

(No Model.)

2 Sheets—Sheet 1.

F. CAREL & W. F. DAVIDSON.
GRATE.

No. 485,450.

Patented Nov. 1, 1892.

Fig. 1.

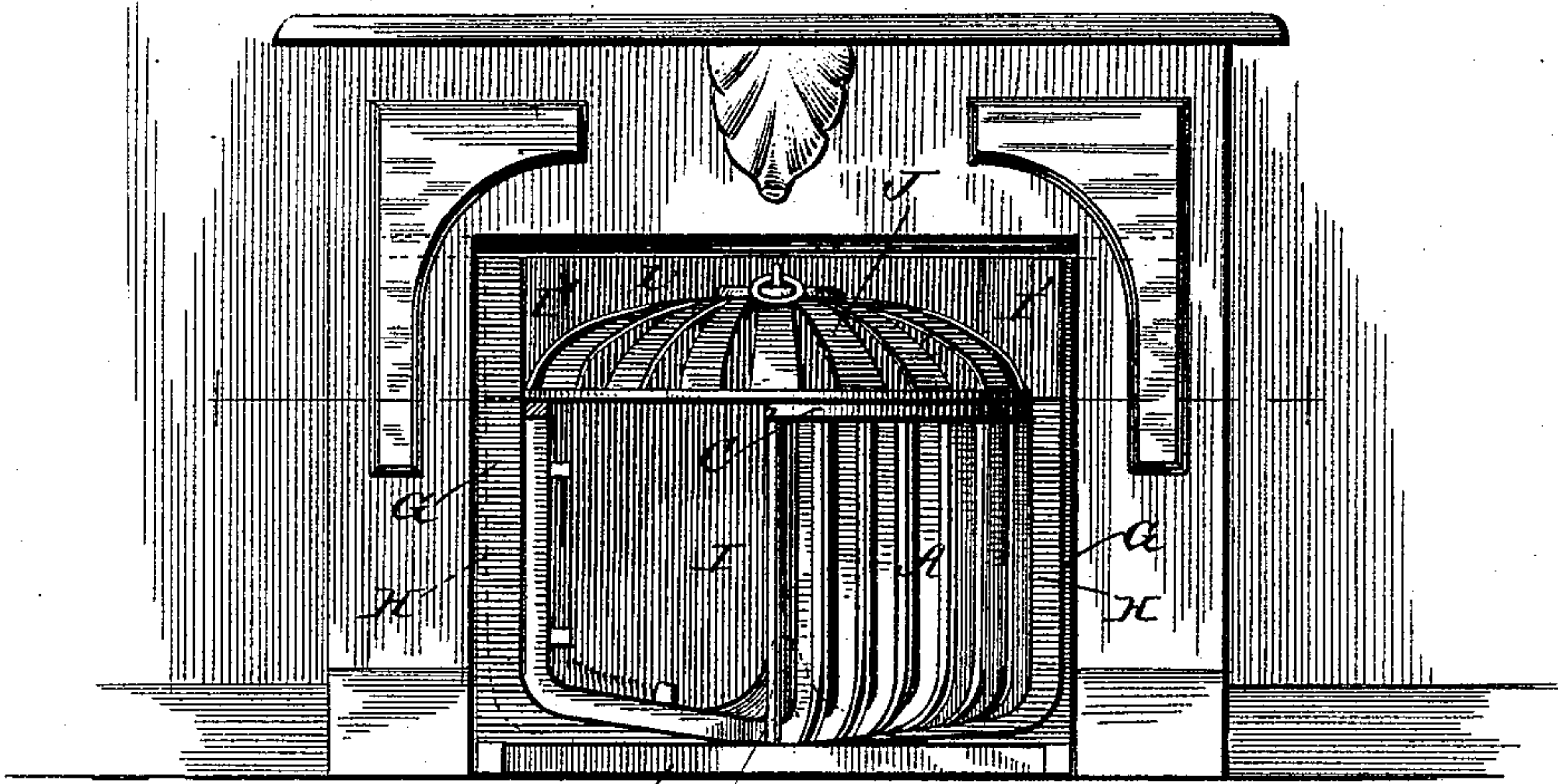


Fig. 3.

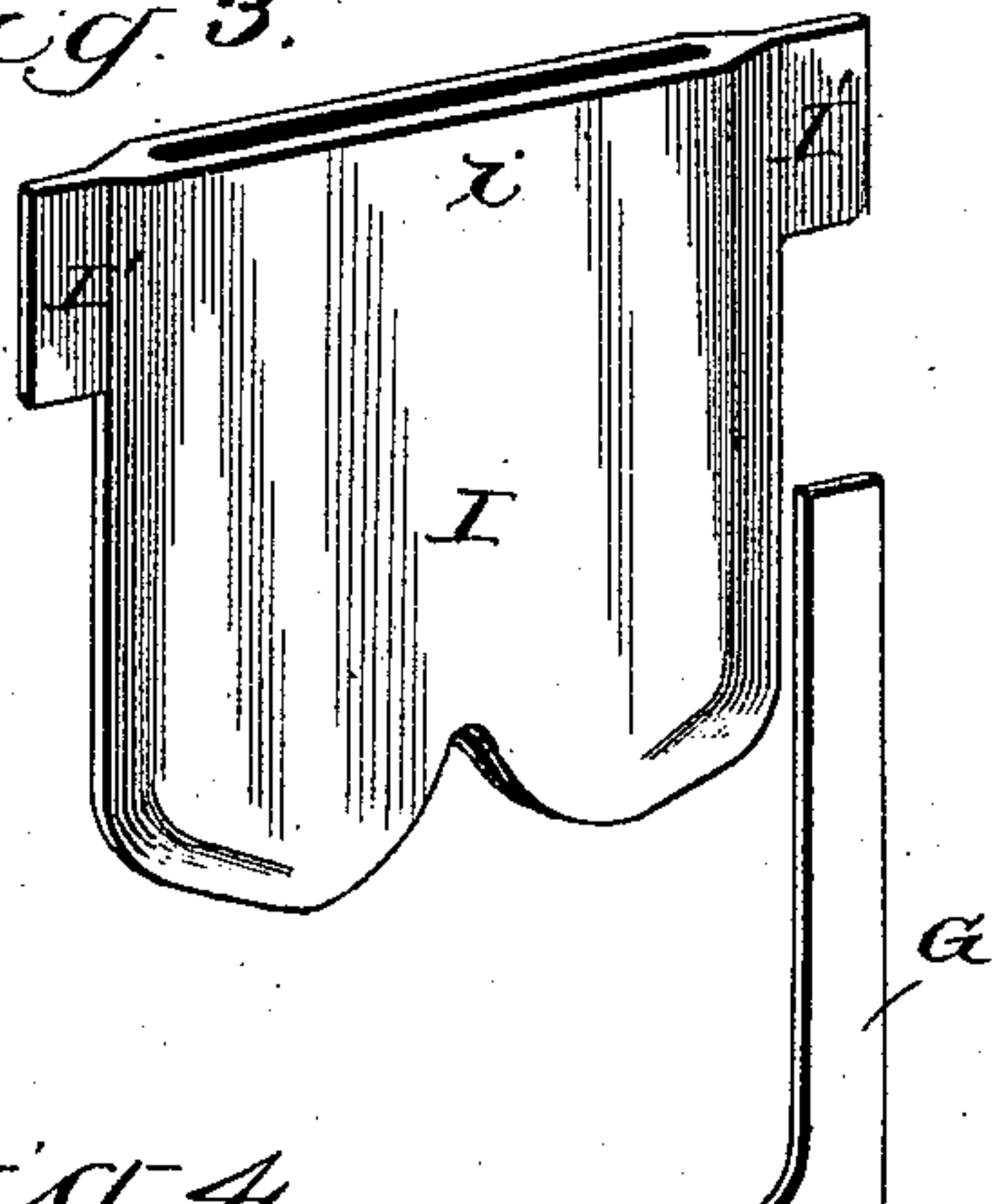


Fig-4.

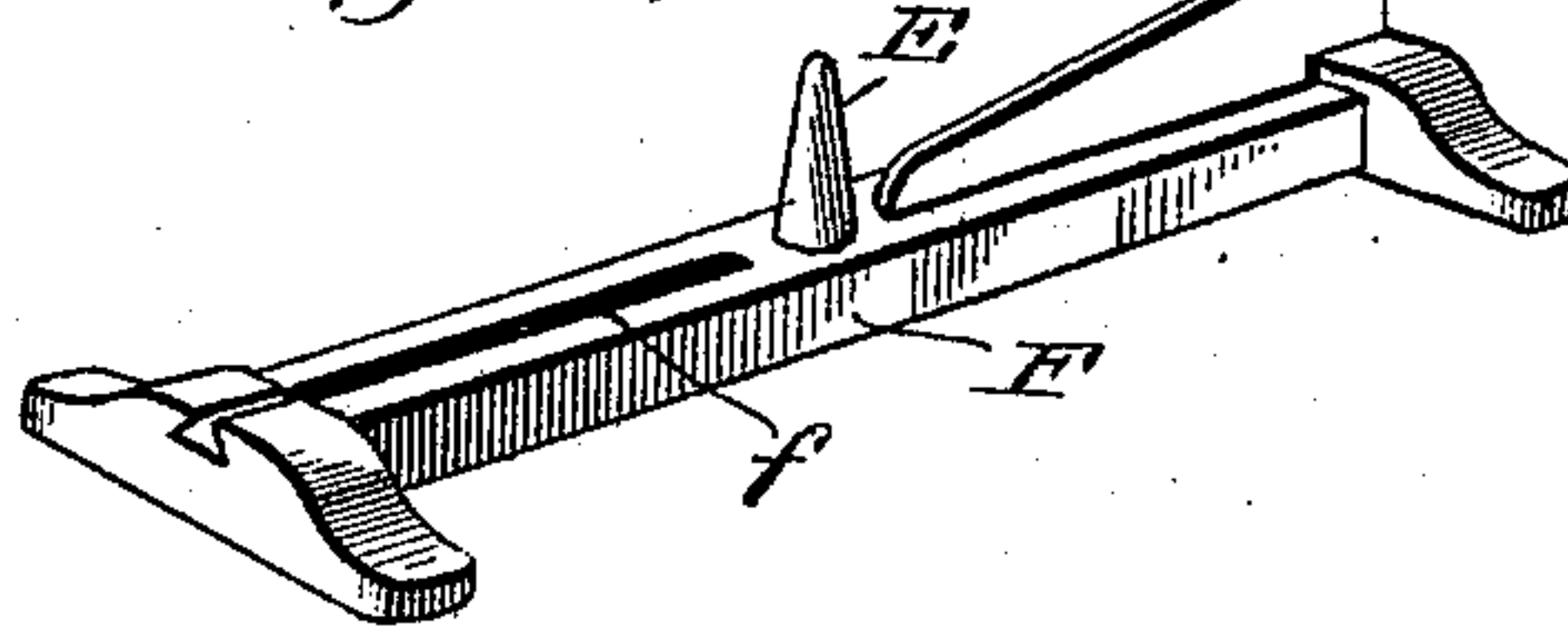
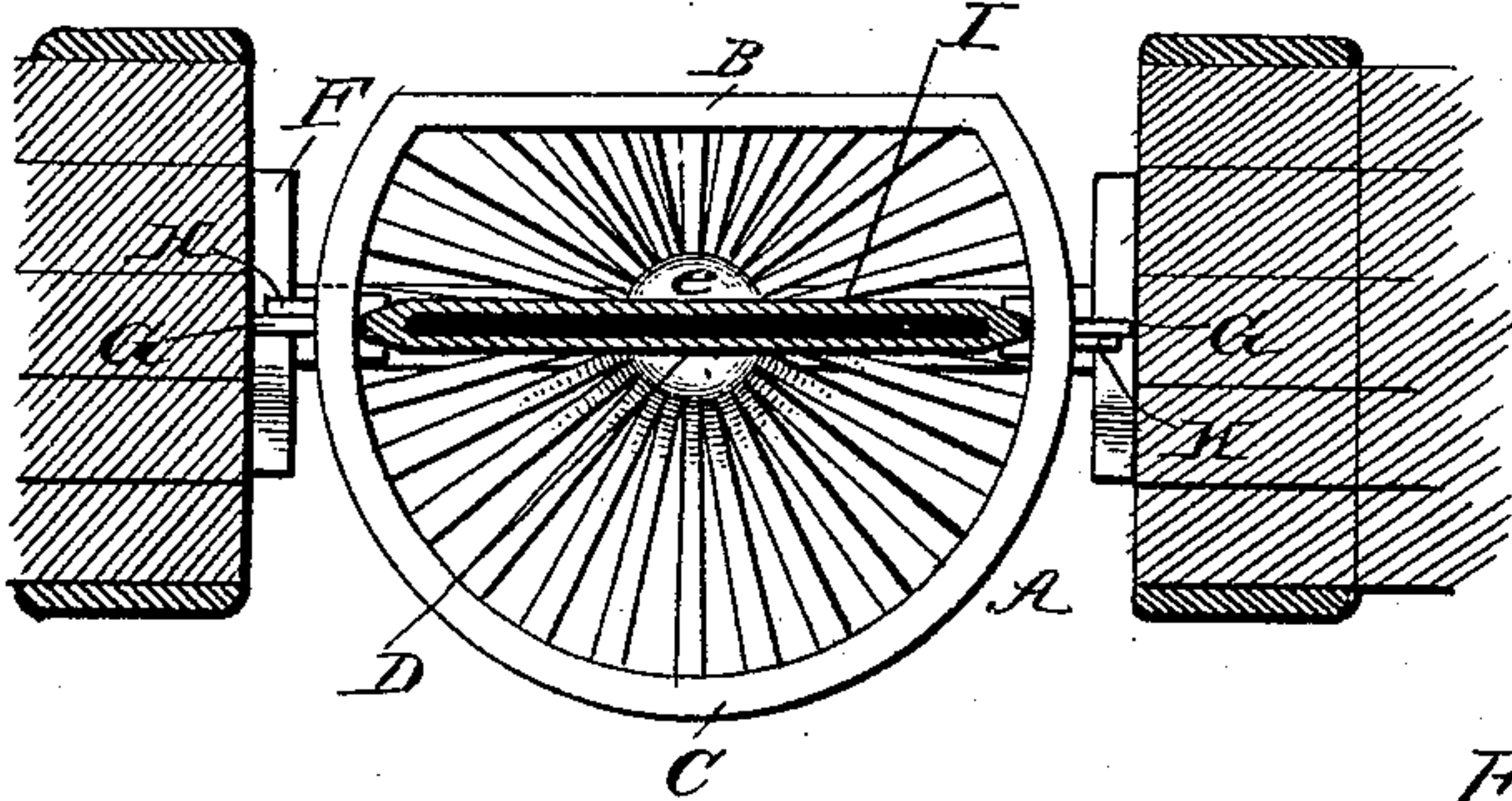


Fig. 2.



WITNESSES:

Fred G. Dietrich
P. B. Furpin.

INVENTORS,

Frederick Caryl
Wayland F. Davidson

BY

Maria L.

ATTORNEYS

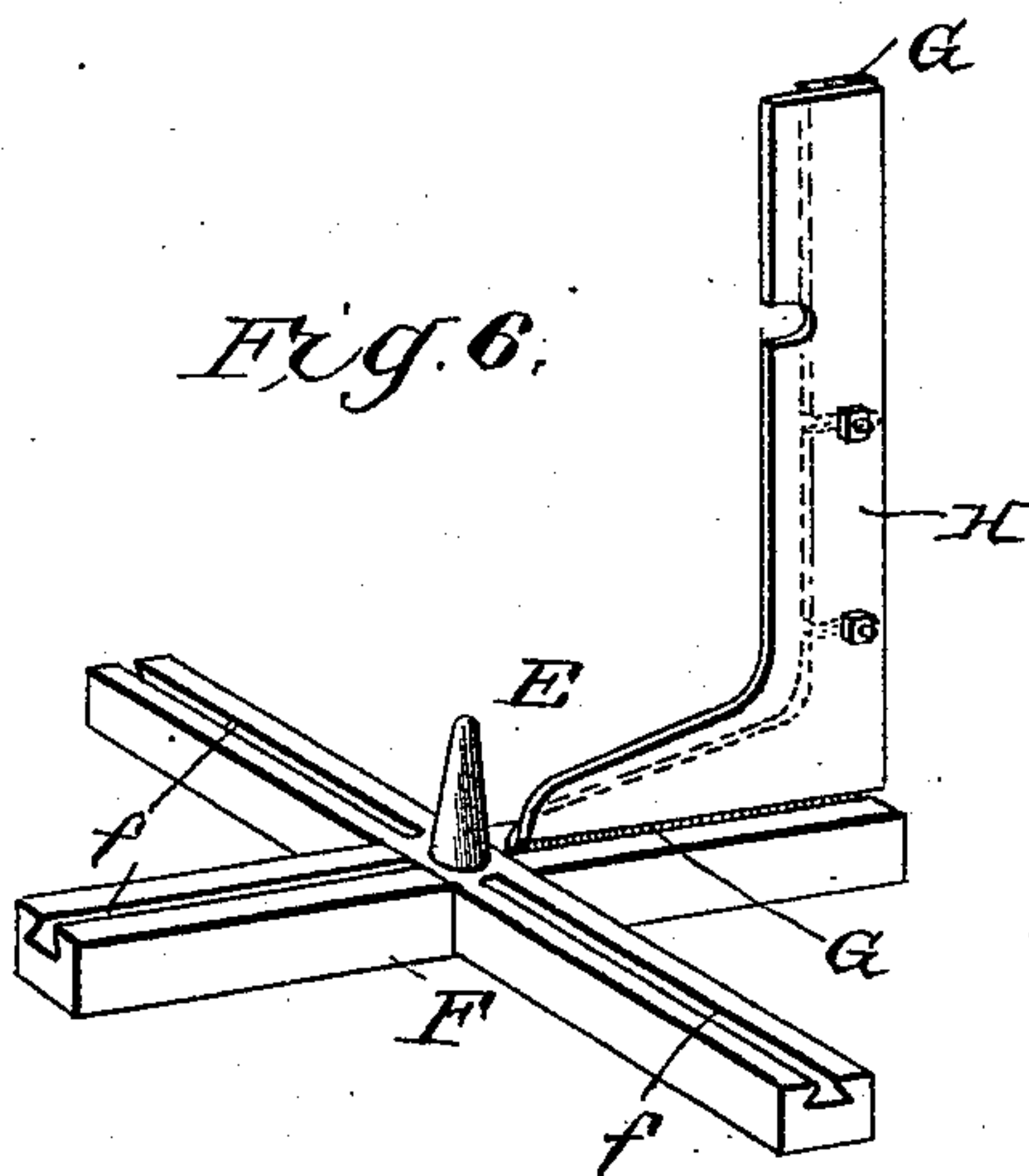
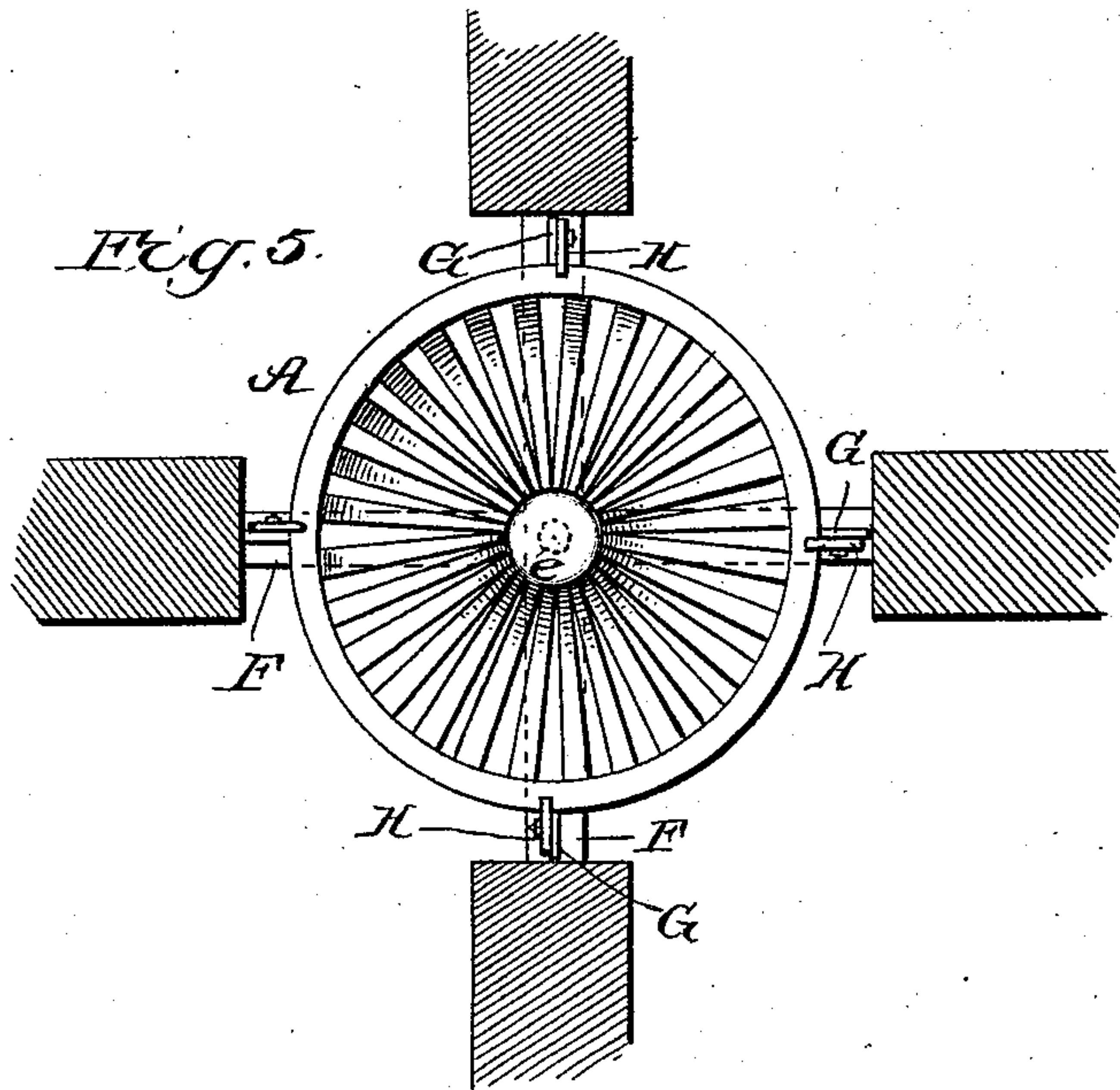
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2 Sheets—Sheet 2.

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WITNESSES:

Fred G. Dietrich
P. B. Turpin.

INVENTORS.

Frederick Carel
Wayland F. Davidson
BY *Wm. L.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

FREDERICK CAREL AND WAYLAND F. DAVIDSON, OF CHARLESTON, WEST VIRGINIA.

GRATE.

SPECIFICATION forming part of Letters Patent No. 485,450, dated November 1, 1892.

Application filed November 16, 1891. Serial No. 412,011. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK CAREL and WAYLAND F. DAVIDSON, of Charleston, Kanawha county, West Virginia, have invented a new and useful Improvement in Grates; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention is an improvement in grates; and it consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a face view of our grate as in use. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Fig. 3 is a detail view of the partition. Fig. 4 is a detail view illustrating the base and one of the edge plates. Fig. 5 shows the invention applied to four rooms, and Fig. 6 is a detail view of parts shown in Fig. 5.

The grate A has one side B flattened and its opposite side C rounded or projected and is journaled at D between said sides B and C, so that the grate may be turned to present either its flat or rounded side and so form either a recessed or a projecting grate. This will be readily understood from Fig. 2, in which the grate is shown in connection with two rooms, and is arranged to form a recessed grate in one of such rooms and a projecting grate in the other. Manifestly this construction of grate will be useful in heating a single room, or may, if desired, be employed in connection with two, three, or four rooms, and may be preferred because of its adaptation to enable the presentation of a projecting or flat recessed front, thus providing, practically, two kinds of grate in one.

Centrally at its lower end the grate is journaled on the base F, being provided with a socket *e*, which fits and turns on a pin E on the said base F. This base is shown as a bar resting at its lower edge flat upon the floor or hearth of the fireplace. The base-bar, it will be seen, serves to prevent the passage of light and sound along the hearth between two or more adjoining rooms and may be provided at its ends with suitable feet, as shown.

Plates G fit at their outer edges closely to the walls of the fireplace, and lap-plates H are arranged and adapted to lap against the sides of the plates G and to close the space between the inner edges of the said plates and the grate. In the construction shown in Fig. 2 the lap-plates H are in the nature of flanges projected from the grate, the opposite lap-plates being arranged to lap when the grate is in use against the opposite sides of the opposite plates G—that is to say, one of the plates H is lapped against the front side of one plate G and the other plate H is lapped against rear side of the other plate H. This arrangement of the plates G and H permits the grate to be given a half-turn to adjust it to present one or the opposite side, as may be desired, and in both positions the plates G and H will exclude the passage of light and sound alongside the grate. In the said construction the plates H are preferably cast integral with two of the grate-bars, and the plates G are fitted and held at their lower edges in grooves *f*, formed in the base-bars, such grooves being preferably undercut and the lower edges of the plates being formed to fit in such grooves, as will be understood from the drawings. These plates G extend up to and are conformed to the top of the fireplace, which, manifestly, may be square, as shown, or rounded, as may be desired.

The partition I, which may be employed to divide the grate into two compartments, is made hollow and open at its upper and lower ends, so that air may circulate through it, and thus tend to prevent its undue heating and consequent cracking and warping. At its edges this partition fits in guides in the grate, and it extends up above the top of the grate and projects up at *i* to the top of the fireplace, the cover-sections J being fitted over the grate-compartments and up against the partition. Above the top of the grate the partition I is extended edgewise laterally beyond the side of the grate at I' and forms, practically, a continuation of the plates H, such extensions I' being in alignment with the said plates H and lapping, like such plates, alongside the plates G, as shown.

While the construction of the plates for

preventing the passage of sound and light between the adjacent rooms may preferably be as described for two rooms, it is obvious that it may be modified when the grate is
 5 used in connection with four rooms, as shown in Fig. 5. In such construction, which, manifestly, may be also used when the grate is used in connection with two rooms, we provide plates G, each being fitted at its ends in
 10 grooves in the base plates or bars, and the lap-plates, instead of being projected from the grate, as shown in Fig. 1, are held to the plates G, so that they can be slid out and in to fit between or rest clear of the grate-bars, as will
 15 be readily understood from Fig. 5. In this construction, like that shown in Fig. 1, the plates H serve to close the space between the inner edges of the plates G and the grate and are lapped alongside the said plates, as shown.
 20 By preference the plates H in this construction are secured to the plate G by means of bolts or rivets passed through the plates H, and thence through slots in the plates G. Now it will be seen that the construction of
 25 the base prevents the passage of light and sound below the grate, the plates G and H prevent such passage alongside the grate, and the upward extension of the partition prevents the passage of light or sound above the
 30 grate, thus making the adjoining rooms, whether they be two or four, entirely private, and at the same time enabling the use of one grate to heat two or more rooms.

In the four-room construction sub-partitions are usually employed to subdivide the
 35 compartments formed by the partition I. Such sub-partitions will be extended upward and forward at their outer edges above the grate, similarly to the partition I, as before described.

40 In case the plates G should become unsteady or wobble any they may be cast with small

perforated lugs or ears for the passage of nails, by which they may be fastened in the fireplace.

We claim—

1. The combination, substantially as herein 45 described, of the base having grooves in its upper side, the grate journaled centrally upon the said base, the plates G, held at their lower edges in said grooves, and the plates H, arranged to close the spaces between the plates 50 G and the grate, all substantially as and for the purpose set forth.

2. The combination, substantially as herein described and shown, of the grate, the base, the plates G, the lap-plates H, arranged to 55 close the spaces between the plates G and the grate, and the partition fitted in and extended above the grate and having its edges above the grate arranged to lap against the plates G, substantially as and for the purpose set forth. 60

3. The improvement in grates, substantially as herein described and shown, comprising the base having grooves in its upper side, the plates G, held at their lower edges in said 65 grooves, the grate journaled on the said base and provided with flange-like plates H, arranged to lap against the plates G, and the partition fitted in the grate and projected above the same, the edges of the said partition above the grate being arranged in line with 70 the flange-plates H and to lap against the plates G, all substantially as and for the purpose set forth.

FREDERICK CAREL.
 W. F. DAVIDSON.

Witnesses to the signature of Carel:

P. B. TURPIN,
 SOLON C. KEMON.

Witnesses to the signature of Davidson:

JOHN DAVIDSON,
 R. H. HAROLD.