

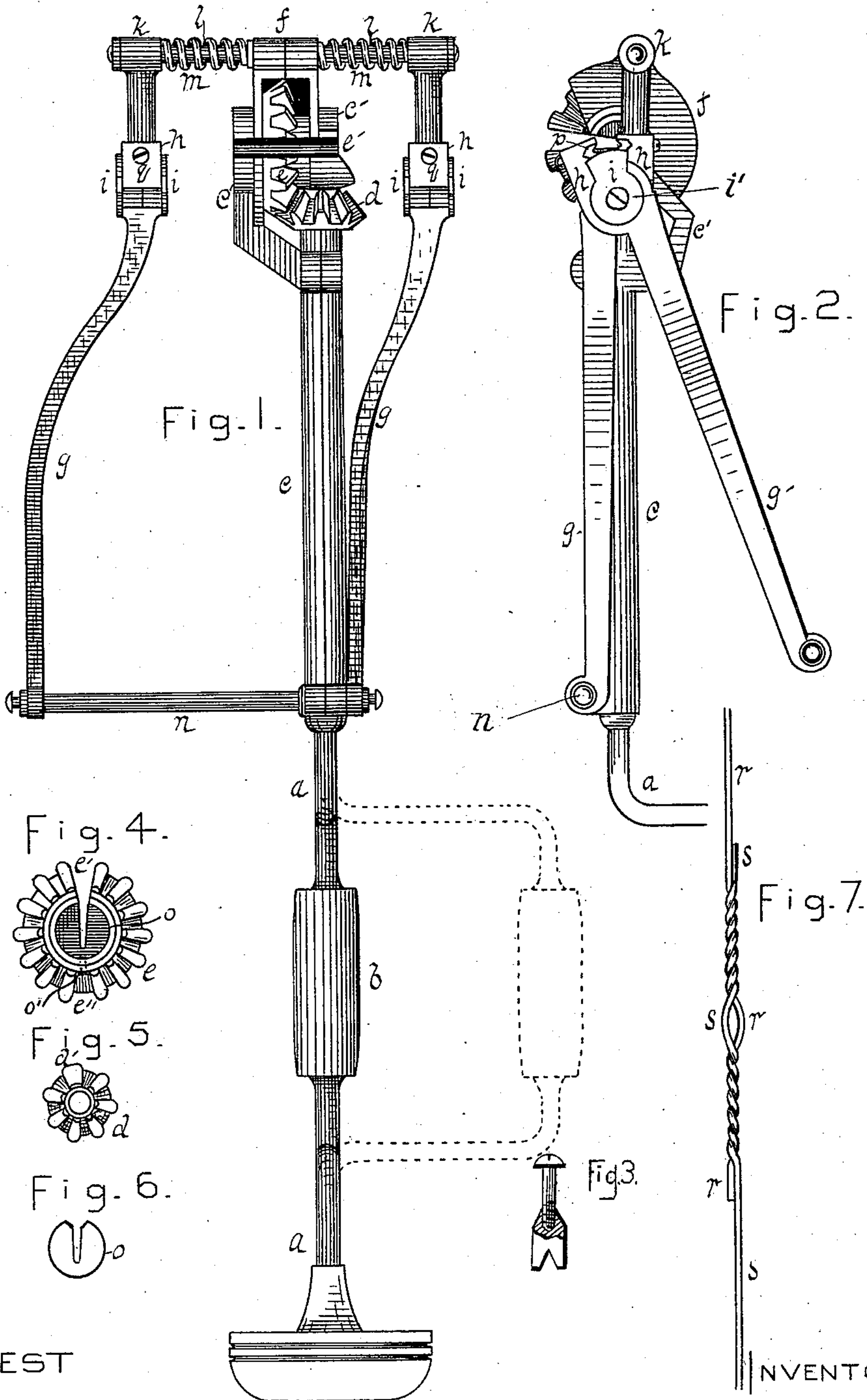
(No Model.)

A. L. BRUSH.

MACHINE FOR CONNECTING WIRES.

No. 352,853.

Patented Nov. 16, 1886.



ATTEST

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MACHINE FOR CONNECTING WIRES.

SPECIFICATION forming part of Letters Patent No. 352,853, dated November 16, 1886.

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To all whom it may concern:

Be it known that I, ALONZO L. BRUSH, of the city of Decatur, county of Macon, and State of Illinois, have invented a certain new and useful Machine for Connecting Wires, of which the following is a specification.

My invention consists in certain details of construction and combinations of parts, as hereinafter set forth and claimed, whereby wires may be joined together with a double reverse coil, as specified herein.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan of my machine. Fig. 2 is a side view of a portion of the same. Fig. 3 is a side view of a clamping-die with its securing-screw. Fig. 4 is a face view of the twister-wheel. Fig. 5 is a face view of the drive-pinion. Fig. 6 is a face view of the twister-die, and Fig. 7 represents the coil-connection my machine is designed to make.

a represents an ordinary brace-crank, provided with handle *b*.

c is a tubular bearing for the brace-shaft, composed of two parts suitably secured together.

c' is a bracket-bearing, of suitable size and conformation, to hold the twister-wheel at right angles with the pinion on the brace-shaft.

d is a drive-pinion rigid on the brace-shaft, and provided with an enlarged tooth, *d'*.

e is the twister gear-wheel, cleft at *e'* and provided with enlarged space *e''* at a point in the gearing directly opposite cleft *e'*.

f is a casing for the lower portion of the twister-wheel, in which casing is a bearing for transverse shaft *l*.

g represents upper clamping-arms, and *g'* represents lower clamping-arms, said arms *g* and *g'* being pivoted together in pairs and provided with jaws *h*.

i are lateral guides for the clamping-dies in jaws *h*, which dies are connected in pairs by means of a screw, *i'*. *k* are extensions of the jaws, which form bearings for transverse shaft *l*.

m are springs on shaft *l*, that hold the bearings *k* in the positions shown, but permit them to more nearly approach each other when lateral pressure is applied.

Pairs of arms *g* and *g'* are each provided with a handle, as indicated by *n*, by means of which

their approach and the approach of the jaws may be regulated.

o represents the twister-die, and *o'* in Fig. 4 indicates by dotted lines a screw used to secure the die in position in the twister-wheel.

p represents a clamping-die, with one of which each jaw is provided.

q represents screws for holding the dies in the jaws by having its threaded end engage a threaded opening in said die, as seen in Fig. 3.

r and *s* in Fig. 7 represent two wires joined together by the operation of my machine.

In Fig. 2 the jaws are shown as partly opened and the crank of the brace is omitted.

Dies of different capacity may be placed in the twister-wheel and clamping-jaws, respectively, thus enabling wires of various diameters to be joined together.

In operation the wires to be joined are lapped to an extent sufficient to be caught by both sets of jaws, the handles *n* are grasped by the left hand of the operator, and the jaws opened sufficiently to permit the free passage of the wires, which are put in the twister-wheel and clamping-jaws by the use of the right hand. The jaws are next firmly compressed on the wires by drawing the arms together, the head of the brace is placed against the person of the operator, and the crank turned by the right hand until a requisite number of coils have been formed by the twister-die, when the jaws are opened and the connected wires removed. The large tooth *d'* of pinion *d* meshes always with the cleft in the twister-wheel and the enlarged space directly opposite said cleft, thus producing a regular rotation and a perfect operation.

The handle of the brace should hang at its lowest possible position when the cleft of the twister-wheel is in incidence with the clamping-jaws, as by this means all tendency of the said cleft and jaws to become disarranged while the operator is using his right hand to place the wires in the machine will be avoided. As the wire is twisted, it is to some extent shortened, and the springs *m* permit the pairs of jaws to approach each other in conformity to the shortening of the wires.

My machine, as specified, may be used for baling hay, &c., for making wire fence, for connecting telephone and telegraph wires, and in

all cases where it is desired to connect one wire with another in a permanent manner.

I claim—

1. A machine for connecting wires, consisting in the combination of a cleft gear-wheel having an enlarged space in its gearing directly opposite the cleft, a drive pinion one-half the diameter of the cleft-wheel in mesh therewith, and provided with an enlarged tooth in position to mesh with the cleft and with the enlarged space of the twister-wheel, a shaft for the pinion, means for rotating the shaft, and a pair of clamping-jaws on each side of the cleft-wheel on a line with the cleft thereof, as and for the purpose set forth.

2. A machine for connecting wires, consisting in the combination of a cleft gear-wheel, a

pair of clamping-jaws on each side of the twister-wheel on a line with the cleft thereof, having a limited degree of motion toward the wheel, springs to hold the jaws normally at their greatest distance from the wheel, a drive-pinion in mesh with the twister-wheel, a shaft for the pinion, and means for rotating the shaft, as and for the purpose set forth.

3. A machine for connecting wires, consisting in the combination of brace *a b*, pinion *d*, cleft-wheel *e*, bearings *c c'*, clamping-jaws *h*, having arms *g g'*, handles *n*, rod *l*, springs *m*, and bearings *k*, as and for the purpose set forth.

ALONZO L. BRUSH.

Attest:

C. C. CLARK,

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