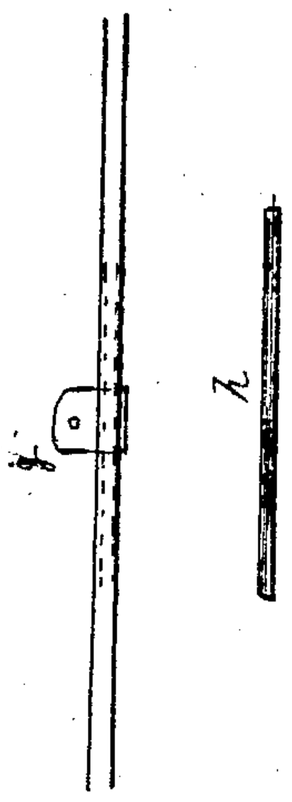
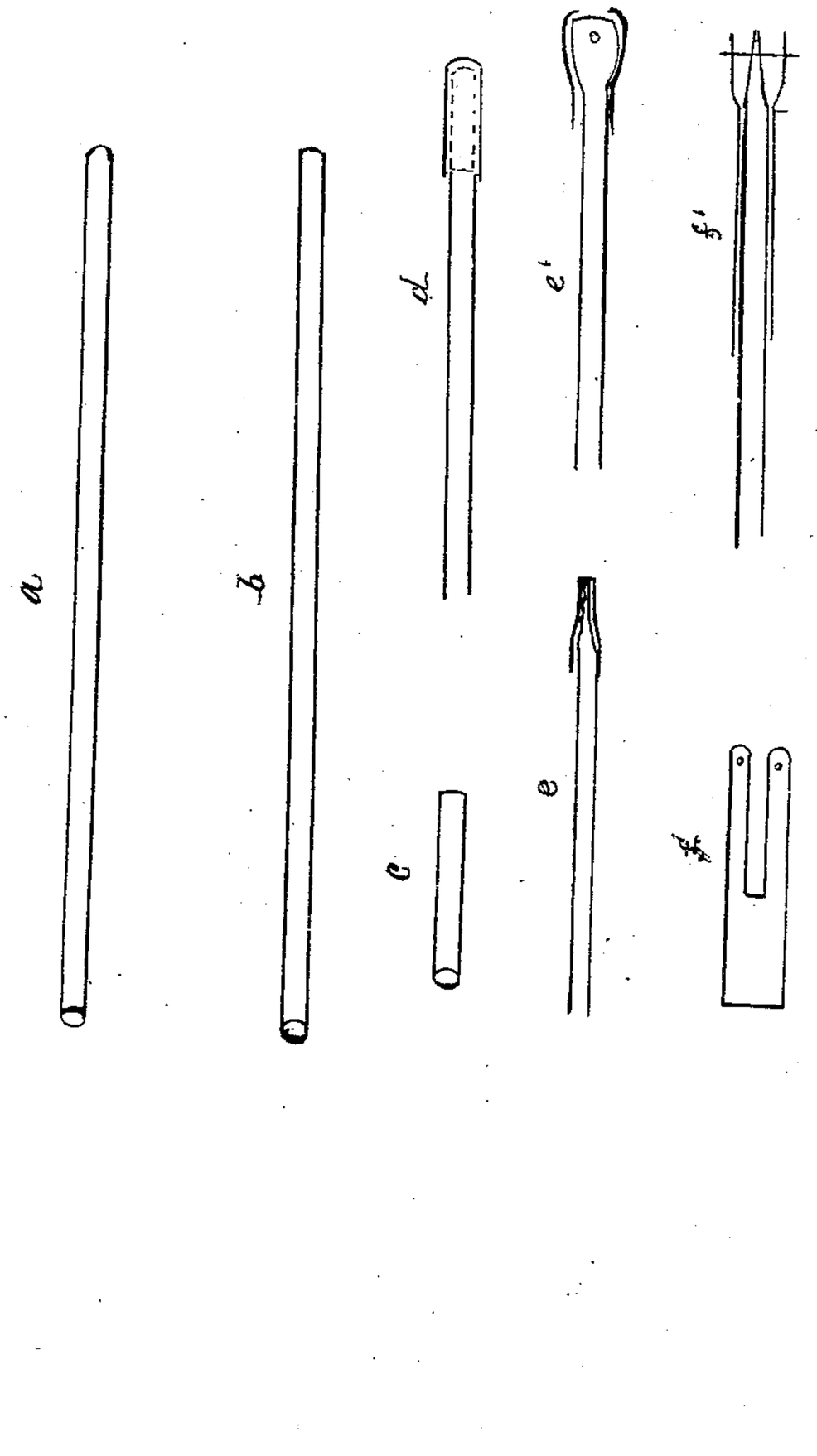
R. E. Rogers.
Umbrella.

No. 25,763. Patented Oct. 11, 1859.



R. E. Rogers
inventor

Witnesses:
Wm Hemstead
Lorenzo Taggart



UNITED STATES PATENT OFFICE.

ROBERT E. ROGERS, OF PHILADELPHIA, PENNSYLVANIA.

UMBRELLA-FRAME.

Specification of Letters Patent No. 25,763, dated October 11, 1859.

To all whom it may concern:

Be it known that I, ROBERT E. ROGERS, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Umbrella and Parasol Frames; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and marks thereon.

My invention has reference to umbrella and parasol frames constructed of tubes, and consists in combining with tubular ribs and stretchers means for uniting the different parts of the frame and giving strength to the same.

In the drawings forming part of this specification (*a*, *a*) represent the longitudinal and end views of a steel tubular rib or stretcher of cylindrical form; (*b*, *b*,) represent the same views of a tubular rib or stretcher of an oval form; (*c*) indicates a strengthening tube put on the end of the rib or stretcher to thicken and give strength to it when flattened; (*d*) shows the position of this strengthening tube before any pressure has been used; (*e*, and *e'*) show the same after the end has been flattened; (*f*) indicates a piece of sheet metal cut out in such form as will, when made into a tube around the stretcher, form a fork to aid in the fastening together of the rib and stretcher; (*f'*) represents the piece formed out of (*f*) and placed on the end of the stretcher; (*g*) represents the saddle pressed upon the rib and slightly indenting it; (*h*) indicates a short piece of wire introduced into the caliber of the rib and intended to support the sides of the rib when pressed and to give to it increased strength.

For making the tubes I employ either wire or sheet metal cut into ribbons or strips. When wire is used it is first run between plain rollers and flattened to the proper width and thickness. The ribbons or fillets being annealed are passed through draw plates, or other suitable machinery, and are transformed into uniform and symmetrical tubes of the desired shape and diameter, having a great degree of rigidity compared with their weight.

To furnish greater strength to the ends of the ribs and stretchers, where the connections are made, a short piece of tube (*c*) of a little larger diameter than the rib or stretcher, and for sake of neatness of very thin metal, is slipped tightly over the end of the rib or stretcher as seen in (*d*) and when heated is flattened down as represented in (*e*, *e'*).

The fork for aiding in uniting the rib and stretcher is made by cutting from thin sheet metal, a piece of the form seen in (*f*) and after giving it the form of a tube, slipping it over the end of the stretcher. This tubular fork being slid along the stretcher, out of the way, the end of the stretcher is flattened to correspond with the blades of the fork; the fork is then brought back to the end, and if the flattening of the end of the stretcher has been properly done, the tube will embrace or fit it tightly, and the central blade, or that of the stretcher, will correspond in line with the outside blades of the fork.

(*f'*) shows the fork in place in connection with the flattened end of the stretcher. It will be observed that this end of the stretcher may itself be strengthened before being finished by the piece of tube (*c*). The piece (*f*) may be made into the tubular form directly upon the stretcher, by pressing it around it after the end of the stretcher has been flattened. I therefore do not confine myself to any time or stage in the operation of connecting the parts, when this tubular fork may be made and secured in its place.

The rib is strengthened at the point where the saddle is fastened to it in the following way: A piece of wire, which need not be more than half an inche long, made to fit loosely the caliber of the rib is introduced into the tubular rib and pushed forward by means of a small rod until it reaches the position where the saddle is to be put, the saddle is then placed over the rib and somewhat squared; the pressure flattens or indents a little this part of the rib and carries the saddle into the depression, where it will remain firmly fixed, while the wire within the rib will compensate in stiffness and strength for any diminution it might sustain by being flattened. In (*g*) the saddle is represented pressed upon the rib, the

latter having the wire (*h*) previously introduced into it.

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

Combining with tubular ribs and stretchers constructed as herein described the means for uniting the ribs and stretchers and for strengthening the tubular parts of the frame as herein set forth.

R. E. ROGERS.

Witnesses:
JOHN THOMPSON,
LORENZO TAGGART.