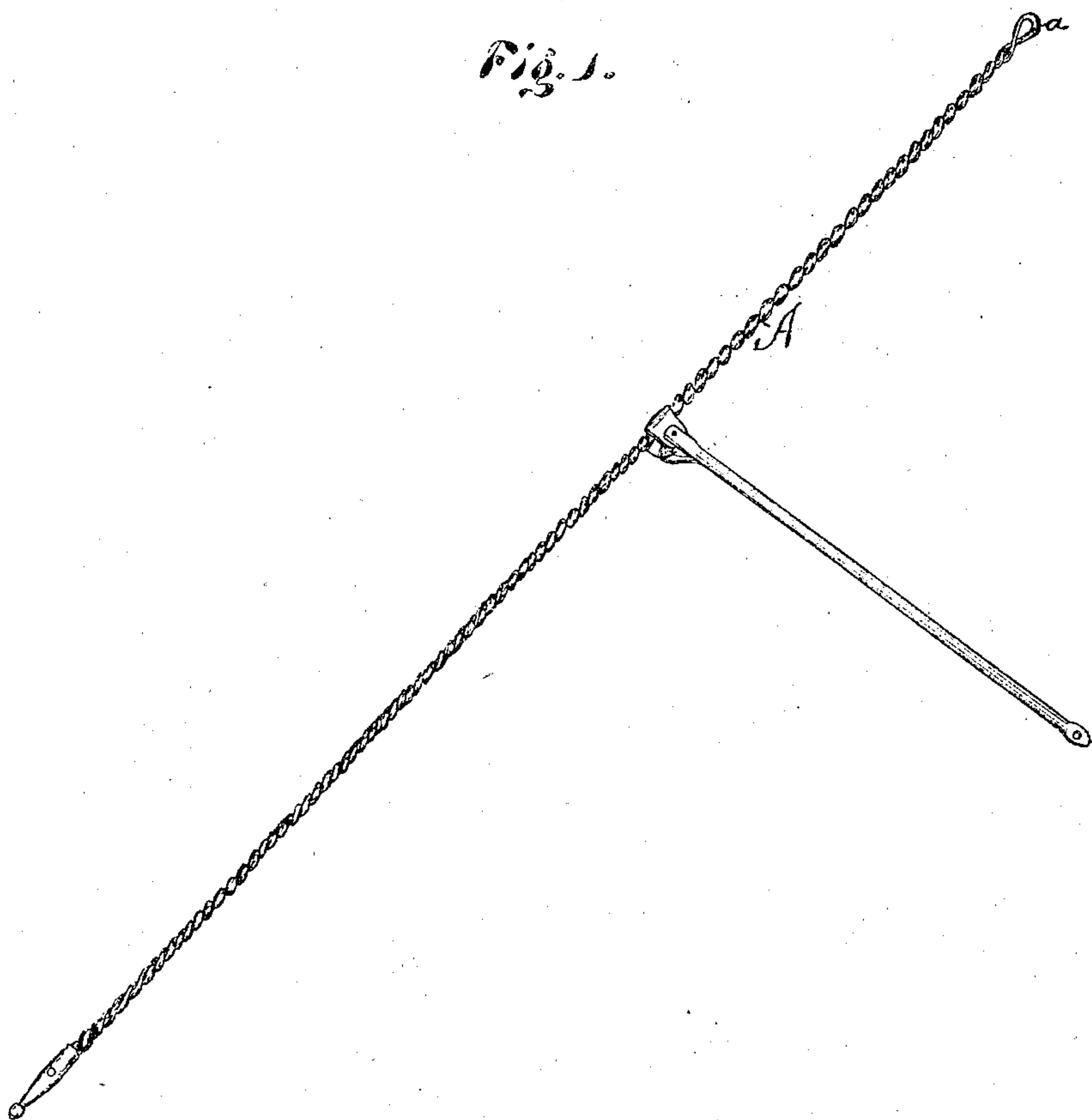


H. S. Frost,
Umbrella.

No. 103864.

Patented June 7. 1870.

Fig. 1.



WITNESSES

E. A. Clarkson
J. H. Pierson

INVENTOR

Henry S. Frost by
H. M. Beadle atty

UNITED STATES PATENT OFFICE.

HENRY S. FROST, OF WATERTOWN, CONNECTICUT, ASSIGNOR TO HIMSELF,
ANTHONY G. DAVIS, AND AUGUSTUS N. WOOLSON, OF SAME PLACE.

IMPROVEMENT IN UMBRELLA-RIBS.

Specification forming part of Letters Patent No. **103,864**, dated June 7, 1870.

To all whom it may concern:

Be it known that I, HENRY S. FROST, of Watertown, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Umbrella-Ribs; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention has for its object the production at a small cost of a strong and elastic rib for umbrellas and parasols; and it consists in the employment of close-twisted steel wire, as will be fully described hereinafter.

In the drawing a rib of my improved construction is shown.

To enable others skilled in the art to make my improved rib, I will now proceed to describe fully the manner of constructing the same.

A represents a rib constructed of steel wire, which is closely twisted in any suitable manner. It is provided at one end with the eye *a*, as shown, by means of which it is attached to the umbrella-head in the usual manner; and, if desired, it may also be provided at the other

end with an eye, which is formed by loosely twisting the wires at that point, through which the thread may be passed to sew on the cover. The ends of the wire may be covered by a ball or tip, or in any other suitable manner.

The stretcher may be clamped on in any way that will secure it firmly without necessitating the cutting of the rib.

By the means herein described a perfect rib is produced, which may be secured in place without being cut or punched in any manner. From its peculiar construction it necessarily possesses great strength and elasticity.

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

As a new article of manufacture, an umbrella or parasol rib constructed of twisted steel wire, as described, for the purpose set forth.

This specification signed and witnessed this 5th day of February, 1870.

HENRY S. FROST.

Witnesses:

ANTHONY G. DAVIS,
ORRIN S. STARR.