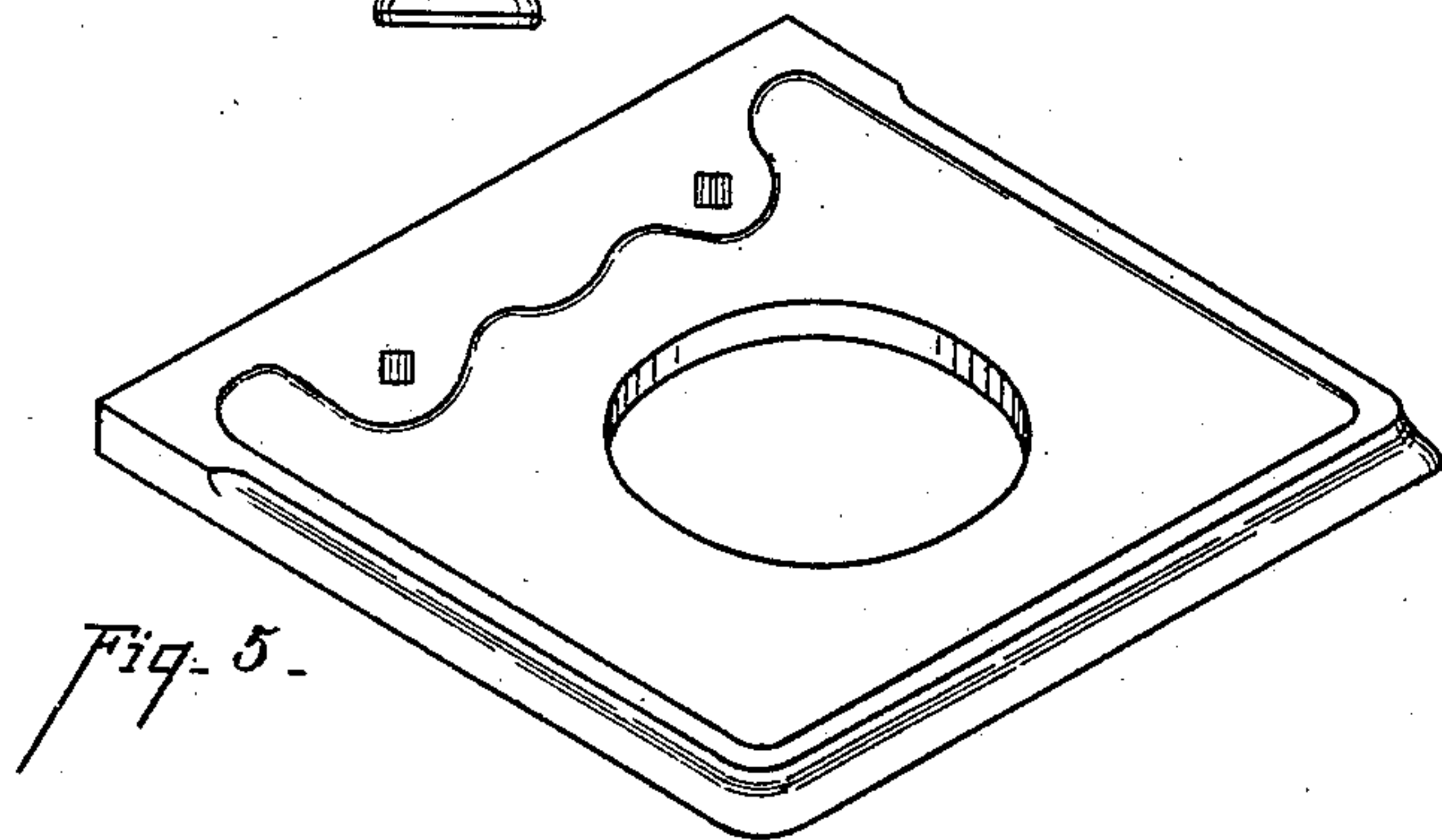
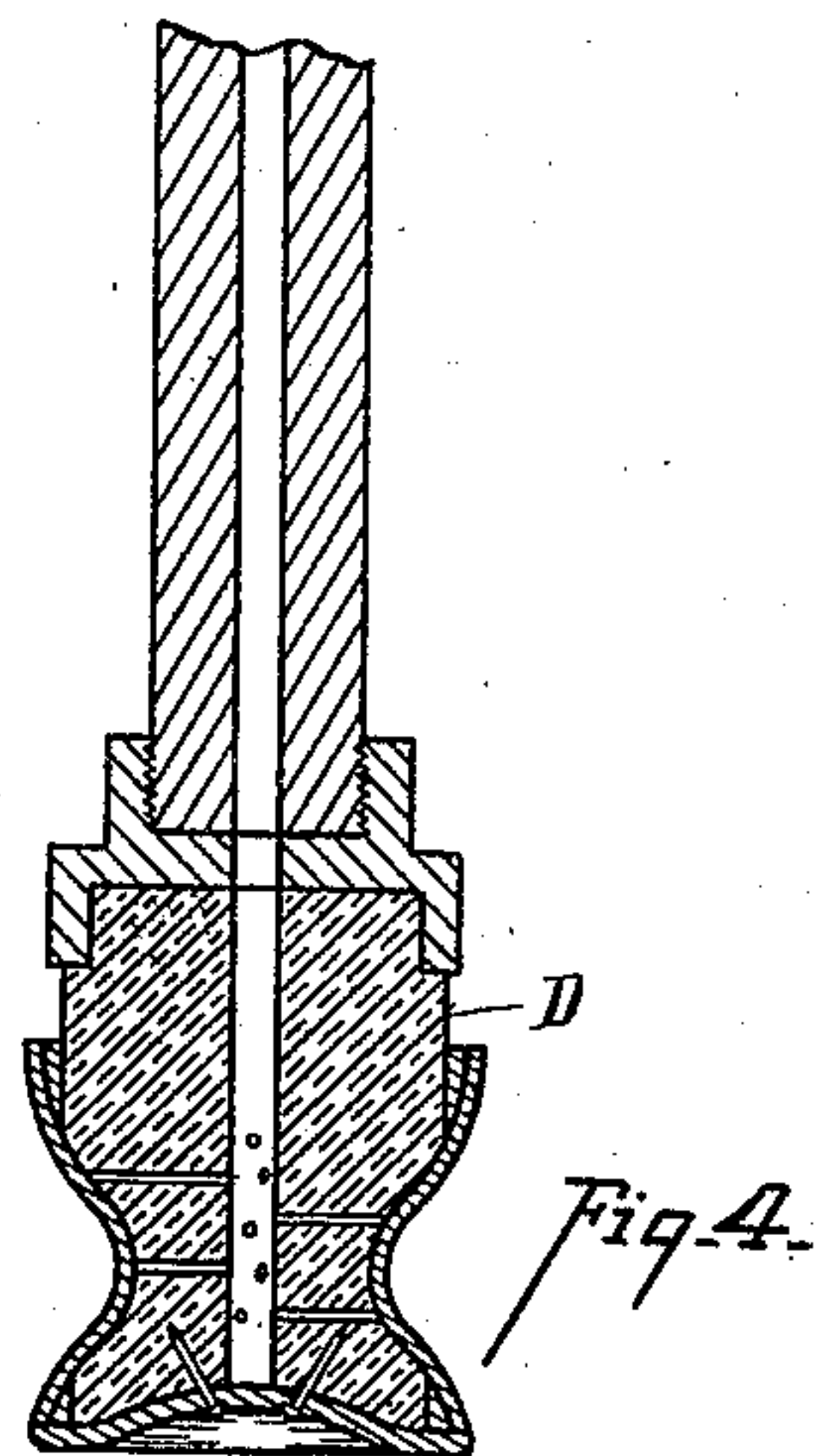
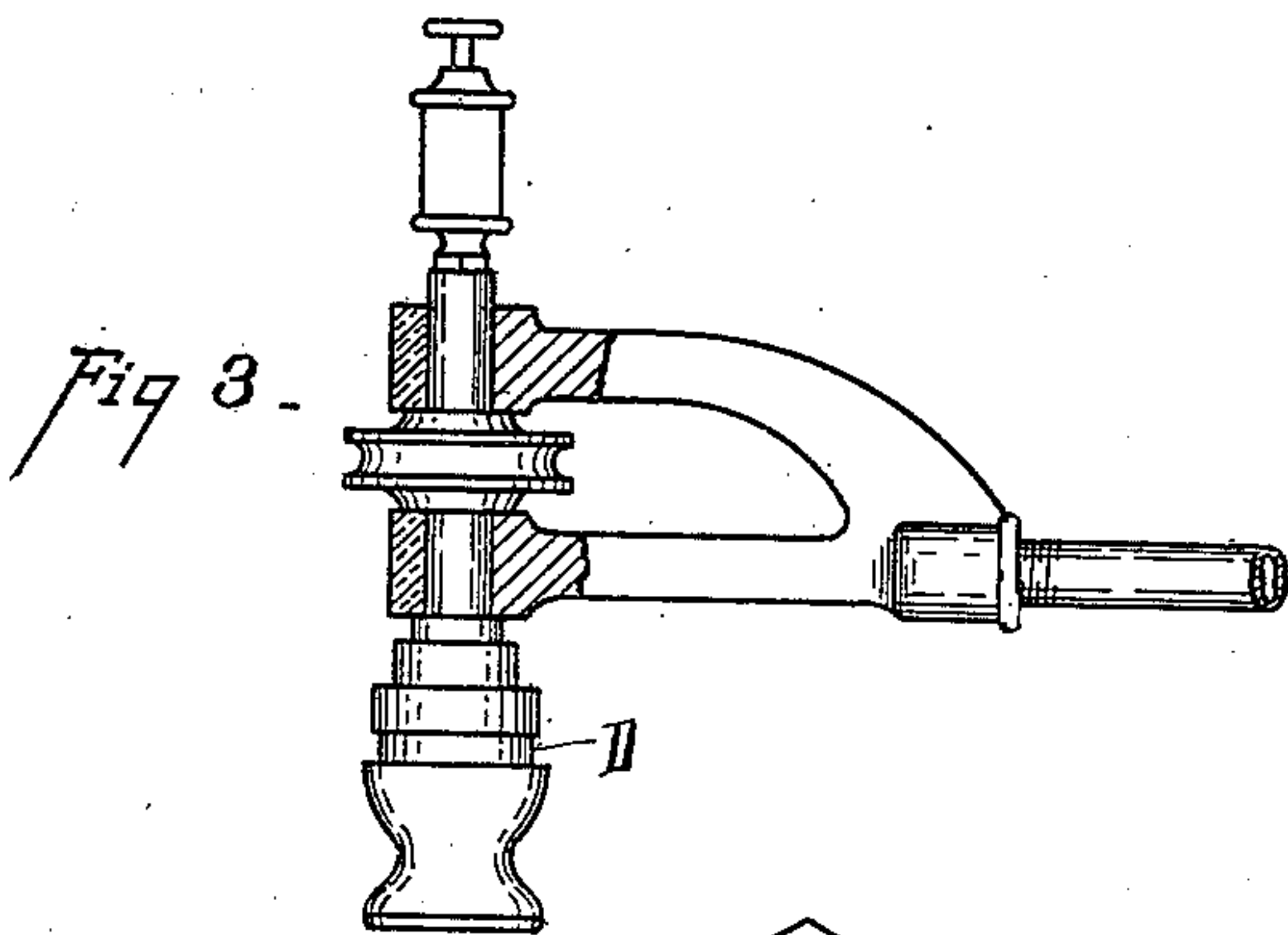
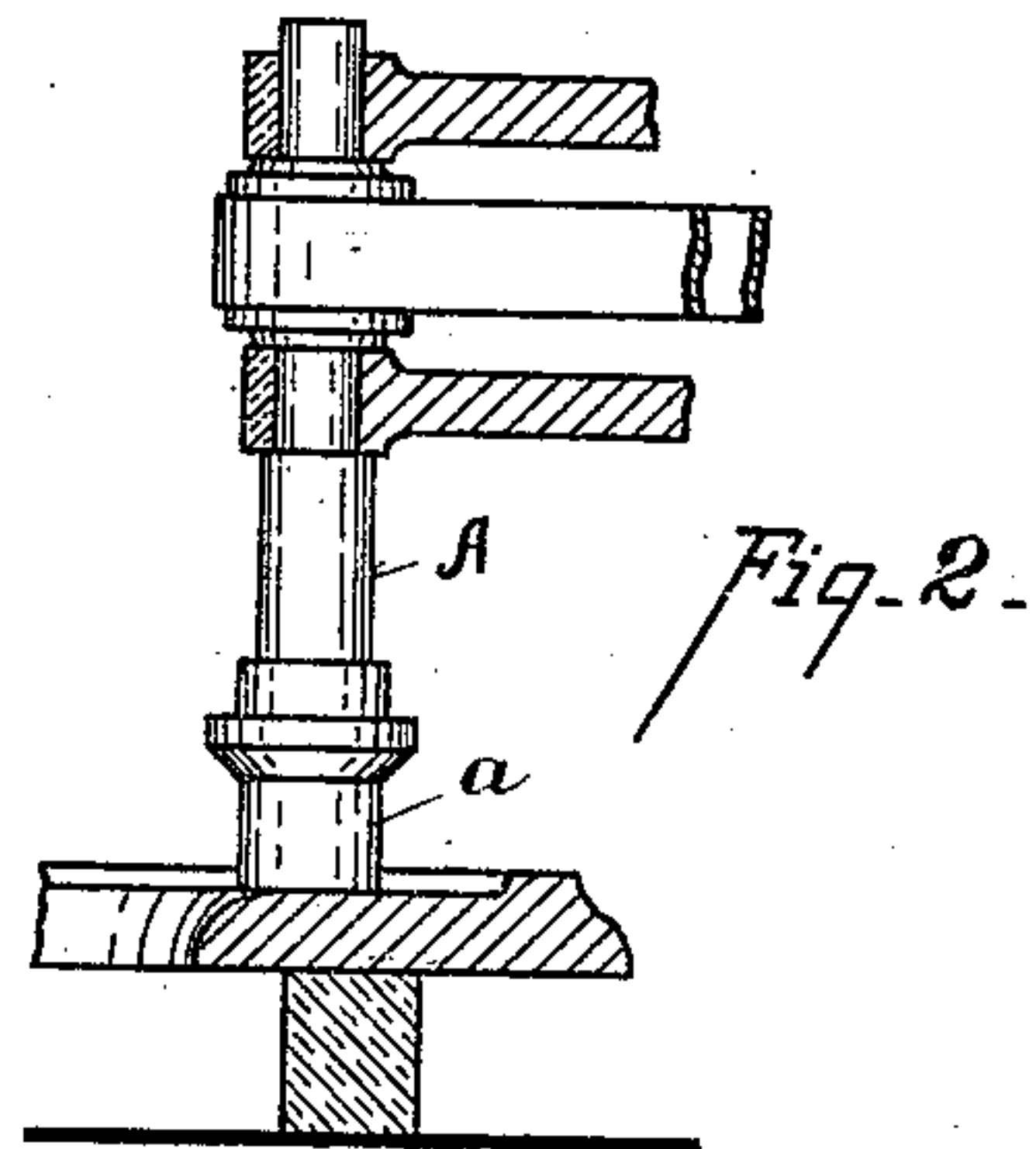
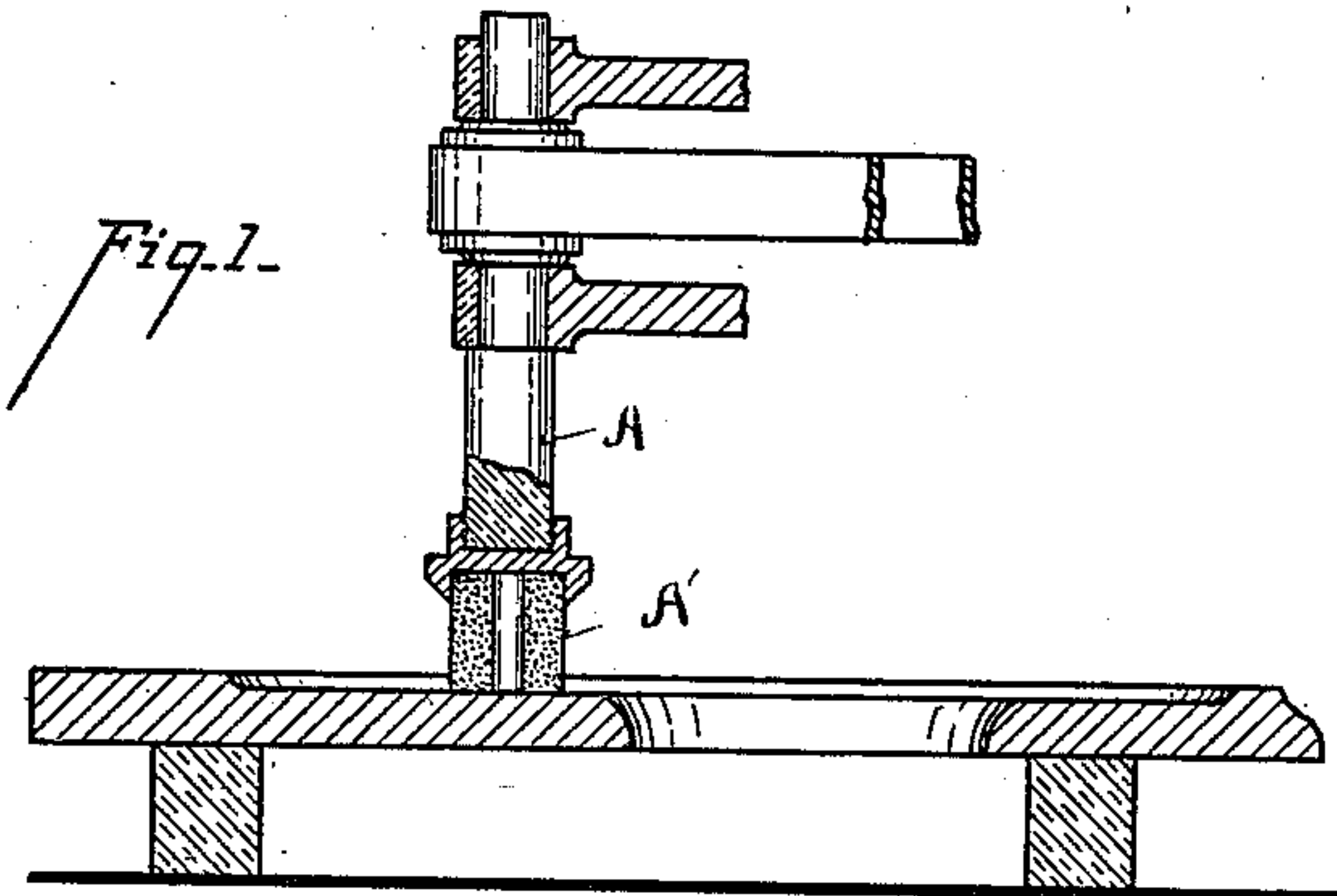


(No Model.)

J. M. MUELLER, Jr.  
PROCESS OF POLISHING MARBLE.

No. 601,668.

Patented Apr. 5, 1898.



Witnesses

*C. W. Miles*

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# UNITED STATES PATENT OFFICE.

JOHN M. MUELLER, JR., OF CINCINNATI, OHIO.

## PROCESS OF POLISHING MARBLE.

SPECIFICATION forming part of Letters Patent No. 601,668, dated April 5, 1898.

Application filed August 10, 1895. Serial No. 558,920. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOHN M. MUELLER, JR., residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Processes of Polishing Marble, of which the following is a specification.

My invention relates to a process of dressing and polishing countersunk and irregular surfaces of marble and other stone.

The object is to permit of a rapid dressing and polishing of irregular surfaces by power-driven mechanism without injury to the surface due to the heat developed from the friction of the parts, causing what is technically known as "burn."

The features of my invention will be more fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view, partly in vertical section, showing the manner of effecting the rough dressing of the stone. Fig. 2 is a similar view showing a device for effecting the finer grades of gritting or dressing. Fig. 3 is a side elevation of the polishing-spindle. Fig. 4 is an enlarged central vertical section of the same. Fig. 5 is a perspective view of a washstand-top, showing the character of work to be accomplished.

Any well-known form of driving mechanism may be employed in the operation of my process, the preferred form being to mount the spindle upon a bracket and providing the same with universal joints, as shown in the accompanying drawings.

My process consists, preferably, of the following steps:

First, after the irregular countersunk surfaces have been produced by suitable tools they are subjected to the action of a rapidly-revolving spindle A, Fig. 1, carrying a polishing-cylinder A', preferably of coarse emery, water being supplied in the usual manner to prevent the burning of the stone. This step removes the stone and tool-marks and leaves the marble in condition for the next grade of polishing.

The second step consists in using in place of the emery-cylinder a wooden cylinder a, the end of the grain in contact with the stone, fine emery being fed upon the face of the

stone from time to time and a limited supply of water being employed.

The third step is similar to the second, except that powdered pumice-stone is substituted for the emery.

In the fourth step a fine-grain stone or hone is substituted for the wooden cylinder, water being employed, and the work is given a velvet finish, preparing it for the final or polishing step. This step is effected by means of a wooden polishing-cylinder D, faced with felt or similar material. This polishing-cylinder is kept moist and supplied with oxalic acid, either in solution or dry. A small quantity of putty-powder is also employed and the parts of the stone to be polished are rubbed over with a small quantity of a suitable lubricating material to prevent the stone from becoming burned. The polishing operation is continued a sufficient length of time to give the stone the finish required.

By the process herein described I am enabled to polish marble of irregular or countersunk surface or molding in a much more expeditious manner than by any process before known.

Various attempts have hitherto been made to polish marble and similar surfaces with rapidly-driven power mechanism, all of which have failed owing to a tendency to develop heat and burn the surface to be polished. By the use of oil upon the surface I am enabled to use a rapidly-revolving buffer without danger of burning the surface or of the oil sinking into the surface, as it would ordinarily do, and the use of oil and suitable polishing materials applied with the buffer as the final step affords a finer finish than has ever before been attained in marble-polishing.

I claim—

1. The improvement in the art of polishing marble which consists in subjecting the stone simultaneously to the action of oil and a rapidly-moving tool, substantially as and for the purpose set forth.

2. The improvement in the art of polishing marble which consists in subjecting the stone to the simultaneous action of oil, a fine abundant and a rapidly-moving tool, substantially as and for the purpose set forth.

3. The improvement in the art of polishing stone and marble consisting, as a final step,

in subjecting the material under treatment  
to the action of a fine abradant in the pres-  
ence of oxalic acid and an oil or fat, applied  
by a tool moving so rapidly as to prevent ab-  
5 sorption by the material under treatment of  
the oil or fat employed, substantially as de-  
scribed.

In testimony whereof I have hereunto set  
my hand.

JOHN M. MUELLER, JR.

Witnesses:

W. R. WOOD,  
OLIVER B. KAISER.