

W. JAQUES.
FLUE CLEANER FOR STOVES AND RANGES.
APPLICATION FILED APR. 25, 1910.

983,143.

Patented Jan. 31, 1911.

3 SHEETS—SHEET 1.

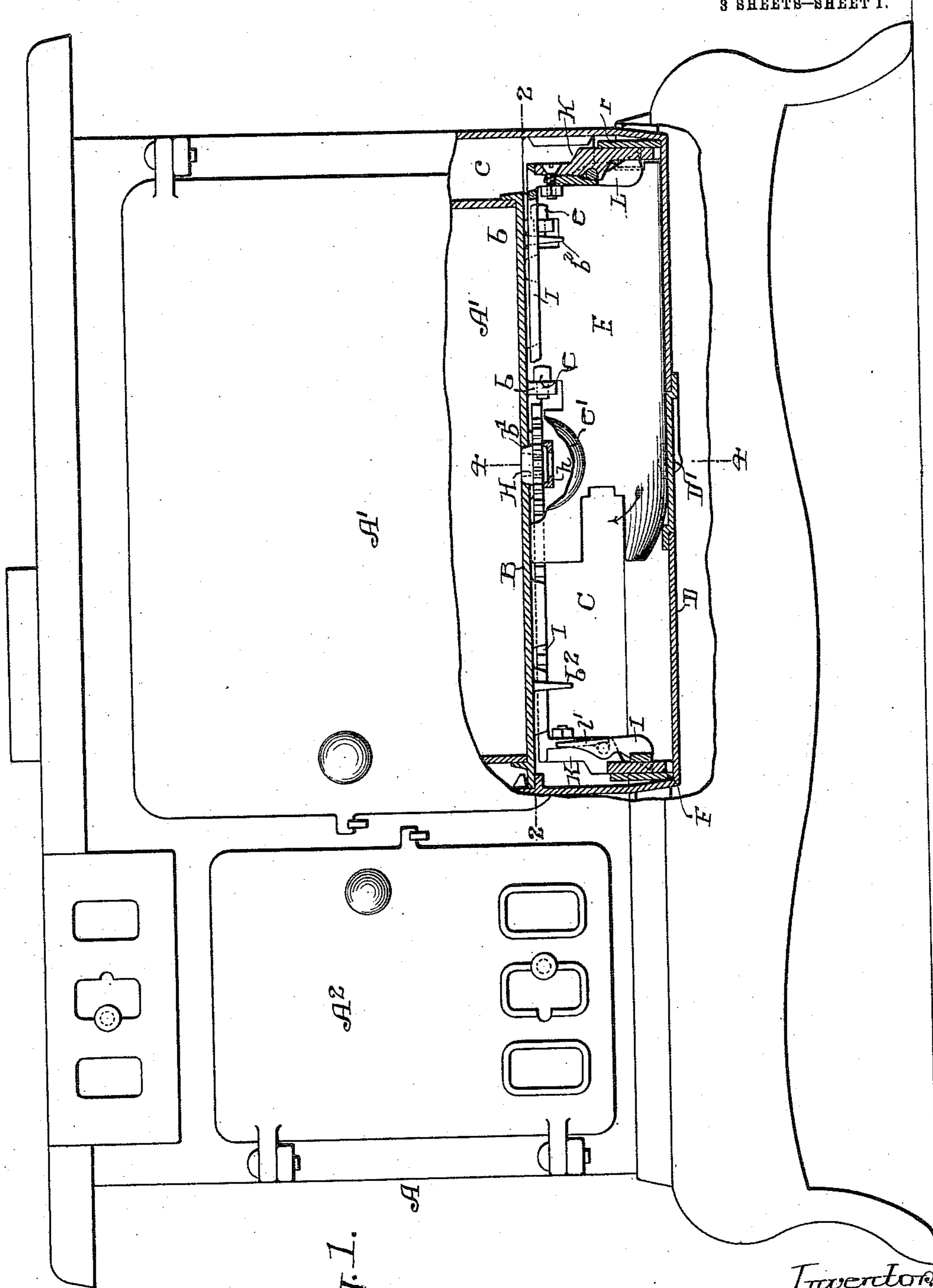


Fig. 1.

Witnesses.—
William H. Rivoir.
Oskar A. Burrows

Inventor
William Jaques
by his Attorneys:
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Fig. 2.

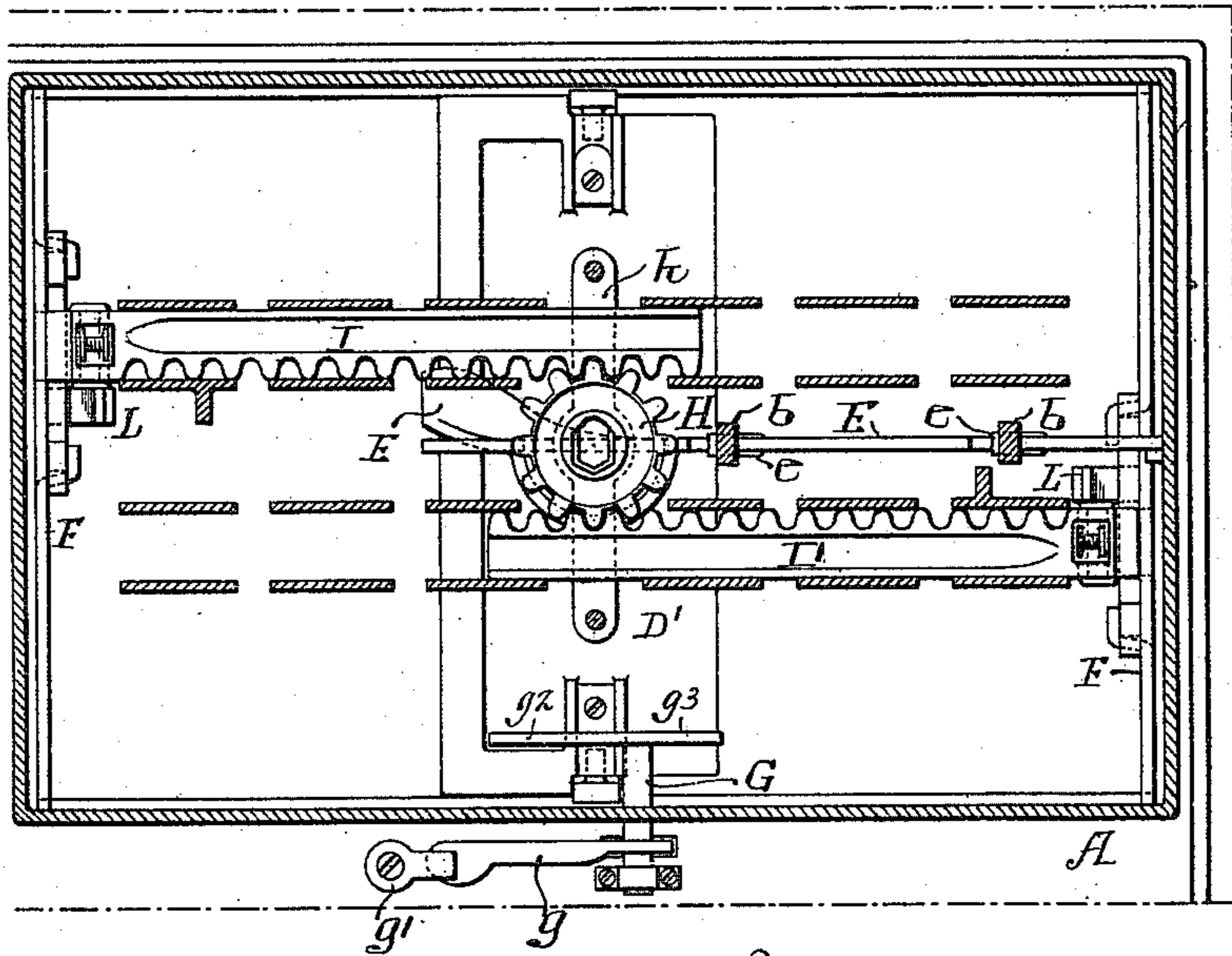


Fig. 3.

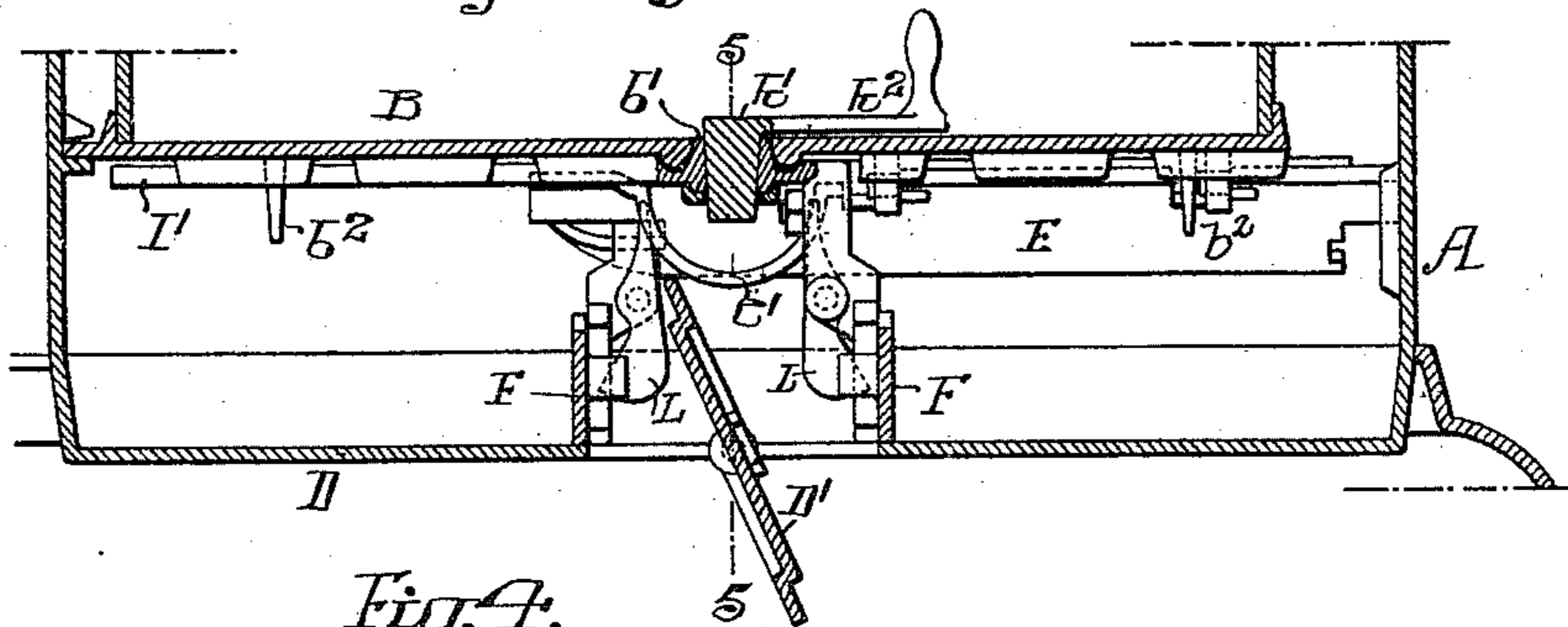


Fig. 4.

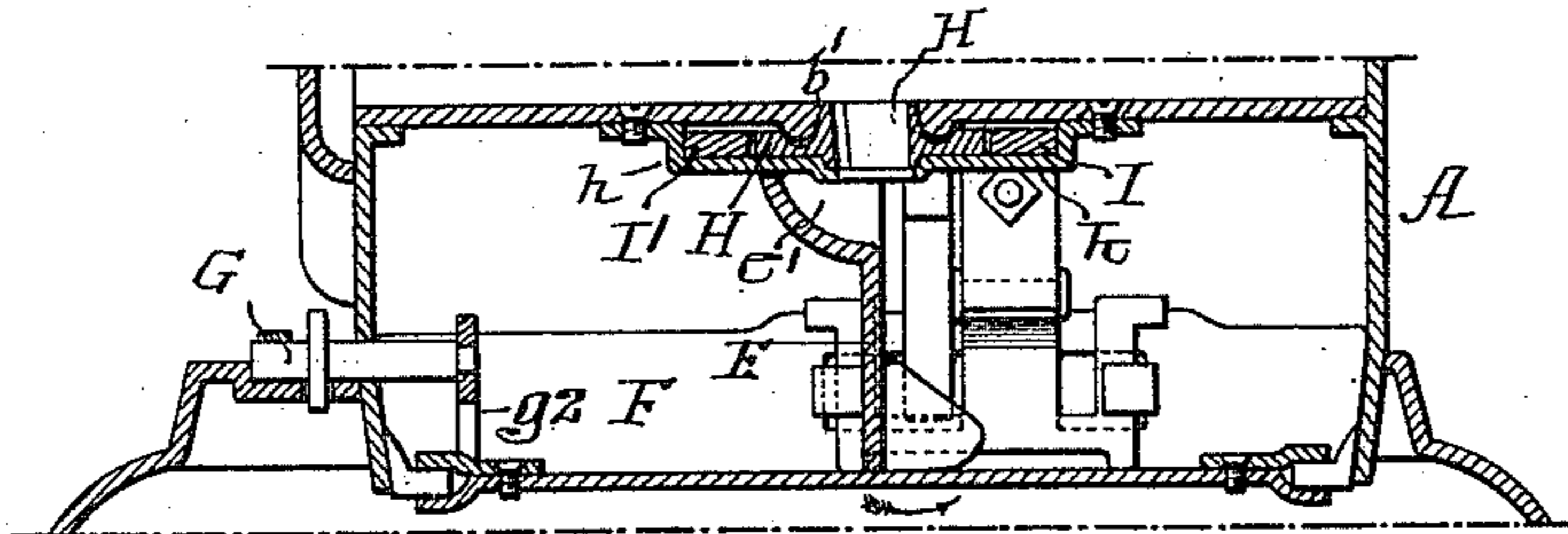
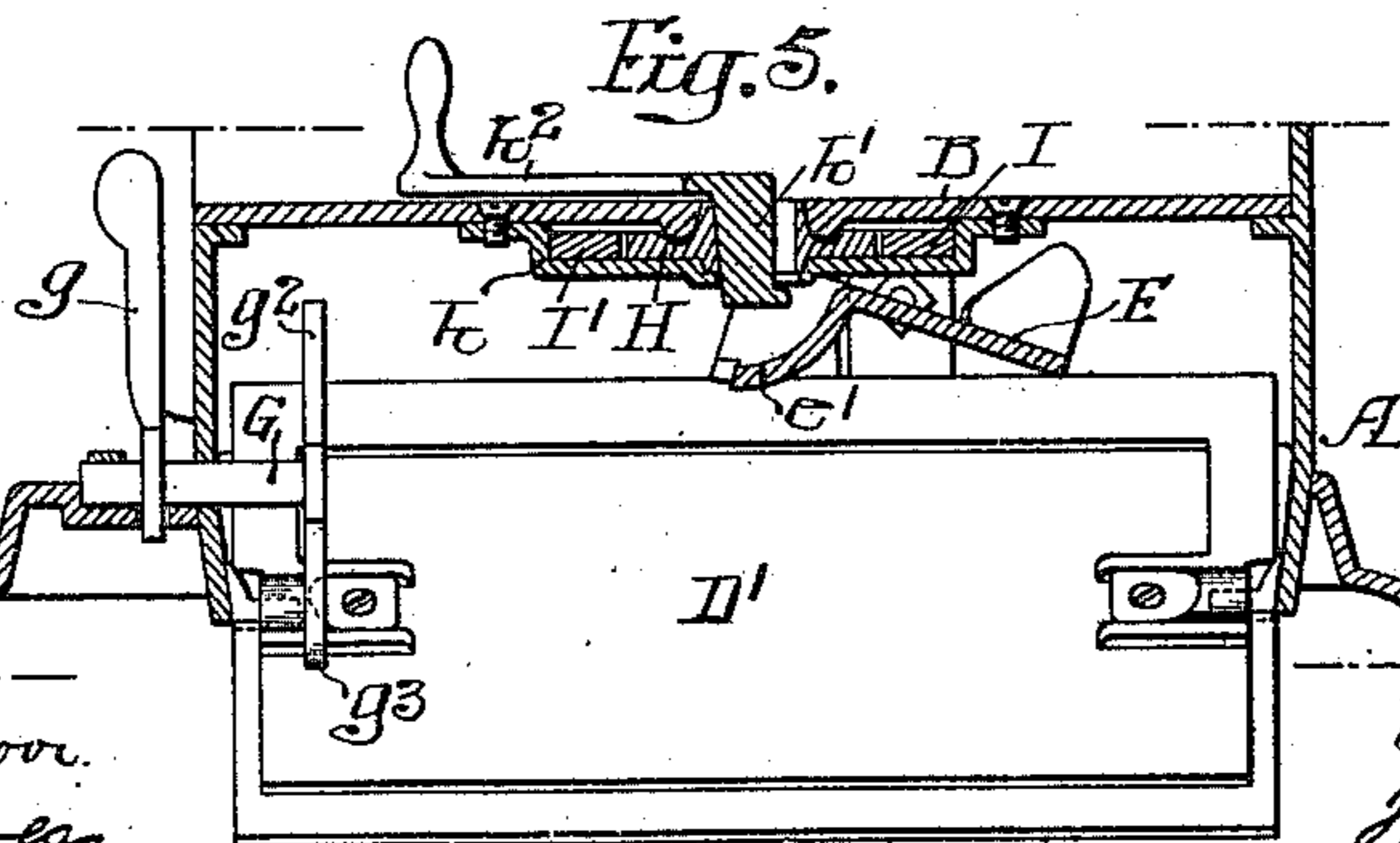


Fig. 5.



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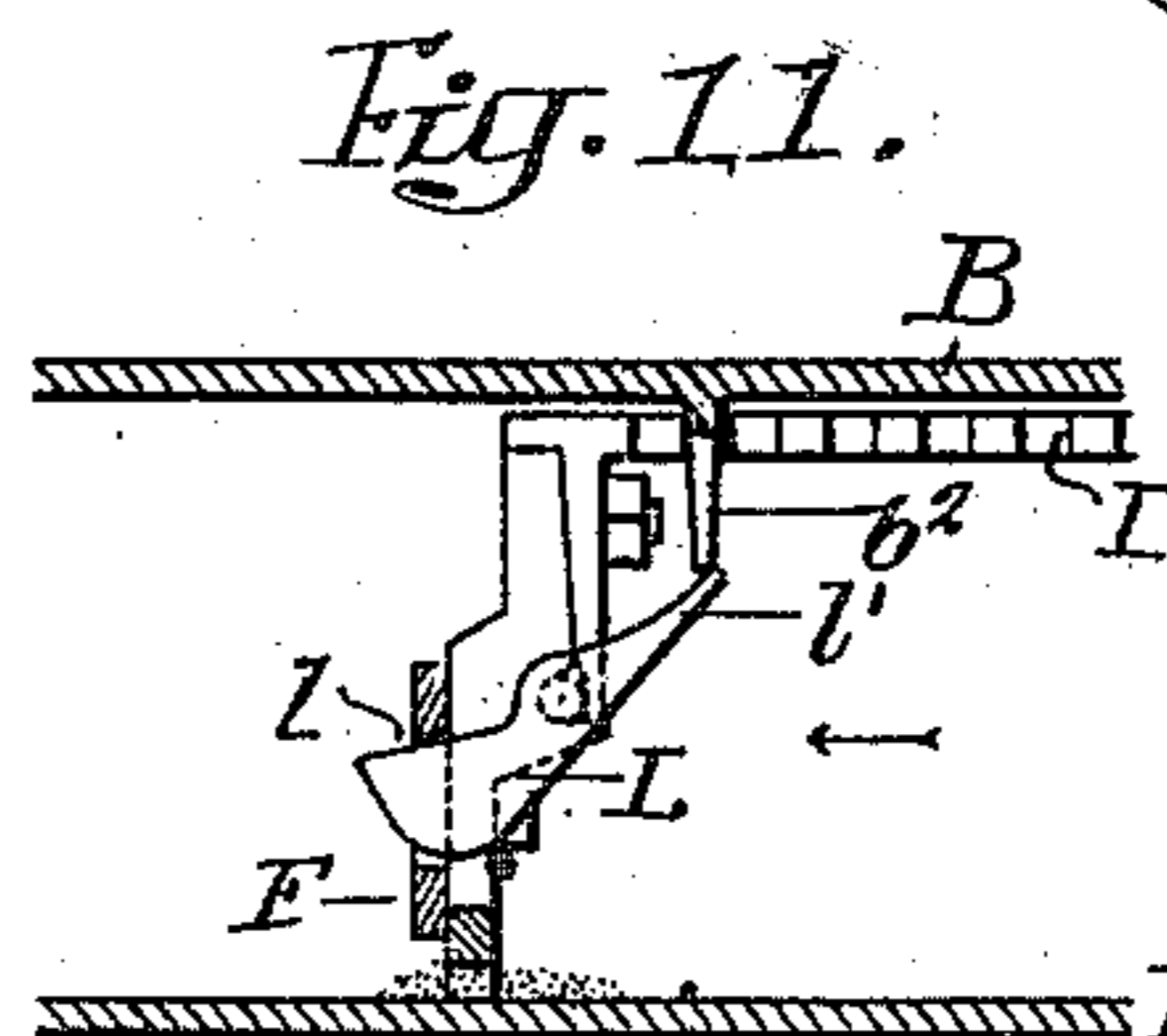
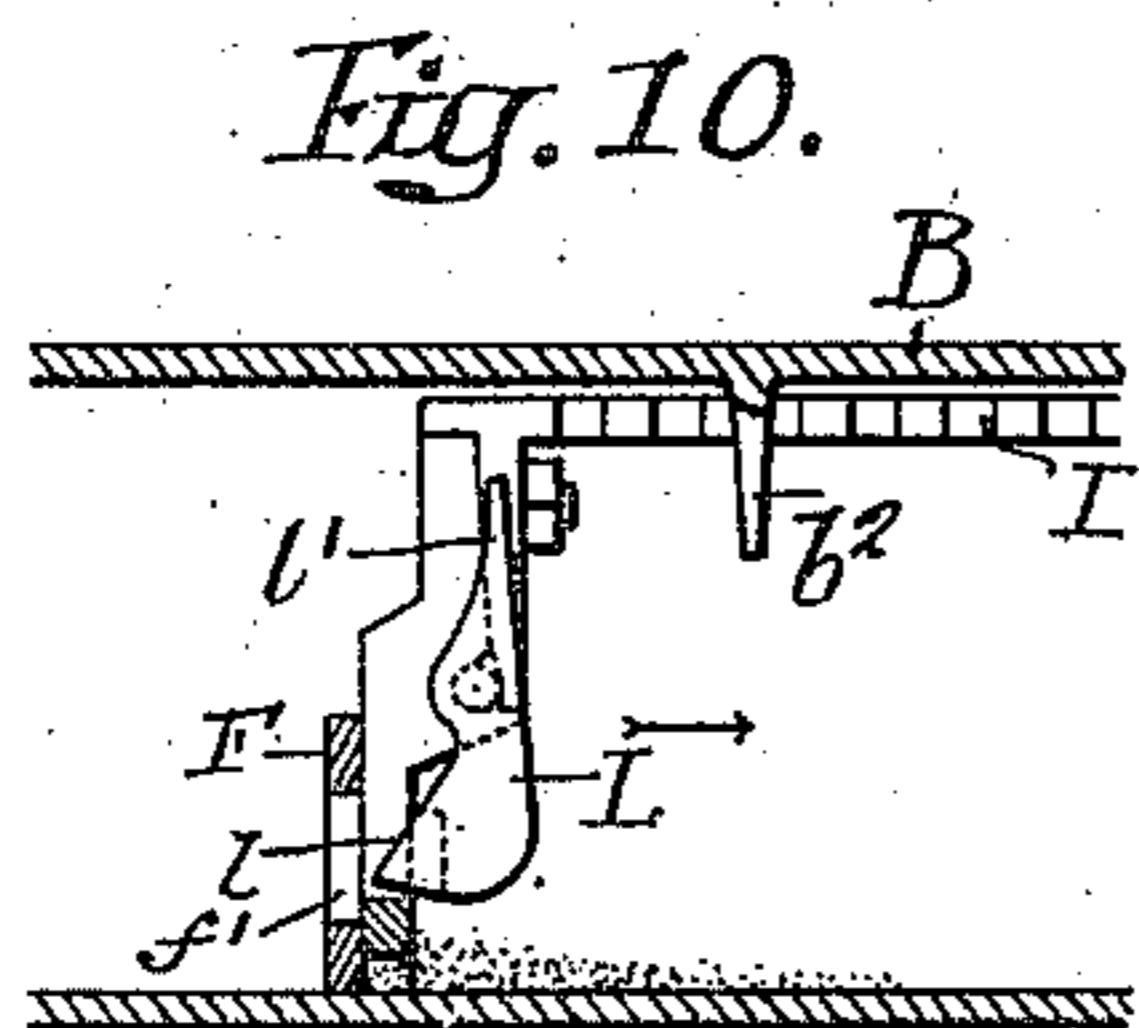
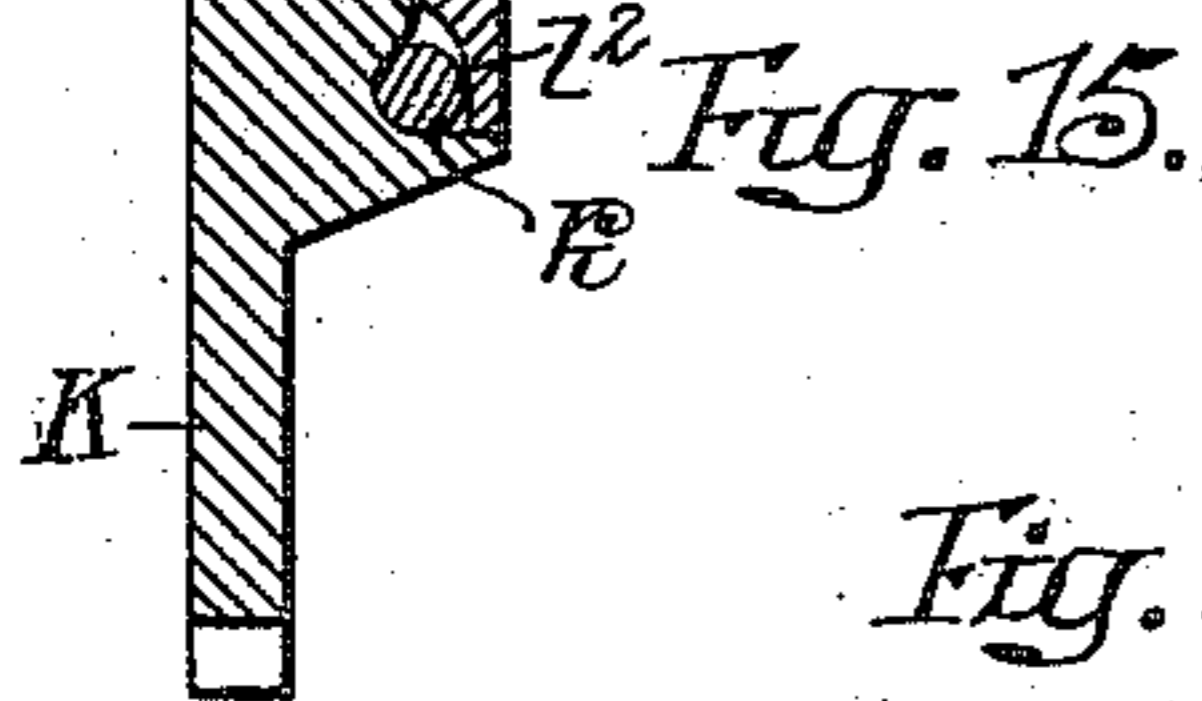
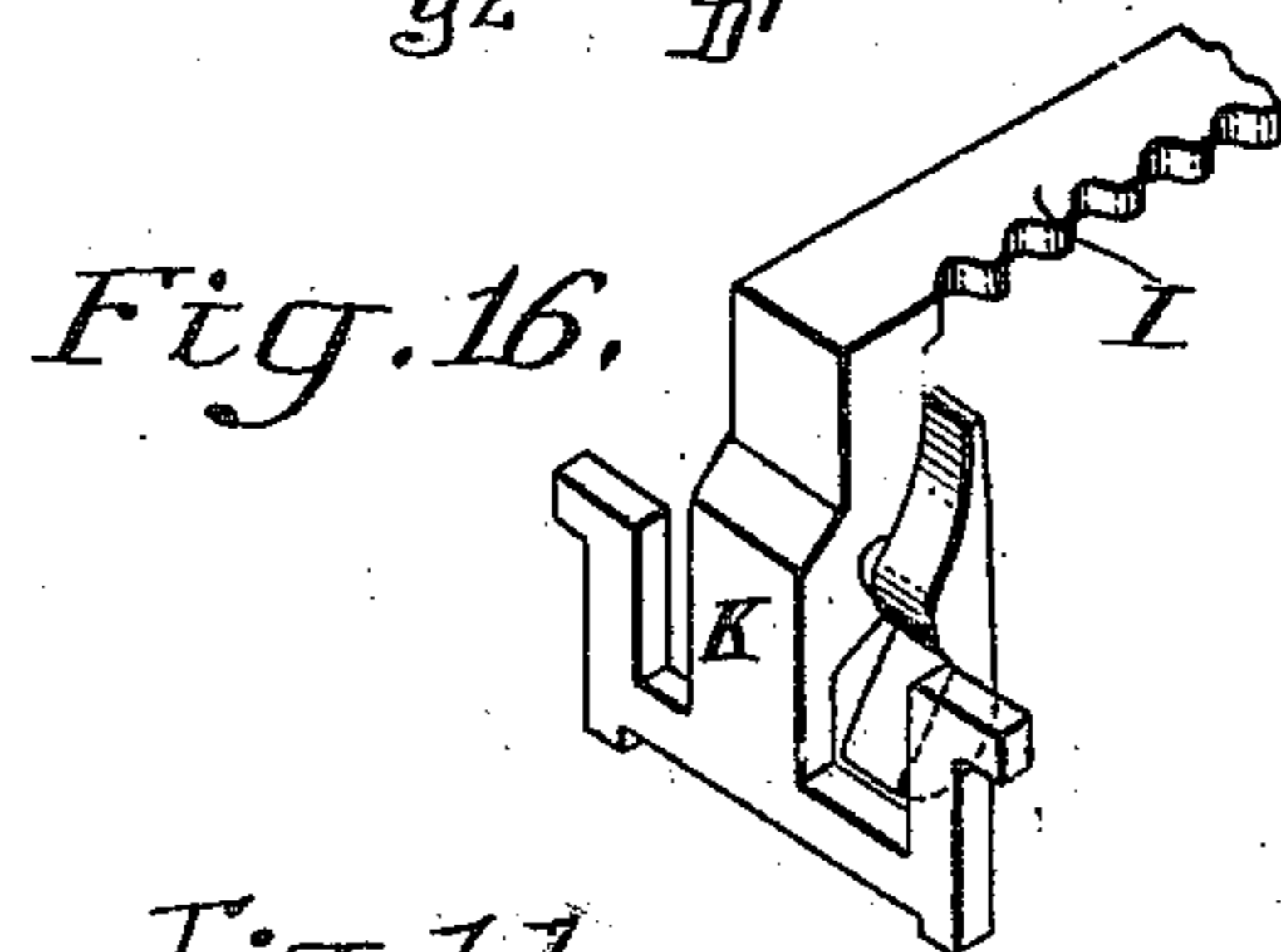
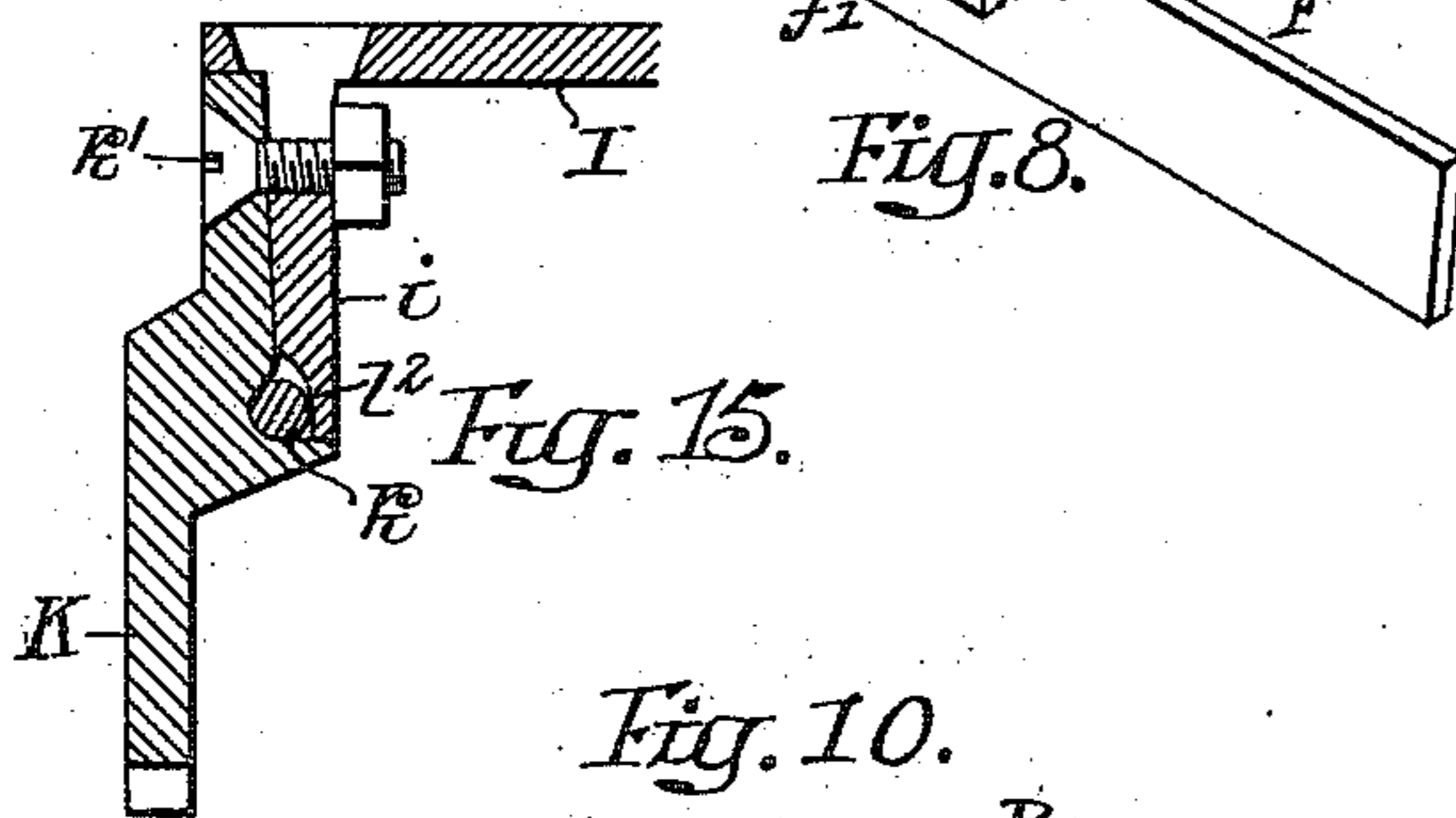
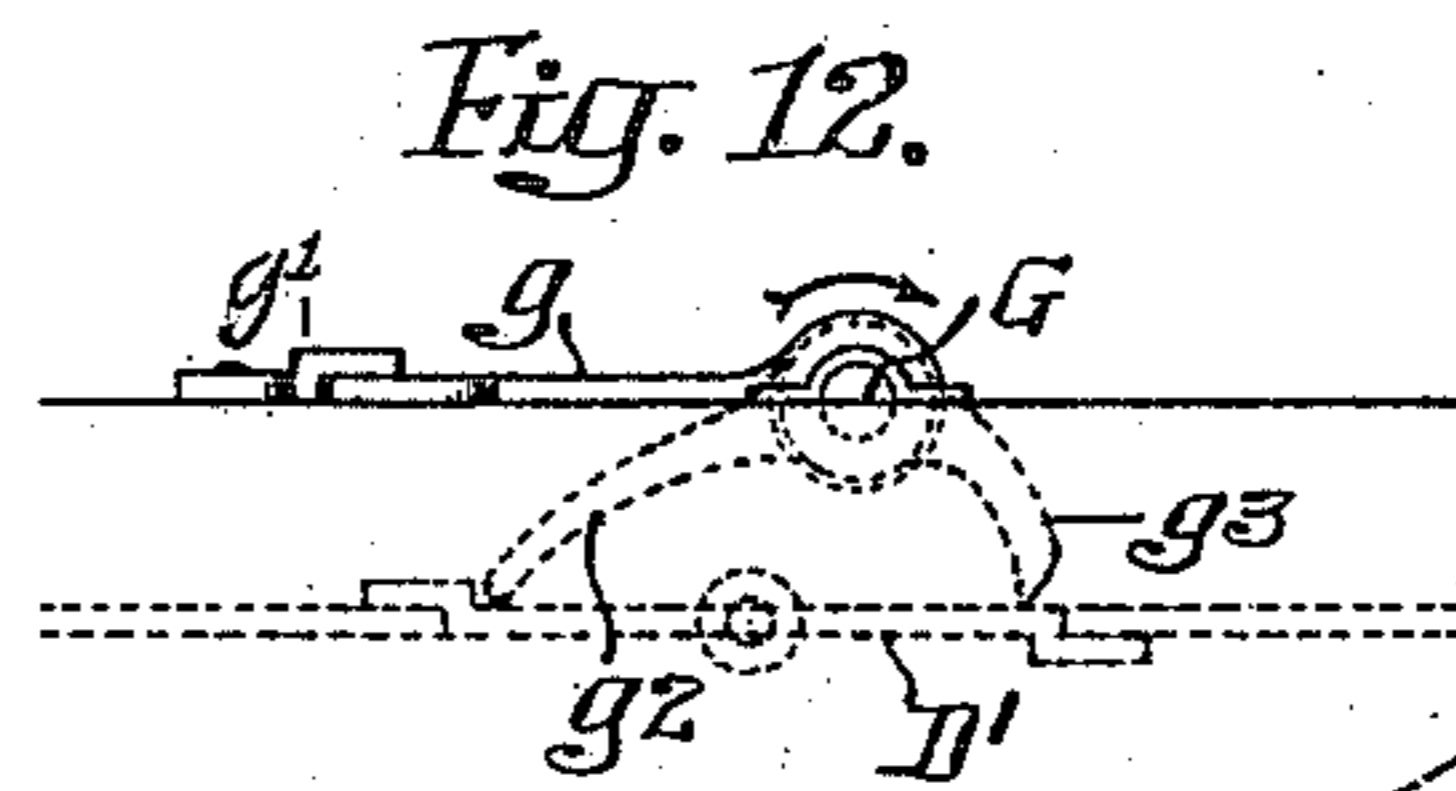
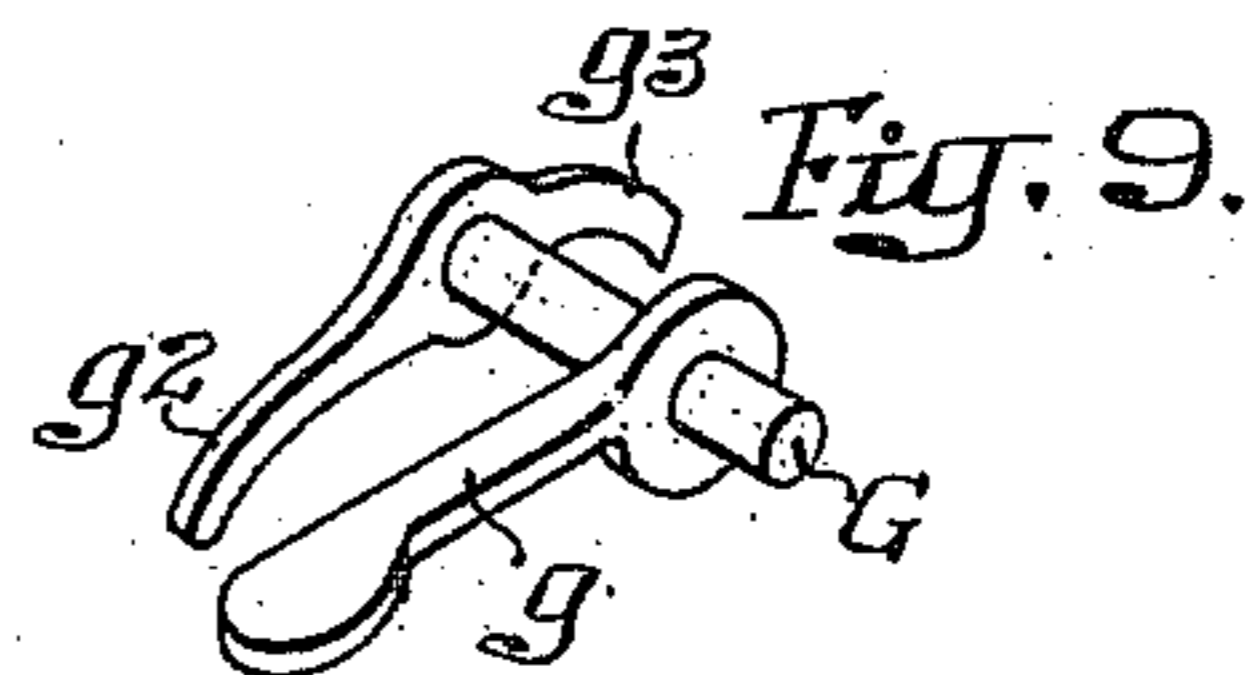
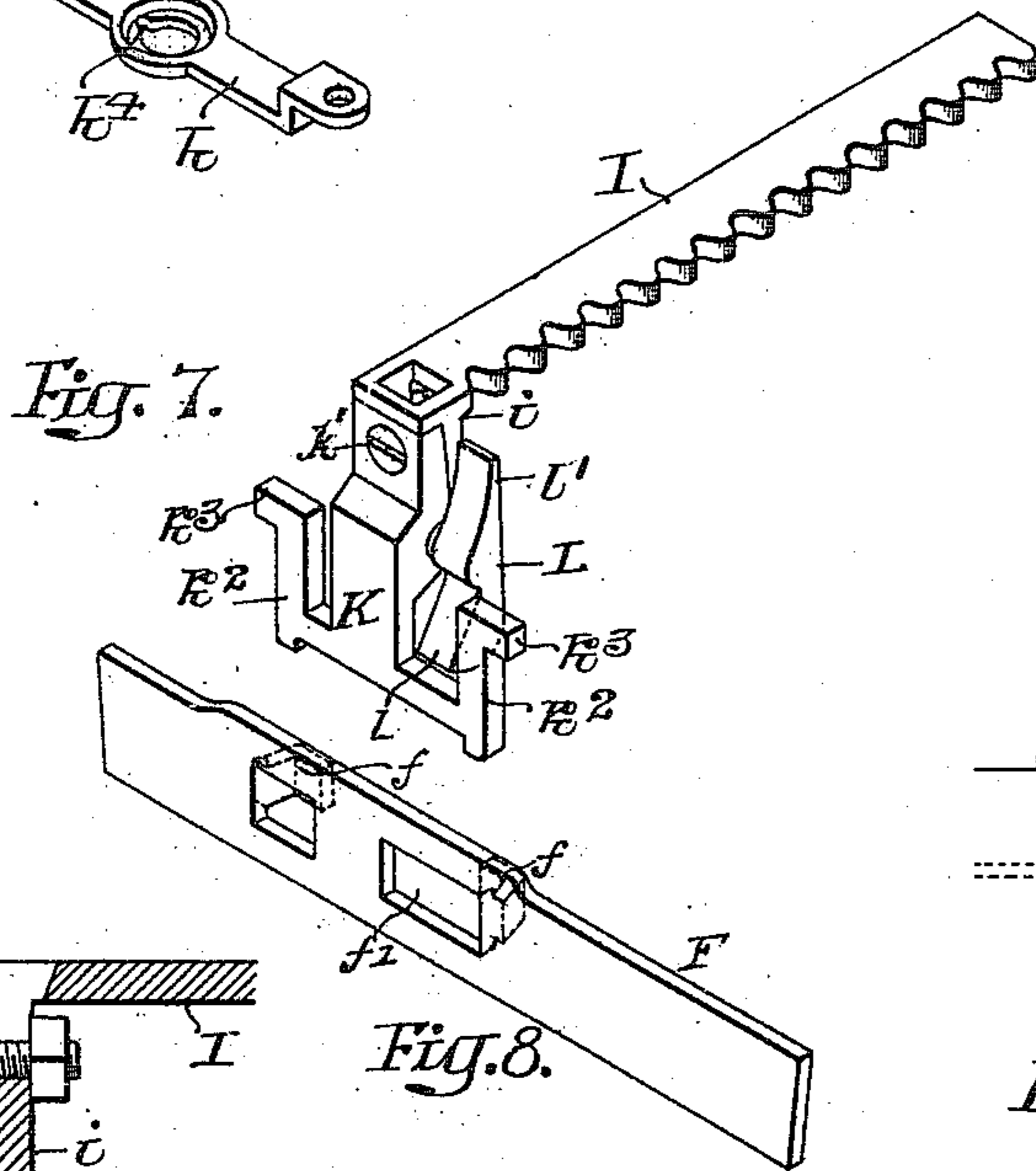
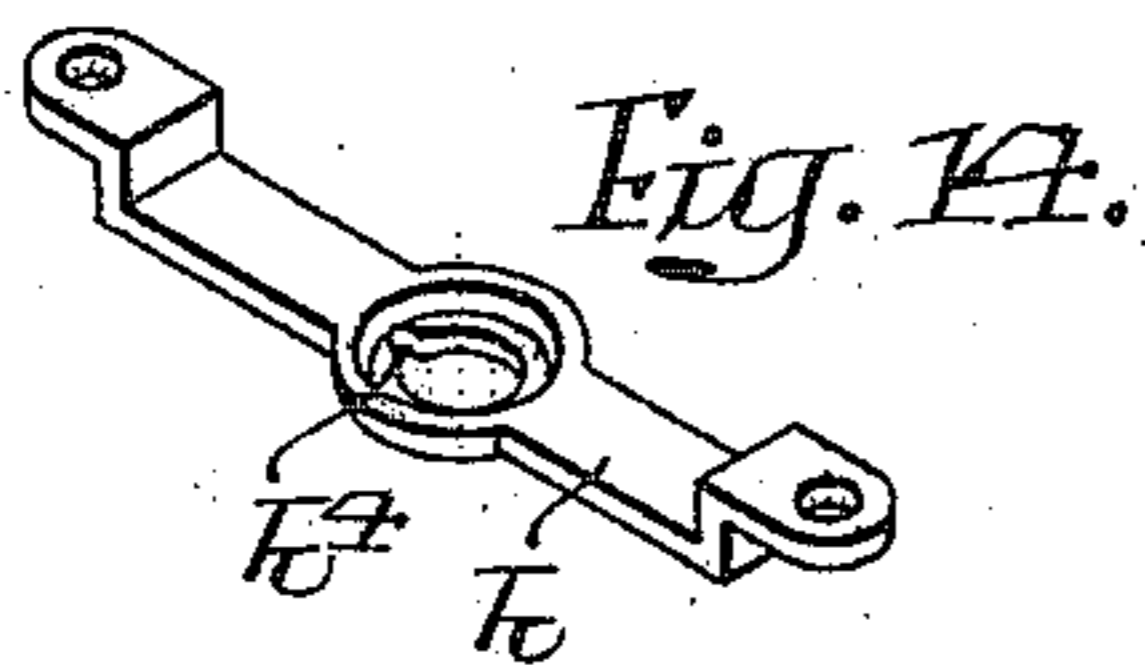
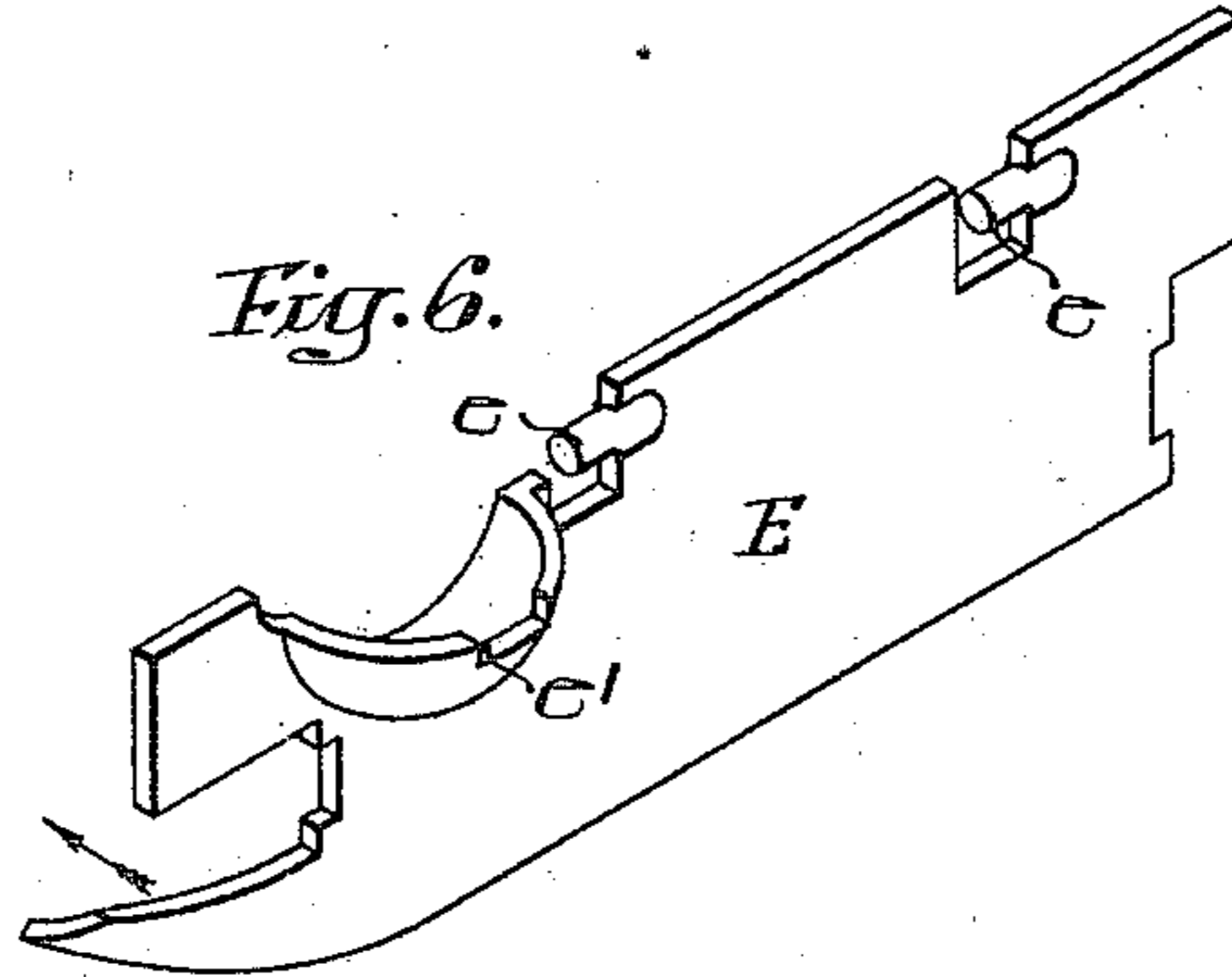
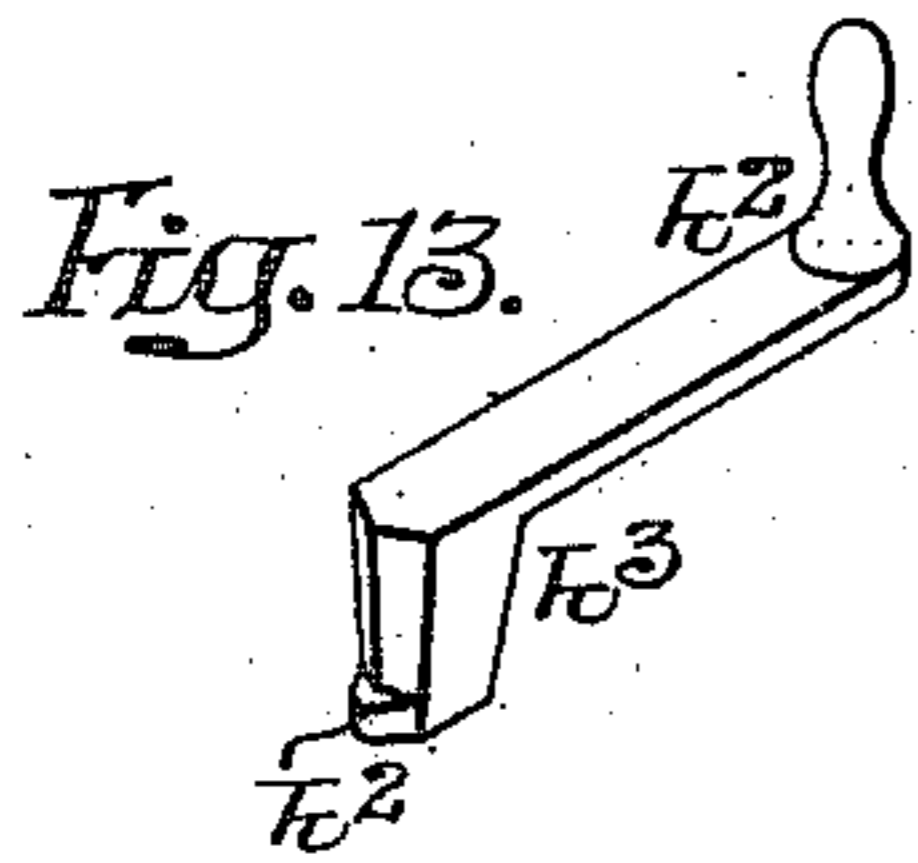
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3 SHEETS—SHEET 3.



Witnesses—
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Orville A. Brown.

Inventor
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by His Attorneys
Howson & Son

UNITED STATES PATENT OFFICE.

WILLIAM JAQUES, OF ROYERSFORD, PENNSYLVANIA.

FLUE-CLEANER FOR STOVES AND RANGES.

983,143.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed April 25, 1910. Serial No. 557,382.

To all whom it may concern:

Be it known that I, WILLIAM JAQUES, a citizen of the United States, residing in Royersford, Montgomery county, Pennsylvania, have invented certain Improvements in Flue-Cleaners for Stoves and Ranges, of which the following is a specification.

The object of my invention is to provide means for cleaning the bottom flues of stoves and ranges without dismantling the stove.

My invention relates to certain improvements on the patent granted to me January 31st, 1906, No. 811,503.

In the accompanying drawings:—Figure 1, is a side view of a stove, partly in section, illustrating my invention; Fig. 2, is a sectional plan view on the line 2—2, Fig. 1; Fig. 3, is a sectional view of the flue of the stove, similar to Fig. 1, with the parts in a different position; Fig. 4, is a sectional view on the line 4—4, Fig. 1; Fig. 5, is a sectional view on the line 5—5, Fig. 3; Fig. 6, is a detached perspective view of the partition plate; Fig. 7, is a detached perspective view of one of the scraper carriers; Fig. 8, is a detached perspective view of one of the scrapers; Fig. 9, is a perspective view of the means for turning the pivoted bottom plate; Fig. 10, is a detailed sectional view showing the scraper resting on the bottom plate of the flue and moving the soot forward to the discharge opening; Fig. 11, is a similar view illustrating the scraper on the return movement and raised so that it will not push back any soot remaining on the bottom plate; Fig. 12, is a side view of a portion of the stove illustrating the means for turning the panel on its pivots; Fig. 13, is a perspective view of the handled key; Fig. 14, is a perspective view of the pinion bearing; and Fig. 15, is a sectional view of a portion of the scraper carrier; Fig. 16 is a perspective view showing the carrier and rack made in one piece.

In the drawings I have illustrated my invention in connection with an ordinary stove A having a single oven A' and fire chamber A², but it will be understood that the invention may be applied to any type of stove or range where a bottom flue is used.

B is the bottom plate of the oven and D is the bottom plate of the stove, and these plates are separated a given distance so as to provide a return flue for the products of combustion which pass over the oven, down the flue c, into the bottom flue C, around the

partition E, and back to another vertical flue to the chimney, in order to properly heat the oven. Heretofore the great difficulty has been to thoroughly clean this bottom flue, as soot accumulates, owing to the fact that it forms a trap for the soot as the products of combustion pass from the chamber to the chimney.

As illustrated in the above mentioned patent, I provide a pivoted panel D' arranged to close an opening in the bottom plate of the stove, as clearly illustrated in Fig. 1, and I also provide scrapers F, F, with means for moving the scrapers toward and from each other so as to scrape the soot from the surface of the bottom plate D of the stove and discharge it through the opening when the panel has been turned on its pivot, as illustrated in Fig. 3.

My present invention relates to means for raising the partition when the pivoted panel is moved to the open position, to provide means for raising the scrapers as they are moved back to their normal position, to prevent the accumulation of soot back of the scrapers, and to prevent the withdrawal of the key unless the scrapers are in their normal position.

The partition E has integral pivot pins e, and these pins are adapted to openings in lugs b, b depending from the bottom plate B, and the partition is curved at e' to clear the mechanism at the center of the flue. The lower edge of the partition directly above the pivoted panel D' is curved so that when the panel is turned on its pivot in the direction of the arrow, Fig. 1, it will turn the partition E on its pivots from the position illustrated in Fig. 4, to that illustrated in Fig. 5. In order to turn the pivoted panel, I mount a shaft G in the casing of the stove, as illustrated in Fig. 2, and this shaft has an arm g which is locked by a pivoted clip g', and on the shaft are two arms g², g³ which rest upon the pivoted panel as shown in Figs. 2 and 12. When the shaft is moved in the direction of the arrow, Fig. 12, the arm g³ presses upon the pivoted panel D' and turns it to the position shown in Figs. 3 and 5, and when the direction of movement is reversed the arm g² presses against the panel D' and closes it, as indicated in Figs. 1 and 4.

Adapted to longitudinal guides on the underside of the plate B are two racks I, I'. The teeth of these racks engage a pinion H

mounted at the center of the flue space; this pinion has a hub which is adapted to a bearing h , Fig. 14, secured to the underside of the plate B. The upper end of the hub extends through an opening b' in the bottom plate B, and this hub has a tapered opening for the reception of a key h' having a handle h^2 . The key is made as shown in Fig. 13, and has a lug h^3 at the bottom which passes through an opening h^4 in the bearing, so that the key can only be inserted when the opening in the hub of the pinion H aligns with the opening h^4 in the bearing, thus insuring the return of the scrapers, which are connected to the racks, to their normal position. Each rack I, I' has a depending portion i and secured to this depending portion is a scraper carrier K having a socket k for the pivot pin of the dog L referred to hereafter. This socket is closed by the extension i of the rack, Fig. 15. The carrier K is secured to the rack by a bolt k' . On this carrier K are two upwardly extending arms k^2 having lateral projections k^3 , which act as stops to limit the upward movement of the scraper.

F is a scraper having projecting undercut lugs f which engage the arms k^2 of the carrier. The scraper has a limited upward movement independently of the carrier, and the dog L is pivoted to the carrier and one arm l extends through the opening f' in the scraper and bears against the upper wall of this opening and tends to lift the scraper when the other arm l' of the dog strikes the projection b^2 depending from the underside of the plate B, Fig. 1. When the dog is out of action the scraper rests directly upon the bottom plate D of the stove. The scrapers F are free to accommodate themselves to the bottom plate of the stove on the forward movement to push the soot toward the opening, and on part of the return movement, but they will be raised during the balance of the movement by the dogs coming in contact with the projections b^2 , and when raised they clear any soot that may accumulate or be pushed back by the scrapers, so that in this construction soot will not accumulate back of the scrapers.

The carrier K can be made in one piece with the rack, if desired, but I prefer the construction shown, as the bearing for the dog can be formed in the casting without drilling.

It will be seen by the above construction that I can readily and thoroughly cleanse the soot from the under flues of the stove or range. A pan is first placed under the stove, then the pivoted panel is turned, and this panel will also turn the partition plate E, raising it to such position as not to interfere with the movement of the scrapers. The handle is then connected to the pinion and by turning the handle the two racks

with their scrapers are moved toward each other, the scrapers traveling on the bottom plate and pushing before them any soot that may accumulate upon the plate, and the movement of the scrapers is continued until the soot is discharged through the opening into the pan or other receptacle mounted under the stove. By reversing the movement of the handle the scrapers are retracted, and on the return movement the dogs strike the lugs on the underside of the oven bottom plate and lift the scrapers clear of the bottom plate of the stove, so that any soot pushed back by the scrapers will be left in position, while the scrapers clear the accumulation of soot and drop back, thus preventing the accumulation of soot back of the scrapers when moved to their normal position.

The parts can be accurately and cheaply made and readily assembled, and can be applied to any stove or range having a bottom flue.

I claim:—

1. The combination in a stove and range of the bottom plate of an oven, the bottom plate of the stove spaced apart from the bottom plate of the oven to form a flue and having an opening, a pivoted panel adapted to close said opening, a pivoted partition in the space formed between the two plates, the said partition being raised and lowered when the panel is turned on its pivot, scrapers operable in the space between the two plates, means for actuating the scrapers to push the soot toward the opening and means for raising the scrapers clear of the bottom plate of the stove.
2. A flue cleaner for stoves and ranges comprising a member for scraping the flue, a carrier for said member, means for actuating the carrier, and means for automatically lifting the scraping member as the latter is returned to its normal position.
3. The combination in means for cleaning flues of stoves or ranges, of a flue, a pair of scrapers arranged to travel over the bottom plate of the flue and toward each other, said bottom plate having an opening through which the soot is discharged, carriers for the scrapers, a dog on each carrier and engaging the scrapers, and a lug against which the dogs strike as the scrapers are retracted, causing the dogs to lift the scrapers.
4. The combination of an oven bottom plate and a stove bottom plate spaced apart and forming a flue, said stove bottom plate having an opening, means for closing said opening, two racks arranged to slide on the underside of the bottom plate of the oven, scrapers carried by the racks, a pinion meshing with the two racks and having a grooved hub, a key arranged to extend through the groove in the hub of the pinion, said key having a projection, and a bearing for

carrying the pinion and having a notch through which the projection on the key extends, so that the key can be inserted and removed only when the scrapers have been retracted.

5 5. The combination of a scraper, a carrier for the scraper, a rack secured to the carrier, means for moving the rack, a dog mounted on the carrier, and a lug arranged to engage said dog to lift the scraper at a given point.

10 6. The combination of a bottom plate of an oven, a bottom plate of a stove spaced apart from the bottom plate of the oven to form a flue and having an opening therein, a pivoted panel arranged to close said opening, means for turning said panel on its pivot, a pivoted partition arranged at an

angle to the center of the line of the panel and having a curved edge engaged by the panel when it is turned, so that the partition will be raised, two racks, guides on the underside of the oven plate for said racks, a pinion meshing with both racks, a key for said pinion, a carrier secured to each rack, and a scraper mounted on each carrier, with means for raising each scraper on its return movement.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM JAQUES.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.