

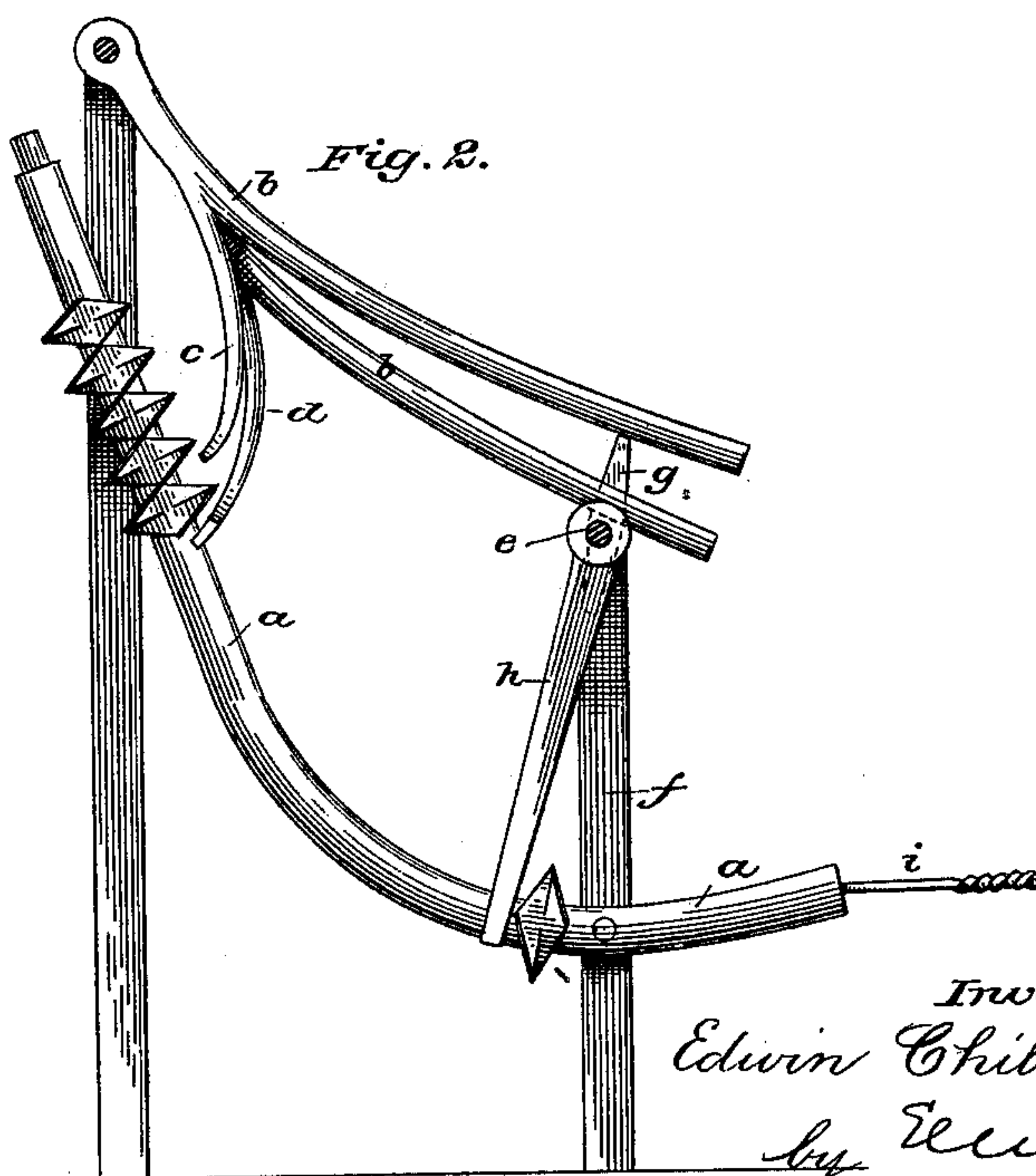
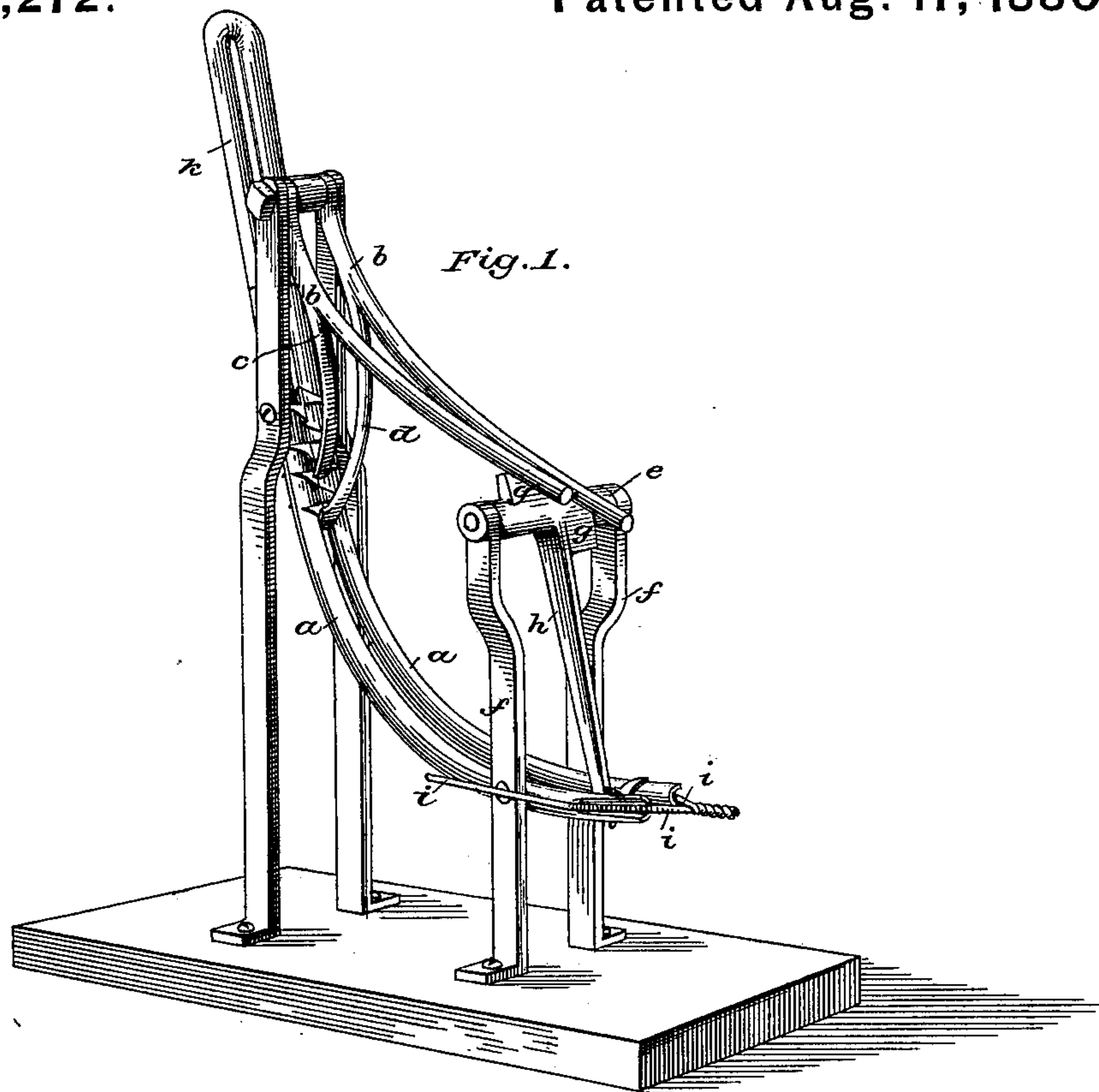
(No Model.)

## E. CHILDREN.

### Applying Barb to Fence Wire.

**No. 231,272.**

**Patented Aug. 17, 1880.**



*Attest:*

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# UNITED STATES PATENT OFFICE.

EDWIN CHILDREN, OF EAST DUBUQUE, ILLINOIS.

## APPLYING BARBS TO FENCE-WIRES.

SPECIFICATION forming part of Letters Patent No. 231,272, dated August 17, 1880.

Application filed March 22, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN CHILDREN, of East Dubuque, in the county of Jo Daviess and State of Illinois, have invented a new and useful Improvement in Applying Barbs to Fence-Wire; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention, which relates to the manufacture of barbed fence-wire, is to insert the barbs more accurately and rapidly than has heretofore been done.

In the manufacture of fence-wire of two or more strands the barbs, such as the "Frentress" barb, have been hitherto inserted by hand while the wire was in process of twisting. It has been customary to employ boys for this work, and by reason of carelessness or inattention on their part the work is often imperfectly done, and the wire must be twisted slowly, in order to give time for placing the barb in proper position between the strands just before the twist.

In the machine which has been devised by me and is the subject of this application the entire work of feeding the barbs to the wire as it is twisted and of placing them between the strands at the proper points is automatically done, and with accuracy, and as rapidly as may be desired.

In the drawings hereunto attached, and forming part of this specification, Figure 1 represents a perspective of my invention, and Fig. 2 a section longitudinally through the machine, showing one of the guide-rods and the parts which check and move the barbs in side elevation.

In these drawings, *a a* represent guides, between which the barbs are placed and on which they move. They are specially adapted to receive the Frentress barbs, but may, without material change, receive and conduct barbs of different forms which, like the Frentress, are adapted to be held between the twisted strands of fence-wire. The upper part of these ways are vertical, or nearly vertical, so that the barbs, when placed therein, will feed by their own gravity.

Pivoted in the upper part of the standards which support the guides are arms *b b*, provided with detents *c d*, which are slightly bent aside, so that both are directly in line with the barbs as

they move between the guides. The arms *b b* rest upon a shaft, *e*, in the top of standards *f f*. This shaft is provided with studs *g g*, placed on opposite sides of the shaft *e*, exactly adapted, when the shaft is rotated, to lift the detents *c d* alternately above the line of barbs. The detents are arranged one above the other, *c* being the higher, and a sufficient distance from each other to admit one barb between them. When the lower detent is lifted it allows one barb to escape, while the upper detent retains the rest, and when the upper detent is lifted it permits all the barbs above to move down until the lowest rests on the lower detent. By means of this device one barb is permitted to drop at each revolution of the shaft *e*.

The shaft *e* is located directly over the horizontal part of the guides, and is provided with an arm, *h*, fixed opposite the stud which lifts the upper detent, and so as to move in the revolution of the shaft between the guides in the path of the barbs. This arm, therefore, as the shaft *e* revolves, is carried up, and is in vertical position above the shaft when the lower detent is lifted and a barb falls. Further revolution of the shaft causes the arm *h* to follow the barb which has fallen, and to push it forward into the bight of the wire strands, where it is caught and twisted in between the strands.

The strands *i i* pass on each side of the guides in notches cut away in the outer sides of said guides at the ends, leaving just sufficient space between the ends of the guides and the point where the twist takes place to receive the barb and permit the arm *h* to pass.

The twisting mechanism forms no part of this invention, and need not be here described.

The wire, as well as the shaft *e*, moves at uniform rate of speed, the rate of one being so adapted to the other that the barbs are inserted at uniform and proper distances from each other.

The shaft *e* is driven by any suitable gearing, and provision may be made for varying the speed of either shaft or wire independently, in order to vary the distance between the barbs.

I have shown the guides as nearly vertical in the upper part, and bending down in a gradual curve to a nearly horizontal position



in the lower; but it is manifest that the form of the incline may be varied, provided the incline be sufficient to cause the column of barbs to move forward.

5 It may also be practicable to dispense with the arm *h* and to discharge the barb into its proper place in the wire by means of the impetus alone which it receives on leaving the detent.

10 Further, I do not limit myself to the particular form of detent, having found that these forms may be greatly varied without departing from the spirit of my invention.

I have shown at *k* means for conveniently  
15 feeding the barbs to the guides. The loop *k*, formed at its ends with sockets, fits upon tenons on the ends of the guides, and forms, when in place, a continuation of these guides. It may be removed for filling when empty, while  
20 another already filled is put in its place.

When the machine is run slowly and the wire is not kept so close to the end of the ways as always to catch the barb, it may be necessary to accelerate the movement of the arm *h*  
25 just as the barb is about leaving the ways. This may be accomplished by making the arm elastic and causing it at the proper point to spring past an obstruction, so as to throw the barb forcibly into place between the strands.

30 I am aware that devices for feeding barbs to the wire, in connection with other devices for clamping such barbs upon the wire, are not new, and I do not broadly claim the barb-feeding device to be used in a machine for  
35 connecting the barbs with the wire; but,

Having thus described my invention, what I claim is—

1. In a machine for barbing fence-wire wherein the strands of wire are twisted around the barbs, the combination of the guides, the  
40 detents for automatically releasing the barbs one by one and at proper intervals, said guides being adapted to the strands *i* of wire, and in relation to the twist therein, whereby said barbs are fed and caught in the bight of the twist-  
45 ing strands, substantially as described.

2. In a wire-barbing machine wherein wire is twisted around the barbs, the combination of the guideways adapted to permit the barbs to slide between them, detents to retain the  
50 barbs and deliver them one by one at proper intervals, an arm, *h*, arranged to move between such guides and to deliver the barbs into the bight formed by the strands *i* and the twist, as described. 55

3. The combination of the guides *a a*, arms *b b*, detents *c d*, and shaft *e*, with studs *g g*, as set forth.

4. The combination of the shaft *e*, studs *g g*, arm *h*, and arms *b b*, these parts operating in  
60 connection with the detents and the guides, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN CHILDREN.

Witnesses:

A. S. BUNTING,  
R. E. ODELL.