

UNITED STATES PATENT OFFICE.

CHAS. FRAMPTON, OF BROOKLYN, NEW YORK.

IMPROVED BURNISHER.

Specification forming part of Letters Patent No. 19,988, dated April 20, 1858.

To all whom it may concern:

Be it known that I, CHARLES FRAMPTON, of the city of Brooklyn and State of New York, have invented new and useful Improvements in Tools, known as "Burnishers," to be used in Spinning Metals, of which the following is a full and clear description and representation, reference being had to the drawings herewith filed, making part of this specification, in which—

Figure 1 is a perspective view, and Fig. 2 a cross-section, of my burnisher.

That part of the burnisher which, in use, is held in the hand I make nearly square in section, the better to hold it in any required position. At the end which is applied to the work, which I make about three-fourths of an inch wide and about one-fourth of an inch thick, I round off one of the long edges in such a manner that the rounding extends to the opposite edge, leaving said opposite edge sharp—that is, the rounded part extends about a quadrant. From this quadrant toward the handle I make the surface of the burnisher nearly flat for the distance of about an inch. Commencing at the sharp edge, at the end of the burnisher, and continuing the same up over the rounded and flat parts thereof toward the handle, I cut two or more grooves rounded in cross-section at the bottom, leaving three or more ribs at their sides rounded in cross-section on their tops. These grooves and ribs should be of uniform depth and height throughout, except at their termination toward the handle. The grooves should slope up easily into the flat surface. The grooves should be a little wider than the ribs. The perspective view of my burnisher and the cross-section shown in the drawings clearly illustrate the peculiarities I have described.

The art of metal spinning as formerly practiced required only a burnisher with a single rounded end; but when the production of screw-threads on sheet-metal cylinders and cones was introduced I found the process of producing them by the use of the spinning-burnisher formerly in use was exceedingly slow and unsatisfactory. While pressing in the thread at one point there was a tendency to draw it out slightly in another, thus marring its accuracy. Its hold upon the blank was

also insufficient, there being danger that the tool would not follow the thread, but run directly around, causing the threads on the chuck or former to cut through the sheet metal, and when the tool did follow the thread or spiral groove between the threads the tendency of the tool to draw the metal up out of the grooves on each side of the one in which it was operating rendered it necessary to go over the work so many times, pressing always on the bottom of the groove, that it had a tendency to wear out the metal in the groove, making the screw imperfect in fit, destroying its air-tight qualities, and often cutting it through, and all these evils were aggravated by the fact that the whole pressure of the tool came upon a single point. These are some of the evils which prompted me to the invention of my improved grooved burnisher for spinning screws.

In my improved burnisher the grooves have at all points the depth of the threads to be spun, so that the pressure of the tool in finishing the screw is divided among the bottoms of several grooves and the tops of several threads, which overcomes the tendency to wear out and cut through. The several ribs also overcome the tendency to draw up, above mentioned, as each part is pressed in at the same time, thus completing the screw and giving it a perfect form in a small fraction of the time requisite with the old tool, for to whatever extent the sheet metal is pressed in it will remain, and thus, when once carried as deep as required, it will not need to be run over and over again, as with the old tool, to counteract the drawing up, and the injury to the metal is avoided. The several ribs also take a firmer hold between the threads, and thus overcome the tendency to miss the groove and run directly around with the consequences above mentioned. It will thus be readily perceived that my grooved or many-pointed burnisher is not a mere multiplication like a many-pointed chaser, which merely cuts the more as it has the more points; but that it operates in a manner radically different in character from the old burnisher, and that the bottom of the grooves performs an important function wholly distinct from mere multiplication of points, so that if the bottoms of the

C. French Raft Bucket.

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Fig. 1.

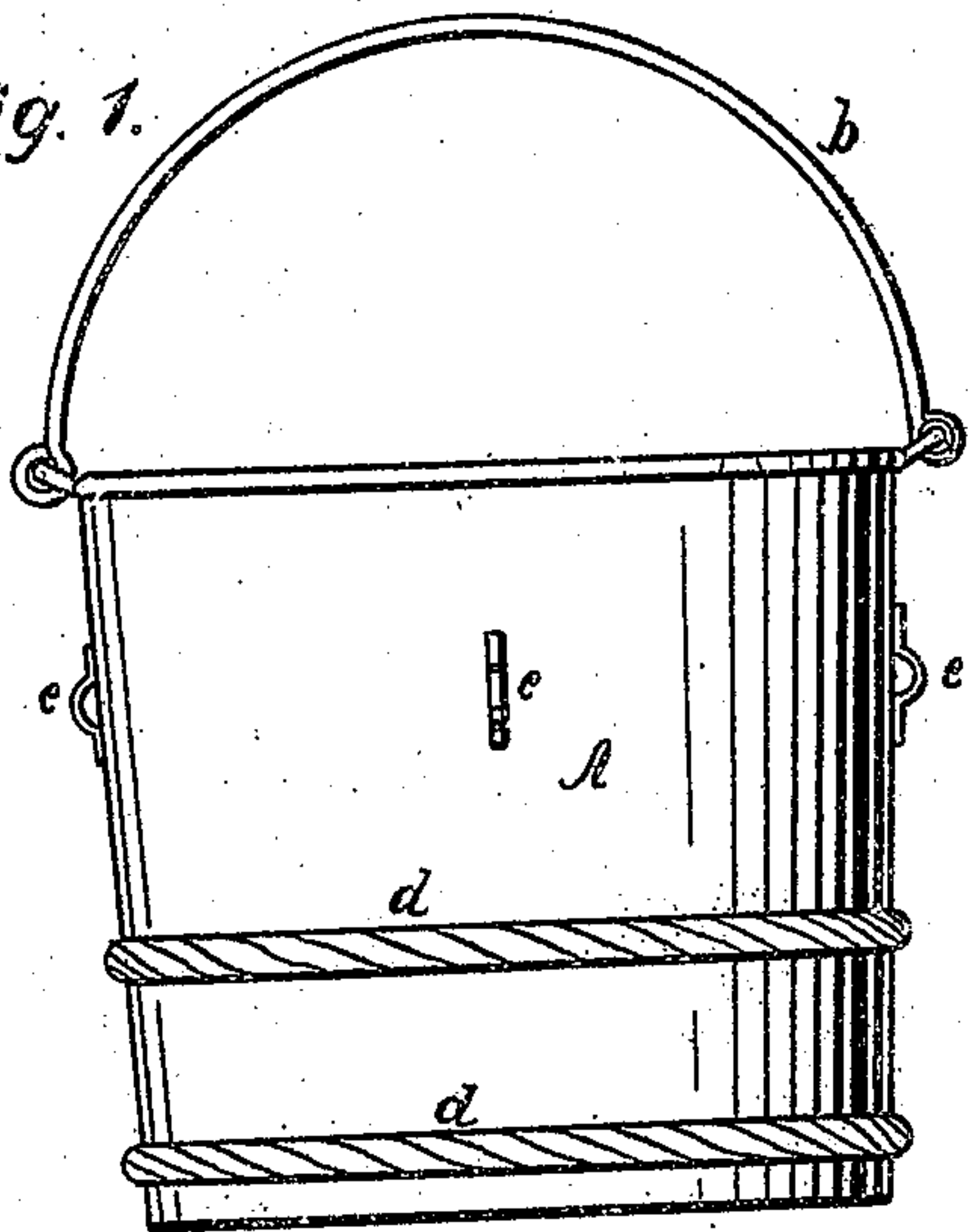


Fig. 2.

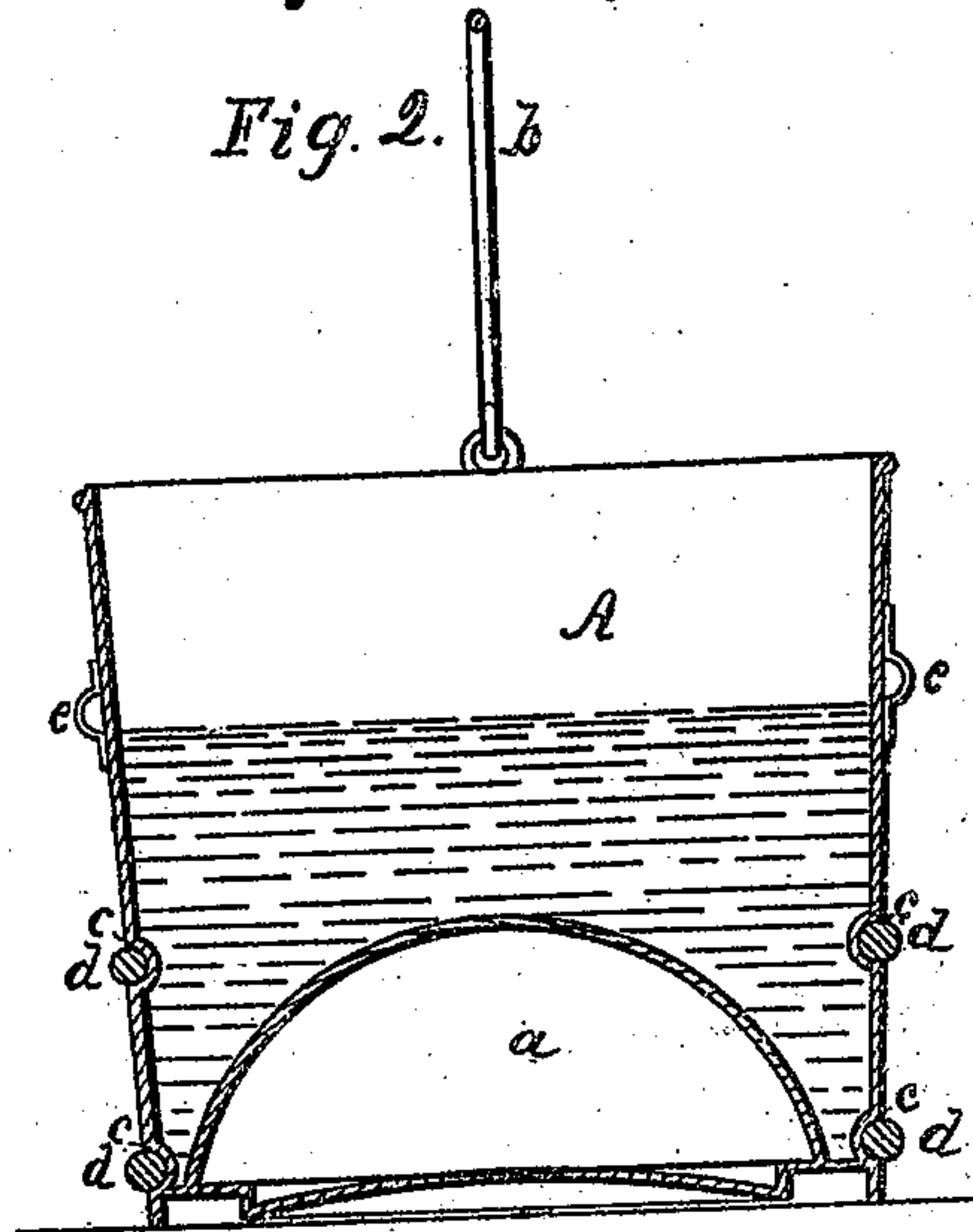


Fig. 4.

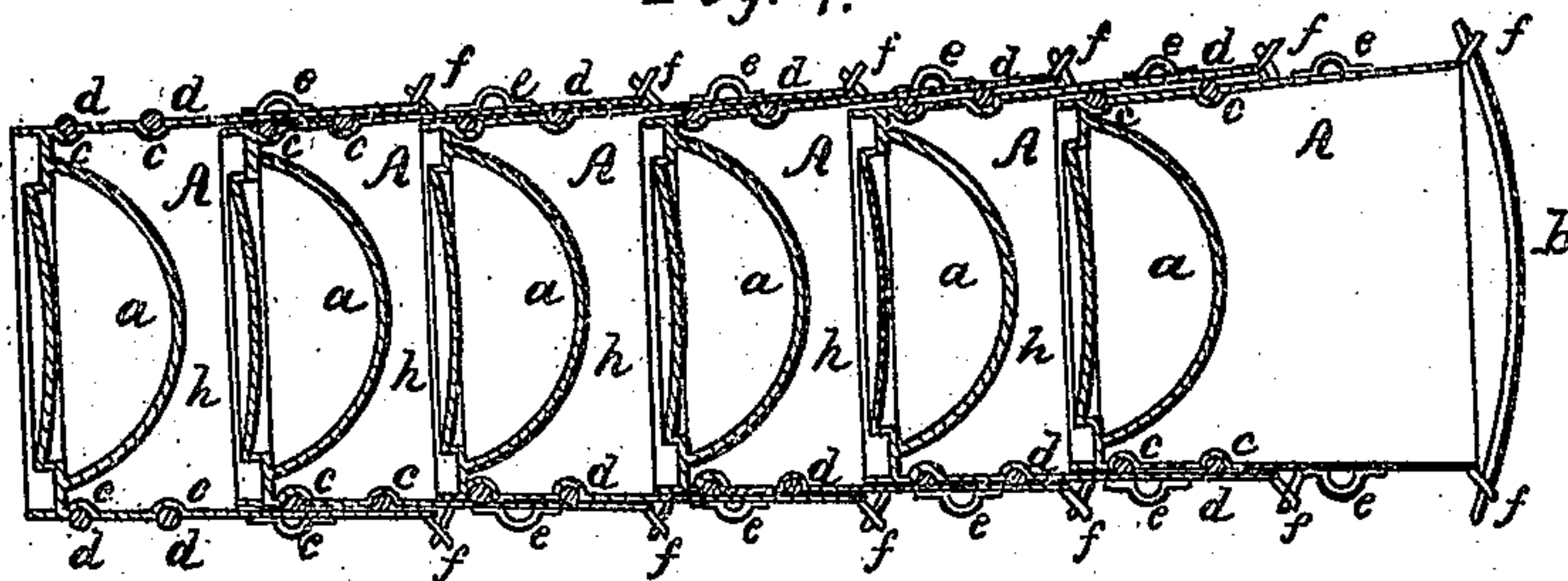


Fig. 3.

