E. AMSDEN.

Link Making Machine.

No. 237,229. Patented Feb. 1, 1881.

Fig. 1.

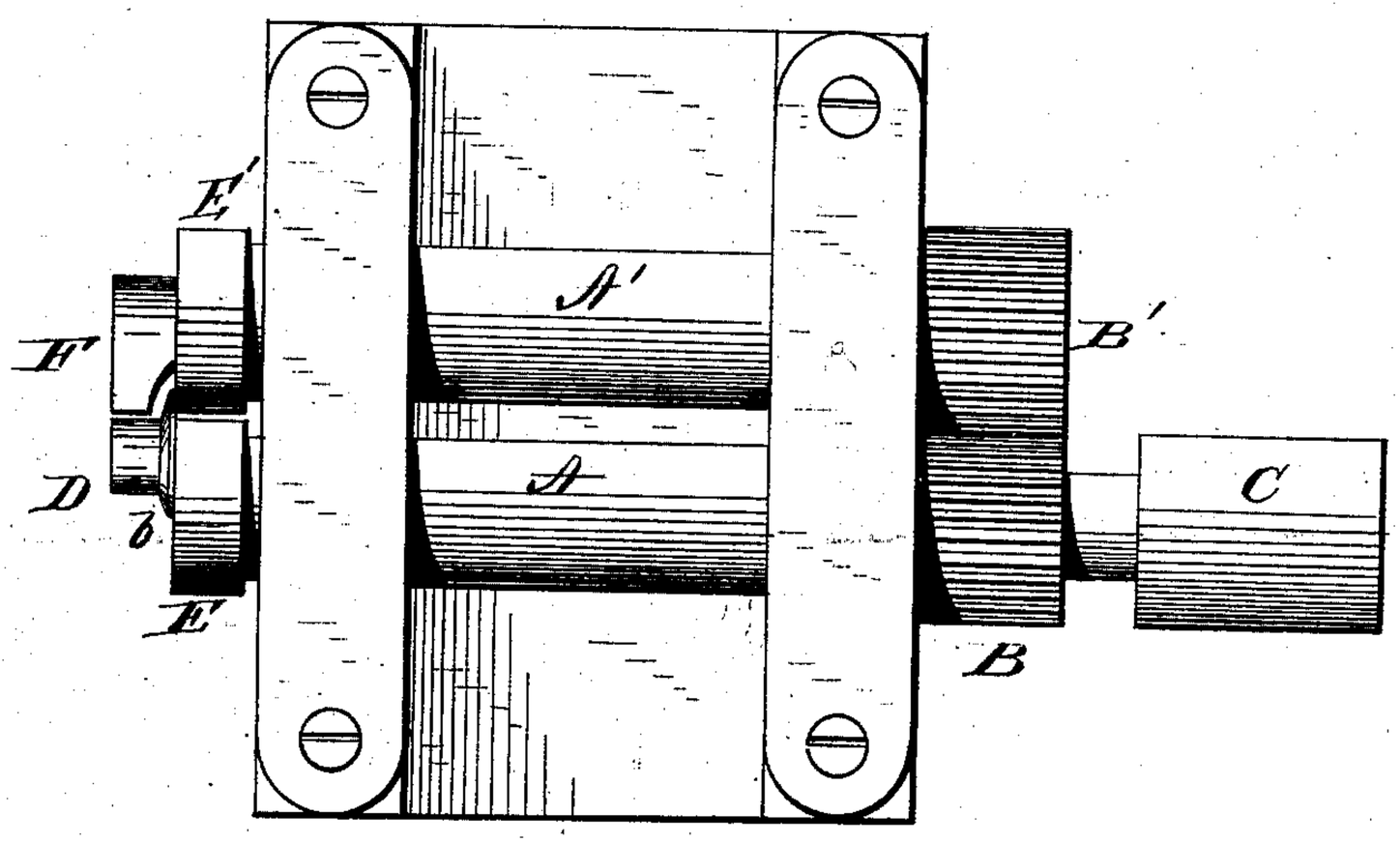
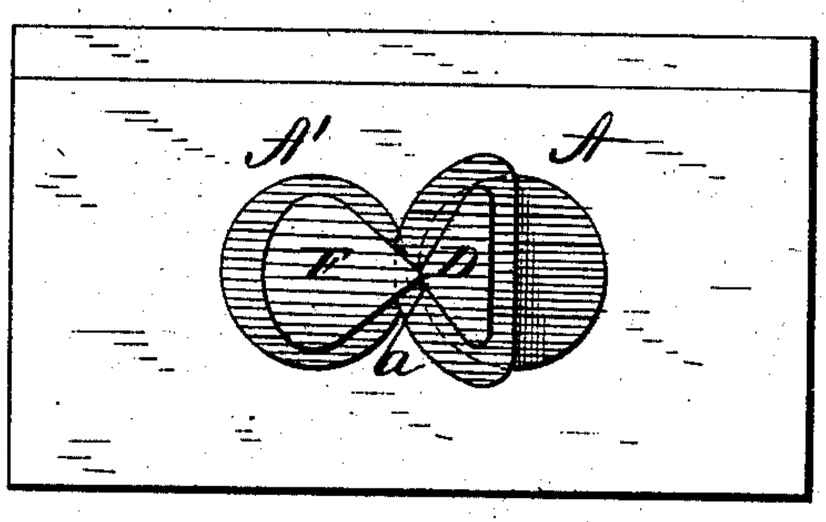


Fig. 2.



WITNESSES

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EDWIN AMSDEN, OF ALLEGAN TOWNSHIP, ALLEGAN COUNTY, MICHIGAN.

LINK-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,229, dated February 1, 1881.

Application filed August 8, 1879.

To all whom it may concern:

Be it known that I, EDWIN AMSDEN, of Allegan township, in the county of Allegan, and in the State of Michigan, have invented certain new and useful Improvements in Link, Staple, and Ring Making Machines; and I 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 of reference marked thereon, making a part of this specification.

The nature of my invention relates to improvements in machines for manufacturing links, rings, staples, and coils of wire from metallic wire, rods, or bars; and it consists in the construction and combination of parts, as will be hereinafter more fully set forth, and pointed out in the claim.

Various devices have been proposed in this art; but they have been of such complicated and expensive construction as to render a simple, cheap, and efficient device a desideratum. My invention supplies this desire, and is designed as an improvement upon the devices heretofore known.

To this end the invention consists in two parallel shafts suitably journaled in a strong frame, meshed together by rigid cogs, and one of said shafts being provided with a power pulley or crank. Upon the power-shaft is eccentrically hung a former, which is secured or formed upon a guide-head upon said shaft. The power-shaft and its geared companion are of equal size, and journaled in relation with each other so as to register perfectly at each revolution, and the companion shaft has a head formed or hung outside the frame, upon which head is formed or secured a cutter adapted to sever the wire, rods, or the like into suitable links, rings, staples, &c. A bevel to correspond with the form of the former surrounds the same upon the head of the power-shaft and overlaps the companion head for a portion of each revolution. Between the cutter and the companion head is formed a recess adapted to allow one or more widths of wire or rod to be passed before the cutter operates to sever the links or the like. The bevel operates within the recess at each revolution, thus securing concurrent action.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view, and Fig. 2 an end view, of my improved link-machine.

A A′ represent two parallel shafts geared together by pinions B B.

Upon one end of the shaft A is a driving-pulley, C, for running the machine by steam or other power; or a crank may be attached to the end of said shaft for operating the machine by hand, if desired. Upon the ends opposite from the power ends of the shafts, outside of the frame in which the shafts are journaled, are heads E E′, rigid upon the shafts A A′, respectively.

Upon the head E is secured or formed the former D, upon which the rods, wire, or bars are wound to form the desired link, staple, &c. This former may be of any desired shape, according to the shape of the article to be made; but in any form it must have a certain point, *a*, against which the cutter will work.

In the end of the shaft A′ is secured the cutter F, which is formed with an offset or recess at the inner side, as shown. This offset or recess corresponds with a bevel, *b*, on the head E, next to the former D on the shaft A. The cutter is so arranged with relation to the former D that in every revolution of the two shafts the edge of the cutter will coincide with the point *a* on the former and cut the wire or rod lying over the same.

In operation the wire should be passed through a suitable clamp for the purpose of straightening the same, and of having a certain amount of tension while it is being wound around the former. The wire is first wound once around the former D, when the cutter will not touch it, as the wire will then lie opposite the recess or offset in the cutter. The second coil will pass against the bevel *b* and naturally crowd the first coil farther outward on the former, so that when the second coil is completed the first one will be directly opposite the cutter and will be cut off, leaving the second coil on the former. The next coil will then push out the preceding one, which is, in turn, cut off, and so on for every revolution of the shafts one link is severed, but making at all times a continuous feed.

I am aware that it is not new to use bevel-

surfaces upon or connected with a former or mandrel in such a manner that more than one coil will be held upon said former at the same time, while but one will be severed by an automatic cutter; but in all constructions now known to me for the purpose of forming links, rings, staples, and the like, great complication of mechanical devices and a necessary attending expense is coincident. By my device I not only simplify the construction, and consequently reduce the expense, but I provide a machine efficient for the purpose aimed at with less material, and one that is less liable to get out of order.

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

The link, wire, or staple machine herein described, consisting of the shafts A A′, arranged parallel and geared together by cog-wheels B B′, the pulley C, and head E, hung rigidly upon shaft A, said head E having eccentrically-hung former D and bevel *b*, the head E′ upon the shaft A′ carrying cutter F, so formed in relation to the head E′ as to present a recess in which the bevel *b* operates at each revolution, the whole constructed, arranged, combined, and adapted to operate as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of July, 1879.

EDWIN AMSDEN.

Witnesses:
N. GILBERT,
WILLIAM HAY.