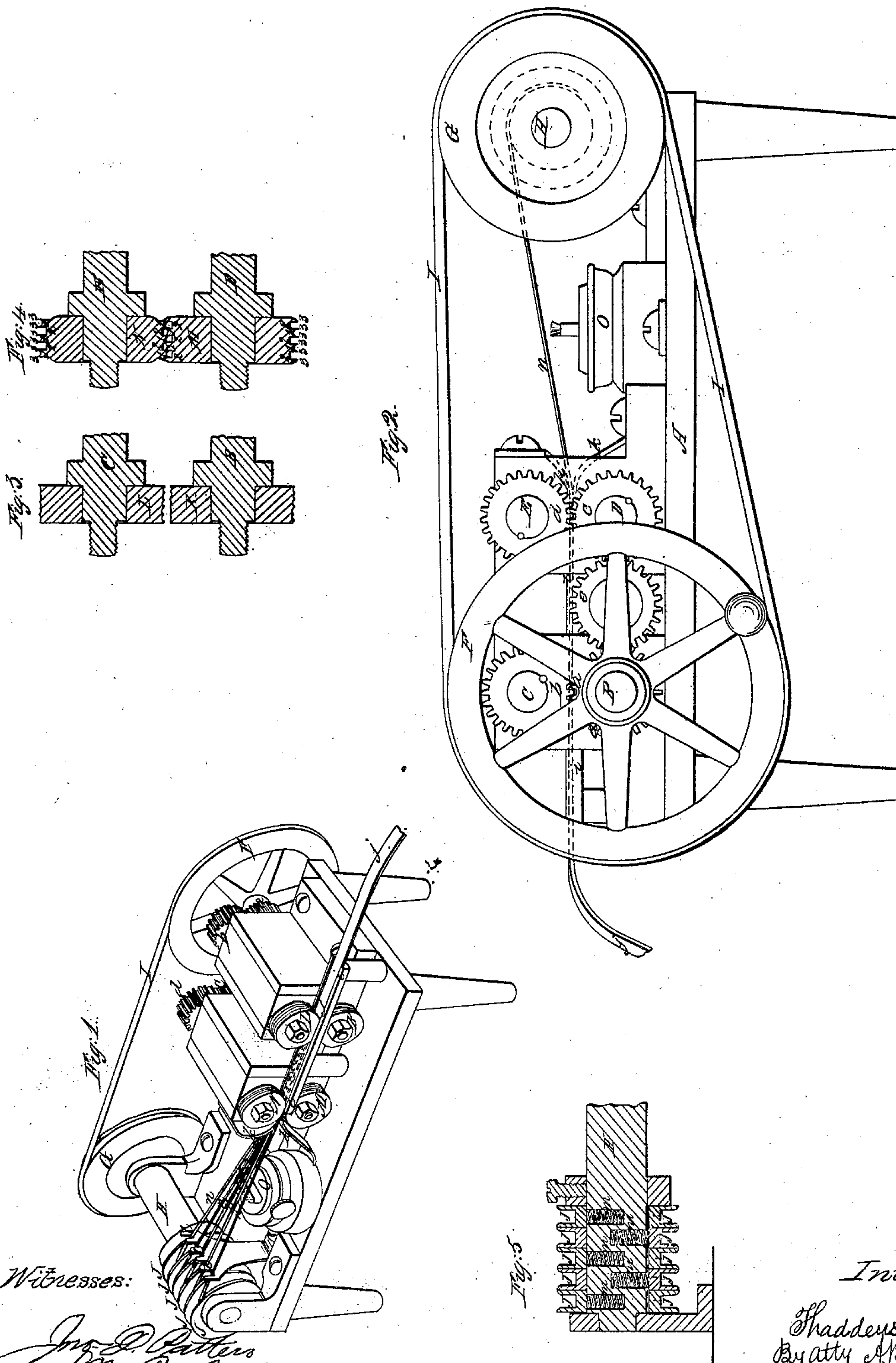


*T. Fowler.*

*Machine for Making Wire.*

*N<sup>o</sup> 85,520.*

*Patented Jan. 5, 1869.*



*Witnesses:*

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S. M. Pool*

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# United States Patent Office.

THADDEUS FOWLER, OF SEYMOUR, CONNECTICUT.

Letters Patent No. 85,520, dated January 5, 1869.

## IMPROVED APPARATUS FOR MAKING WIRE OF SHEET-METAL.

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, THADDEUS FOWLER, of Seymour, in the county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Machines for Making Wire; 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, making a part of this specification, in which—

Figure 1 represents a perspective view of the machine.

Figure 2 represents an elevation from one of the sides thereof.

Figure 3 represents a section through the creasing-rolls, for creasing the strip of metal preparatory to slitting it.

Figure 4 represents a section through the slitting-rolls, for slitting the creased strip of metal.

Figure 5 represents a section through the series of reels upon which the wire is wound up.

Similar letters of reference, where they occur in the several separate figures, denote like parts of the machine in all of the drawings.

My invention consists, first, in the use of creasing and slitting-rolls, for separating and dividing a strip of metal into wires; and secondly, my invention consists in the use of a series of reels upon one shaft, for winding up a series of wires, and so arranged that they will yield whenever their wire is strained harder than the others, and thus prevent the breaking of the wire.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The machine is supported on a table or bed-plate, A, in bearings, on which a shaft, B, is supported, which may be turned by any first-moving power, and through any of the usual appliances.

On this shaft B, at one side of the machine, there is a spur-gear, *a*, that takes into and turns another spur-gear, *b*, on a shaft, C, immediately over the shaft B.

Two other shafts, D E, with spur-gears *c d*, respectively, upon them, are also arranged in proper bearings on the table or bed A, and an intermediate gear, *e*, between the one, *a*, and the one, *c*, gives motion to the shafts D E.

On the shaft B there is a pulley-wheel, F, around which, and around a pulley, G, on the reel-shaft H, passes an endless belt, I, for turning the reels J, to wind up the wire thereon.

On the opposite ends of the shafts B and C are placed, one immediately over the other, the creasing-rolls K L, the perimeters of which are formed into a series of rounded depressions, that run very near to each other, as seen in fig. 3; and upon the ends of the shafts D E, on the same side of the machine with the creasing-rolls, and arranged to work in line with them, are the slitting-rolls M N, the perimeters of which are formed into a series of alternate half-round, 1, and

rectangular recesses, 2, or grooves, with cutting-edges 3, for slitting up the creased strip of metal into a series of wires. The edges of the grooves and cutters on the perimeters of these rolls M N interlock or pass each other, as seen in fig. 4, so as to completely shear or slit the strip into wires, and of a rounded form, but with a slight fin or rough edge on opposite sides of the wires, which is readily removed by running the wires through a round hole in a square-faced steel plate, which plate, if desirable, may be on the machine, or it may be done afterwards, as is preferred.

A table, *i*, is arranged, with flanges or guides upon it, for feeding and guiding the strip of metal *j* up and between the pairs of creasing and slitting-rolls, the table where the creasers K L work or approach each other being cut away, to allow them both to act upon the strip and crease it from both of its sides.

The slitters M N are at the end of the table *i*, and clearers *k k* are arranged to raise the wires out of the grooves of the slitters.

The plate or strip *j* is slit into wires, *n*, between these rolls M N, and thence the wires pass over or through guides *l l*, &c., one for each wire, and are wound up on their respective reels J.

That portion of the strip of metal *j* between the creasers and slitters is creased, to form a series of wires, united by a thin web between them. Under the slitters this web is cut, and the wires are then distinct, with the exception of the slight roughness where the web is sheared off, and this is afterwards removed, as stated above.

The reels J are each held to the reel-shaft by the friction of its own spring, so that when the tension or strain that comes upon any individual one of the series of wires becomes too great, the reel will slip on its shaft, and not turn with it, until that tension falls below the friction of the spring, then the reels will begin to wind up the wire again.

O is a spirit or other lamp, for heating and softening the wire, so that it will wind or bend readily.

The guides *l* may have a traverse motion, to lay the wire with regularity on the reels.

I have shown a machine capable of making five wires at a time. It may be made to cut and make many more, if desirable.

Having thus fully described my invention,

What I claim, and desire to secure by Letters Patent, is—

The shape of the cutting-edges and their intermediate grooves, on the two pairs of rolls, coupled with the particular arrangement of the two pairs of rolls in relation to one another and to the guide-table, substantially as and for the purpose herein described.

T. FOWLER.

Witnesses:

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R. C. LAMBERT.