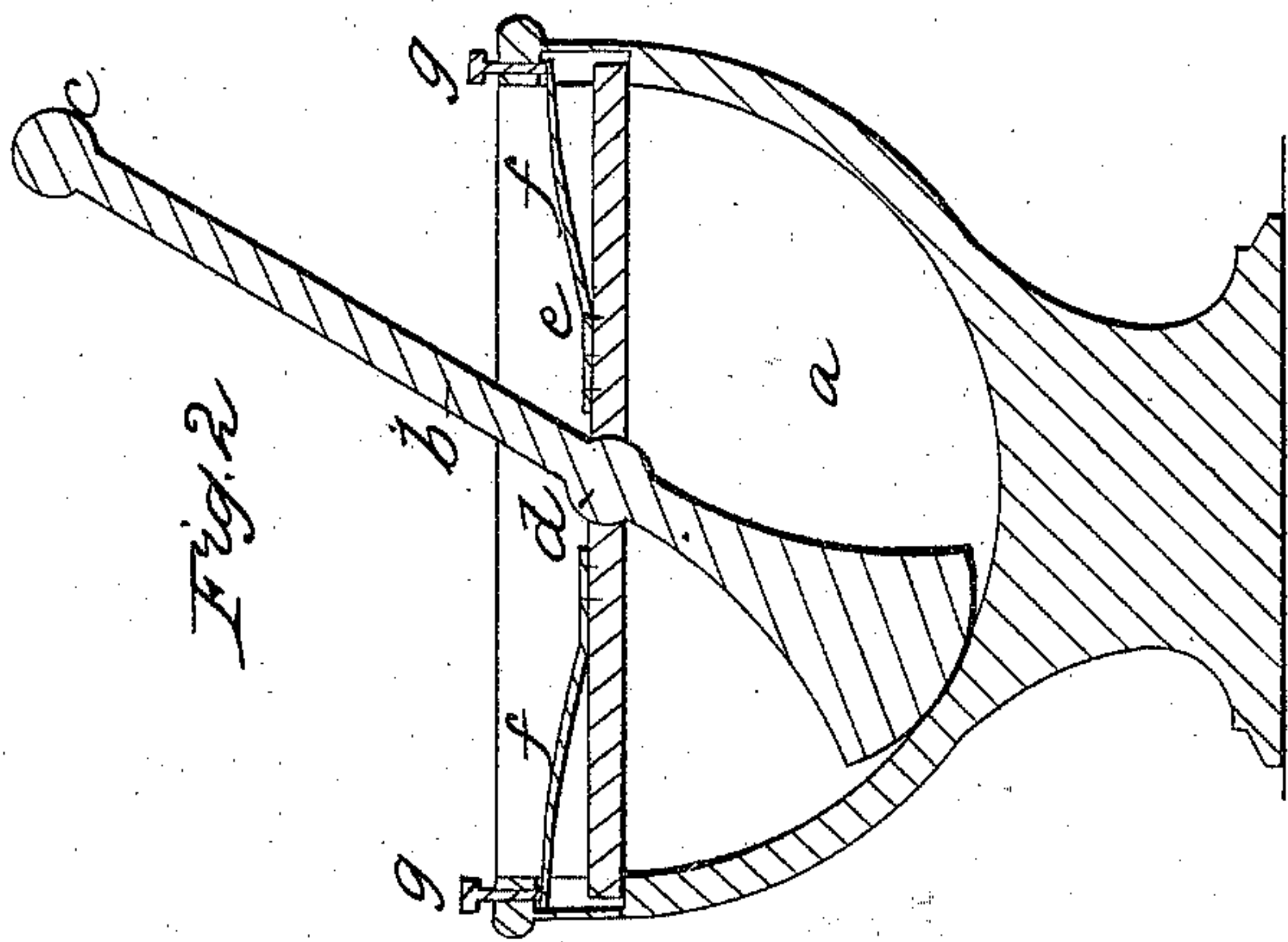
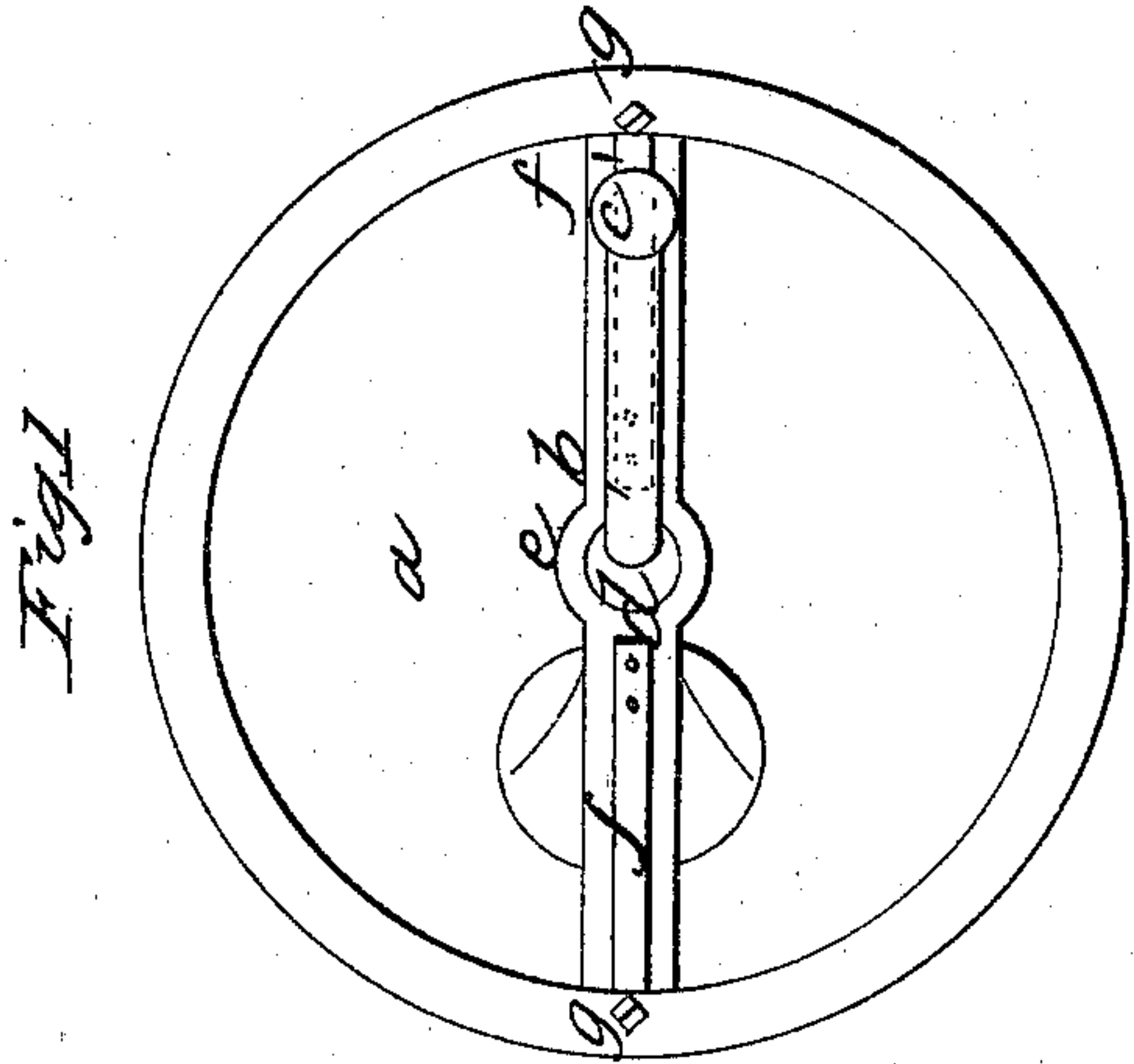
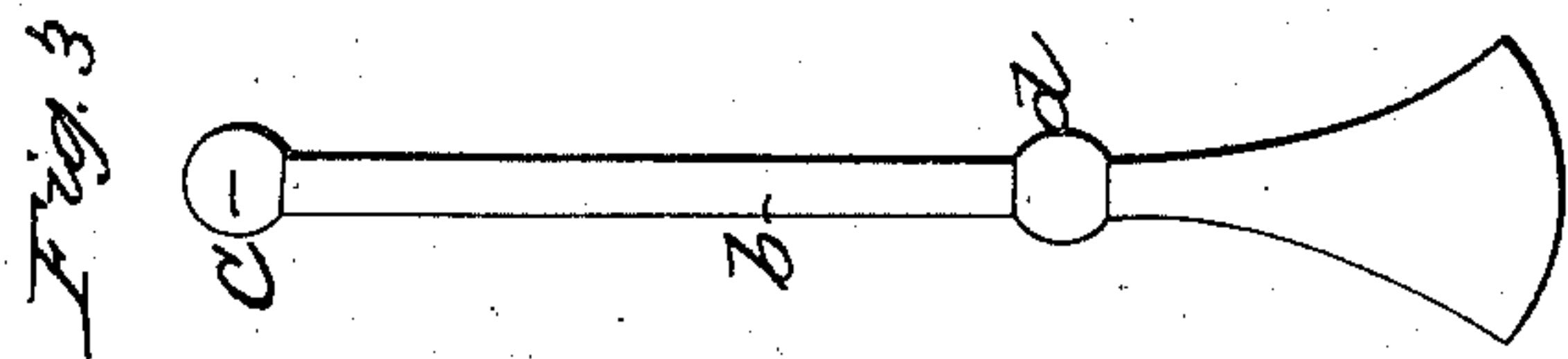


P. C. Ingersoll,
Mortar and Pestle.
N^o 10,890. Patented May 9, 1854.



UNITED STATES PATENT OFFICE.

PLATT C. INGERSOLL, OF ELMIRA, NEW YORK.

ARRANGEMENT OF THE PESTLE WITH THE MORTAR.

Specification of Letters Patent No. 10,890, dated May 9, 1854.

To all whom it may concern:

Be it known that I, PLATT C. INGERSOLL, of Elmira, county of Chemung, and State of New York, have invented a new and useful Improvement in the Mortar and Pestle Denominated the "Centric-Pestle Mortar," for Pulverizing and Reducing Substances, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is a plan; Fig. 2, a vertical section; and Fig. 3, a separate representation of the pestle.

The same letters indicate like parts in all the figures.

The nature of my invention consists in combining the pestle with the mortar by means of a ball fitted to a corresponding cavity in a spring bar connected with the mortar, and my invention also consists in connecting the universal joint in which the pestle works with the mortar by means of a spring bar, the said bar being so connected that, if desired, it can readily be attached or detached.

In the accompanying drawings *a* represents a mortar made of iron or any other suitable substance, the cavity of which is semi-spherical. The pestle *b*, is formed at the lower end in the usual or any desirable and suitable form to act on the substances to be pulverized, ground or triturated in the mortar. Its upper end *c*, is properly formed to suit the hand of the operator, and at *d*, it has a spherical swell fitted to a socket of corresponding form in a bar *e*, the ends of which are fitted to suitable sockets in the mortar and near the upper edge thereof. At the upper surface of this bar are attached two leaf springs *f*, *f*, which extend from near the center each way to the ends. After the bar has been slipped over the pestle, one end of the bar is inserted in one of the sockets in the mortar with one of the springs *f*, and the other end is then brought down and slipped into the socket, and then the tension of the springs can be regulated at pleasure by the temper screws *g*, *g*. The edges of the mortar should extend above the semi-sphere, so that when the bar is secured

the center of the ball and socket joint formed by the fitting of the spherical swell on the pestle shall be in the center of the semi-spherical cavity of the mortar, while the face of the pestle is in contact with the cavity of the mortar—the elasticity of the springs on the bar allowing the desired yield for the operation of the pestle on the substances to be operated upon.

From the foregoing it will be seen that by removing the bar the pestle can be used in the usual way for pulverizing, and when the substances have been sufficiently reduced by pounding the bar can be put on to make pressure by the tension of the springs, so that any desired pressure can be applied, having the handle above the joint by which to work the pestle either by hand or by a suitable mechanism to give the required motion for grinding or otherwise reducing the substances under treatment.

It will be obvious that instead of having two springs on the bar one only may be used, although I prefer two, or instead of a spring connection of the bar with the mortar the socket that fits the spherical swell on the pestle may be made on a separate piece fitted to a recess in the bar with a spring interposed. In fact, any other equivalent means for connecting the pestle with the mortar by means of a yielding joint may be substituted. I prefer the mode above described.

Any other suitable mode of attaching the spring bar to the mortar may be substituted so long as it has the requisite yield and can be attached or detached readily.

If it be desired to operate the pestle by power for the purpose of grinding, any suitable mechanical movement can be applied to the handle.

What I claim as my invention and desire to secure by Letters Patent is—

The manner of arranging and combining the pestle with the mortar by means of the ball on the handle of the pestle fitted to a corresponding cavity in a spring bar, substantially as and for the purpose specified.

PLATT C. INGERSOLL.

Witnesses:

TH. MAXWELL,
T. LEWIS.