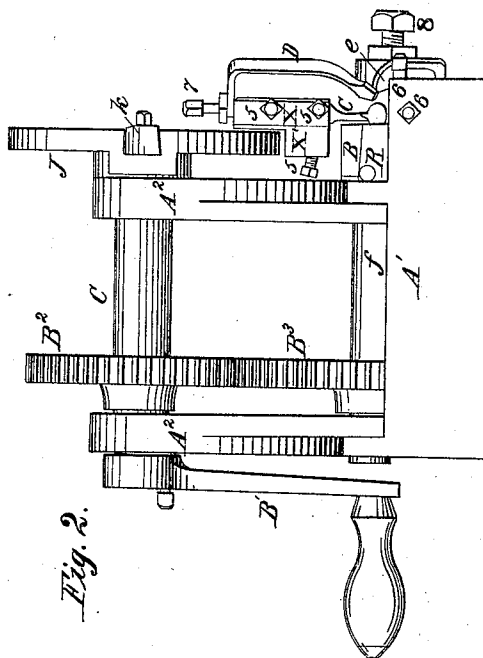
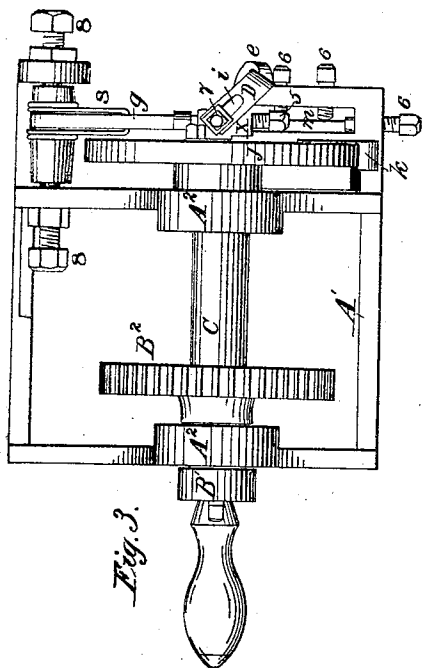


L. FITZPATRICK & J. SCHINNELLER.
CHAIN MACHINE.

No. 73,518.

Patented Jan. 21, 1868.



Witnesses:

James S. Johnston
John Johnston

Inventors:

Lucas Fitzpatrick
Jacob Schinneller.

United States Patent Office.

LUKE FITZPATRICK AND JACOB SCHINNELLER, OF TEMPERANCEVILLE,
PENNSYLVANIA.

Letters Patent No. 73,518, dated January 21, 1868.

IMPROVED CHAIN-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 we, LUKE FITZPATRICK and JACOB SCHINNELLER, of Temperanceville, in the county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Link-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of our invention consists in the use of a revolving mandrel, provided with a slot, the contour of said mandrel corresponding to the form of the chain-link, said mandrel revolving within a nut made in two parts, and furnished with spiral grooves, which resemble the screw-threads of an ordinary screw-nut, said mandrel and nut being used in combination with a cutter, anvil, guide, and set, the whole being constructed, arranged, combined, and operating in the manner hereinafter described.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation. In the accompanying drawings, which form part of our specification—

Figure 1 is a front or end elevation of our improvement in link-machines.

Figure 2 is a side elevation of the same.

Figure 3 is a plan or top view.

Figure 4 represents the mandrel, around which the link is formed, and shows the manner of securing it in the shaft which revolves it.

Figure 5 is a perspective view of the cutter.

Figure 6 is a perspective view of one-half of the nut in which the mandrel revolves.

In the drawings, A^1 represents the frame of the machine; A^2 are the supports for the shaft C' . To this shaft is attached the driving-crank B^1 . The shaft C' is provided with disk J , which is provided with a projecting point, K , for operating the lever G , and the parts attached thereto. On the shaft C' is also secured a wheel, B^2 , which gears into the wheel B^3 on the shaft f , in the end of which is secured the mandrel A , the contour of which corresponds to the desired form of the chain-link. This mandrel is provided with a slot, P , (see fig. 4.) The width of this slot must be about equal to the diameter of the iron from which the links are formed. The mandrel A revolves in the nut B , which is made in two parts, (see fig. 6.) This nut is provided with spiral grooves, the width and depth of which must correspond to the size of the iron used for forming the links. This nut is held in the proper position by means of the set-screw 6. The lever marked g is pivoted to the frame A^1 by means of two set-screws marked 8. This lever g is provided with a head-piece, marked x , in which the cutter, marked C , is secured by means of the set-screws marked 5. To the head-pieces x is secured the set D by means of the set-screw 7. This set is provided with slot i (see fig. 3,) for the purpose of adjusting it. The set D is so constructed that it will yield to the guide e , which is held in the desired position by the set-screw 3. The lever g is provided with an adjustable stop and guide, marked h , which is provided with a slot, o , and is held in the desired position by means of the set-screws 1 and 2. The lever g is thrown up against the stop h by means of the spring marked s . m represents an anvil, on which the link rests while being cut off. R represents the feed-opening, which leads into a corresponding opening in one-half of the nut B .

As the form, construction, and arrangement of the various parts, and the relation they bear to each other, will be readily understood by the skillful mechanic from the above description, and by reference to the accompanying drawings, we will, therefore, without further description of its construction, proceed to describe its operation, which is as follows: Power is applied to the crank B^1 so as to turn the shaft C' and its wheel B^2 and disk J in the direction indicated by the arrow marked n . The motion of the wheel B^2 will revolve the wheel B^3 , shaft f , and the mandrel A , in an opposite direction. Having thus imparted motion to the machine, the iron for forming the chain-links is fed in at the opening marked R , (see fig. 2,) and will pass through the opening in the side of the nut B into the slot P in the mandrel A , and the revolving of the mandrel A will draw in the iron, and the grooves in the nut B will cause the iron to wind spirally around the mandrel in such manner as to give it the desired form for the link, and cause the iron thus formed to pass out at the end of the nut B , and the revolving of the disk J will bring the point k in contact with part x' (see fig. 2) of the head-piece x of lever g , and press it down; thereby causing the cutter C to cut off the links as fast as formed. The spring-set D ,

which is guided by the guide marked *e*, gives the desired set and size of the opening in the link. This set *D* is brought into action at the same time that the cutter *C* cuts off the link. After each link is cut off, the spring *s* will throw the lever *g* and the parts attached thereto up, so as to allow another link to pass out under the cutter.

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

1. The combination of the nut *B* with the mandrel *A*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

2. Also, the spring-set *D* and guide *e*, when used in combination with the cutter *C*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

LUKE FITZPATRICK,
JACOB SCHINNELLER.

Witnesses:

JAMES J. JOHNSTON.

JOHN JOHNSTON.