

(No Model.)

J. HAHN.
STOVE GRATE.

No. 287,537.

Patented Oct. 30, 1883.

Fig. 1.

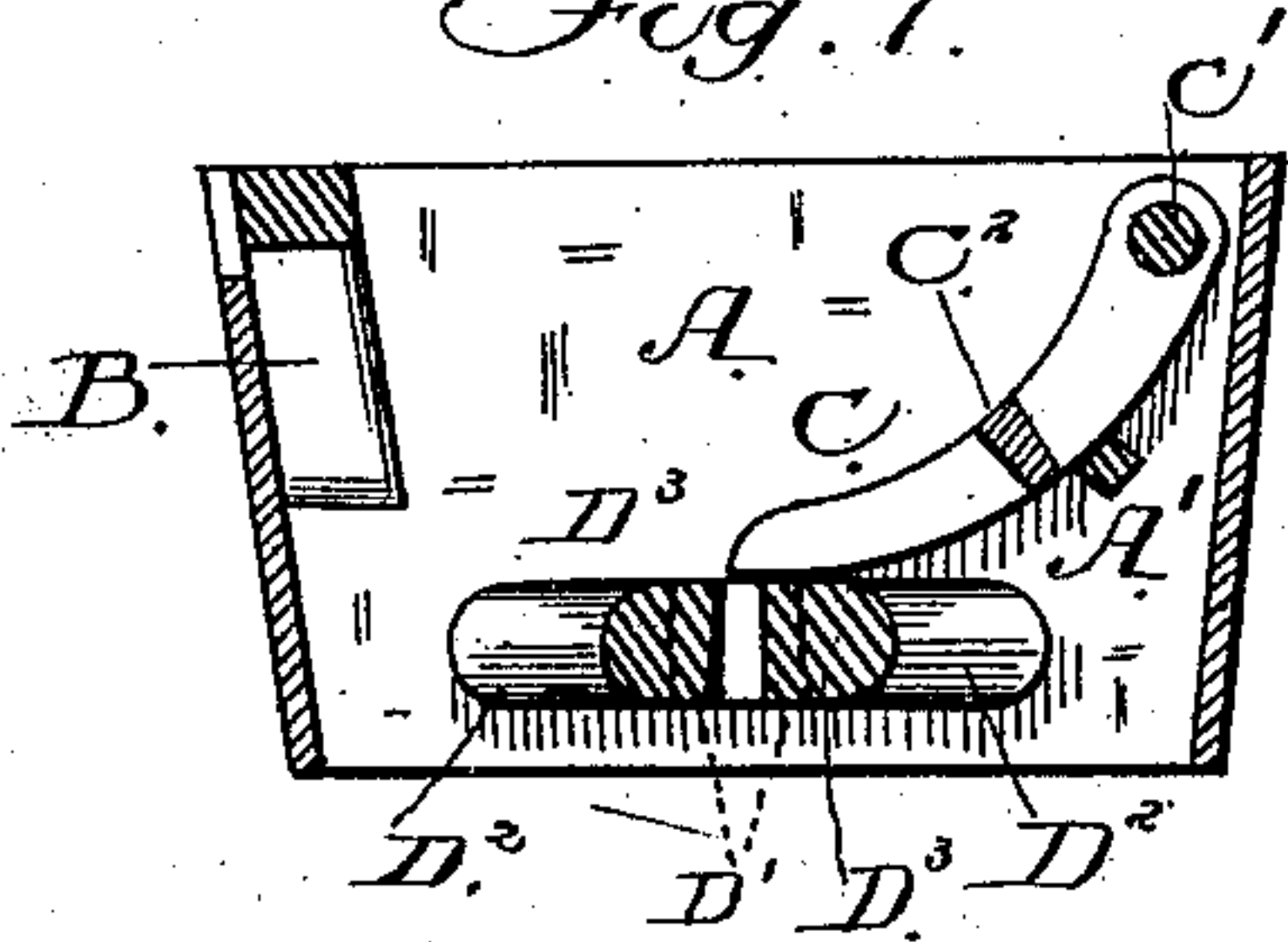


Fig. 2.

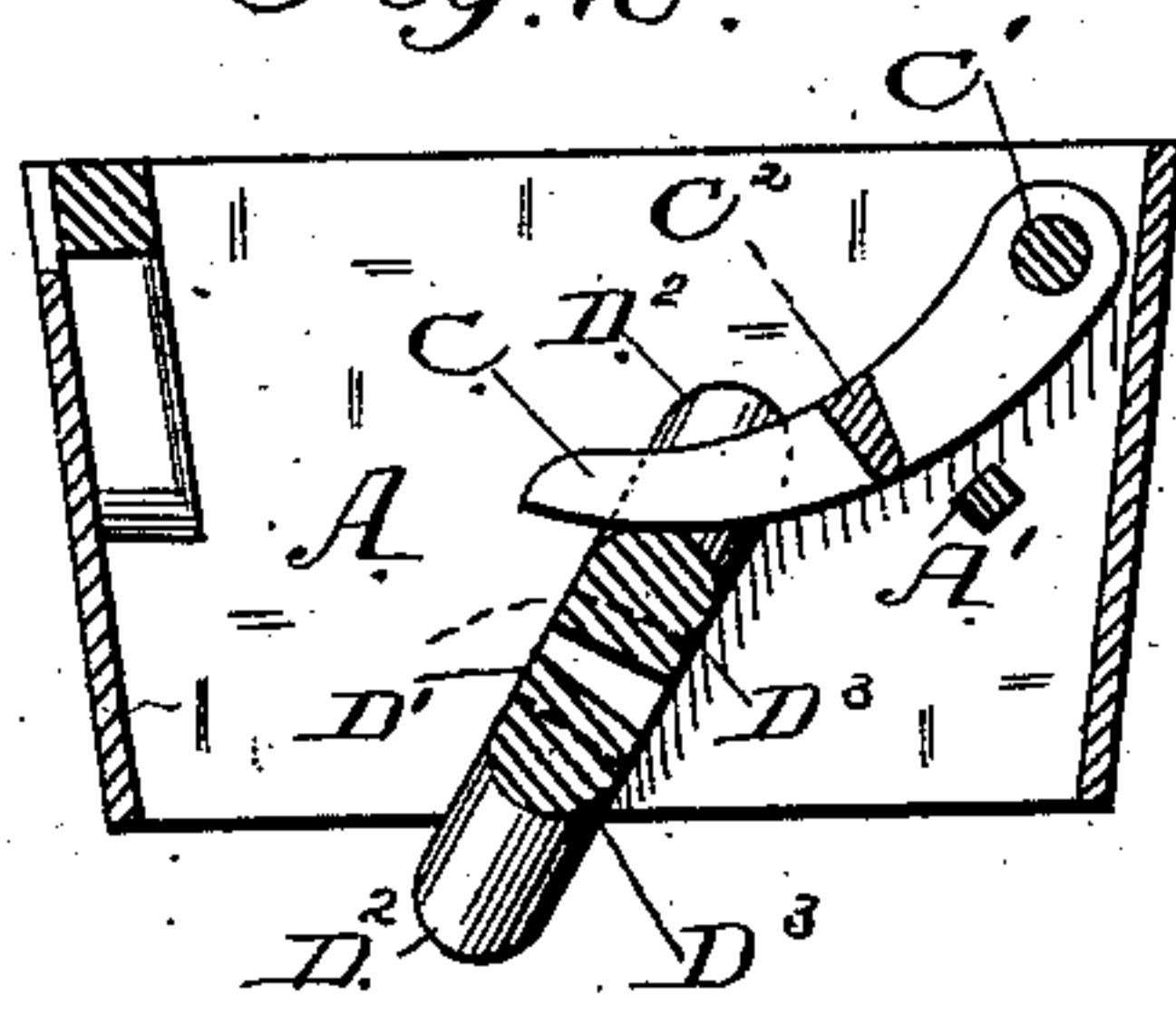


Fig. 3.

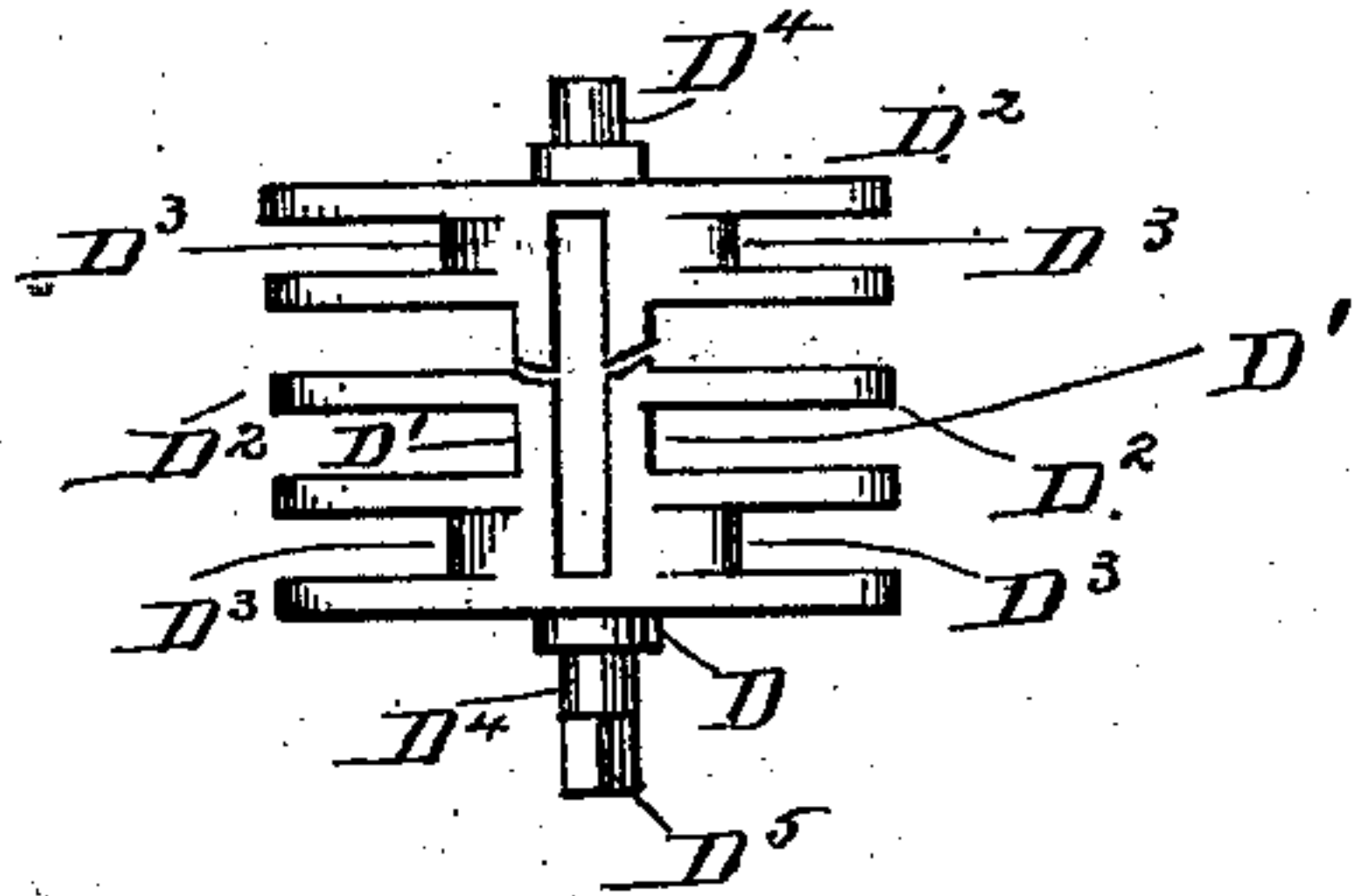


Fig. 4.

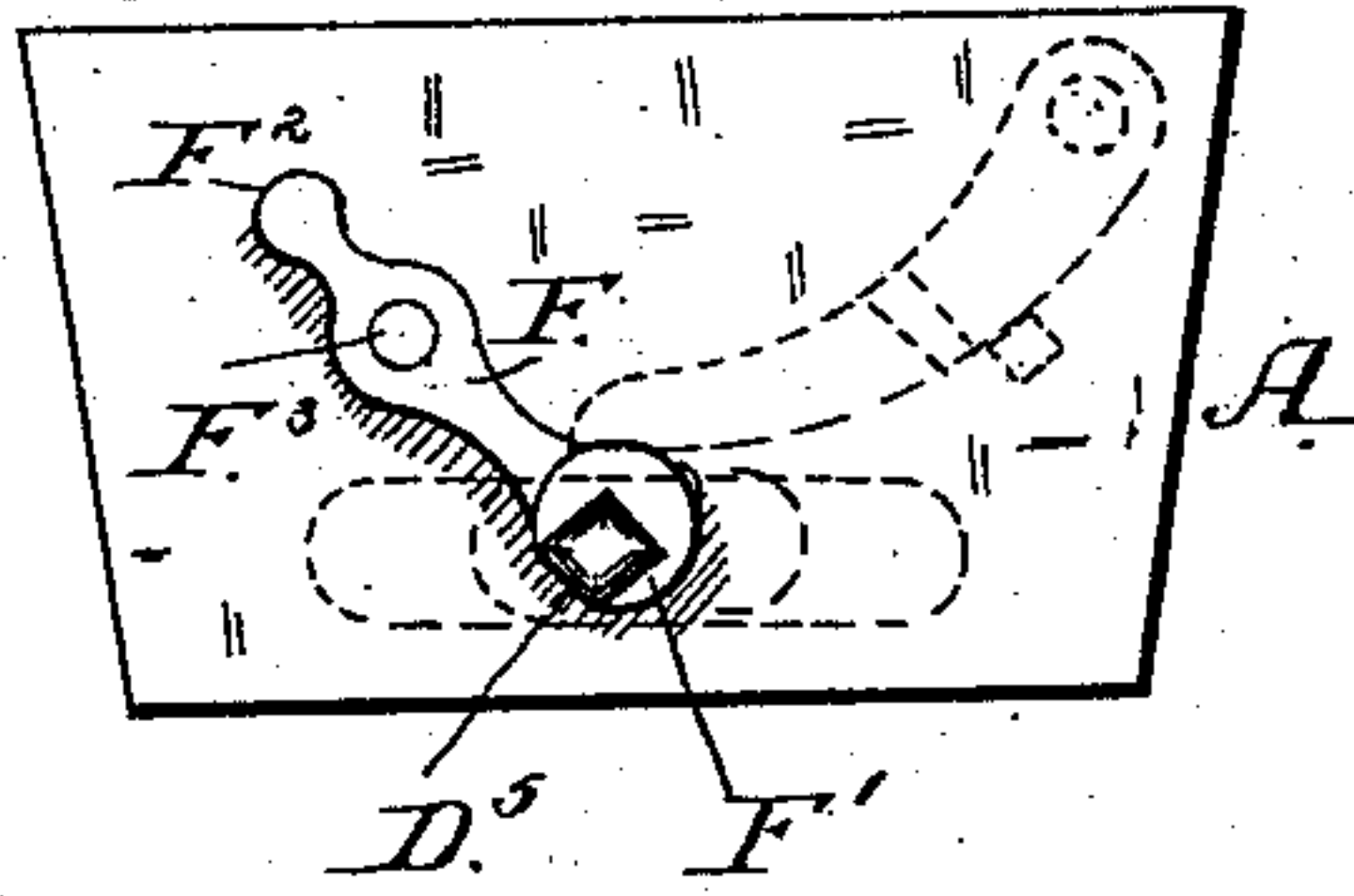


Fig. 5.

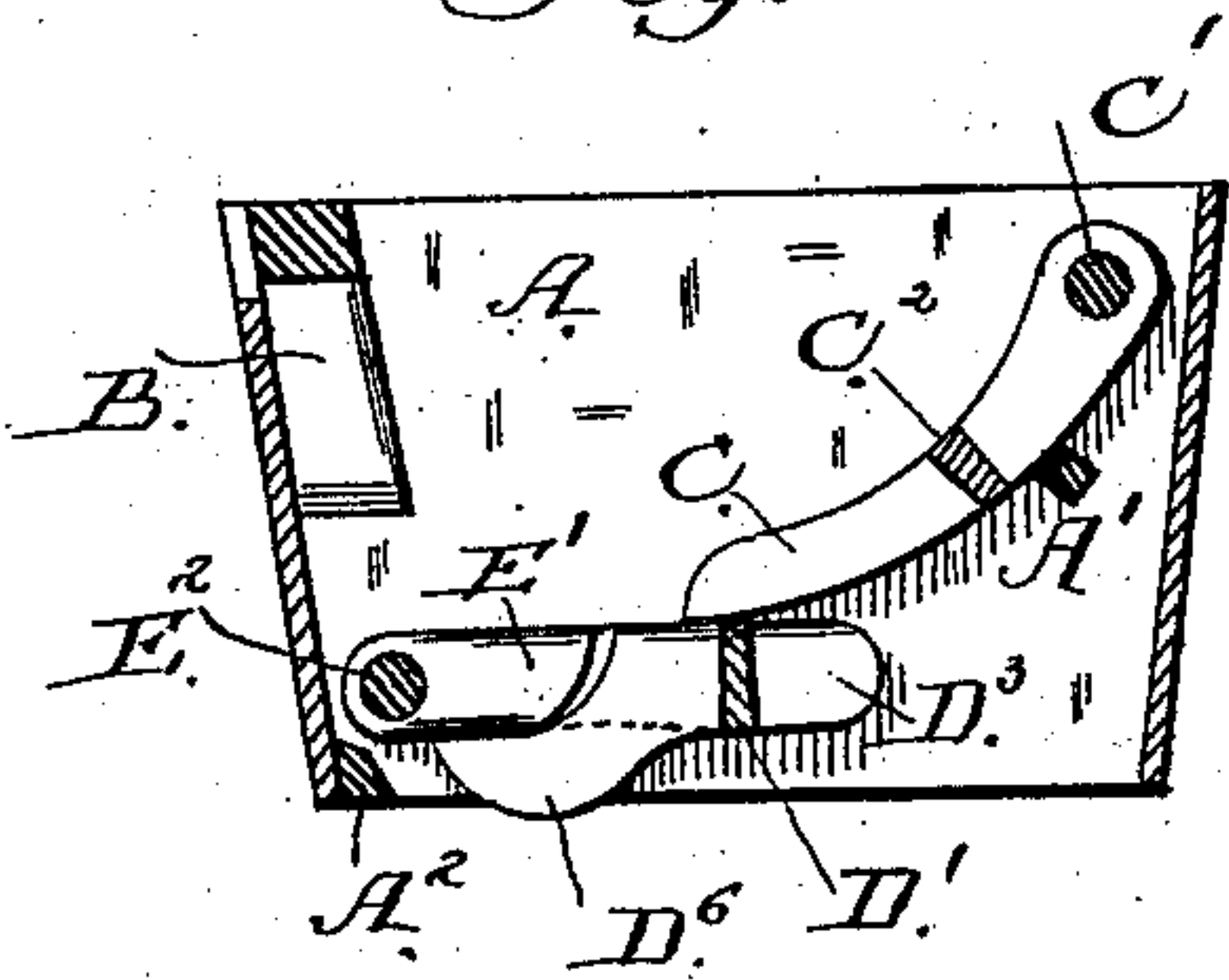


Fig. 6.

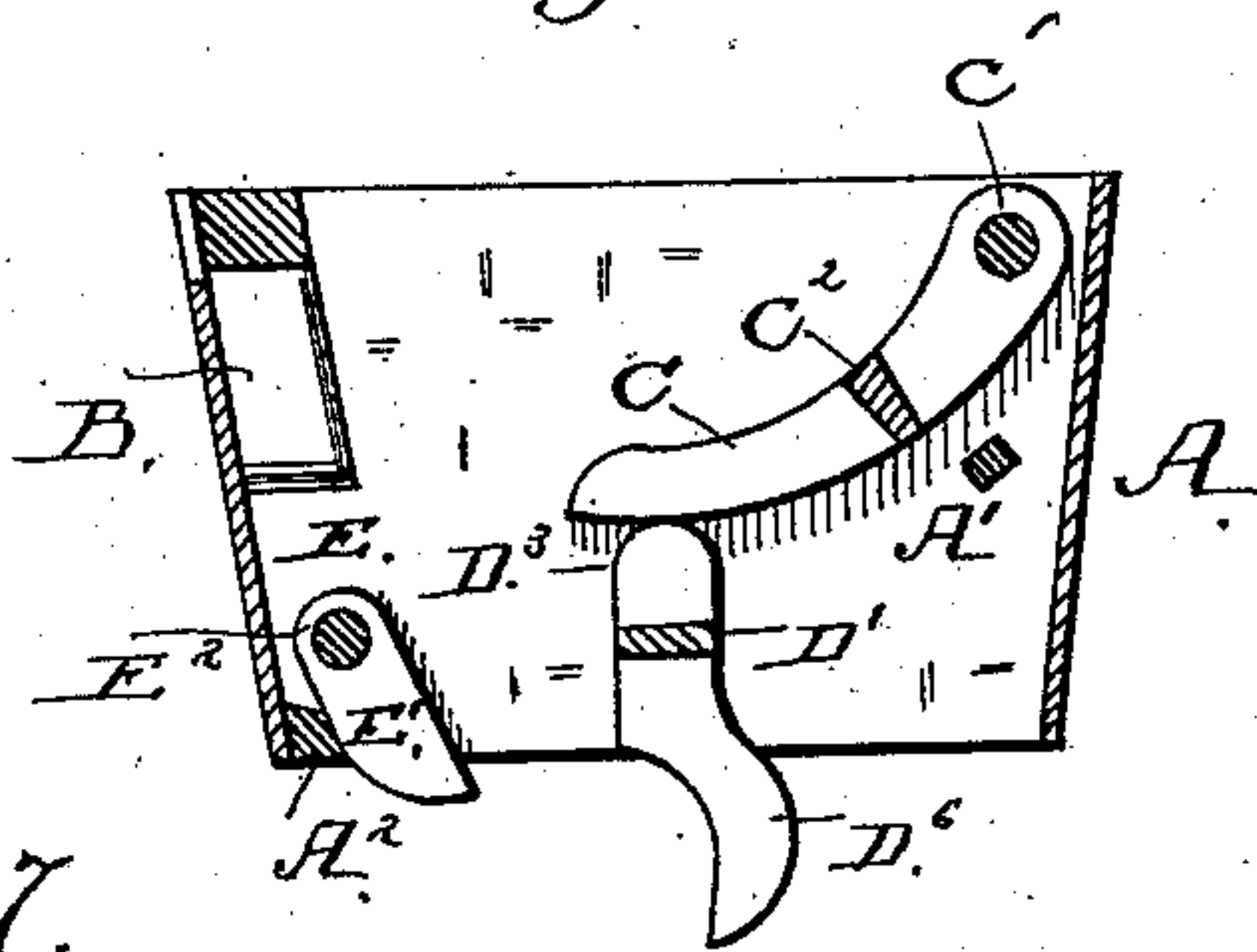
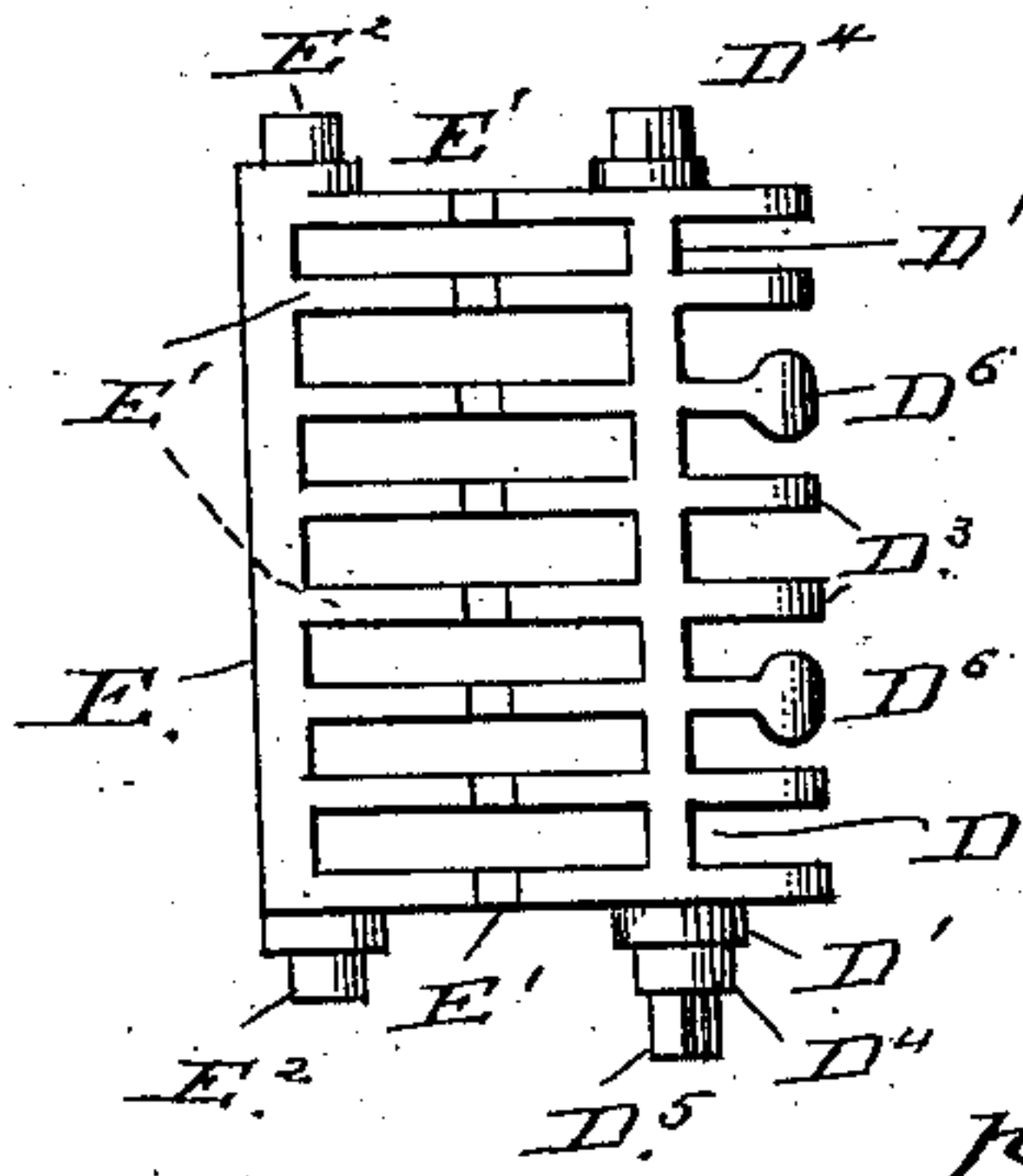


Fig. 7.



Attest:

Walter Fowler
H. B. Applewhite,

Inventor;

John Hahn,

per

Thomas P. Kinsey

attorney.

UNITED STATES PATENT OFFICE.

JOHN HAHN, OF READING, PENNSYLVANIA.

STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 287,537, dated October 20, 1883.

Application filed March 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN HAHN, a citizen of the United States, a resident of the city of Reading, county of Berks, State of Pennsylvania, have invented a new and useful Improvement in Stove-Grates, of which the following is a specification.

This invention relates more particularly to the grates used in connection with cooking-stoves, ranges, &c., and is intended to furnish a simple and readily-operated cleaning device therewith. I attain this result by the adoption of a revolving or oscillating floor-grate for the fire-pot, in combination with a vibratory back grate, and, if so desired, a vibratory front sub-floor-grate. In connection with the bars of the floor-grate I have introduced cleaning-fingers, which, on revolving of the grate, pass between the bars of the back vibratory grate, and assist in clearing the same.

To enable others skilled in the art to produce grates in accordance with my invention, the drawings herewith are made a part of this specification, like parts being marked by similar letters.

Figure 1 is a transverse sectional elevation of a fire-pot, showing the back vibratory grate, the revolving floor-grate provided with vibrators and cleaners and fixed front grate; Fig. 2, the same sectional elevation, showing the floor-grate in the act of revolving, having raised the rear grate, and showing the cleaners passing through the bar-space of the same; Fig. 3, a partial plan of the revolving floor-grate, showing the vibrators and cleaning-bars; Fig. 4, a partial outside elevation of the fire-pot, showing a device for retaining the floor-grate in place; Fig. 5, a modification of the floor-grate, showing a sub-floor-grate vibratory on its axis, in combination with the rear vibratory grate and the oscillating floor-grate, the latter having vibratory bars, to operate the front or rear grates; Fig. 6, a section of the same arrangement, showing the front and floor grates dumped; Fig. 7, a plan showing the front sub-grate and the floor-grates as adapted to the same.

A is the end of the fire-pot; A' and A², stops to limit the front and rear grates in their movements; B, a fixed front grate of the usual character; C, back or rear grate; C', axis or journals of same, having their bearing in suitable

holes provided therefor; C², longitudinal bars; D, revolving and oscillating floor-grate; D' D', longitudinal bars; D², transvers bars and cleaners; D³, vibrators; D⁴, journals; D⁵, square shank for operating the grate; D⁶, vibrators for sub-floor-grate; D⁷, vibrators for rear grate; E, sub-floor-grate; E', transverse bars; E², axes of same; F, lock for floor-grate; F', jaws to clamp grate-shank; F², finger-lift; F³, fulcrum. The axis or journals of the several grates are supported as usual, the shank end of the floor-grate protruding through the stove or range shell, and the lock F suitably placed to retain the floor-grate in a horizontal position.

The construction of the grate D in Fig. 1 with double longitudinal bars is for the purpose of securing an air-passage under the point of the rear bar, to prevent the burning of the same. It is not necessary that more than three vibrators, D³, be placed in the floor-grate. The bars D² which pass between the bars C of the rear grate will alternate therewith.

In the arrangement shown in Fig. 5 the bars of the vibratory front and rear grates, E and C, correspond with those of the oscillating grate D, the rear bars thereof being widened at two or more places, D', to give a full bearing beneath the bars C when brought in contact therewith.

The operation of the device is as follows: If the contents of the fire-pot is to be discharged into the ash-pit, the grates are placed in the position shown in Figs. 2 and 6, when the fire-pot is quickly emptied. When the fire-pot is filled with burning coal, and it is desired to clean the grates, an oscillatory movement is imparted to the floor-grate, which, being transferred to the rear grate, C, causes the ashes to slide down said grate and pass into the ash-pit through the bars; or when the sub-grate E is used the front and rear grates will be alternately lifted, vibrated, or agitated, with the same result; or, the fuel being in an incandescent state, the grate D may be revolved, as shown in Figs. 1 and 2, when the cinders will drop into the ash-pit in front of grate D, and the cinders on grate C will be thrown forward by the cleaners D² and pass also into the ash-pit. This may be done without dropping the fire by attention to the state of the same before operating the floor-grate. In Fig. 6 the floor-grate only oscillates, the fingers D⁶ picking up the sub-grate

E and returning the same to its proper position by throwing down the lock F over the shank D³ of the floor-grate.

5 This improvement gives a ready means of partially or fully cleaning the bars, or of dumping the contents of the fire-pot into the ash-pit. It is a simple, cheap, and reliable substitute for serrated, interlocking, and combined re-

10 Having shown the construction of my grates, their adaptation to the fire-pots, and their advantages, I desire to secure by Letters Patent the following claims thereon:

1. The combination of a rear vibratory grate, 15 a fixed front grate, and a revolving or oscillating floor-grate, as described, with the rear grate by a series of two or more vibrators and bars alternative with the spaces of said rear grate-bars, stop A', shank D⁴, and lock F, whereby 20 the combination may be locked in position or released for cleaning, substantially as shown, and for the purpose set forth.

2. The combination of a rear vibratory grate, fixed front grate, and a vibratory sub-floor- 25 grate, with an oscillating floor-grate provided with journals D, shank D⁵, one or more vibra-

tors, D⁶, stops A' A², and lock F, substantially as shown, and for the purpose described.

3. A dumping revolving floor-grate, provided with double longitudinal bars, forming an 30 air-passage between the same, having attached thereto a series of cleaning-bars, opposite the spaces of the rear vibratory grate, and one or more vibrators in line with the bars of said rear grate, in combination therewith and with 35 lock F, for the purpose described, as shown, and substantially as specified.

4. A rear pivoted vibratory grate, C, arranged in combination with a revolving and 40 oscillating floor-grate, D, provided with vibrators and cleaner-bars, to be agitated and cleared from ashes and cinders in the manner and for the purpose described.

5. A front sub-floor-grate to a fire-pot, being pivotal thereto, in combination with an 45 oscillating central floor-grate and pivotal rear grate, as described, shown, and for the purpose set forth.

JOHN HAHN.

Witnesses:

F. PIERCE HUMMEL,

GARRETT B. STEVENS.