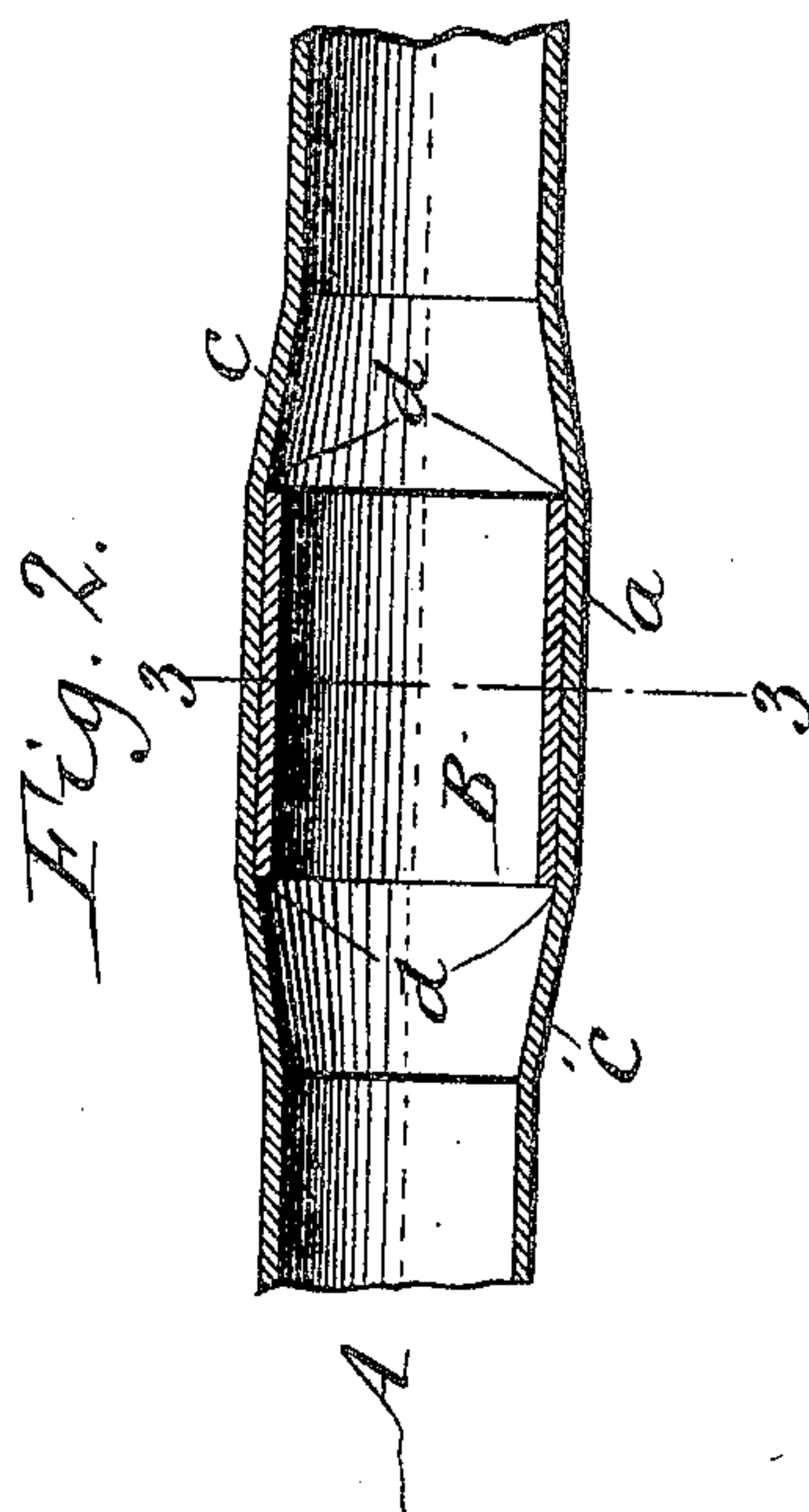
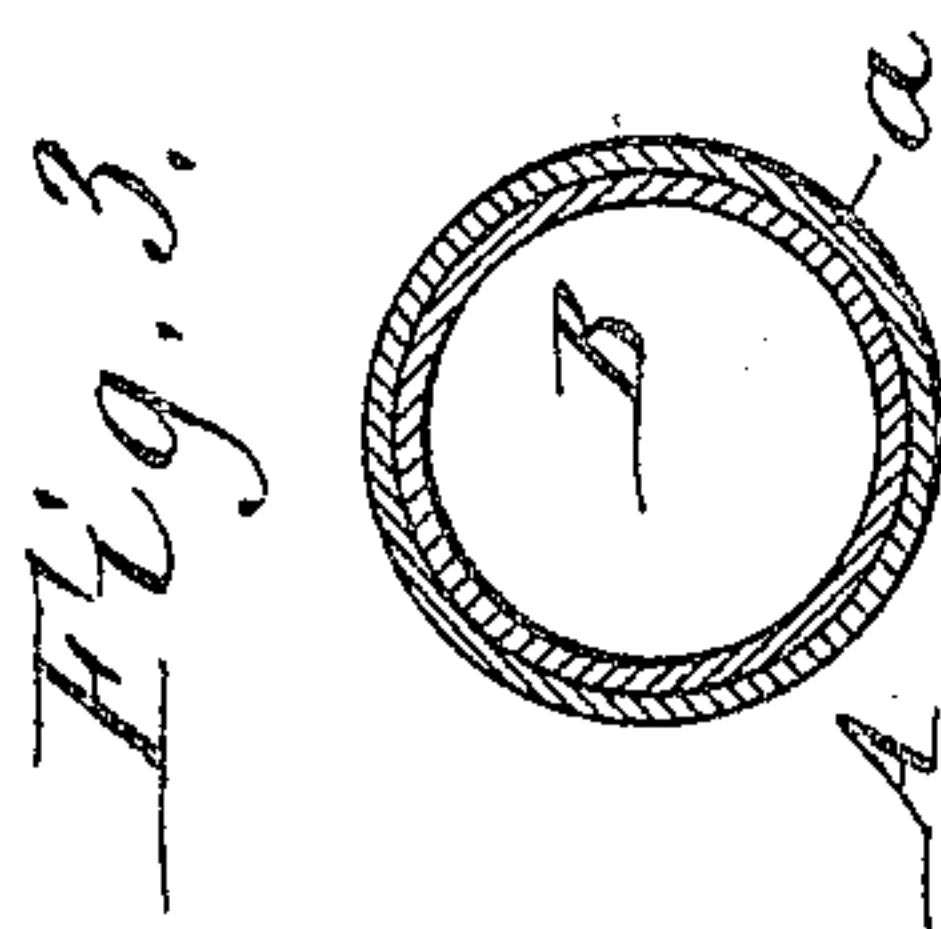
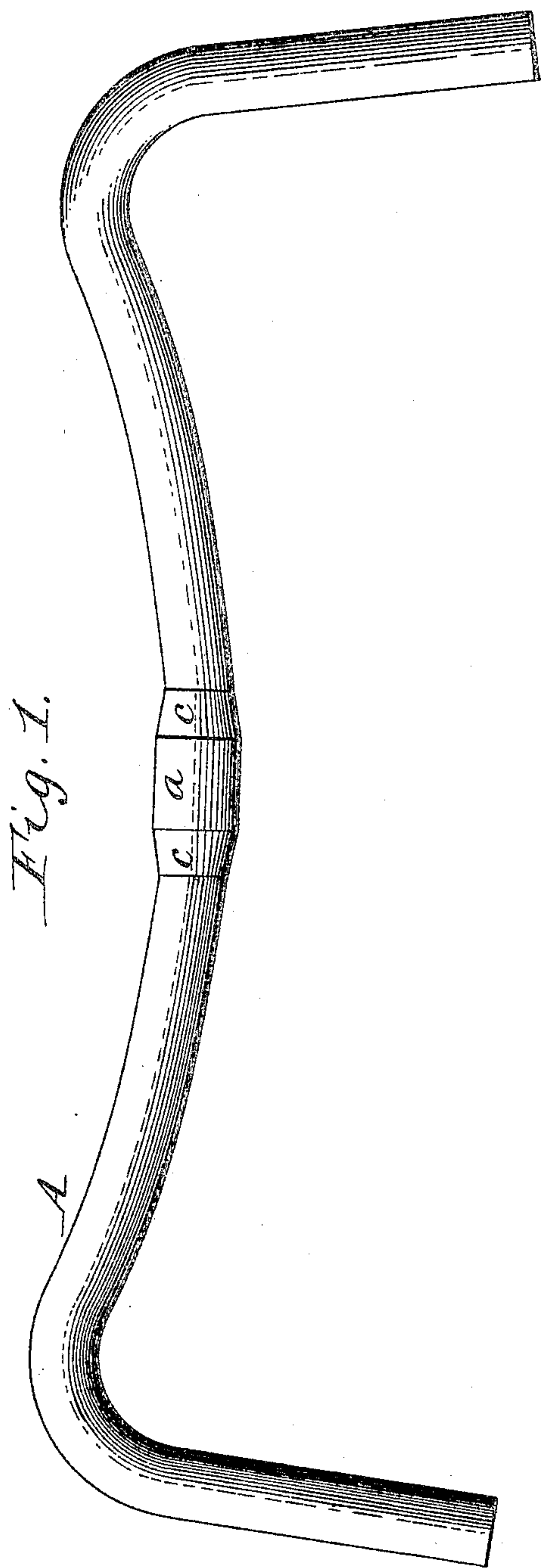


No. 822,487.

PATENTED JUNE 5, 1906.

W. H. SMITH.
REINFORCING TUBE.
APPLICATION FILED JUNE 5, 1905.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM H. SMITH, OF BUFFALO, NEW YORK, ASSIGNOR TO JOHN R. KEIM, OF NEW YORK, N. Y.

REINFORCING-TUBE.

No. 822,487.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed June 5, 1905. Serial No. 263,717.

To all whom it may concern:

Be it known that I, WILLIAM H. SMITH, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Reinforcing-Tubes, of which the following is a specification.

This invention relates to an improved construction of reinforced tubes as a new article of manufacture, the same being more especially desirable for the handle-bars of bicycles, but may also be used for other purposes.

The object of this invention is the production of a reinforced tube which is neater in appearance than those heretofore produced and in which the reinforcement does not require brazing to hold the same in place relatively to the main tube.

In the accompanying drawings, Figure 1 is a plan view of a handle-bar reinforced in accordance with my invention. Fig. 2 is a fragmentary longitudinal section of the same on an enlarged scale. Fig. 3 is a cross-section in line 3 3, Fig. 2.

Similar letters of reference indicate corresponding parts throughout the several views.

A represents the main or outer tube of the new article of manufacture, the same being represented in the drawings in the form of a handle-bar for bicycles. Within the central part of the main tube a reinforcement B is arranged, consisting, preferably, of a short section of tubing. This reinforcing-tube fits snugly in the bore of the main tube and is held against lengthwise movement therein by forming internal shoulders on the main tube, against which the ends of the reinforcing-tube abut. These shoulders are preferably

formed by gradually reducing the main tube to a smaller diameter on opposite sides of the reinforcing-tube by drawing the main tube to a taper. By this means the central part *a* of the main tube, which surrounds the reinforcing-tube, retains its cylindrical form, but tapers outwardly on opposite sides of the reinforcement, as shown at *c*, forming internal shoulders *d* in the main tube, between which the reinforcement is confined against lengthwise displacement. Brazing of the reinforcement for this purpose is thus avoided. By reinforcing the main tube internally in this manner the pronounced shoulders which are present on an externally-reinforced bar are avoided and the contour of the bar as a whole is much more sightly and graceful.

I claim as my invention—

1. A new article of manufacture comprising a main tube and a reinforcement arranged within part of said main tube, the latter being reduced on opposite sides of the reinforcement, substantially as set forth.

2. A new article of manufacture comprising a main tube and a reinforcing-tube arranged within part of said main tube, the latter being tapered or drawn to a smaller diameter on opposite sides of said reinforcing-tube forming shoulders in the same between which the reinforcing-tube is held against endwise movement in the main tube, substantially as set forth.

Witness my hand this 1st day of June, 1905.

WILLIAM H. SMITH.

Witnesses:

THEO. L. POPP,
MAY E. McARTHUR.