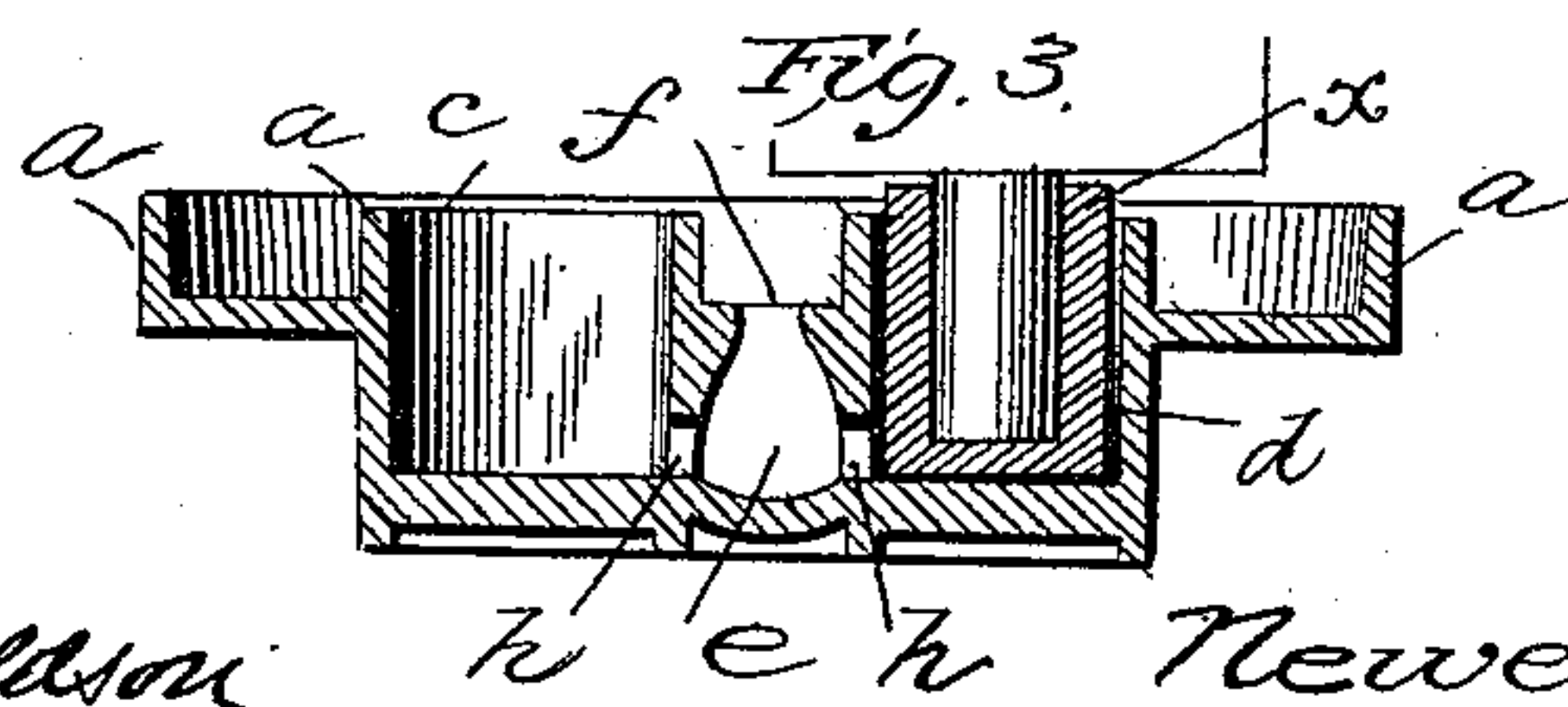
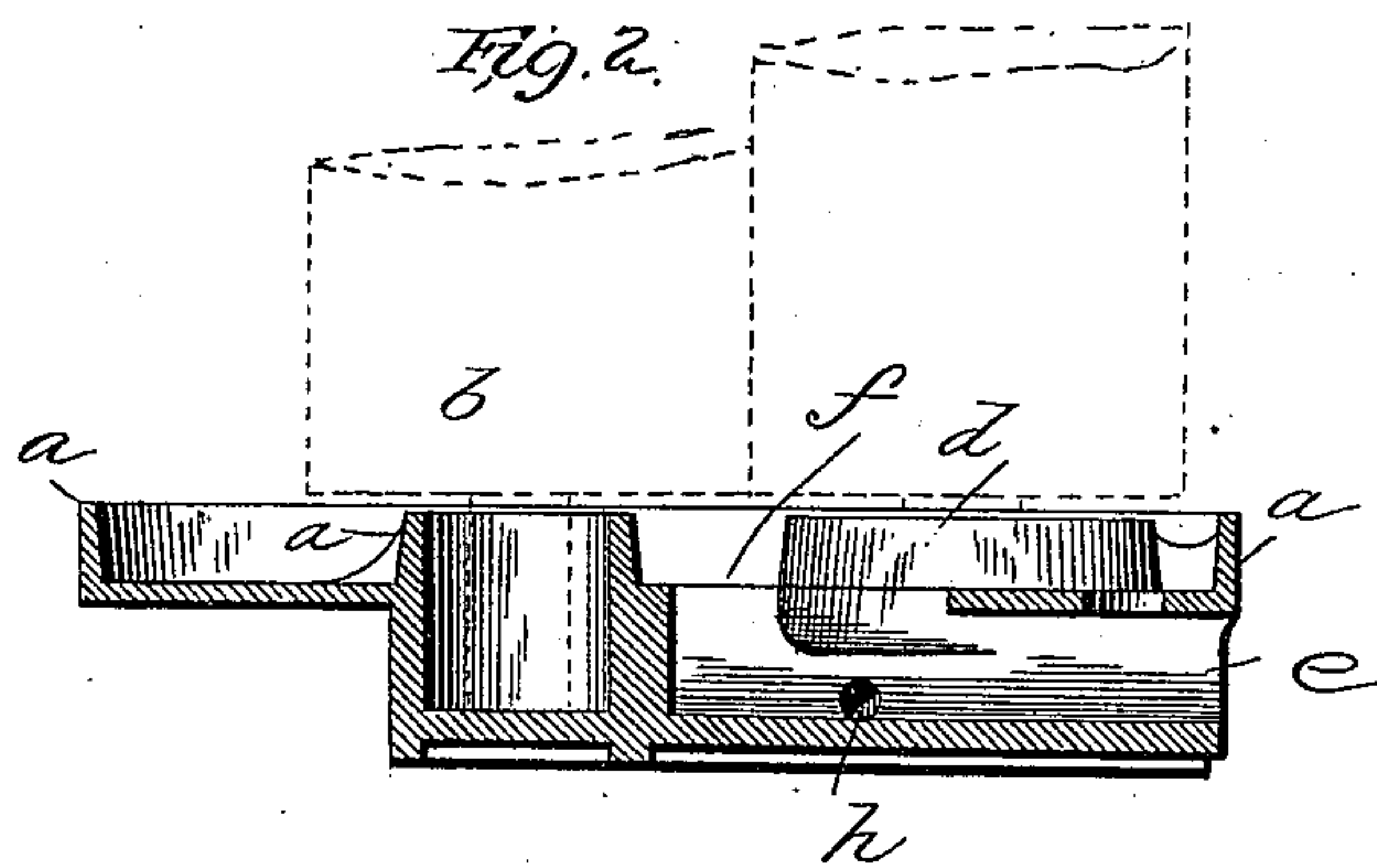
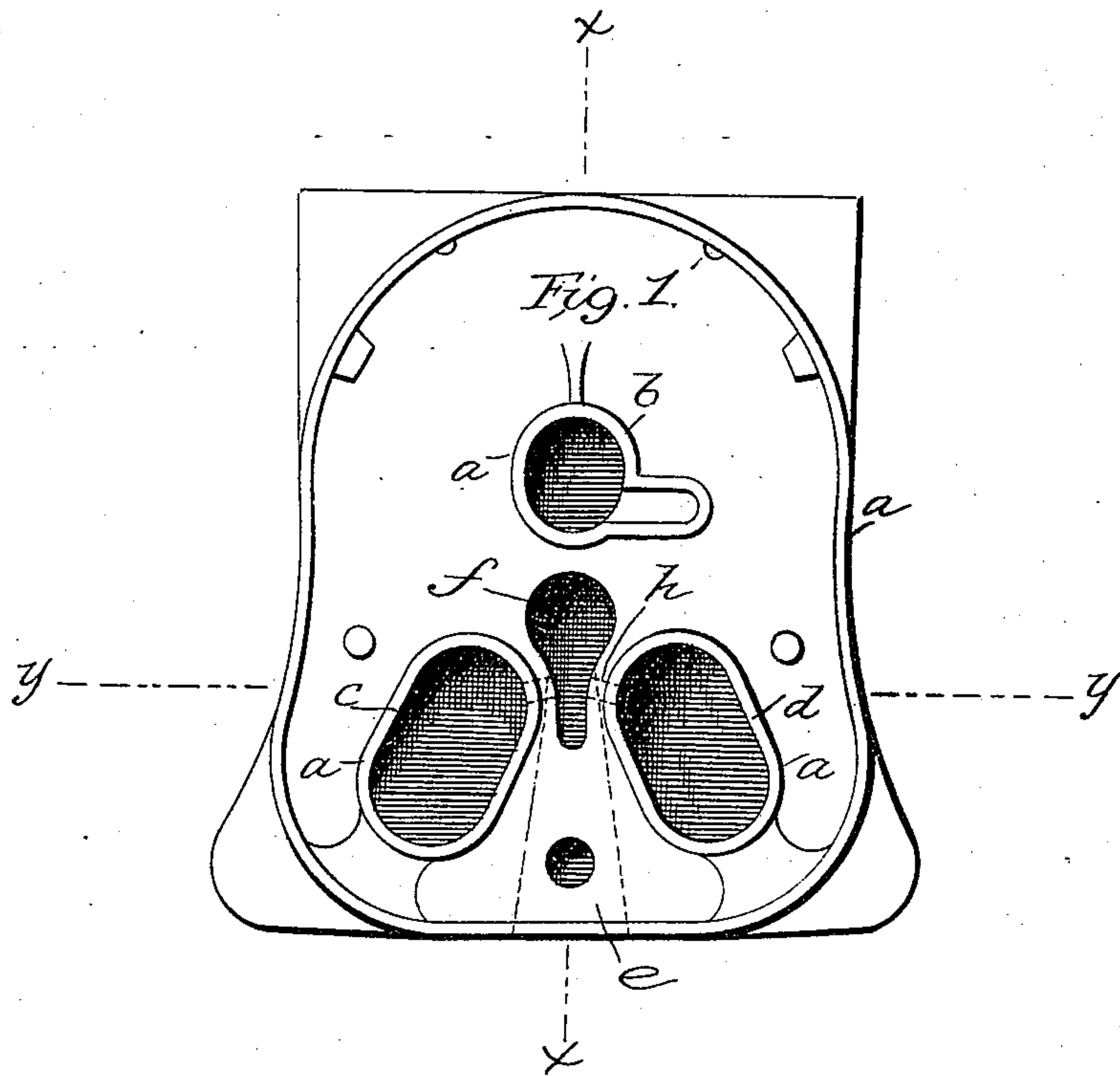


(No Model.)

N. SANDERS & J. BUCHANAN.
CANE MILL.

No. 441,508.

Patented Nov. 25, 1890.



Attest
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UNITED STATES PATENT OFFICE.

NEWELL SANDERS AND JUDSON BUCHANAN, OF CHATTANOOGA, TENNESSEE, ASSIGNORS TO THE CHATTANOOGA PLOW COMPANY, OF SAME PLACE.

CANE-MILL.

SPECIFICATION forming part of Letters Patent No. 441,508; dated November 25, 1890.

Application filed September 20, 1890. Serial No. 365,661. (No model.)

To all whom it may concern:

Be it known that we, NEWELL SANDERS and JUDSON BUCHANAN, citizens of the United States of America, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Cane-Mills, of which the following is a specification.

Our invention is designed especially as an improvement upon vertical cane-mills, and relates particularly to the bottom plate, which ordinarily acts as the receiver to catch and discharge the juice, as well as to hold the boxes in which the lower journals run. As now usually constructed this bottom plate is provided with a flange around the outer edge and around the bearing-pockets, which thus forms a shallow pan which receives the juice, and from this pan the juice is discharged through a spout to any suitable receptacle; but in practice it has been found that the opening to the spout is easily clogged by the cane chips, and this causes the juice to overflow the low walls of the pan, and also to run into the pockets which are provided for the journal-boxes, thus flooding them; and it is the purpose of the present invention to provide in a simple manner means for preventing the waste of the juice by overflow and to prevent likewise the flooding of the oil-boxes. We attain these objects by providing beneath the bottom plate of the mill a juice-chamber in connection with a discharge-spout with openings through the bottom plate to said chamber, thus affording ample egress for the expressed juice from the shallow chamber formed by the bottom plate to the point of discharge. Further, we extend this chamber under the bottom plate to a position under the point of contact of the crushing-rolls and provide an opening at this point, so that the larger portion of the juice expressed may pass directly through this opening to the chamber. In case the pockets for the journal-boxes are flooded we provide for the discharge of the juice by forming an opening leading from said pockets into the juice-chamber, and on a level with the same, so that any juice that flows into the pockets may

pass out through the openings into the juice-chamber and from thence to the discharge.

In the accompanying drawings we have not deemed it necessary to show the mill, this being of ordinary construction.

Figure 1 shows a plan view of the bottom plate. Fig. 2 is a section on line *xx* of Fig. 1, with the rollers shown in dotted lines. Fig. 3 is a section on line *yy* of Fig. 1.

In the drawings the bottom plate is shown at A, provided with a flange *a*, forming a shallow pan. Within the flange are located pockets, which extend above the line of the bottom of the pan formed by the outer flange of the plate, and these pockets are of greater depth than the pan, extending below the level thereof, as shown. There are three of these pockets *b c d*, the pocket *b* being adapted to receive the journal-boxes of the larger roll, and the pockets *c d* the journal-boxes of the smaller rolls. It will be understood that a plate similar in construction provides a bearing for the journal-boxes, in which are fitted the upper ends of the crushing-rolls. Beneath the bottom plate and on a line substantially with the bottom line of the pockets we provide a chamber *e*, extending between the pockets *c d* to about the center of the bottom plate, this chamber being in connection with a discharge-spout leading to a suitable receptacle. An opening *f* is formed centrally of the rolls in the bottom plate leading into the chamber, so that the juice as expressed in the passage of the cane through the rolls falls through this opening and is readily discharged without overflowing the shallow pan of the bottom plate or flooding the boxes. In order to provide for the discharge of any fluid which may get into the boxes, however, we form openings *h*, leading from the pockets to the center juice-chamber, the bottom of which is about on a level with the bottom of the pockets, and hence any juice which runs into the boxes flows out to the discharge through the juice-chamber. The bearing-cups for the journals of the rollers are of course located in the pockets, and their upper edges, as shown at *x*, Fig. 3, extend slightly above the pocket, so that any juice which may run into

the pocket will not mingle with the lubricating-oil which is confined within the cups.

We prefer to cast the lower plate, pockets, and the juice-chamber in one piece, as shown, as this simplifies the construction and lessens the cost of manufacture.

It will be understood that we do not limit ourselves with respect to the number of rolls employed.

10 We claim as our invention—

1. In a cane-mill, a bottom plate provided with a flange forming a shallow pan, the juice-chamber below said shallow pan, and an opening leading from the shallow pan to the juice-chamber, the said juice-chamber being provided with an outlet, substantially as described.

2. In a cane-mill, a bottom plate provided with a flange forming a shallow pan, pockets adapted to receive the journals of the crushing-rolls, a juice-chamber below the bottom plate extending to a point approximately central of the rolls, and an opening leading to said chamber, said opening being arranged substantially in line with the pressing pe-

ripheries of the rolls, substantially as described.

3. In a cane-mill, a bottom plate having a flange forming a shallow pan, pockets provided in said plate for the journal-boxes of the rollers, a juice-chamber below the bottom plate, an opening leading to the said chamber from the shallow pan, and openings leading from the pockets to the said chamber, substantially as described.

4. A bottom plate for cane-mills having a flange and pockets for the journal-boxes of the rollers, and a chamber beneath the same for the passage of the juice to the point of discharge, said plate, pockets, and juice-chamber being cast in one piece, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

NEWELL SANDERS.
JUDSON BUCHANAN.

Witnesses:

GEO. H. CUSTIS,
C. D. MITCHELL.