

(No Model.)

W. CARRICK, Jr.

APPARATUS FOR FORMING BATS FOR FELT HATS.

No. 366,816.

Patented July 19, 1887.

FIG. 1.

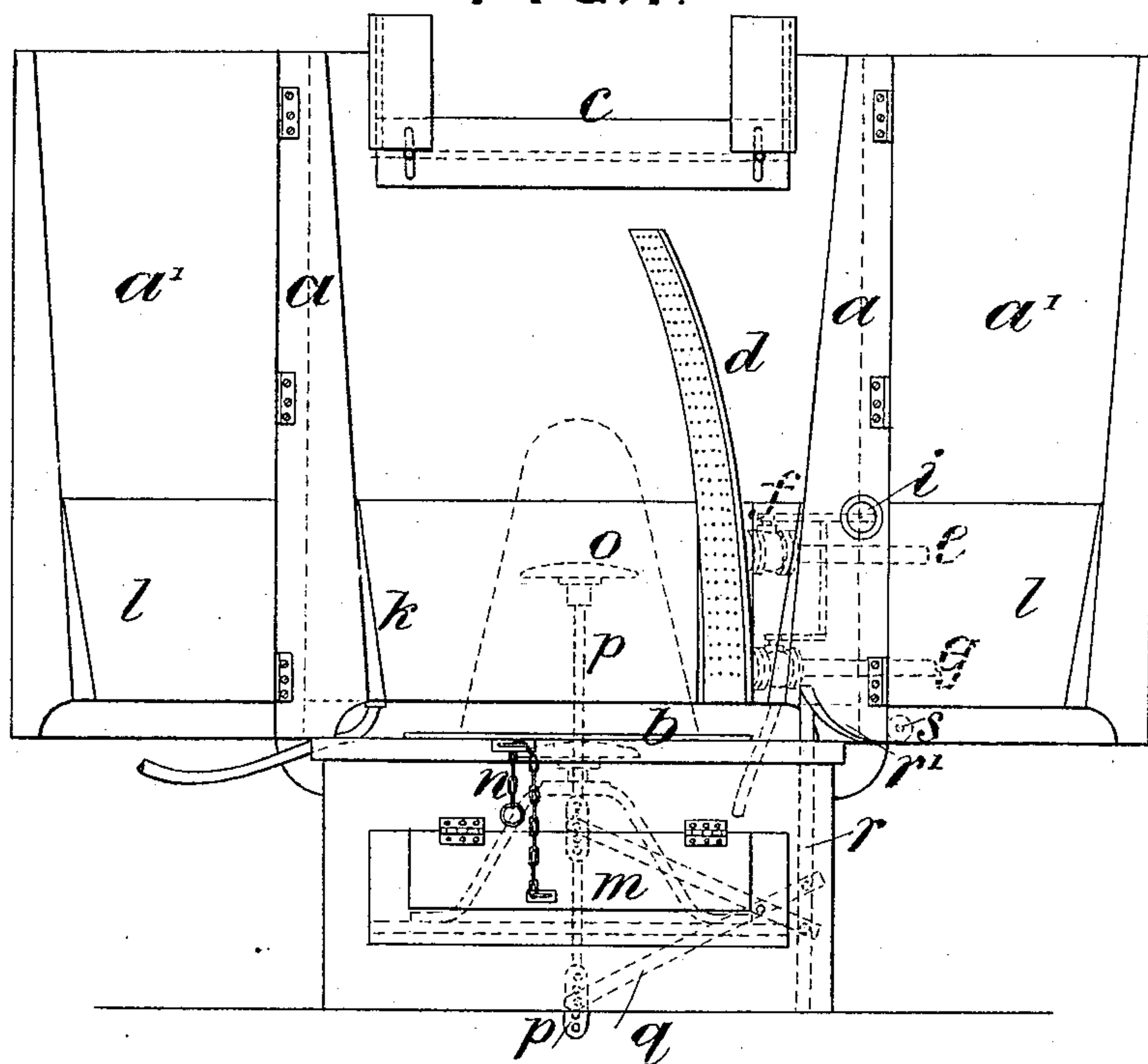
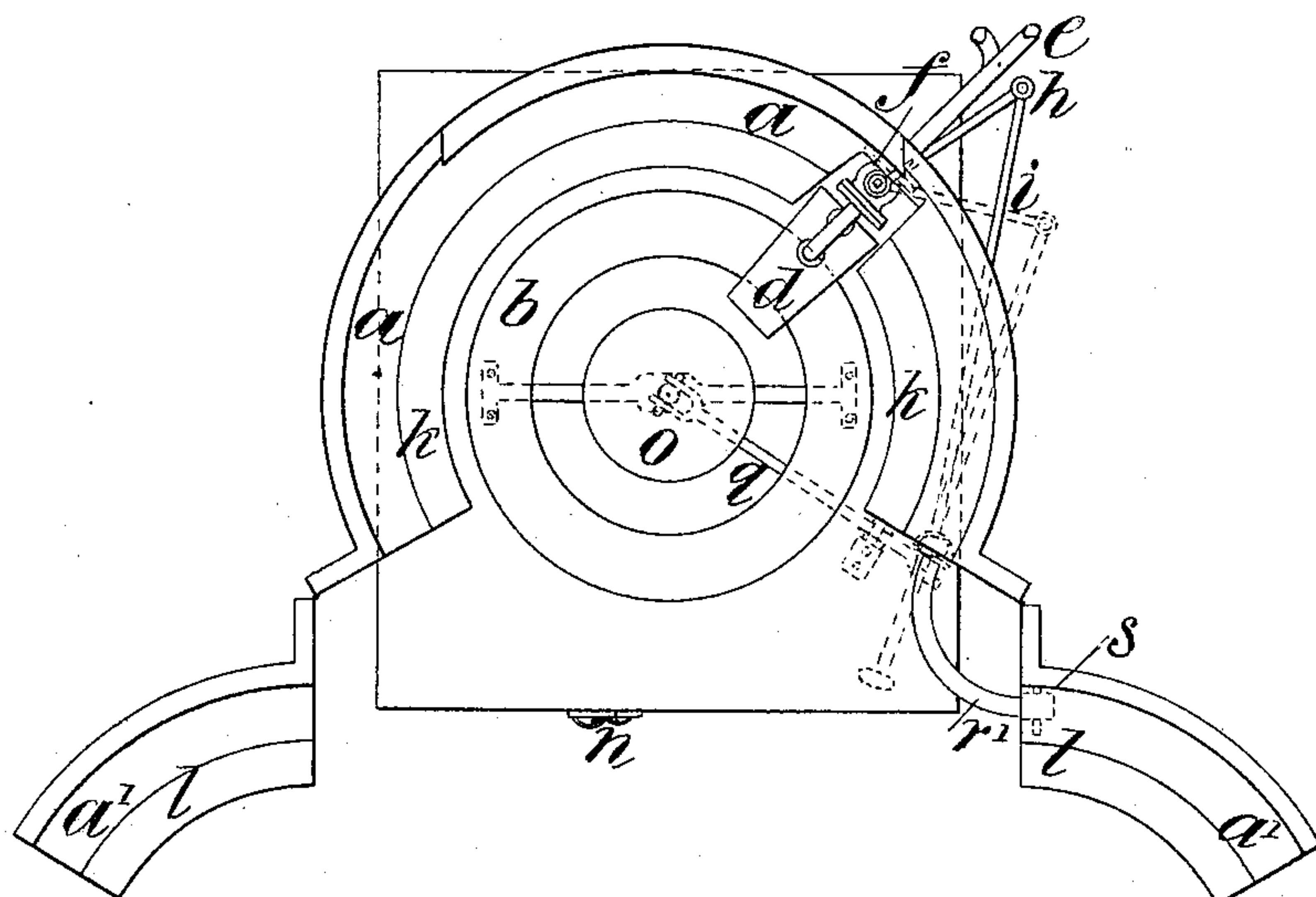


FIG. 2.



Witnesses:

William D. Conner.
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Inventor:

William Carrick, Jr.
by his Attorneys
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UNITED STATES PATENT OFFICE.

WILLIAM CARRICK, JR., OF CARLISLE, COUNTY OF CUMBERLAND, ASSIGNOR
TO GILES ATHERTON, OF STOCKPORT, ENGLAND.

APPARATUS FOR FORMING BATS FOR FELT HATS.

SPECIFICATION forming part of Letters Patent No. 366,816, dated July 19, 1887.

Application filed September 7, 1886. Serial No. 212,943. (No model.) Patented in England August 11, 1886, No. 10,249.

To all whom it may concern:

Be it known that I, WILLIAM CARRICK, Jr., a subject of the Queen of Great Britain and Ireland, and residing at Carlisle, in the county of Cumberland, England, have invented certain Improvements in Apparatus Used in the Forming of Felt Hats, (for which I, in conjunction with a certain Giles Atherton, have obtained a patent in Great Britain No. 10,249, dated August 11, 1886,) of which the following is a specification.

My invention relates to the forming-machines of the description now known as the "Gill fur-former." In such a machine the forming-cone is inclosed within a chamber in which a partial vacuum is formed by the exhaustive action of a fan, which withdraws the air through the previous cone, so that the fur drawn into the chamber is directed onto the cone, and is deposited thereon in a layer. In using such machine the cone has been removed from the machine previously to the damping of the fur, and preparatory to the immersion in water has been covered with cloths, which have caused loss of fur, and there has been a tendency to a slipping or derangement of the layer of fur.

The principal object of my invention is to effect the wetting of the fur before the removal of the cone from its position in the chamber. I mount inside the chamber a perforated spray-discharger, which is supplied with water. To prevent the adhesion of the fur to the inner wall of the chamber, through the wetting of the same, I make a portion or portions of the said wall or of linings for the same so that it or they can be heated by steam, so that any water falling thereon is quickly evaporated. During the spraying it is desirable to check the exhaust. This is effected by opening an air-inlet door to an extent which is adjustable, so that it can always be opened to the extent which has been found to be most suitable. The air check or baffle, which is employed to regulate the flow of air through the cone, is passed into position within the cone automatically when the door is closed.

In the accompanying drawings, Figure 1 represents a front elevation of a Gill fur-former

having my improvements applied thereto. 50
Fig. 2 is a plan of the machine.

In the said figures, *a* is the usual casing, which is of a conical formation inside and is made to open at the front, two portions, *a' a'*, being hinged to the main portion *a*, so that they can be turned outward, as represented in the drawings. Inside this casing is the ordinary table, *b*, upon which the pervious former-cone is placed. In Fig. 1 this cone is indicated by a dotted line. The fur enters the machine by the usual trough-shaped inlet, *c*, the bottom board of this trough extending some distance into the casing. Below this trough I fix the spray-discharger *d*. By being below the trough it is out of the way of the falling fur, and being a little to one side of the center its action can be watched when the door is open. This spray-discharger consists of a curved box having a finely-perforated front, the form and size being such as that, as nearly as possible, the whole of the water discharged is directed onto the layer of fur with which the former-cone is covered. 60 65 70

Water is supplied to the spray-discharger by means of a pipe, *e*, which is provided with a cock, *f*. A second pipe, *g*, also provided with a cock, communicates with the bottom of the spray-discharger. The lever *h* of the upper cock, *f*, is connected with the lever of the lower cock, so that both move together or otherwise. The plugs of the two cocks are connected together, or other suitable arrangements are made for obtaining a concerted action, whereby when the upper cock is opened the lower one is closed, and vice versa. The use of the lower cock is to drain the spray-discharger after the water has been shut off. When the inlet-cock is closed, the lower outlet-cock is opened and any water remaining in the spray-discharger is permitted to escape, so that it may not continue to trickle through the perforations. A three-way cock might be substituted for the two separate cocks. The lever *h* is connected with a rod, *i*, which extends to the front of the machine, in order that the cocks can be operated without the operator having to pass to the back of the machine. 75 80 85 90 95

It is of importance that the interior of the casing shall not be wet when the fur is admitted, as the presence of water would cause the fur to adhere to the casing. To prevent this, so much of the interior of the casing as is liable to be wet by the water from the spray-discharger is lined with a casing, *k*, made of copper or other suitable metal, and suitably adapted to be heated by means of steam, so that any water which may fall upon this casing will be quickly evaporated. Suitable pipes are provided for the supply of steam to the casing and for the discharge of the water of condensation therefrom. The linings *ll* on the hinged doors may consist of such steam-heated casings, or be the ordinary linings or making-up pieces, as preferred. During the spraying it is advisable to check the ordinary suction of air through the former-cone, in order that the water may not be sucked out of the layer of fur. To effect this checking, an air-inlet door, *m*, is provided. This door is opened and is kept open to the required extent by any suitable means. In the example the door is opened by means of a chain, *n*, which is hooked onto a pin, which determines the extent to which the door is kept open. It is usual to support an air-check plate inside the former-cone to check the passage of air through the upper part of the cone and thereby to prevent the excessive accumulation of fur upon such upper part. I mount this check-plate *o* upon a sliding rod, *p*, which is connected by means of a lever, *q*, with a second sliding rod, *r*. Upon the upper end of the rod *r* is a curved incline, *r'*, and a bowl, *s*, upon the door runs up this incline when the door is closed, the rod *r* being thereby depressed, whereby the check-plate is raised into position. When the door is opened, the check-plate drops out of the way, so that the former-cone can be readily lifted out of the machine. When the door has been opened, the water-inlet into the spray-discharger is opened, the former-cone being

revolved slowly. When sufficiently wet the cone can be lifted out of the machine.

I claim—

1. In a fur-forming apparatus, the combination of a spray-discharger with an air-inlet, a door, a check-plate, *o*, an incline to be acted on by the door, and devices connecting the incline and check-plate to raise the latter as the door is closed, all substantially as set forth.

2. A fur-forming apparatus provided with a spray-discharger, *d*, having water inlet and outlet cocks operating together to close one as the other is opened, substantially as set forth.

3. A fur-forming apparatus provided with a fixed upright curved spray-discharger, *d*, substantially as and for the purpose described.

4. A fur-forming apparatus provided with a spray-discharger and a heated casing, substantially as specified.

5. A fur-forming apparatus having a spray-discharger, a heated casing, and an air-check, substantially as set forth.

6. A fur-forming apparatus having a casing with doors, a spray-discharger to wet the layer of fur before removal from the machine, and a heated lining to the parts of the casing liable to be wet by the spray, substantially as set forth.

7. A fur-forming apparatus having a forming-cone and a check-plate below the forming-cone, in combination with a door on the wall of the casing, and an incline acted on by the door and connected to the check-plate, whereby the said check-plate is raised into the forming-cone when the door is closed and lowered out of the cone when the door is opened, substantially as set forth.

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

WILLIAM CARRICK, JR.

Witnesses:

G. N. CURRIE,
A. N. BOWMAN.