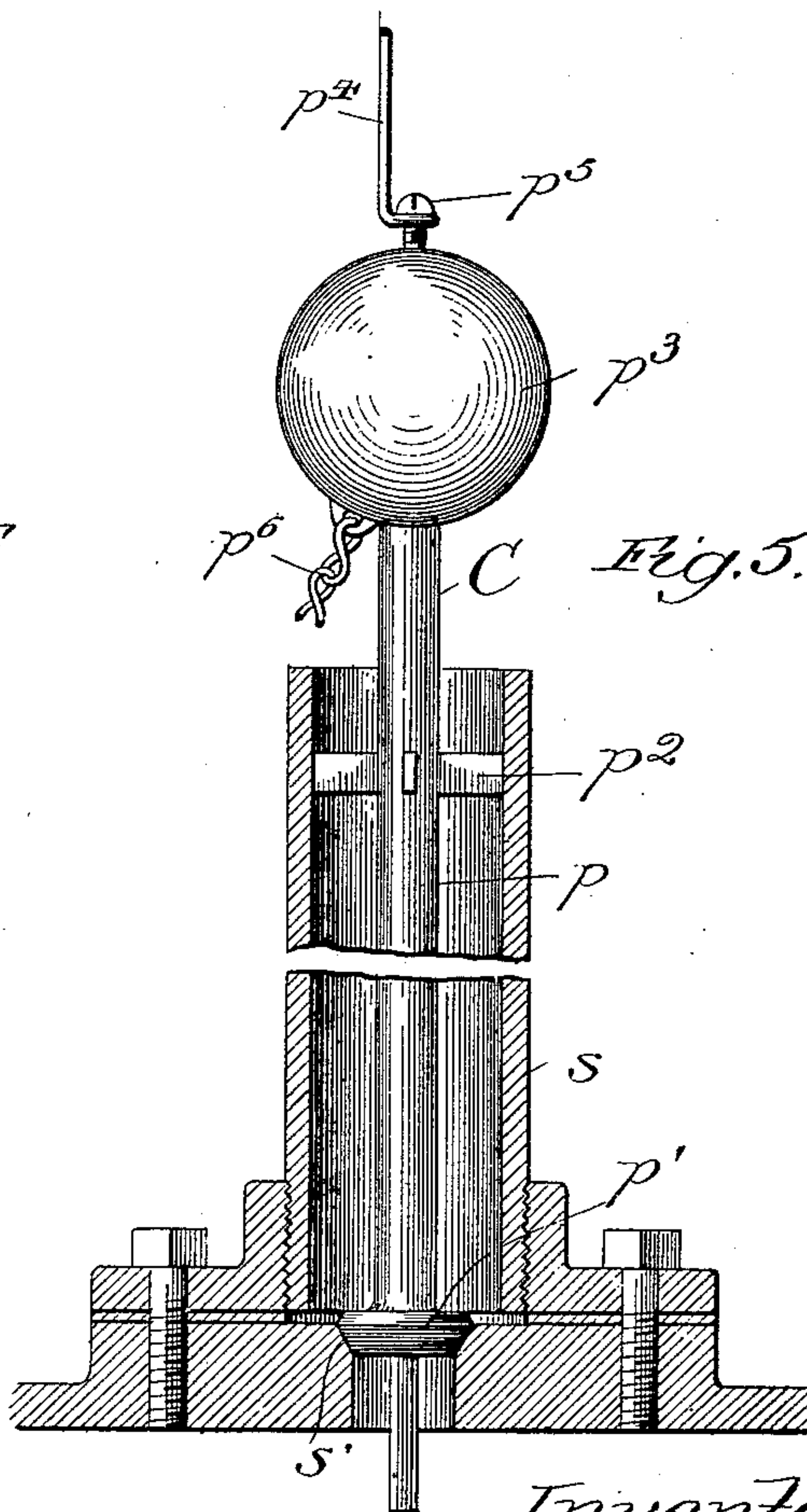
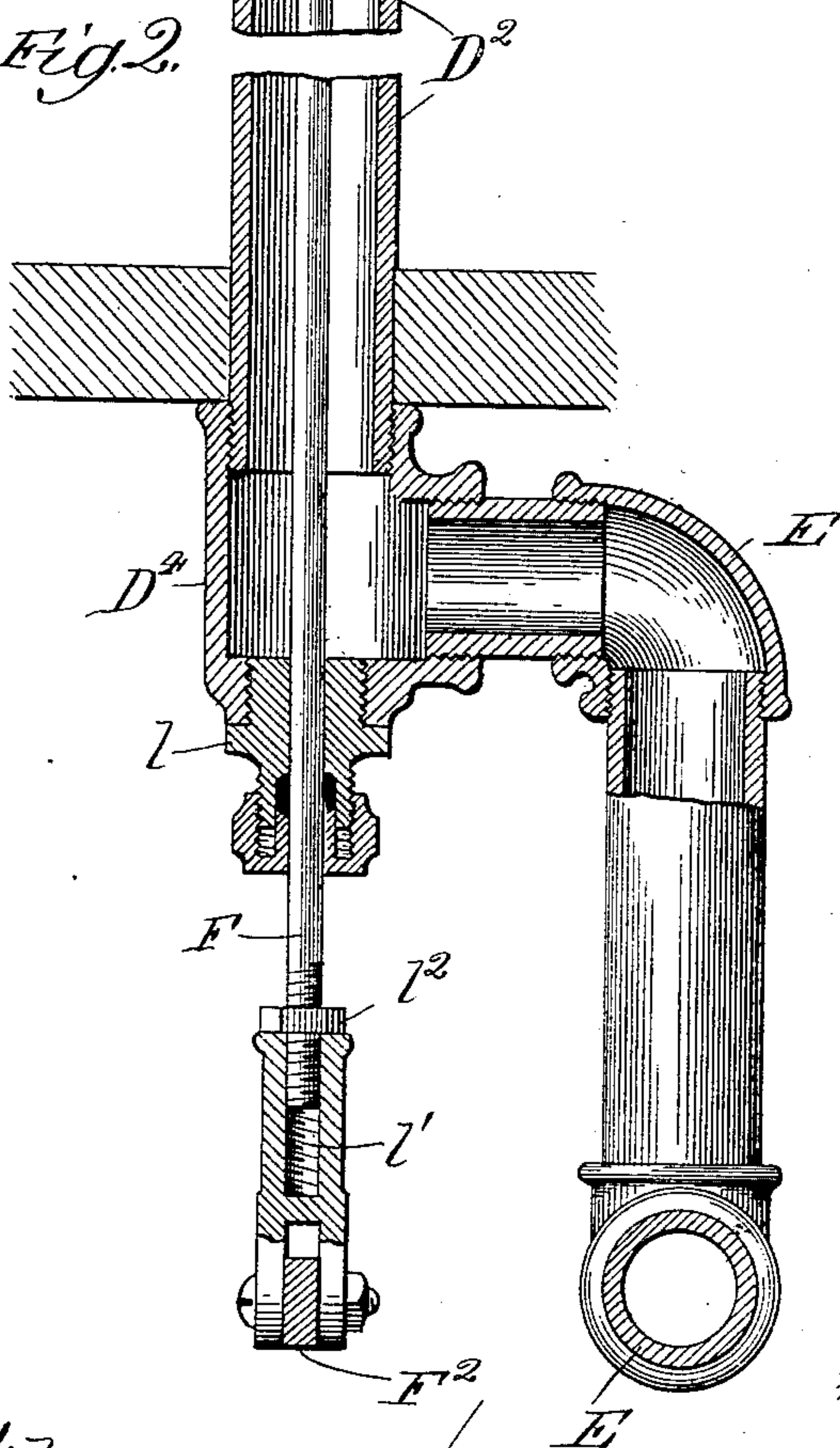
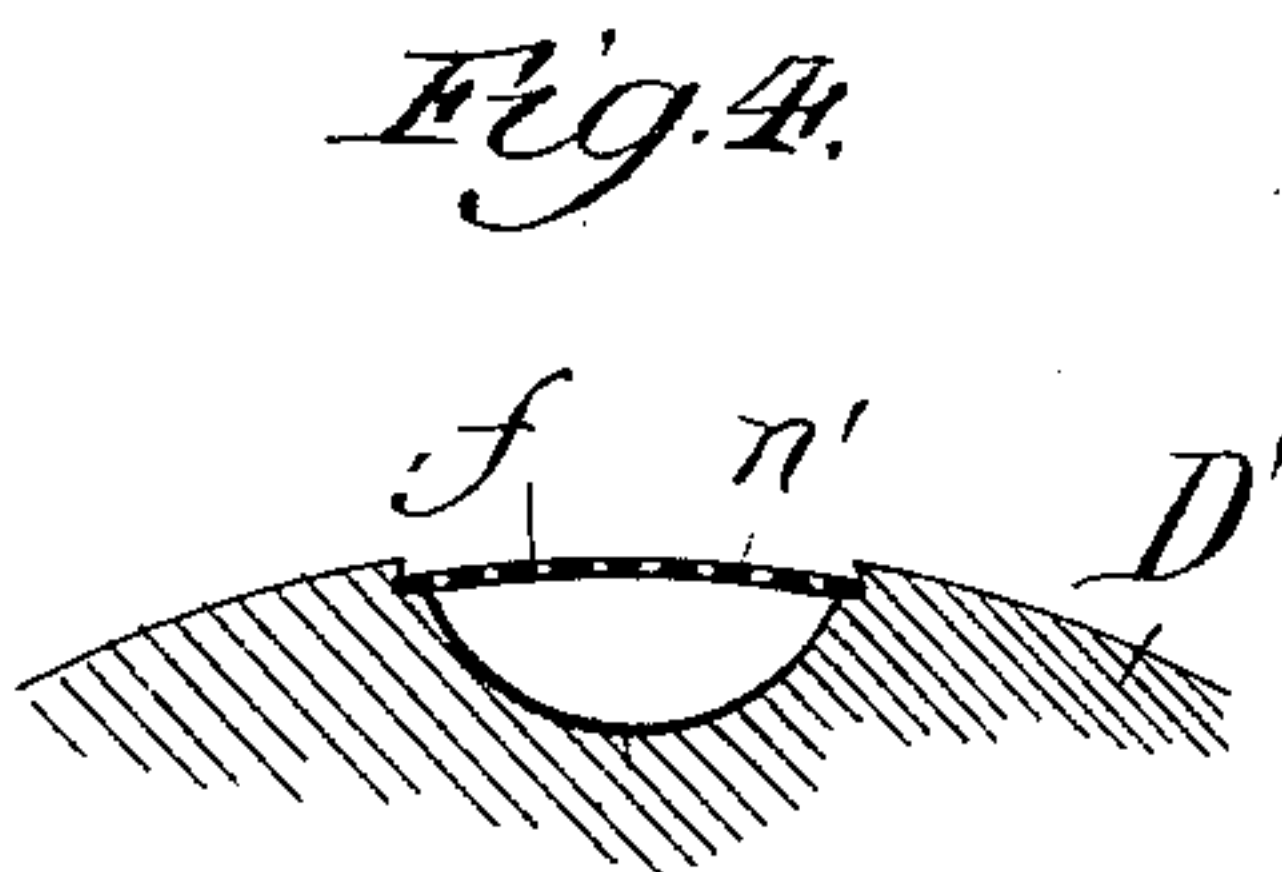
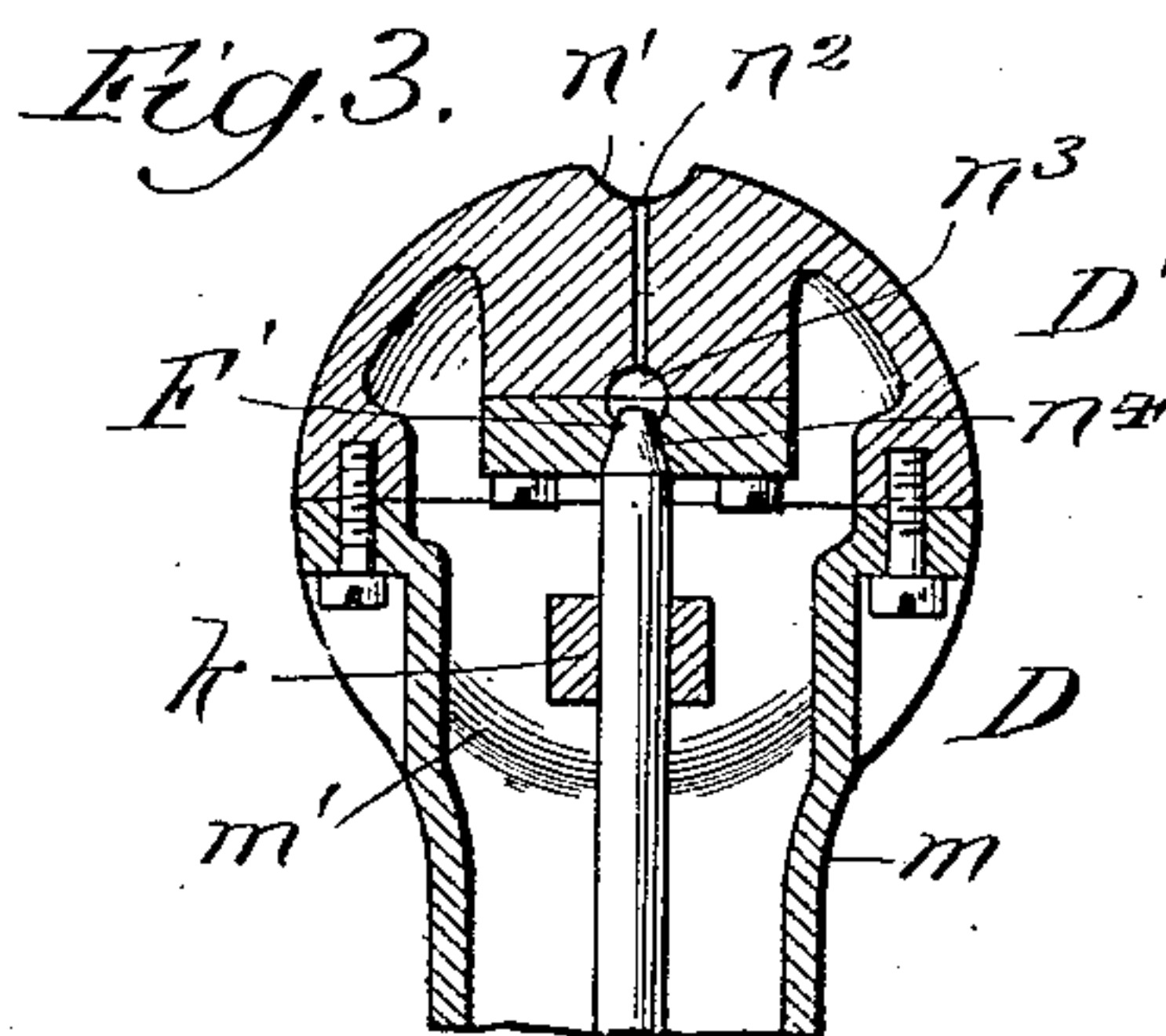


2 Sheets—Sheet 2.

No. 602,607.

Patented Apr. 19, 1898.



Witnesses:
 Jas. E. Gaylord,
 Lute J. Allen

Inventors.
{ Alfred B. Smith, &
 John G. Rapp,
By Dyrenforth ^{and} Dyrenforth,
Attys.

UNITED STATES PATENT OFFICE.

ALFRED B. SMITH AND JOHN G. RAPP, OF CHICAGO, ILLINOIS.

LAUNDRY-IRONER.

SPECIFICATION forming part of Letters Patent No. 602,607, dated April 19, 1898.

Application filed June 30, 1897. Serial No. 643,014. (No model.)

To all whom it may concern:

Be it known that we, ALFRED B. SMITH and JOHN G. RAPP, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Laundry-Ironers, of which the following is a specification.

Our invention relates to an improved machine or device for use more especially in dampening and ironing fabrics, though, and in its broadest sense, it is not to be limited to any particular field of usefulness and may be especially constructed for dampening alone with steam or water or for ironing alone.

Our object is to provide a device for public or domestic laundry use which shall render ironing of many styles of garments or other things which it is desired to iron particularly quick to accomplish with highly satisfactory results; and it is further our object to provide a device for the above purpose which shall be particularly simple and easy to operate and be also of a durable and comparatively inexpensive construction.

In the drawings, which illustrate a laundry-ironer which we have constructed and which is adapted for use both in dampening and ironing fabrics or the like, Figure 1 shows our improved device in elevation with parts broken away, the device being secured to a table, which is shown in section; Fig. 2, an enlarged broken section taken on line 2 of Fig. 1; Fig. 3, a broken section taken on line 3 of Fig. 2; Fig. 4, an enlarged broken section of the upper end portion of the parts shown in Fig. 3 and illustrating a modified construction which it is desirable to employ; and Fig. 5, an enlarged broken section of pressure-relief-valve mechanism employed with a steam-generator.

A is a table or stand on which, for convenience, the device is mounted.

B is a steam-generator comprising a close vessel *t*, provided at the top toward one side with a vertical filling-tube *s*, at the side with a water-gage *r*, and underneath with a bracket or hanger *q*, supporting a gas-burner *q'*.

C is a weighted valve device comprising a stem *p*, which extends through the tube *s* and is provided at its lower end with a valve *p'*, which fits upon a valve-seat *s'* in the lower end of the tube. The stem *p* is provided with guide-wings *p²*, which slide in the tube *s* and

tend to maintain the stem vertical without interfering with its rise or descent. On the upper end of the stem is a weight *p³*. A spring *p⁴* is fastened at its upper end to the top of the table A and at its lower end to an adjusting-screw *p⁵* on the top of the weight *p³*. By screwing the screw *p⁵* downward into the weight the tension of the spring may be increased.

To prevent mislaying of the valve device C when it is removed, it is connected by means of a chain *p⁶* with the table, as shown.

D is an ironing and dampening device having a head D' and a vertically-disposed supporting tube or standard D², which passes downward through a steadying-base D³, fastened upon a table. At the lower end of the tube D², beneath the table-top, is a fitting D⁴, which communicates at its side through a pipe E with the top of the generator B. The head D' may be ovoidal in form, as shown, though it may be of any other desired shape and formed in two parts *n m*, which fit together. In the top of the upper part *n*, which forms the ironing-surface and is preferably rounded in cross-section, is a shallow longitudinally-extending recess *n'*, communicating through a narrow slot *n²*, as shown in Fig. 1, or series of small passages *n²*, as shown in Fig. 2, with a supplemental chamber *n³*. The recess may have a perforated cover *f*, as shown in Fig. 4. In the base of the chamber *n³* is an opening *n⁴*, formed with a valve-seat. The lower part *m* of the head is hollow and is shown to be screwed upon the tube D², with which it is in open communication. Extending through a stuffing-box *l* in the lower end of the fitting D⁴ is a stem F, which near its upper end passes through a guide-opening in a bracket *k* in the part *m* and fastened against the under side of the part *n*. The upper end of the stem F is shaped to form a valve F', which fits and seats upward in the opening *n⁴*. The lower end of the stem F is attached to one arm of a bell-crank lever F², pivotally supported in a hanger *i* on the under side of the table-top. The connection between the stem F and bell-crank lever is such that it may be adjusted with relation to the latter, the adjustment being effected by screwing the stem up or down in a threaded socket *l'* and fastening it, when adjusted, by means of

a jam-nut l^2 . Extending downward from the table-top is a bracket i' , to which is pivoted a T-shaped or double bell-crank lever F^3 , having the downward-extending arm h and laterally-extending arms $h' h^2$. The arm h is connected by means of a rod h^3 with an arm of the bell-crank lever F^2 . Extending upward from the ends of the arms $h' h^2$ are rods or pins $h^4 h^5$, provided at their upper ends with bearing-heads $h^6 h^7$, respectively, which project above the table-top. Fastened at one end to the table-top and at its other end to the rod h^3 is a spring i^2 , which tends to maintain the valve firmly seated, when closed, by drawing on the rod h^3 . Downward pressure upon the bearing-surface or handle h^6 moves the parts to the position shown in Fig. 1, wherein the bell-crank levers are turned to lower the stem F and move the valve F' from its seat. Downward pressure upon the bearing-piece or handle h^7 turns the bell-crank levers to close the valve F' .

In operation the weighted stem p is raised to unseat the valve p' and water is poured into the filling-tube s to fill the vessel to the desired level, which latter is indicated by the gage r . The heat from the burner q' causes steam to be generated in the vessel t and to pass through the pipe E into the chamber m' , afforded by the part m of the head. The pressure, and consequently the temperature of the steam, may be nicely adjusted by increasing or diminishing the tension of the spring p^4 , as before described. In practice the stem C and attendant parts may weigh, say, two pounds and normally resist a pressure of two pounds against the other side of the valve p' . By tensioning the spring the resistance of the valve against rise under steam-pressure may be diminished as desired. It may be stated that in dampening certain fabrics it is well to employ steam under a pressure of, say, two pounds, while in dampening fine silks and other fine textures it is well to reduce the steam-pressure to, say, a quarter of a pound. To dampen and iron a fabric, it is laid over the top of the ironing-head D' and the handle h^6 is pressed down to open the valve F' and admit steam to the chamber n^3 , whence it escapes through the passages n^2 to the recess n' . The fabric is grasped by the operator on opposite sides of the head and moved back and forth over the head until a certain area is dampened to the desired degree, after which the handle h^7 is pressed downward to shut off the escape of steam. The fabric is then moved back and forth in the same way over the head, and thus ironed.

The device is particularly desirable for use in ironing gathered sleeves, waists, dresses, and any material having a nap, such as plushes or velvet, also for finishing fine woollens and for doing what laundrymen term "putting life into the goods" as distinguished from packing them down.

Hitherto in ironing starched goods it has

been necessary after the initial drying to dampen them and allow them to remain dampened for some time to effect a more or less even distribution of moisture, and then to dampen again more or less during the ironing operation. In the use of our device as soon as the starch is dried upon goods they may be placed upon our device, moistened, and ironed without any intermediate dampening. While we prefer to provide the head D' of ovoidal form, a head of any desirable form capable of being heated from the inside with a heating fluid may be employed. Instead of employing the handles $h^6 h^7$ at the top side of the table the valve F' may be opened and closed by means of a treadle upon the floor, as indicated in Fig. 1, or, in fact, in any other desirable way. In laundries where a steam-supply is already at hand the generator B may be dispensed with, the pipe E being connected with the steam-supplier.

We wish it understood that our invention may be variously modified in the matter of details of construction without departing from the spirit of our invention as defined by the claims. Thus it would be within the spirit of our invention to moisten by means of a water-sprayer on the head, though we prefer to employ steam.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a laundry-ironer, the combination of an ironing-head provided with a chamber, steam-supplying means for said chamber, an outlet-passage from said chamber to the surface of the head, a valve at said outlet and means for opening and closing the valve to control the flow of steam from said chamber through the outlet, substantially as and for the purpose set forth.

2. In a laundry-ironer, the combination of an ironing-head provided with a chamber, steam-supplying means for said chamber, a series of outlets extending between said chamber and the outer surface of the head, a single valve device, controlling said outlets, and means for operating the same to control the flow of steam from said chamber through the outlets, substantially as and for the purpose set forth.

3. In a laundry-ironer, the combination of an ironing-head provided with an internal chamber, an external recess and a passage extending from said chamber to said recess, means for supplying steam to said chamber, and means for opening and closing said passage, substantially as and for the purpose set forth.

4. In a laundry-ironer, the combination of an ironing-head provided with an internal chamber, an external recess, a perforated cover for the recess and a passage extending from said chamber to said recess, means for supplying steam to said chamber, and means for opening and closing said passage, substantially as and for the purpose set forth.

5. In a laundry-ironer, the combination of

a hollow standard, a support for the same, an ironing-head on the standard provided with an internal chamber, means for connecting the said chamber through the standard with
 5 a steam-supplier, a steam-outlet passage extending from said chamber to the surface of the head, and means for opening and closing said passage, substantially as and for the purpose set forth.

10 6. In a laundry-ironer, the combination of an ironing-head having a main chamber, a supplemental chamber, a passage between the chambers and an outlet from the supplemental chamber to the surface of the head,
 15 steam-supplying means for the main chamber, and opening and closing means for said passage, substantially as described.

7. In a laundry-ironer, the combination of an ironing-head formed of upper and lower
 20 sections separably secured together, a heating-chamber, in the lower section, a chamber in the upper section, and an outlet therefrom to the outer surface of the upper section, a passage between the chambers, means for
 25 opening and closing said passage, and steam-supplying means communicating with the heating-chamber, substantially as described.

8. In a laundry-ironer, the combination of an ironing-head having an internal chamber,
 30 an outlet-passage from the chamber to the surface of the head, a hollow standard supporting the head and communicating with a steam-supplier to conduct steam to said chamber, a stuffing-box in the lower part of the
 35 standard, a stem passing through said stuff-

ing-box and carrying a valve at said outlet-passage, and raising and lowering means for the stem operating to open and close said outlet-passage, substantially as described.

9. In a laundry-ironer, the combination of 40 an ironing-head having an internal chamber, a steam-supplier, a passage from said supplier to said chamber, a moisture-outlet in the head, a valve governing said outlet, and lever-operating mechanism for the valve in 45 position accessible to the operator, substantially as described.

10. In a laundry-ironer, the combination of an ironing-head having an internal chamber, a steam-supplier, means for controlling the 50 pressure of steam from the supplier, a passage extending from the supplier to said chamber, a moisture-outlet in said head and a valve governing said outlet, substantially as and 55 for the purpose set forth.

11. In a laundry-ironer, the combination of an ironing-head having an internal chamber, a steam-generator, a safety-valve on the generator with means for regulating the same to 60 raise and lower the generated steam-pressure, a passage extending from the supplier to said chamber, a moisture-outlet in said head, and a valve governing said outlet, substantially as and for the purpose set forth.

ALFRED B. SMITH.
 JOHN G. RAPP.

In presence of—

M. J. FROST,
 J. W. DYRENFORTH.