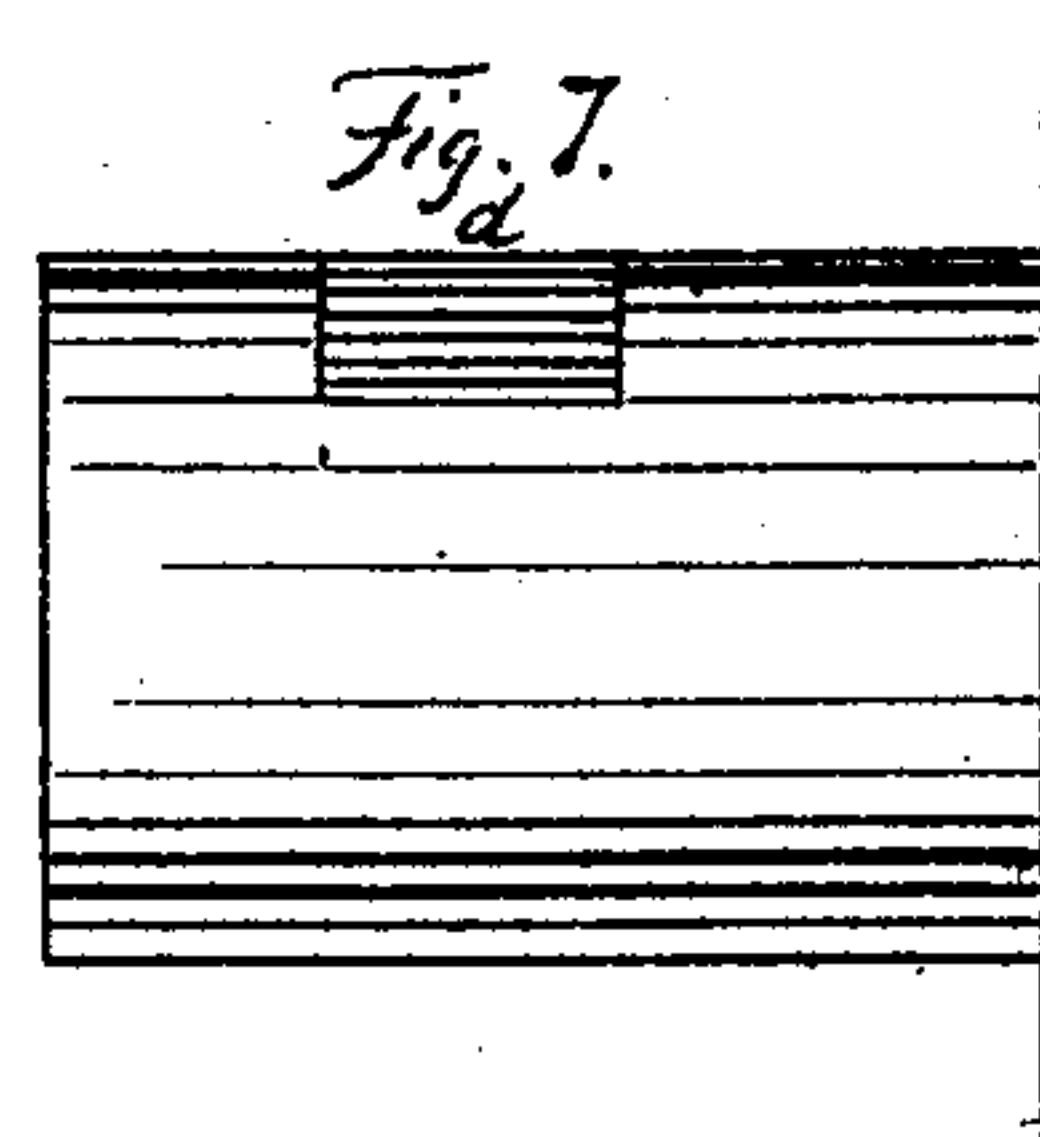
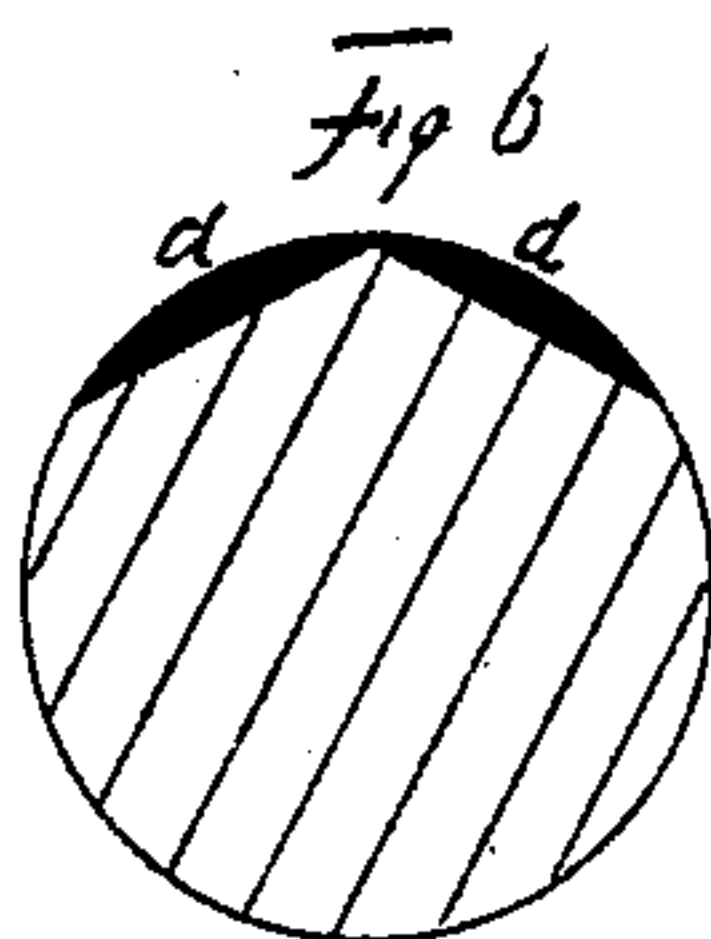
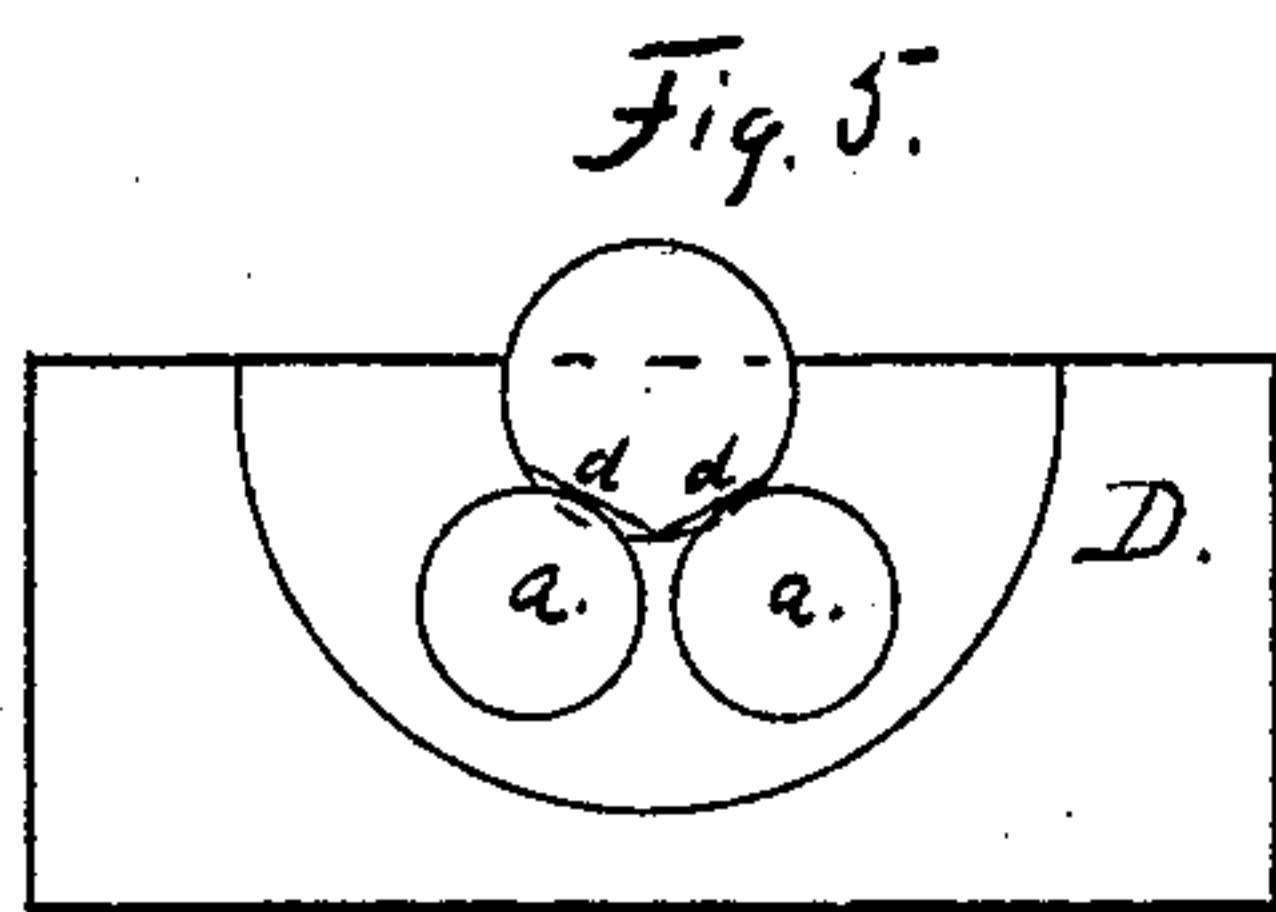
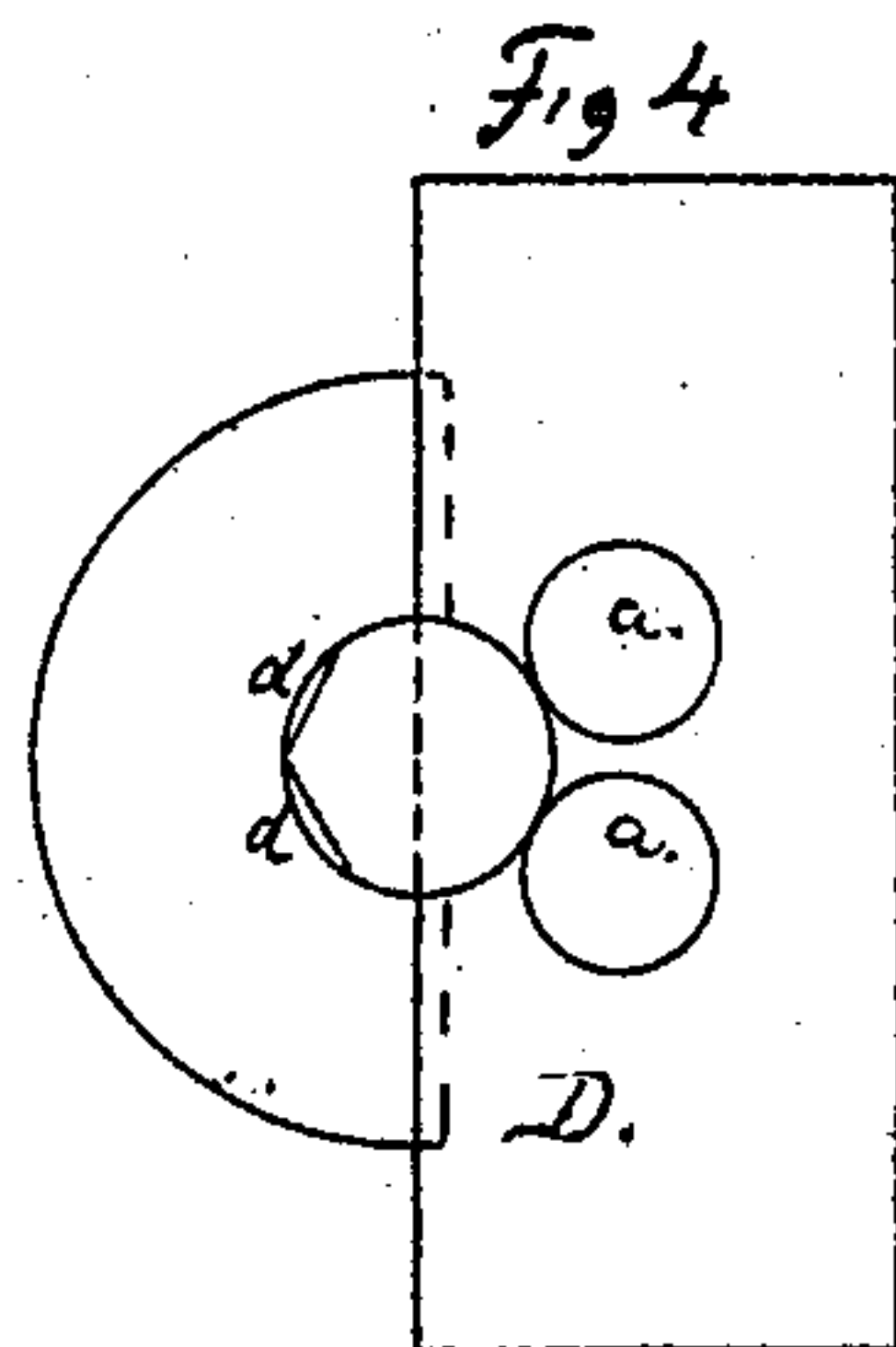
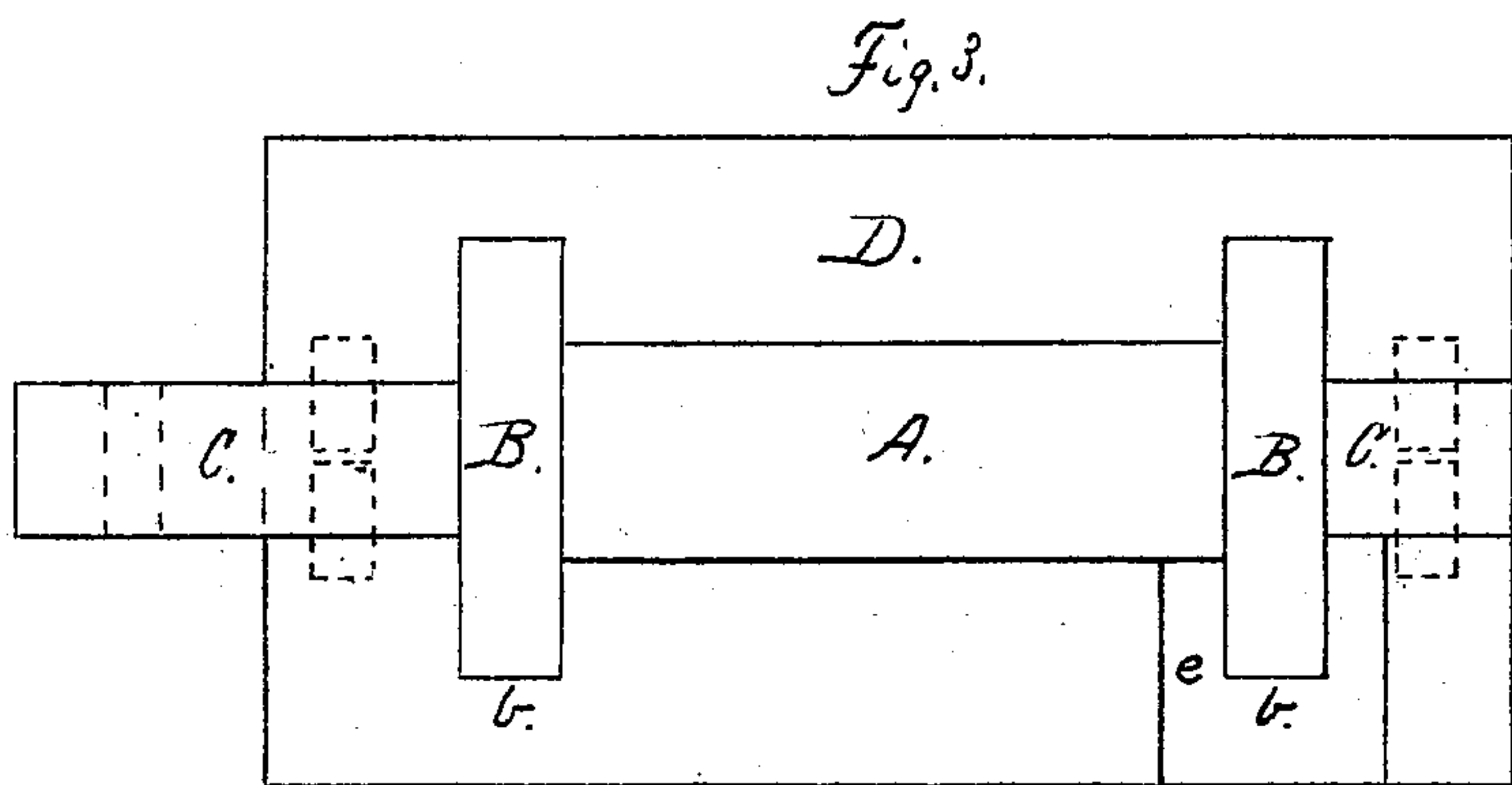
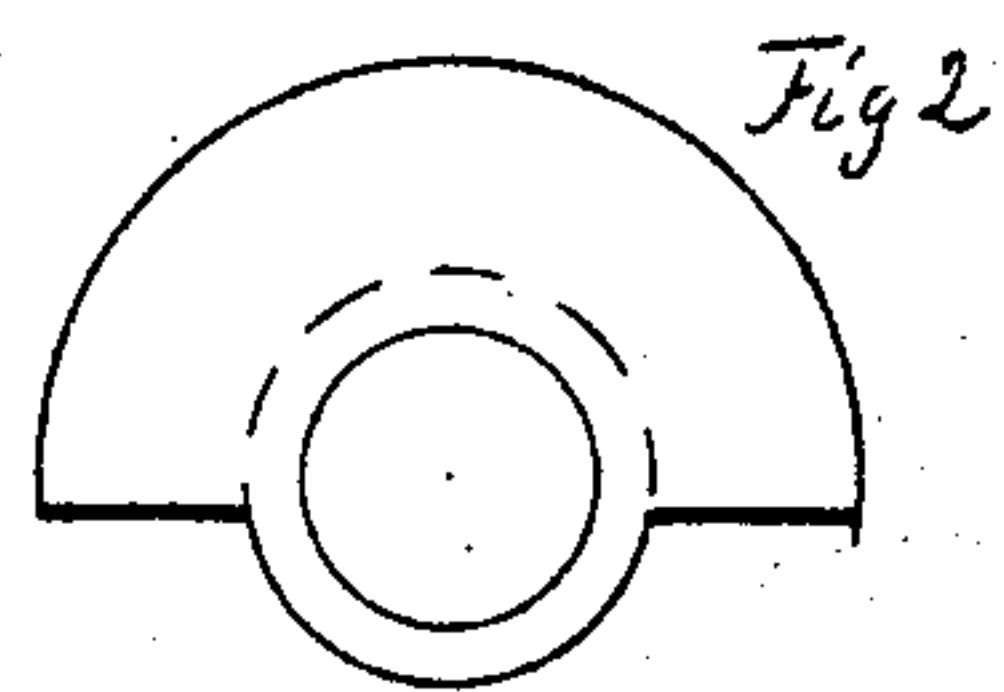
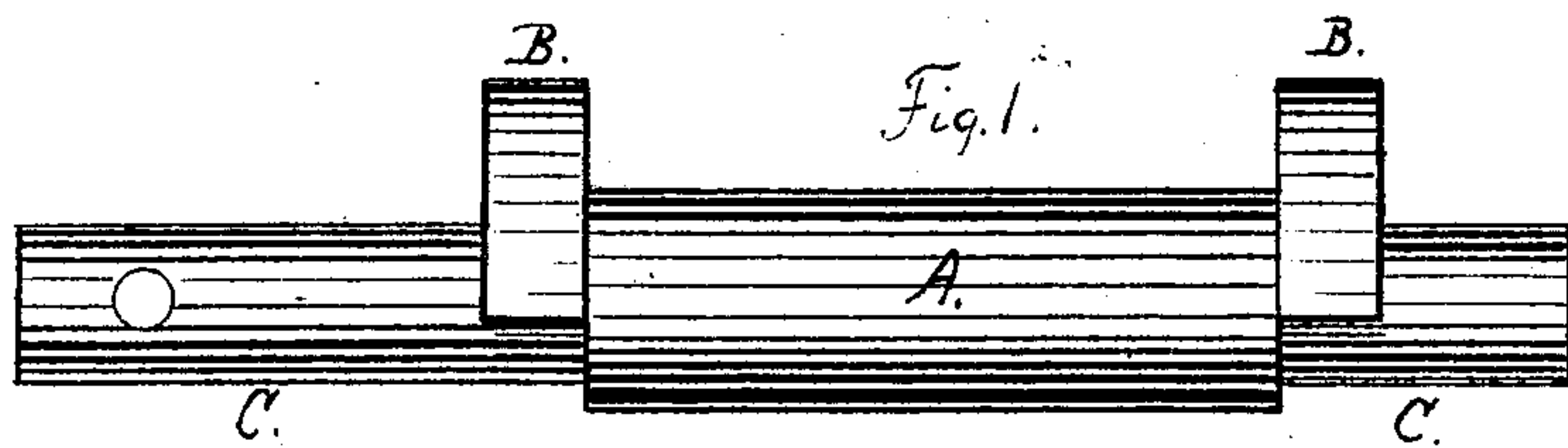


A. W. A. LOGEN.
Molding Pipes.

No. 141,150.

Patented July 22, 1873.



Witnesses

Frank M. Paul
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Inventor

A. W. A. Logen
By Joseph B. Gardner
Att'y.

UNITED STATES PATENT OFFICE.

ANDREW W. A. LOGEN, OF ROCHDALE, ENGLAND.

IMPROVEMENT IN MOLDING PIPES.

Specification forming part of Letters Patent No. **141,150**, dated July 22, 1873; application filed April 19, 1873.

To all whom it may concern:

Be it known that I, ANDREW W. A. LOGEN, of Rochdale, in the county of Lancashire, England, have invented certain Improvements in Molding Pipes and Columns, of which the following is a specification:

This invention has relation to means for facilitating the molding of flanged pipes and columns; and it consists in the construction and novel arrangement of the journals of the rotary pattern, their bearings, and the adjustable slotted slides. The main object of this invention is to provide simple and economical means for relieving the rotary pattern from the face of the mold, and this is accomplished by the cam-journals and bearing-rollers, as hereinafter more fully described.

In the drawings accompanying this description, Figure 1 is a side view of the pattern; Fig. 2, an end view of the same. Fig. 3 is a plan view of the box D and pattern. Figs. 4 and 5 are end views of the same, showing the patterns in different positions. Fig. 6 is an end view, and Fig. 7 is a side view, of the core-print enlarged.

I construct the pattern for plain and straight flanged pipe, as shown, consisting of a solid cylinder, A, of the size of the exterior of the pipe. This body A is provided with suitable core-prints C C, and with partial flanges B B. These flanges B B are rigidly attached to the body A of the pattern, and extend rather more than half around the body of the pipe, being cut away a little below the center, on a line which is determined by the construction of the devices used in connection with this pattern, which I will now describe. In connection with the above-described form of pattern I use a box or table, D, on which the pattern before described is laid, the core-prints C C resting on rollers *a a*, shown in the end view, Fig. 4. Slots are provided in the top of this table at *b b*, into which the flanges B B pass as the pattern is revolved on the rollers *a a*.

I will now first describe the operation of these devices when used in molding a short straight piece of pipe, and then describe certain details of construction. The patterns being placed on the box or table D before mentioned, the core-prints resting on the rollers *a*

a, it is turned so that the partial flanges are above the plane of the table, and one part of a flask is placed around it. Sand is then rammed around the pattern in the ordinary manner.

In order to show the manner of removing the pattern from the sand I will here more particularly describe the depressions *d d*, which are provided in the core-prints for the purpose of assisting in this part of the process of molding. These depressions are formed by cutting away the core-prints so as to form two plain straight surfaces, as shown. When the pattern is turned these surfaces rest on the rollers *a a*, and thus allow the pattern to drop down far enough to bring the link at which the flanges are cut away flush with the upper surface of the box D. When the pattern is thus turned, which may be readily accomplished by turning the print, the pattern drops down, and leaves the sand when the depressions *d d* reach the rollers *a a*; and the flask can then be removed without any danger to the mold. This operation being repeated with the other part of the flask, a perfect mold is obtained.

The rollers *a a* are shown in the drawing mounted on fixed pivots; but in construction I prefer to mount them on slides which are adjustable up and down, so as to adapt them to different diameters of pipe; also, I arrange the slots *b b*, in which the flanges revolve, in a separate piece, *e*, which can be removed from the table D and another piece inserted, with a different slot adapted to a different size or thickness of flange. Further, the part of the table containing the slots may be made to slide away from or up to the pattern by providing the same with a rack on the under side, which can be operated by a pinion on a shaft extending longitudinally beneath the box, and passing out through the end of the same, a crank being provided to turn it by.

In casting very short pieces of pipe, or in forming elbows, or in casting ornamental work beneath the flange, as in columns, or strengthening-webs on the pipe, I adapt pieces of the proper shape, which are lifted off with and remain in the sand, and are afterward removed, they being so constructed as to admit of the turning around of the pattern.

In casting long pieces of pipe one or more

sets of rollers may be arranged between the flanges to keep the pattern from springing; and the pattern may also be provided with suitable depressions similar to *d d*, which will not interfere with the turning of the pattern, as whatever sand may project into these depressions will be immediately scraped off as the pattern is turned.

In order to turn the pattern readily when it is in the mold I extend the print, and bore a hole through the same, so that a stick may be inserted to form a lever, by means of which the pattern is easily turned.

The advantages of this method of molding pipe will be immediately seen by all conver-

sant with the art, as by means of these improvements I am able to make a great saving of time and produce much better work than by the ordinary methods now in use.

I claim—

The rotary pattern, provided with flanges *B B* and depressions *d d* in the journals, in combination with the box or table *D*, the removable slotted or notched slides *e*, and the anti-friction bearing-rollers *a a*, substantially as specified.

ANDREW W. A. LOGEN.

Witnesses:

CHAS. JOHN SMITH,
JOSEPH B. GARDINER.