

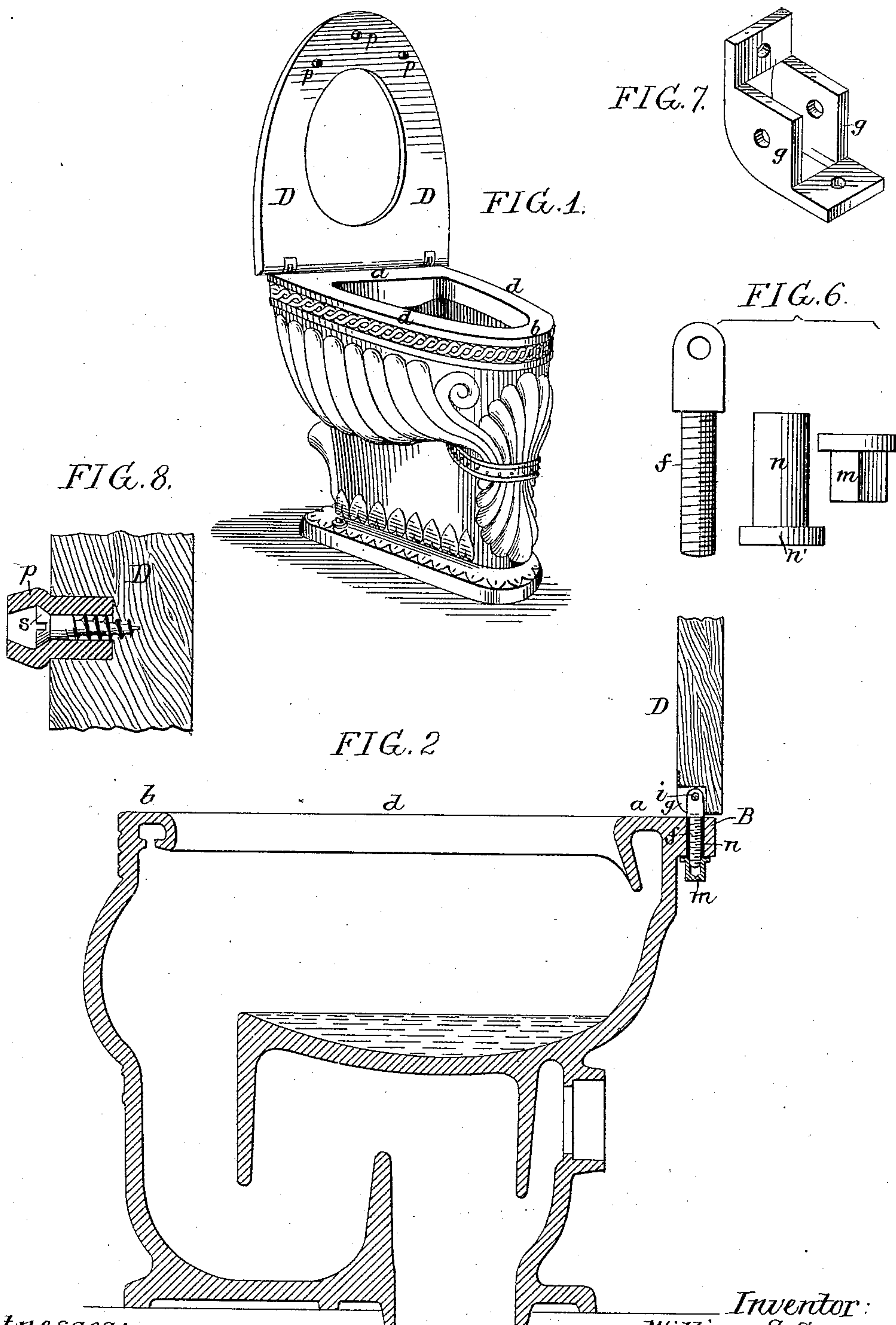
(No Model.)

2 Sheets—Sheet 1.

W. S. COOPER.  
WATER CLOSET BOWL.

No. 444,243.

Patented Jan. 6, 1891.



Witnesses:  
Alex. Parkoff  
William D. Bonner.

Inventor:  
William S. Cooper  
by his Attorneys  
Howson & Howson

(No Model.)

2 Sheets—Sheet 2.

W. S. COOPER.  
WATER CLOSET BOWL.

No. 444,243.

Patented Jan. 6, 1891.

FIG. 3.

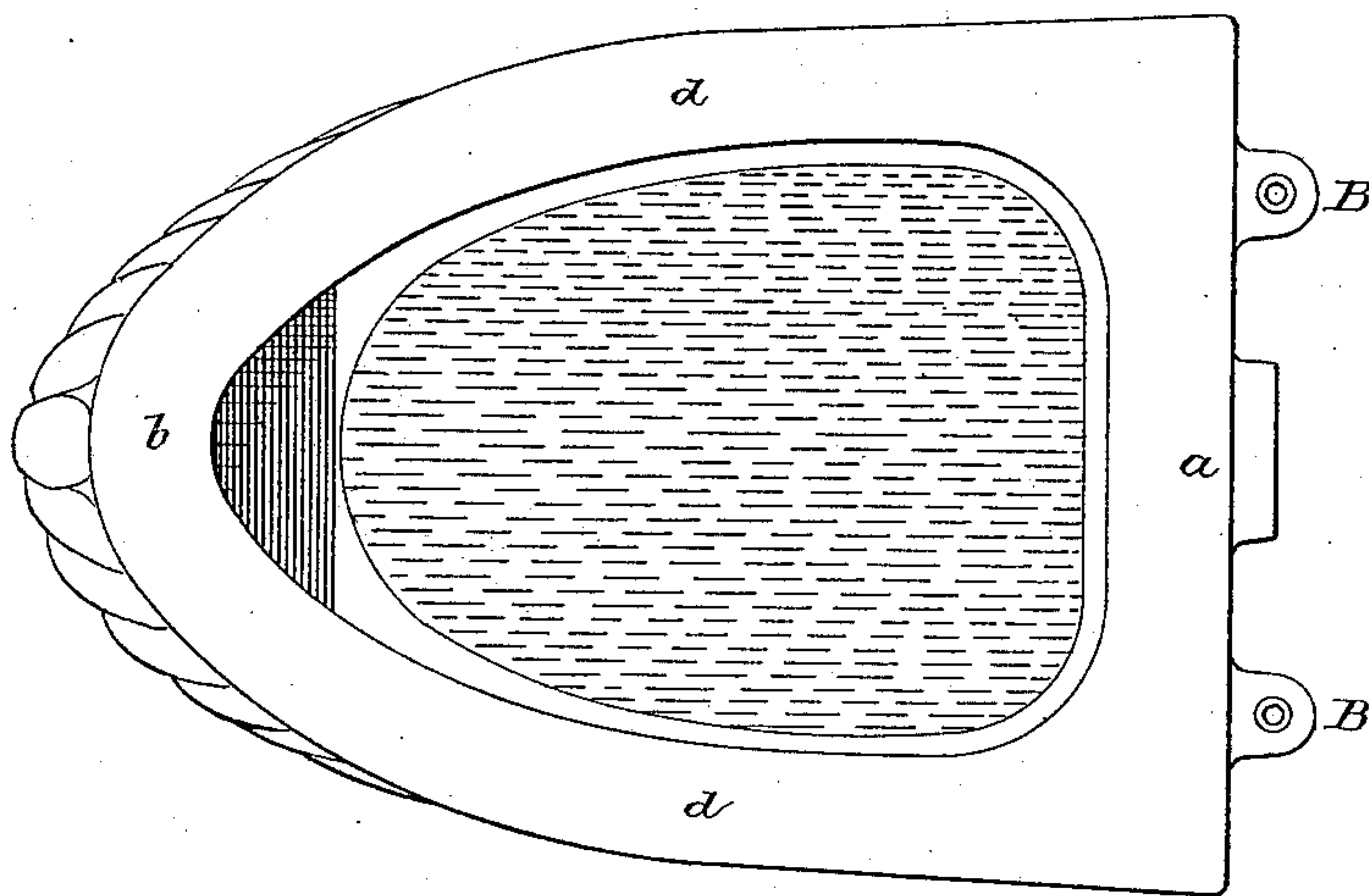


FIG. 4.

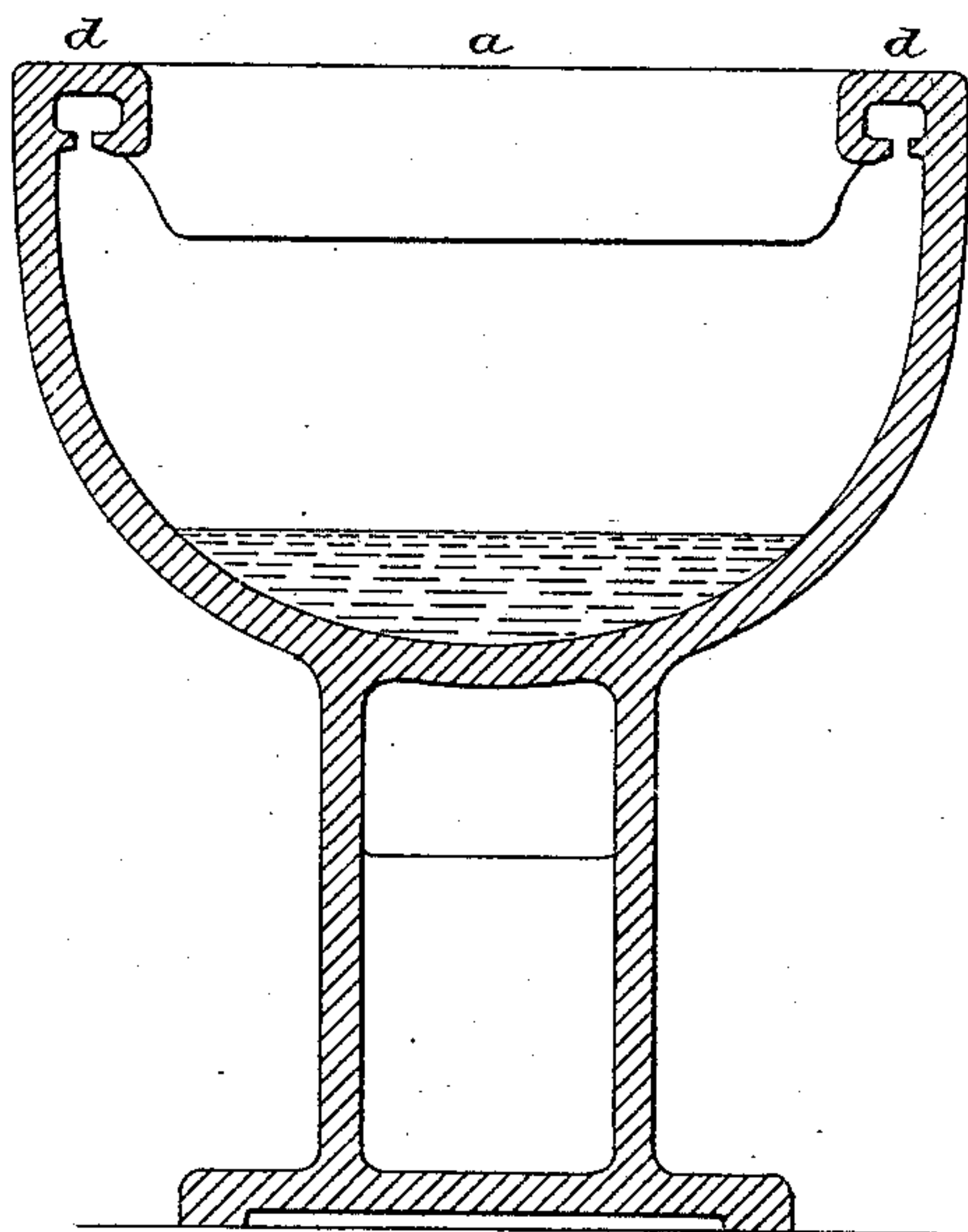
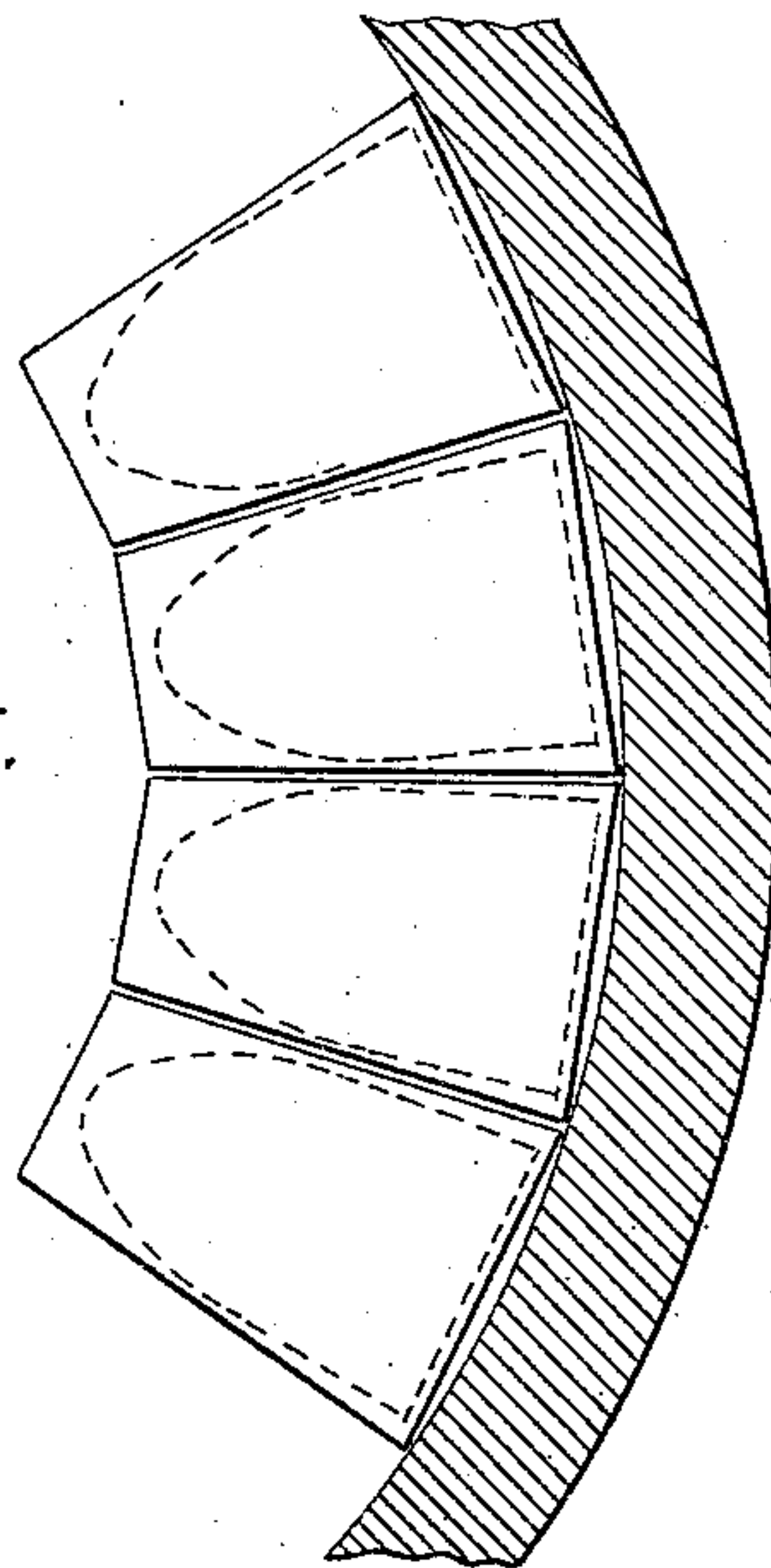


FIG. 5.



Witnesses:  
Alex. Barhoff  
William D. Bonner.

Inventor:  
William S. Cooper  
by his Attorneys  
Howson & Howson



# UNITED STATES PATENT OFFICE.

WILLIAM S. COOPER, OF PHILADELPHIA, PENNSYLVANIA.

## WATER-CLOSET BOWL.

SPECIFICATION forming part of Letters Patent No. 444,243, dated January 6, 1891.

Application filed December 17, 1888. Serial No. 293,777. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. COOPER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Water-Closet Bowls, of which the following is a specification.

The object of my invention is to so construct the bowl of a water-closet that it will be easier to manufacture and more acceptable in use than bowls hitherto constructed, a further object of the invention being to provide simple and efficient means for hanging the seat directly to the bowl and for preventing the slamming of the seat.

In the accompanying drawings, Figure 1 is a perspective view of a water-closet bowl constructed in accordance with my invention, the seat being raised. Fig. 2 is a longitudinal section on a larger scale. Fig. 3 is a plan view. Fig. 4 is a transverse section. Fig. 5 is a diagram illustrating in part the arrangement in the pottery-kiln of the seggars containing the bowls. Figs. 6 and 7 are detached views showing the hinge for the seat, and Fig. 8 is an enlarged view of one of the bumpers for the seat.

The earthenware bowl of my improved water-closet has a wide rear portion, forming a square back *a*, a rounded and contracted front *b*, and opposite curved sides *d d*, merging into said rounded and contracted front, so that the general outline of the bowl viewed in vertical plan is wedge-shaped. By this means I provide the desired extended area and large volume of water at the rear of the bowl to receive the excreta and permit a more effective use of the bowl as a urinal than is possible when the bowl is of the square or round shape now usually employed. Moreover, owing to the general wedge shape of the bowl the seggars containing the bowls can be of corresponding shape, and hence may be fitted closely together around the outer portion of the pottery-kiln, thus enabling me to introduce into a kiln of a certain size a greater number of bowls than is possible when the bowl is either square or circu-

lar, so that I am enabled to reduce the cost of burning the bowls, and thereby cheapen the same in addition to their other advantages.

At the back of the bowl are tubular projections *B B*, through which pass the stems of bolts *f*, the enlarged heads of which are contained within recesses formed in the rear of the seat *D*, these recesses having plates *g*, to which the bolts *f* are hung by means of transverse pins *i*, the lower ends of the bolts projecting beyond the tubular projections of the bowl and being provided with nuts *m*, between which and the enlarged heads of the bolts are confined elastic sleeves or bushings *n*, so that by screwing up the nuts *m* these bushings will be expanded within the bores of the projections *B*, and the bolts will be thereby firmly secured to said projections. Each bushing *n* has at the lower end a flange *n'*, which is interposed between the nut *m* and the bottom of the projection *B*, so as to lessen the strain on said projection caused by an upward pull on the bolt.

The seat *D* has on the underside and around the front portion a series of buffers *p*, each of which consists of a short section of rubber tubing let into a shallow recess in the underside of the seat, and confined therein by a central screw *s*, the tube projecting slightly beyond the seat, and the head of the screw exercising such pressure upon the inner wall of the tube as to cause the projecting portion of said tube to be drawn partially inward over said head of the bolt, as shown in Fig. 8.

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

1. A water-closet bowl having a wide rear portion with square back and rounded and contracted front, a discharge-opening at the front, and curved or tapering sides merging into said rounded and contracted front, substantially as specified.

2. The combination of the bowl having a square back with tubular projections, the recessed seat, bolts passing vertically through the projections on the bowl and having en-

larged heads hung within the recesses in the seat, and nuts for confining the bolts to the projections, substantially as specified.

5 3. The combination of the seat having recesses therein, with buffers consisting of elastic tubes let into recesses in the seat, but projecting therefrom, and screws passing through said tubes and having heads for confining the tubes to the seat and causing partial con-

traction of the projecting portions of said tubes, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM S. COOPER.

Witnesses:

WILLIAM D. CONNER,

HARRY SMITH.