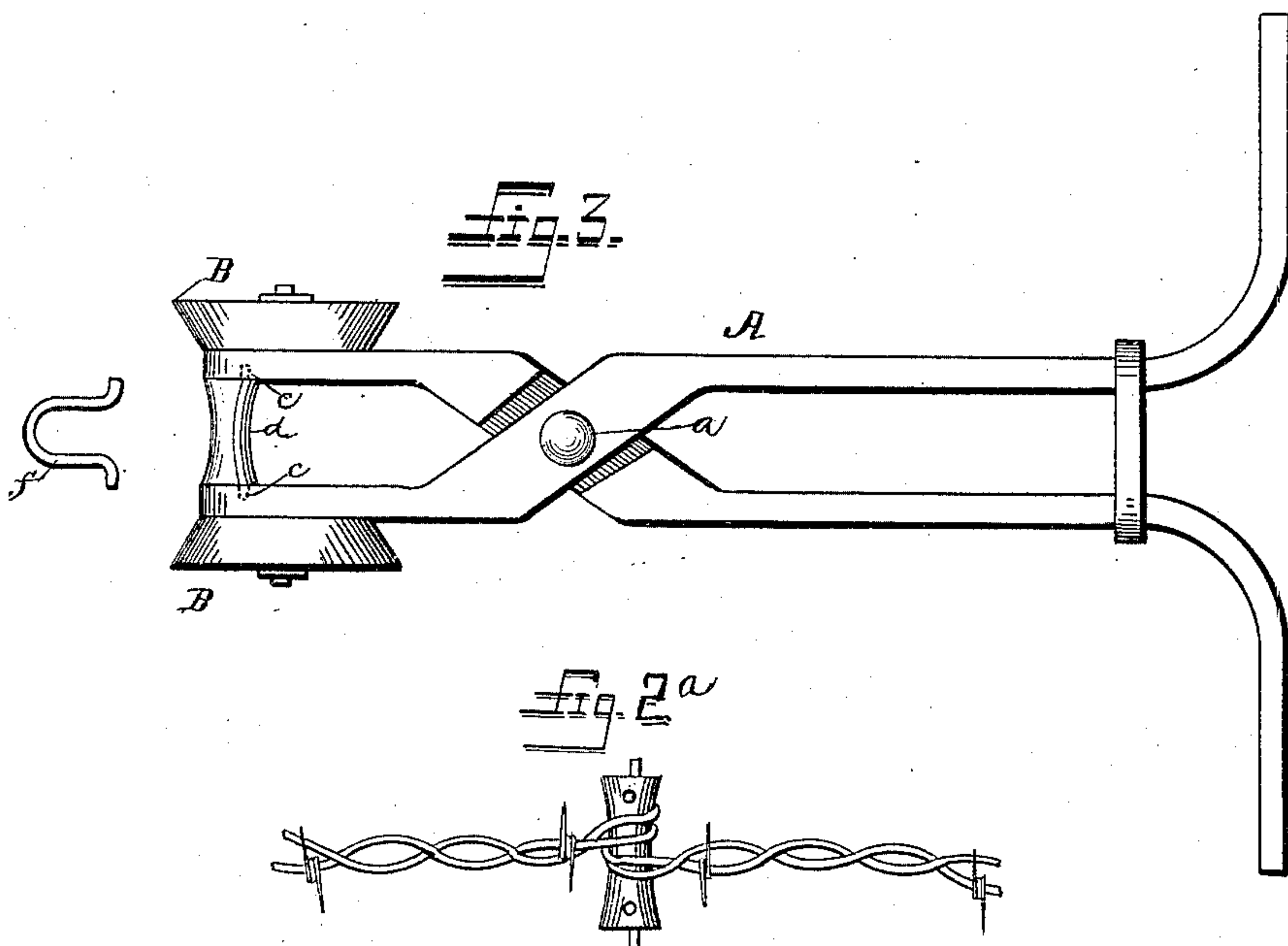
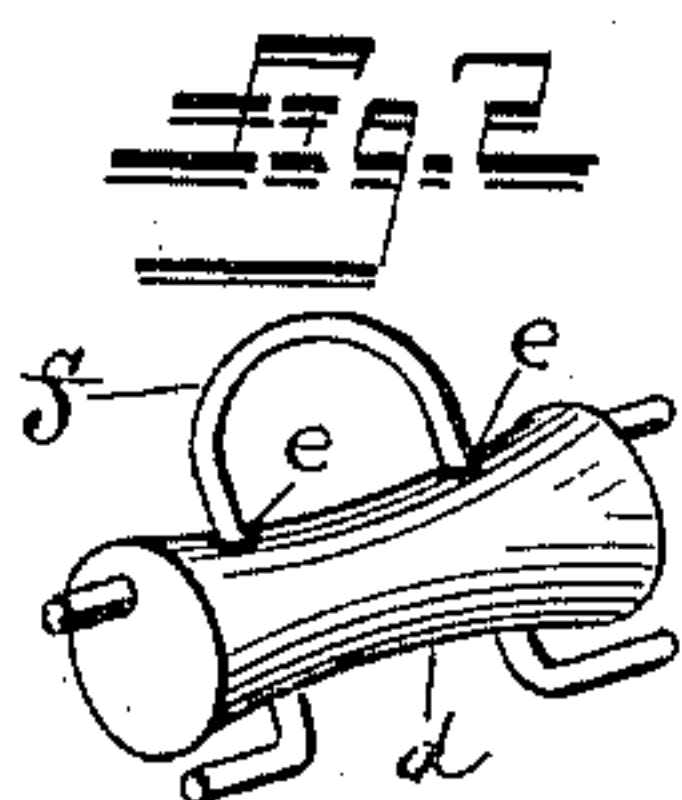
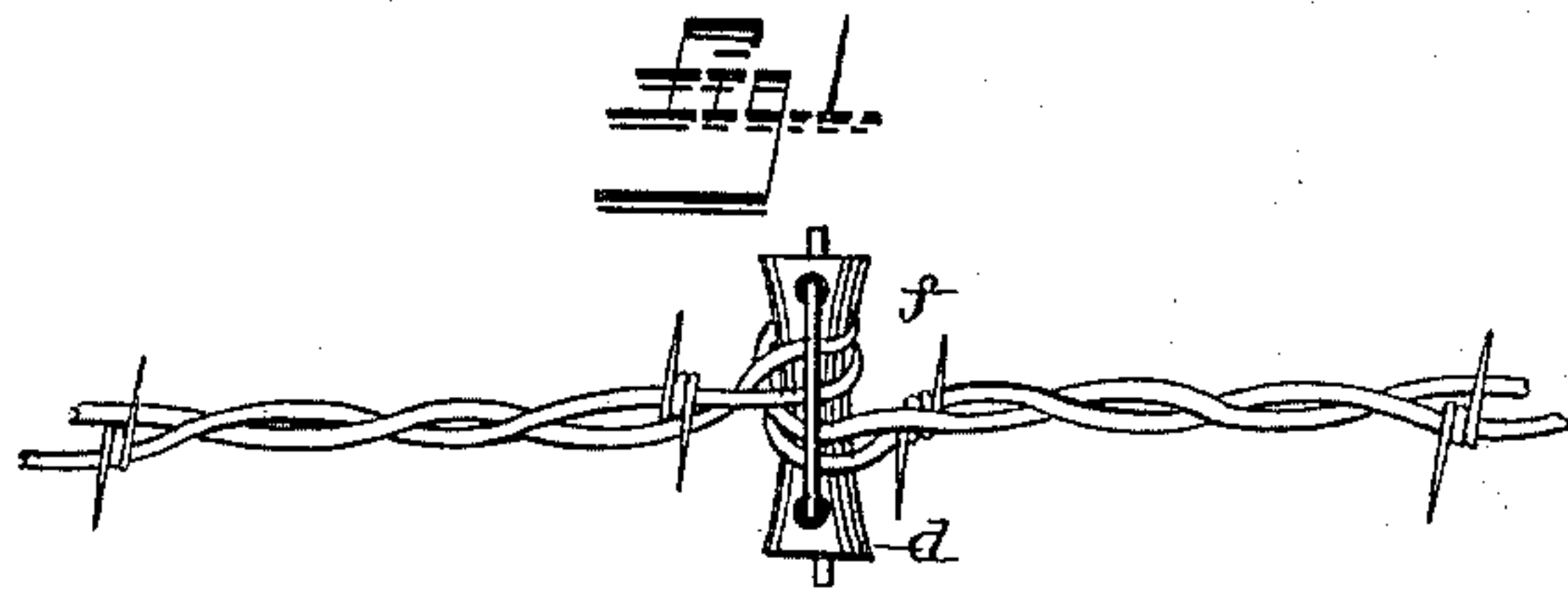


(No Model.)

C. KNOPP.
TIGHTENER FOR WIRE FENCES.

No. 433,475.

Patented Aug. 5, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES KNOPP, OF WINONA, MINNESOTA.

TIGHTENER FOR WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 433,475, dated August 5, 1890.

Application filed November 27, 1889. Serial No. 331,738. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KNOPP, a citizen of the United States, residing at Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Tighteners for Wire Fences; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to tighteners for wire-fences; and it consists in certain improvements in the same, as hereinafter described and claimed.

20 In the accompanying drawings, Figure 1 represents my improved tighteners adjusted to the wire. Fig. 2 represents the tightening pin and loop. Fig. 2^a is a view of the tightening-pin in position in the loop of the wire before the staple is engaged therewith. Fig. 25 3 is a plan view of the fastening-tongs used to adjust the tighteners.

A designates the tongs, the two parts of which are pivoted together at *a*, and are provided with two rollers B, which are pivoted 30 to the jaws of the tongs, the said rollers being rounded or beveled inwardly at their edges, as shown. The said jaws are provided with opposite apertures or sockets, as seen at *c*, to receive the ends of the tightening-pin *d*, which is to form a part of the fastening. The 35 said pin is provided at its ends with projections to enter the sockets *c* of the jaws, the said projections being away from the center line of the pin, as shown, so that the pin may 40 be turned with its outer surface on a line

with the forward ends of the jaws. Although I prefer to locate the projections eccentrically on the ends of the pin to bring its periphery on a line with the outer ends of the jaws, the said projections could be located centrally 45 and the sockets formed in the jaws nearer their outer ends, in which case the result would be the same. The pin *d* is provided with two holes *e* to receive a staple *f*, which is used to secure the pin after the wire has been twisted 50 on it.

To adjust the fastening on a slack wire, the tongs are placed with the wire between the jaws, and the pin *d* is placed between the jaws with its ends in the sockets *c*. The wire 55 is twisted by turning the tongs, the rollers B bearing against the wire and being turned in the operation so that they serve as guides for the wire and facilitate the movement. A loop is thus formed in the wire tight around the pin *d*, and the latter is secured by means of a staple *s*, which is then passed over the wire 60 and through the holes *e* in the pin. A number of pins *d* may thus be applied to the same length of wire for taking up the slack. 65

The tongs described being the subject of another application for patent to be filed by me, are not claimed in this application.

I claim—

The combination, with a wire having formed 70 in it an intermediate loop, of a pin inserted through said loop and a staple engaged with said pin for securing the pin to said loop, substantially as set forth.

In testimony whereof I affix my signature in 75 presence of two witnesses.

CHARLES KNOPP.

Witnesses:

W. A. FINKELNBURG,
EDWARD LEES.