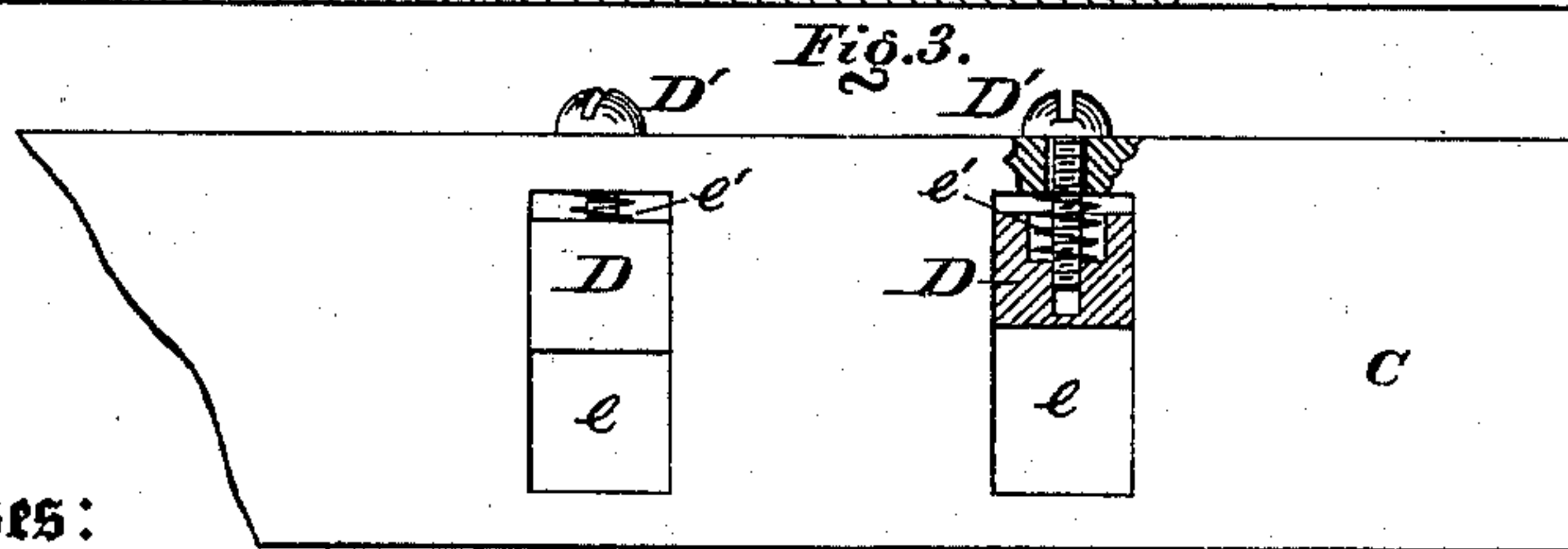
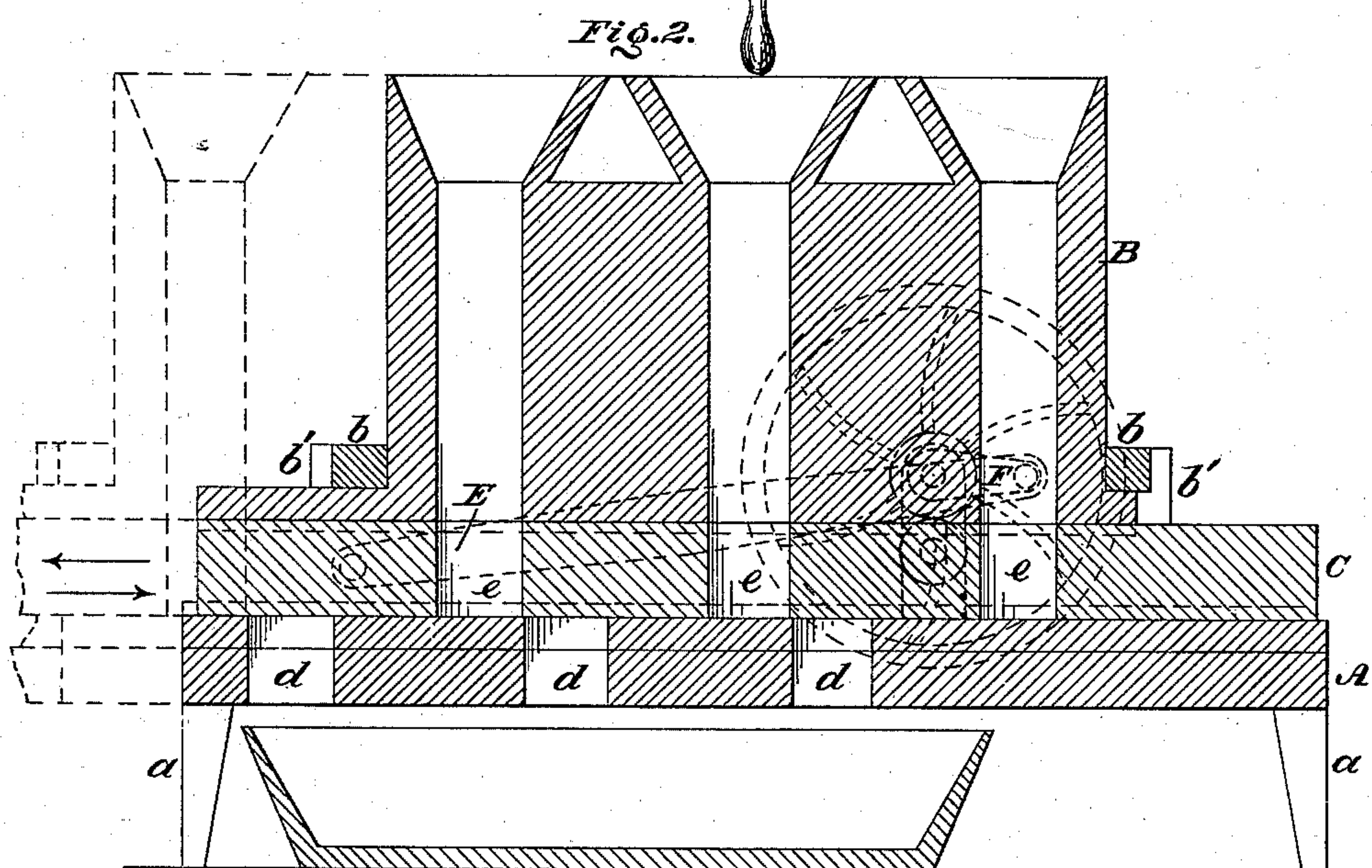
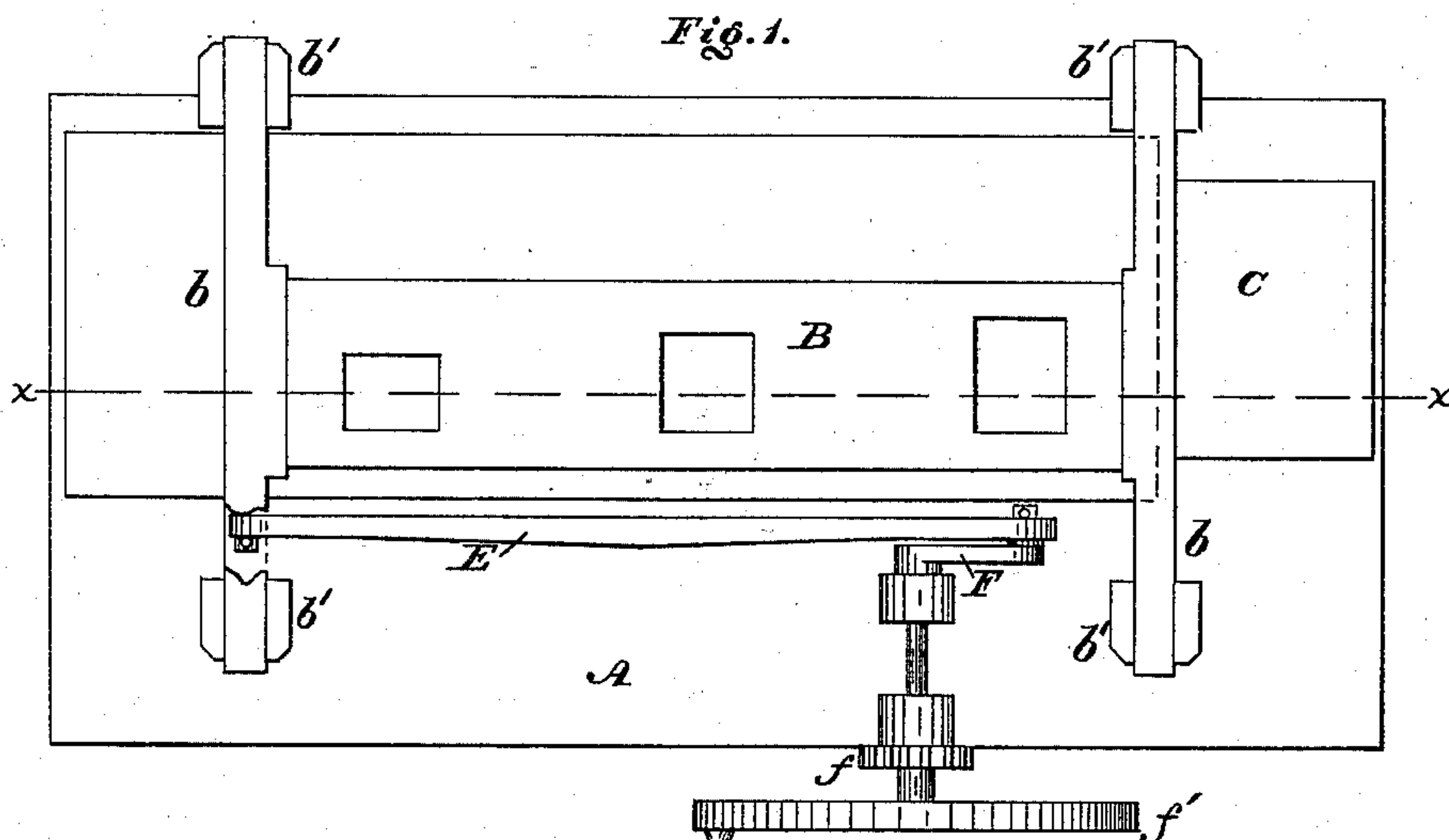


(No Model.)

A. B. DAVIS.  
Measuring and Mixing Gage.

No. 232,466.

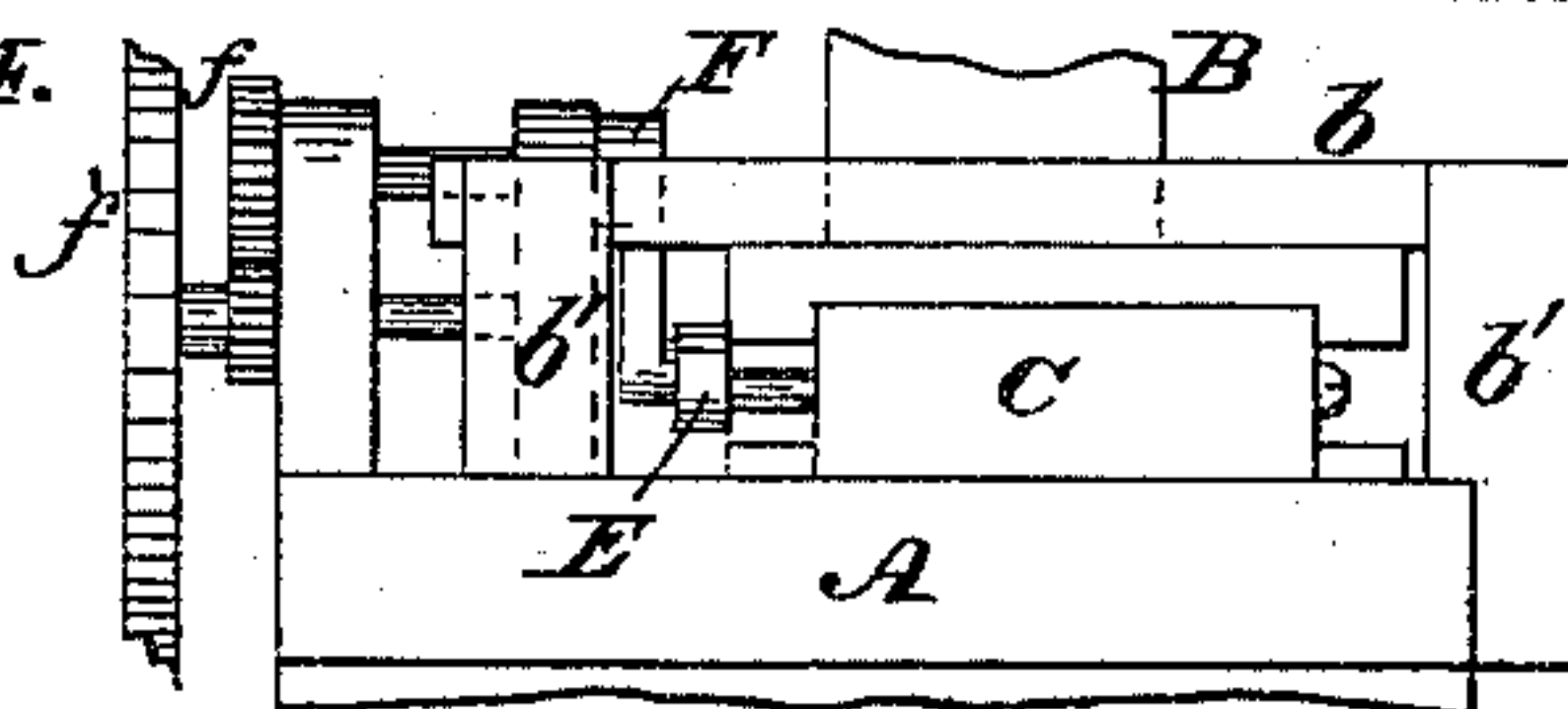
Patented Sept. 21, 1880.



Witnesses:

R. P. Grant,  
H. F. Kircher,

*Fig. 4.*



Inventor:

Augustus B. Davis,  
by John A. Diersheim,  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

AUGUSTUS B. DAVIS, OF PHILADELPHIA, PENNSYLVANIA.

## MEASURING AND MIXING GAGE.

SPECIFICATION forming part of Letters Patent No. 232,466, dated September 21, 1880.

Application filed June 5, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS B. DAVIS, a citizen of the United States, residing in the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Mixing Gages or Measures, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a top or plan view of the gage embodying my invention. Fig. 2 is a vertical section thereof in line  $x x$ , Fig. 1. Fig. 3 is a top view of a portion of the traveler. Fig. 4 is an end view of a portion of Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to a gage or measure for uniformly mixing various substances in predetermined proportions; and it consists of hoppers or chutes and a bed-plate with an intermediate traveler alternately communicating with the hoppers or chutes and discharge-openings of the bed-plate.

It also consists in rendering the pockets of the traveler adjustable relatively to the change of proportions of the substances to be mixed.

Referring to the drawings, A represents a bed-plate, properly supported on feet or other means  $a$ .

B represents chutes or hoppers, which are prevented from shifting longitudinally by means of cross-bars  $b$ , secured to uprights  $b'$ , rising from the bed-plate A, and a space exists between the bed-plate and chutes or hoppers for a horizontal traveler, C, which is properly guided and contiguous to the top of the bed-plate and bottom of the chutes or hoppers.

In the bed-plate A are discharge-openings  $d d$ , and in the traveler C are openings  $e e$ , it being noticed that the openings  $d$  of the bed-plate alternate with those of the chutes or hoppers B, and that when the openings  $e$  of the traveler C and those of the chutes or hoppers B are in communication said openings  $e$  are not in communication with the openings  $d$  of the bed-plate A, and vice versa. The openings  $e$  are partly occupied by blocks or valves D, which, by means of set-screws  $D'$ , are adjustable, so that the openings may be enlarged or reduced, and thus increase or decrease the receiving capacities thereof.

E represents a rod or pitman, one end of

which is attached to the traveler C and the other end to a crank, F, which receives motion from the gearing  $f$  and power-wheel  $f'$ , or other suitable means.

The operation is as follows: The several chutes or hoppers may communicate with store-rooms or other places of supply, and thus or by other means are filled with the different substances to be subsequently mixed. Power is applied to the wheel  $f'$ , and reciprocating motions are thereby imparted to the slide or traveler C, so that the openings  $e$  thereof alternately communicate with the throats or bottom openings of the chutes or hoppers and the openings  $d$  of the bed-plate A.

When the openings  $e$  are in communication with the chutes or hoppers (see Fig. 2) the bottoms of the latter are closed by the solid portion of the bed-plate A, and the openings form pockets, the capacities whereof are regulated by the adjustment of the blocks or valves D. The pockets  $e$  are filled from the chutes or hoppers, and as the traveler moves (in the present case to the left) the solid portions of said traveler act as cut-offs for the bottom of the chutes or hoppers, and the substances in the pockets are carried over the openings  $d$ . As the openings and pockets  $d e$  now register, and the pockets thus have uncovered bottoms, the substances quickly and simultaneously fall through the openings  $d$  and discharge into a receptacle below as a charge or given supply, and are directed to the mixer. The traveler then returns to its first position, and its pockets or openings are recharged, and the other operations are repeated.

As an example I will describe the proportions of the materials necessary to form the compound of common window-glass, as follows: say twenty pounds of sand, six and one-half pounds of soda, five and one-half pounds of lime, and one pound of coal. Each opening or pocket  $e$  is so adjusted that its cubic capacity accords with the amount of material it is to receive from its respective hopper. At each stroke of the traveler each pocket receives its quantity of intended material, and the several materials, when discharged, fall into a receptacle or chute below and are then directed to the mixer.

Should the "batch" be found to have too much or too little of any of the materials, as



glass-makers readily comprehend, the blocks or valves D are adjusted so as to increase or decrease the capacities of the pockets, the adjustments thereof being independent of each other.

5 The weight of the superstructure of the hoppers or chutes imposed on the traveler forms a close joint between them, and also a close joint between the traveler and bed-plate.

10 I am aware that it is not broadly new to employ a slide with an adjustable pocket, in combination with a hopper, said adjustment being effected by means of a screw, as in the patent of J. C. Reed, February 5, 1878, No. 199,933.

15 I do not claim the construction therein shown. What I do claim is—

1. In combination with a series of hoppers and a perforated bed, a reciprocating slide, C, having a series of pockets, *e*, each of which is provided with a block, D, and an adjusting- 20 screw, D', said pockets being arranged to empty into the same receptacle.

2. In combination with a series of hoppers and a perforated bed, a reciprocating slide, C, having a series of pockets, *e*, each of which is 25 provided with a block, D, and an adjusting-screw, D', and a spring, *e'*, said pockets being arranged to empty into the same receptacle.

A. B. DAVIS.

Witnesses:

THOS. C. DAVIS,

JOHN A. WIEDERSHEIM.