(No Model.) 2 Sheets—Sheet 1.

# F. W. BRAMPTON.

## MACHINERY FOR MANUFACTURING FENCING WIRE.

No. 352,514. Patented Nov. 16, 1886.

FIG. 2

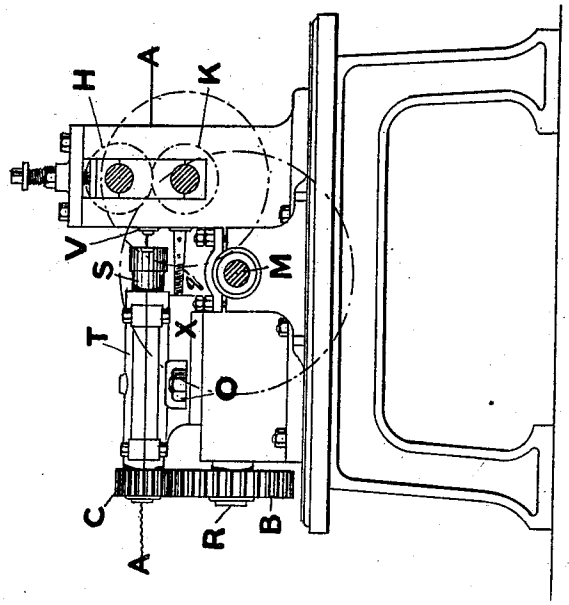
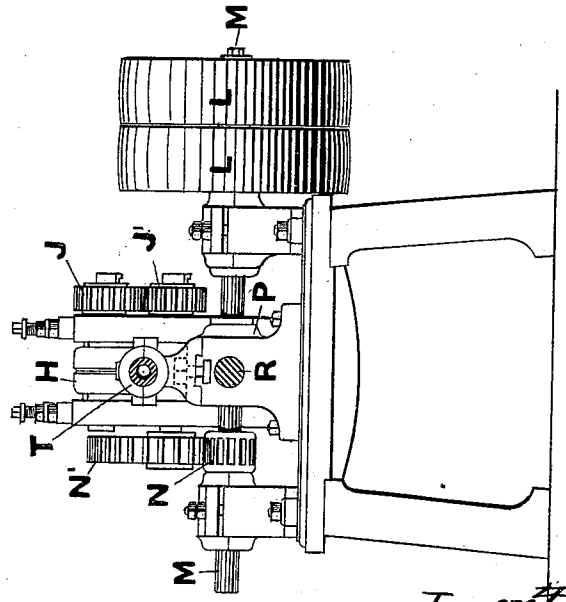



FIG. 1




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(No Model.) 2 Sheets—Sheet 2.

# F. W. BRAMPTON.

## MACHINERY FOR MANUFACTURING FENCING WIRE.

No. 352,514. Patented Nov. 16, 1886.

FIG. 6

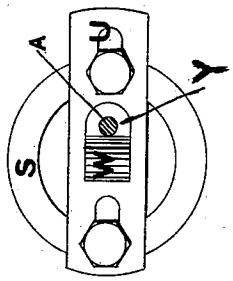



FIG. 4

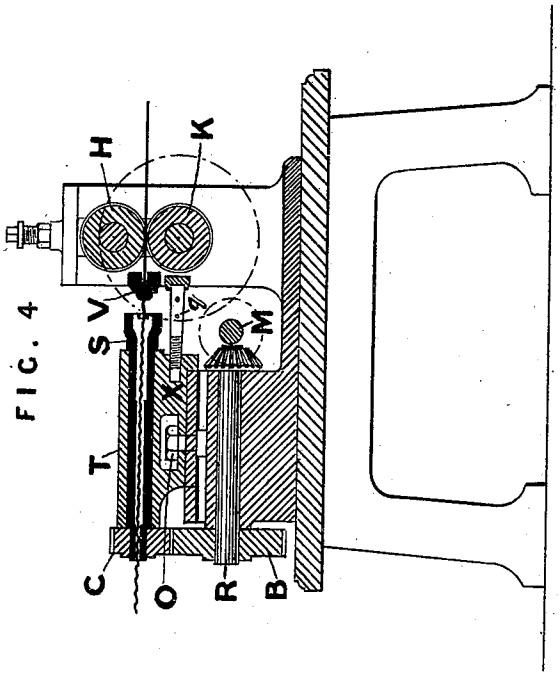



FIG. 5

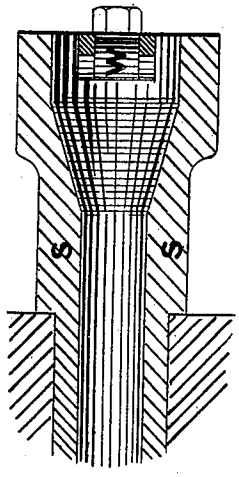



FIG. 3

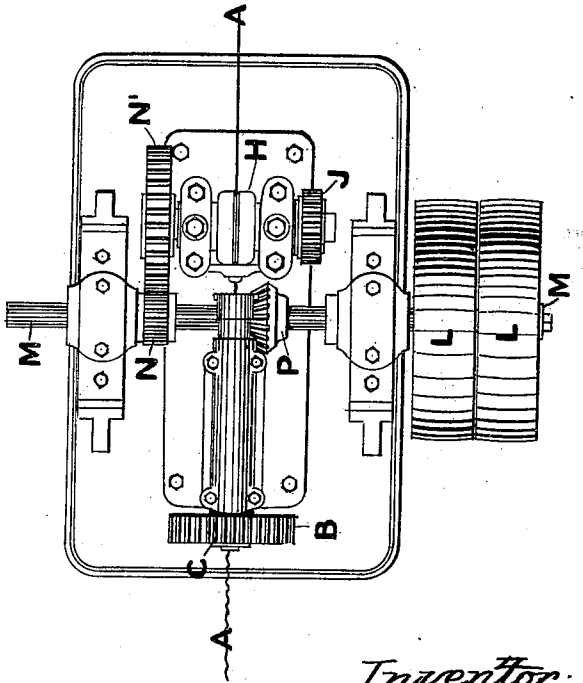
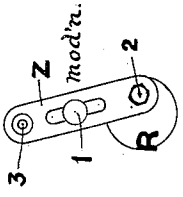



FIG. 7.




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# UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM BRAMPTON, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

## MACHINERY FOR MANUFACTURING FENCING-WIRE.

SPECIFICATION forming part of Letters Patent No. 352,514, dated November 16, 1886.

Application filed January 4, 1886. Serial No. 187,528. (No model.) Patented in England December 23, 1884, No. 16,833; in France December 23, 1885, No. 173,097; in Belgium December 23, 1885, No. 71,369; in Canada January 14, 1886, No. 23,176; in Victoria February 2, 1886, No. 4,412; in South Australia February 5, 1886, No 646; in Brazil February 9, 1886, No. 322; in New South Wales March 16, 1886, No. 2,575; in Queensland June 28, 1886, No. 102, and in Argentine Republic July 22, 1886, No. 519.

*To all whom it may concern:*

Be it known that I, FREDERICK WILLIAM BRAMPTON, of Birmingham, in the county of Warwick, England, manufacturer, and subject of the Queen of Great Britain, have invented certain new and useful Improvements in Machinery for Manufacturing Fencing-Wire, (for which I have obtained Letters Patent in England, No. 16,833, dated the 23d day of December, 1884; Canada, No. 23,176, dated January 14, 1886; France, No. 173,097, dated December 23, 1885; Belgium, No. 71,369, dated December 23, 1885; Brazil, No. 322, dated February 9, 1886; Victoria, No. 4,412, dated February 2, 1886; South Australia, No. 646, dated February 5, 1886; New South Wales, No. 2,575, dated March 16, 1886; Queensland, No. 102, dated June 28, 1886, and Argentine Republic, No. 519, dated July 22, 1886;) and I do hereby declare that the following is a sufficient description of the invention to enable those skiled in the art to which it appertains to carry the same with practical effect.

My invention has for its object improvements in the machinery for manufacturing fencing-wire, by which the wire is made elastic and to appear large to the eye, in one solid strand, instead of by twisting a number of strands together, which has hitherto been generally the practice. To accomplish this I produce a wave or corrugation along the entire length of the wire, which may be accomplished by bending the wire from its line of axis in a continuous spiral or in alternate corrugations or waves; but the spiral I prefer, and shall therefore describe the operation of its manufacture.

In order that my invention may be clearly understood and easily applied, I have appended hereunto two sheets of drawings, upon which I have illustrated the machinery for making the above-mentioned spiral wire; but it will be clearly understood that the design of the various parts and of the whole may be varied to meet the size, design, and character of the wire to be treated without departing from my invention.

In said drawings, Figure 1 is a side elevation of a machine for making the spiral wire A, which is seen entering the machine at the right-hand end and issuing at the left end ready for use. Fig. 2 is an elevation of the left or back end of the machine with the tooth-wheels B and C removed. Fig. 3 is a plan, and Fig. 4 is a longitudinal vertical sectional view, taken on the line of the wire. Figs. 5 and 6 are enlarged details of the sleeve S, and Fig. 7 will be referred to hereinafter.

In the machine any suitable frame-work may be used to carry the rolls H and K, which are geared with the pinions J and J′ to run together, being driven by the pulleys L through the main shaft M and wheels N and N′. The main shaft M also carries a bevel-wheel, P, which gears into another to drive shaft R, which carries the wheel B, gearing into the wheel C, which is fast upon the sleeve or hollow spindle S, through which the wire A passes during the process of manufacture. The sleeve or hollow shaft S is carried in the long bearing T upon the carriage X, which may be slid backward by simply slackening the nut O and adjusting the screw *q*, so as to bring wheels B and C out of gear, and to allow room at the roll end for attending to the die-plate U upon the sleeve S, or the anvil or fulcrum plate V, which is attached to the framing which carries the rolls.

On reference to the enlarged views, Figs. 5 and 6, of the mouth of the sleeve S, it will be seen that the plate U is capable of adjustment, so that the friction-wheel W and opening Y in said plate may be eccentric to the axis of the sleeve, when the action of curling the wire is as follows: The wire A is passed between the rolls H and K and through the die or other anvil or fulcrum plate V, and through the hole Y in the die-plate U. Now, as the rolls feed the wire A forward, the sleeve S revolves and the roller W bends the wire in a continuous curl, and this is done without the wire being twisted or injured in any way. The length remains practically the same after the operation as before, so that the manufacture is accomplished with practically no waste.

Instead of the sleeve I may substitute a device such as that shown by Fig. 7, in which case the gear-wheels B and C and the sleeve S

would be omitted and the shaft R shortened, a crank-pin, 2, being formed at the end, to which the die-plate Z is fixed. This plate slides upon the pin 1, the crank-pin 2 thereby giving motion to the die 3, which travels around the axis of the travel of the wire A, with the same effect as that produced by the sleeve S and roll W, above described—namely, bending the wire in a continuous curl.

It will thus be clearly seen that the circular movement described by the die in either case produces upon the wire rod a perfect spiral or twist as though it had been wound round a core or mandrel, and this twist is governed by the rotation of the sleeve S and its die-plate U, or by the movement of the shaft B and die-plate Z in the modification shown in Fig. 7, the curl being close or open, according to the rapid or slow movement of the die-plates. The diameter of the curl is regulated by the adjustment of said die-plates.

I claim—

1. In machinery for forming wire into a spiral or screw shape for fencing purposes, the combination of an anvil or fulcrum plate through which the wire passes with a rotary shaft, and a die-plate carried thereby having an opening for the passage of the wire eccentric to the axis of said shaft, substantially as set forth.

2. In machinery for forming wire into a screw or spiral shape for fencing purposes, the combination of feeding-rolls with an anvil or fulcrum plate and a hollow sleeve carrying a die-plate and friction-roll eccentric to the axis of the wire plate and sleeve.

In testimony that I claim the foregoing as my own I affix my name in the presence of two witnesses.

FREDERICK WILLIAM BRAMPTON.

Witnesses:
GEO. PRICE,
GEORGE BARKER.