E. M. CRANDAL.
Fence-Wire.

No. 198,083. Patented Dec. 11, 1877.

Fig. 1



Fig. 2



WITNESSES:
J. C. Wilcke
N. Cowles

INVENTOR:
Edward M. Crandal
By Gridley & Sherburne
Attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWARD M. CRANDAL, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CHARLES H. KIRKHAM, OF SAME PLACE.

IMPROVEMENT IN FENCE-WIRE.

Specification forming part of Letters Patent No. **198,083**, dated December 11, 1877; application filed August 28, 1877.

To all whom it may concern:

Be it known that I, EDWARD M. CRANDAL, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Wire for Wire Fences; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a perspective view of my improved wire for wire fences, and Fig. 2 represents an enlarged end view of the same.

Like letters of reference indicate like parts.

My invention relates to that class of wire commonly used for wire fences; and consists in twisting two or more wires together, and firmly uniting each to the other continuously from end to end, as hereinafter more fully described and claimed.

In the drawings, *a* and *a'* represent two No. 13½ wires, of any desired length, which are first twisted together in any known manner. The wires so twisted together are then passed through an acid-bath, for the purpose of cleaning the surfaces thereof, and from thence are passed into and through a molten-metal bath, of either tin, tin and lead, lead, or zinc, preferably of zinc, and are allowed to remain in said metal-bath a sufficient length of time to thoroughly coat the wires with the metal, and fill all the interstices between the wires, as shown at *c* in Fig. 2, and so as to firmly unite the wires together continuously from end to end.

By this construction of wire for wire fences I am enabled to use a twisted-wire strand composed of two No. 13½ wires, which can be sold to the trade at the same price per rod as a galvanized No. 9 single smooth wire, commonly used for wire fences. My said wire possesses greater strength and is more durable than a No. 9 single wire, and presents a broken or roughened surface, to which barbs may be readily attached, and without being liable to move longitudinally or turn upon the wire strand, which is not the case with barbs applied to a smooth single wire. By uniting the twisted wires together by means of the molten zinc, as aforesaid, the tension upon both wires is equalized, and the solder or zinc will permit of the contraction and expansion of the wires without liability of being broken.

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

A fence-wire consisting of two or more wires twisted together, and firmly united each to the other continuously from end to end by means of a metallic solder, substantially as specified.

EDWARD M. CRANDAL.

Witnesses:
N. C. GRIDLEY,
J. C. WILCKE.