

C. LIGHTSINGER, Jr.
MOUTH-HARMONICAS.

No. 173,652.

Patented Feb. 15, 1876.

Fig. 1.

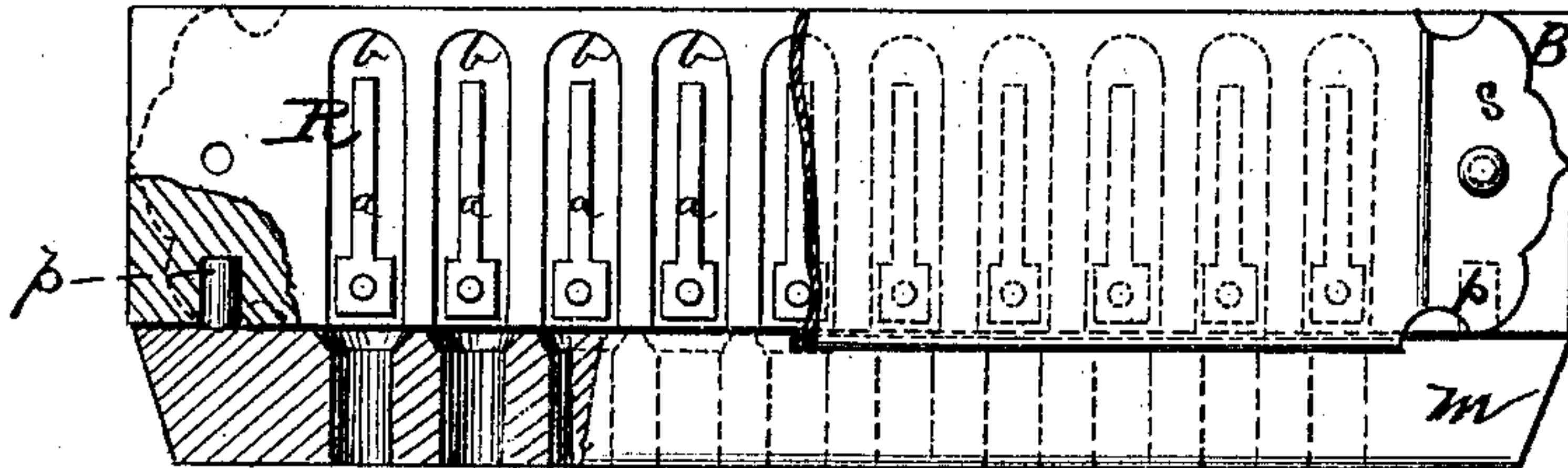


Fig. 2.

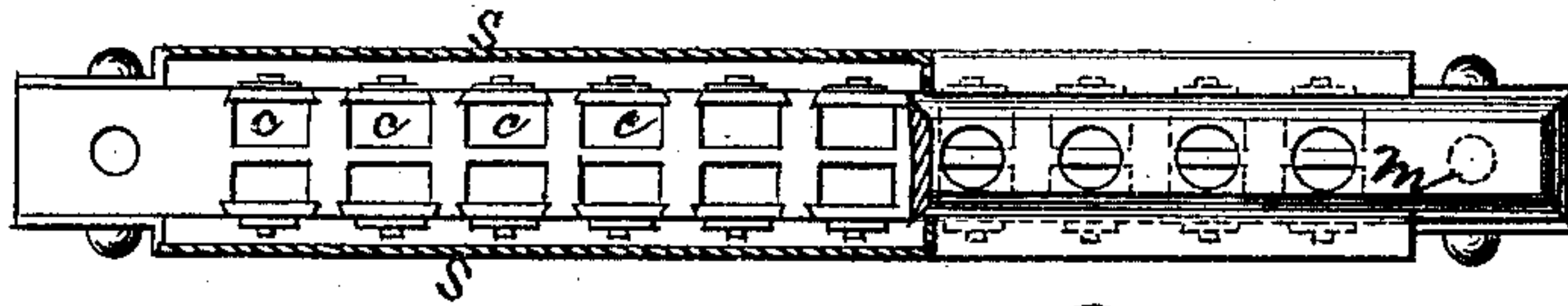


Fig. 3.

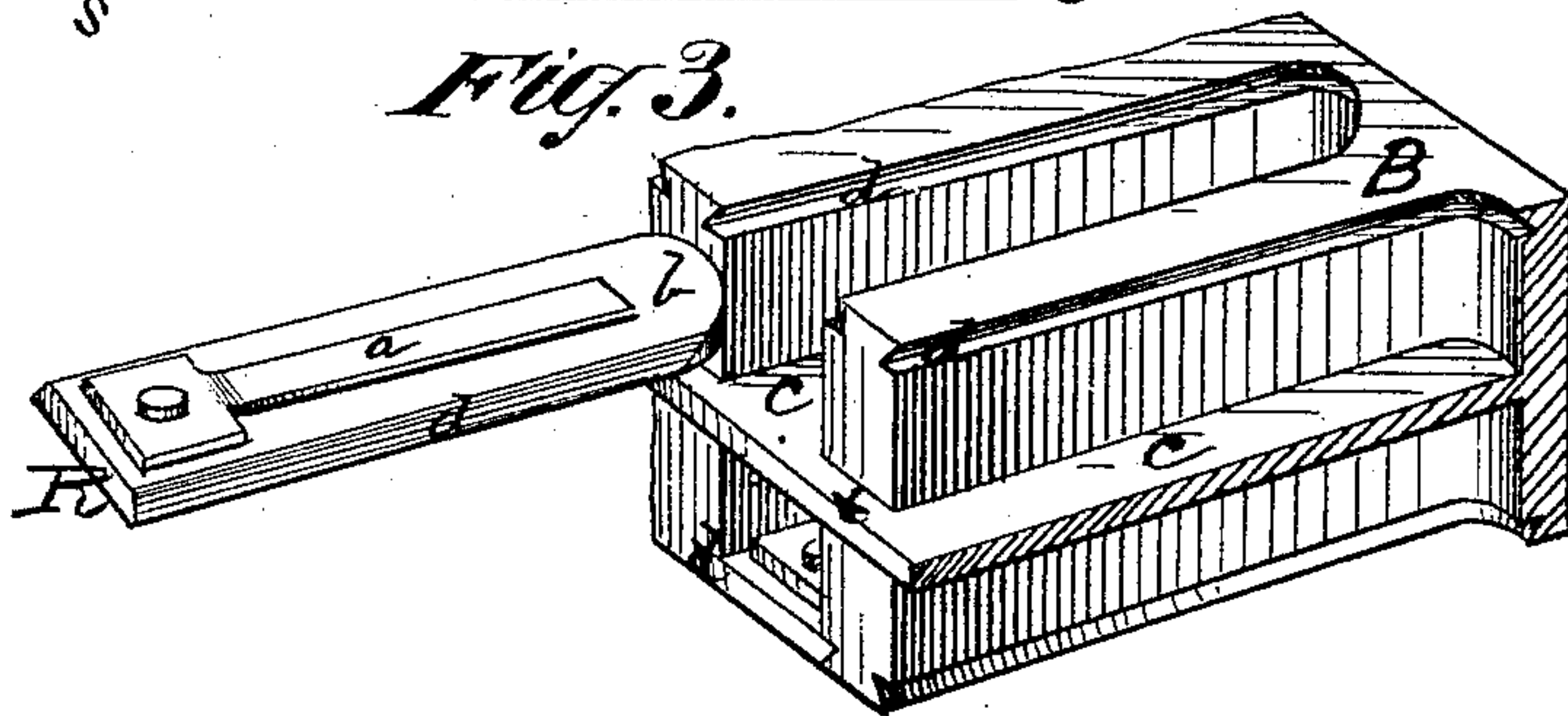
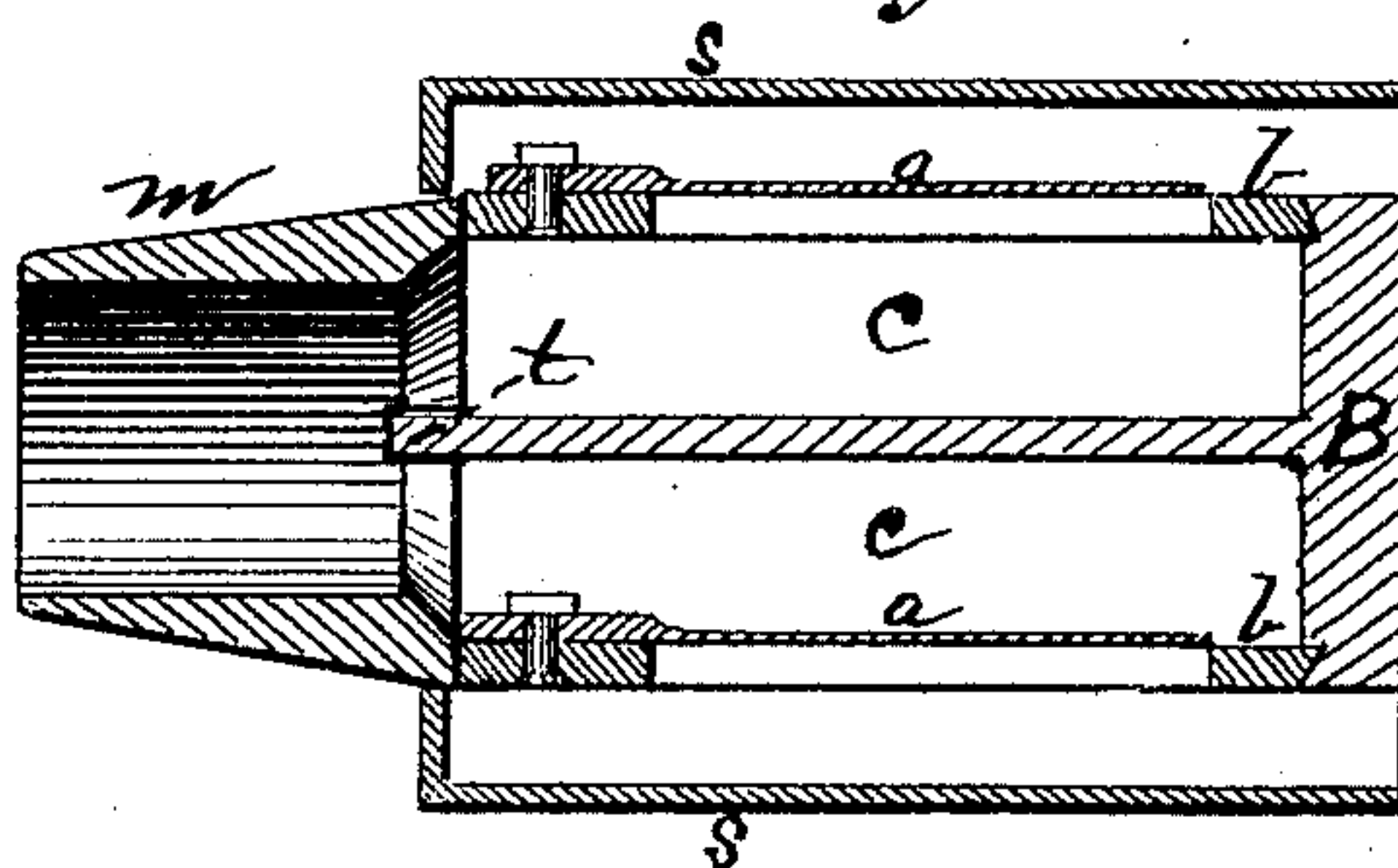


Fig. 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

CASPER LIGHTSINGER, JR., OF BRATTLEBOROUGH, VERMONT, ASSIGNOR
OF ONE-HALF HIS RIGHT TO E. D. TUTTLE, OF WATERBURY, CONN.

IMPROVEMENT IN MOUTH-HARMONICAS.

Specification forming part of Letters Patent No. **173,652**, dated February 15, 1876; application filed
January 13, 1876.

To all whom it may concern:

Be it known that I, CASPER LIGHTSINGER, Jr., of Brattleborough, State of Vermont, have invented Improvements in Harmonicas, of which the following is a specification:

The objects of my invention are—

First, so to attach the reeds to the cells of the instrument that if any should become damaged by being broken or out of tune they could be removed and others substituted without trouble and at slight expense. A reed, *a*, and reed-block, *b*, together are technically termed a "reed," which I will designate *R*, to distinguish from the reed *a*.

By making the reeds *R* independent of each other, and fitting them to the cells *c c* by means of the tongue and groove *d*, each can be readily removed and replaced without disturbing any of the others. The expense of one reed, *R*, would be small compared with that of a new plate containing the whole number used on one side of the instrument, as in the old style.

Second, the block *B*, being that part of the instrument forming the cells *c*, becomes very offensive by the absorption of saliva. To prevent this I enamel the block.

Third, mouth-pieces of various material have been used, the difficulties experienced, and to be avoided, being the fouling, as described under the second head, and also the contact of the lips with the metal forming the reed-block, making the lips sore.

The mouth-piece *m* is made of wood, and enameled. It is attached to the block *B* by means of the pins *p p*, one at each end, or by means of the tongue and groove *t*, the tongue *t* being an extension of the partition dividing the cells on opposite sides of the block *B*. This tongue, fitting into a groove in the mouth-piece *m*, forms a practically air-tight joint between the cells.

Fourth, the plates *s s*, forming the sides of the instrument, are made of crystallized tin, and are not subject to oxidation. This is cheap and ornamental, and preferable over brass or German silver.

Figure 1 is a side view, partially in section; Fig. 2 shows mouth-piece and part of mouth-piece removed; Fig. 3, reed cell and block; Fig. 4, section of harmonica through center of reed.

I claim as my invention—

1. The combination, in a harmonica, of a separate and independent reed and reed-block for each cell, substantially as specified.

2. As a new article of manufacture, an enameled harmonica-block, substantially as specified.

3. In combination with a harmonica, the enameled mouth-piece *m*, attached thereto by means of the pins *p* or tongue and groove *t*.

CASPER LIGHTSINGER, JR.

In presence of—

WM. S. NEWTON,
W. S. HOLLAND.