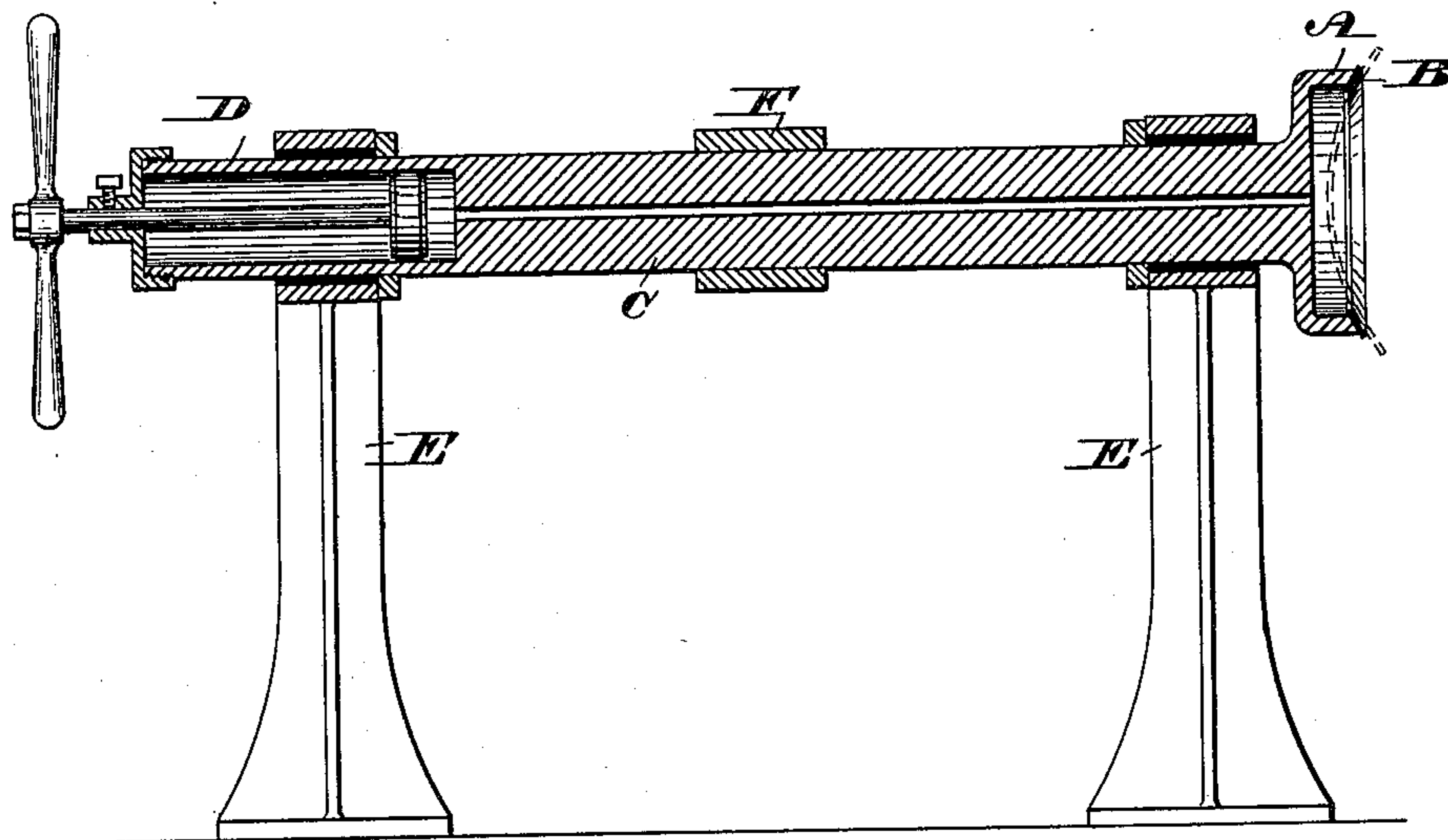


(No Model.)

G. CUTHBERT.  
PNEUMATIC CHUCK.

No. 397,835.

Patented Feb. 12, 1889.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE CUTHBERT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ROBERT P. METZ, OF SAME PLACE.

## PNEUMATIC CHUCK.

SPECIFICATION forming part of Letters Patent No. 397,835, dated February 12, 1889.

Application filed June 28, 1888. Serial No. 278,412. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE CUTHBERT, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Pneumatic Chucks for Holding Work and Tools, which improvement is fully set forth in the following specification and accompanying drawing.

My invention relates to improvements in chucks; and it consists in constructing the same as herein set forth and claimed.

The figure represents a longitudinal vertical section of a chuck embodying my invention.

Referring to the drawing, A represents a cup, which in the present instance is of such shape and size as to hold a watch-case which is to be worked upon, the upper inner edges of the cup being rounded or beveled to conform to the contour of said case, and having a gasket, B, placed thereon, so as to form an air-tight joint between the case and cup.

Attached to and communicating with the cup at the back thereof is a tube, C, the same being connected with a pump or pumping apparatus, D, whereby air may be exhausted from the cup.

It will be seen that when the watch-case or other article is placed against the cup and the pump D operated the air in the cup is exhausted back of the case, and thus the latter is firmly held on the cup, so as to be worked or acted upon as may be required in the art. When air is admitted into the cup, the work may be released, as is evident.

For holding tools the cup A is of size relatively to the shank of the tool, and is more of the form of a socket than a cup.

For work requiring rotations of the cup the tube C is of the form of a mandrel mounted on standards E, and carries the pump D, which may rotate with the mandrel or be made stationary. Suitable packing or stuffing boxes may be provided, whereby the mandrel-and-pump connection is properly air-tight.

The mandrel has a pulley, F, for an operating belt or band; but other power-communicating means may be employed.

I am aware that it is not new to employ a cup or socket having a cutting-edge and provided with an inner raised platen or bed against which an article to be cut is held by

the exhaustion of the air within the cup; but I am not aware that it is common to construct a device having an inner beveled edge, so as to be adapted to hold or retain in place an article having a disk or rounded surface without cutting the same, the said device being provided with an air-exhaust, as described; neither is it believed to be old to mount said cup so as to be rotary, whereby the article that is held may be rotated; neither is it thought to be old to construct a device of the character described wherein both the cup and the exhaust pump or device with the connecting-tube are rotary.

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

1. A pneumatic chuck consisting of a hollow cup having an inner beveled edge, a tube leading from said cup, and an air-exhausting device, said parts combined substantially as described.

2. A cup or socket and an air-exhausting pump connected therewith, the inner side of the upper edge of said cup being beveled and having a gasket thereon, said parts being combined substantially as described, forming a pneumatic chuck for holding work or tools, as stated.

3. A pneumatic chuck consisting of a cup or socket with the inner side of its upper edge beveled or rounded, a tube connected with said cup, and a pumping device, said tube being rotatable with said cup, said parts being combined substantially as described.

4. A pneumatic chuck consisting of standards, and a tube freely mounted on said standards and having a cup or socket at one end thereof and an air-exhaust device at the other end, both cup and air-exhaust device being rotatable with said tube, said parts being combined substantially as described.

5. A pneumatic chuck consisting of a tube with a cup at one end having inner beveled edges, a gasket resting on said edges, and an air-exhaust device at the other end of the tube, said parts being combined substantially as described.

GEORGE CUTHBERT.

Witnesses:

JOHN A. WIEDERSHEIM,  
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