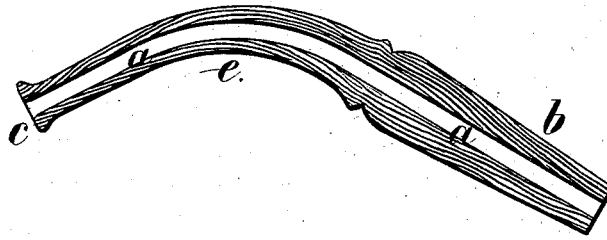


T. W. BALL.  
PIPE-STEMS.

No. 194,545.

Patented Aug. 28, 1877.



Witnesses

Chas. H. Smith  
Harold Ferrell

Inventor  
Thomas W. Ball.

per Lemuel W. Ferrell

Att'y.

# UNITED STATES PATENT OFFICE.

THOMAS W. BALL, OF JERSEY CITY, NEW JERSEY.

## IMPROVEMENT IN PIPE-STEMS.

Specification forming part of Letters Patent No. **194,545**, dated August 28, 1877; application filed July 2, 1877.

*To all whom it may concern:*

Be it known that I, THOMAS W. BALL, of Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Stems for Tobacco-Pipes, of which the following is a specification:

Stems for tobacco-pipes have been made of various materials, and when made of wood the hole through the stem is always straight. Pipe-stems of rubber, horn, clay, &c., have been made in a curved form by bending while in a soft and pliable condition, and when finished are connected with the pipe by screw or suitable fitting.

My invention consists in a stem and mouth-piece made of one piece of wood, having a hole longitudinally through it, and curved between the part used by the mouth and the connection thereof with the pipe.

This is a new, useful, cheap, strong, and durable article of manufacture.

The stem is made of a piece of straight wood, a hole being bored through the center *a*. The outside may be plain or ornamental, one end, *b*, having a screw or fitting to connect it with the bowl of the pipe, the other end, *c*, being curved and adapted to the mouth.

The stem is bent at *e* between the mouth part *c* and the fitting *b*, so that it forms a suitable angle to the straight portion of the stem. This is accomplished by softening the wood by steam and bending it between dies to the desired shape.

Care must be taken to bore the wood with a clean cut in making the hole, so that it will not be filled up or be partially closed when the fibers are softened by the steam or the stem bent by the dies.

The bent portion of the pipe-stem and the mouth-piece will be smoothed off and flattened, so as to be more easily held between the lips and teeth.

I claim as my invention—

As a new article of manufacture, the pipe-stem made of one piece of wood with a hole through it, and having the plug mouth-piece and bend, substantially as set forth.

Signed by me this 28th day of June A. D. 1877.

THOS. W. BALL.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.