No. 786,554. PATENTED APR. 4, 1905.

LE GRAND EARL & W. L. GALVIN.

DEVICE FOR STEAMING AND SHAPING GARMENTS.

APPLICATION FILED DEC. 31, 1903.

3 SHEETS—SHEET 1.

Fig. 1.

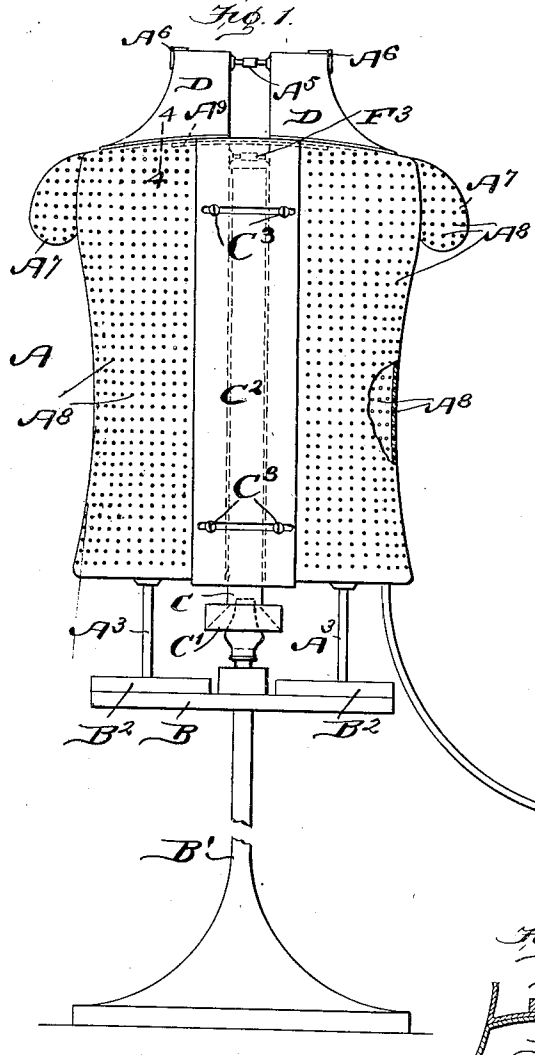
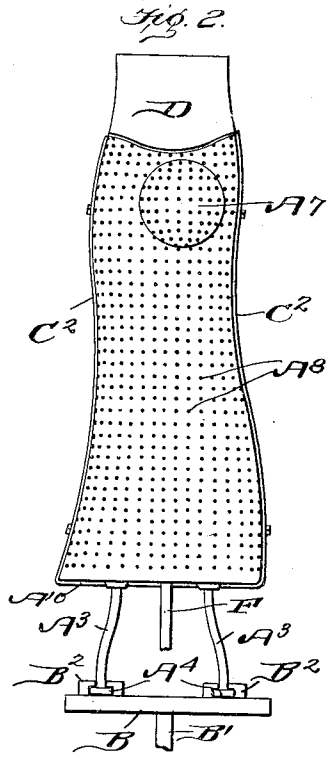


Fig. 2.



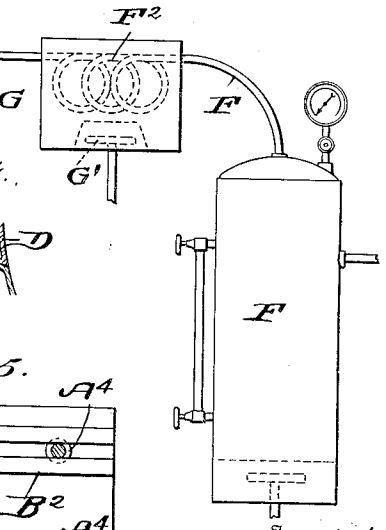


Fig. 4.

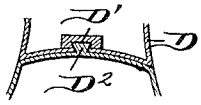


Fig. 3.

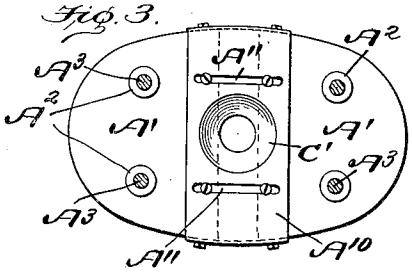
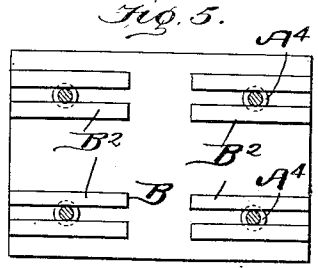


Fig. 5.



Witnesses

W. D. Bonsall.

Clarence Shaw.

Inventors

Le G. Earl.

W. L. Galvin.

By Mears & Brock,

Attorneys

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3 SHEETS—SHEET 2.

Fig. 6.

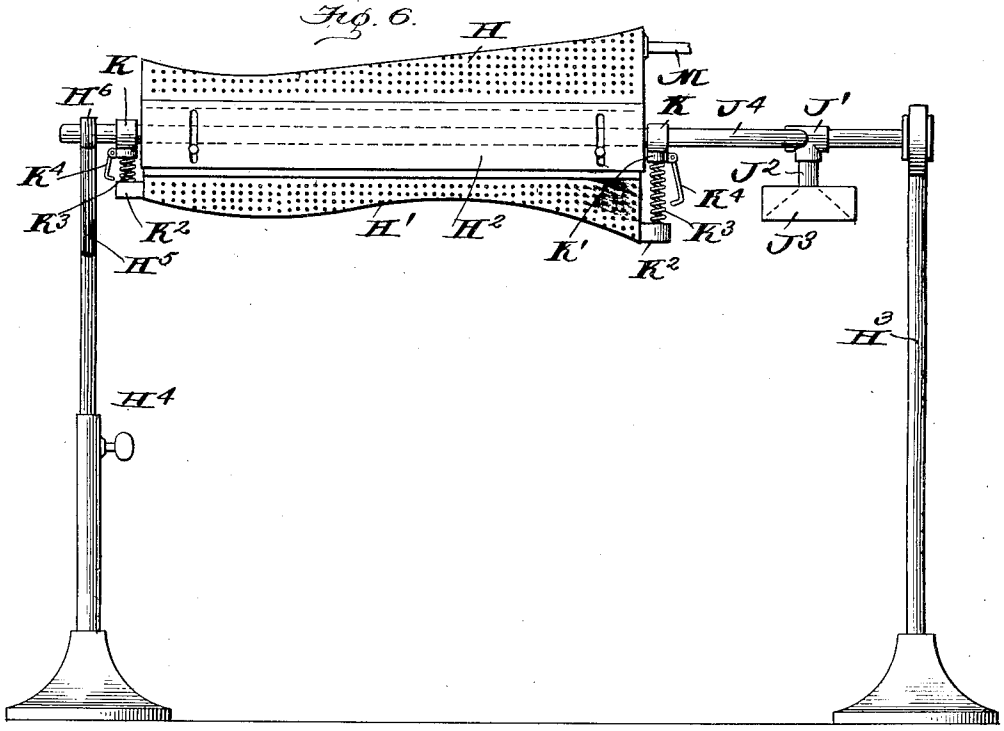


Fig. 7.

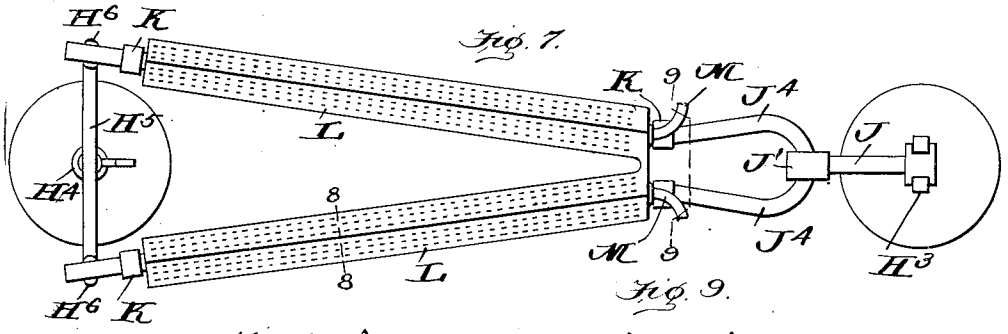


Fig. 8.

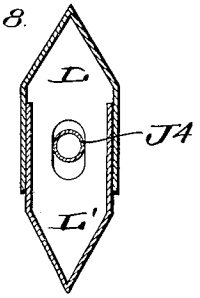
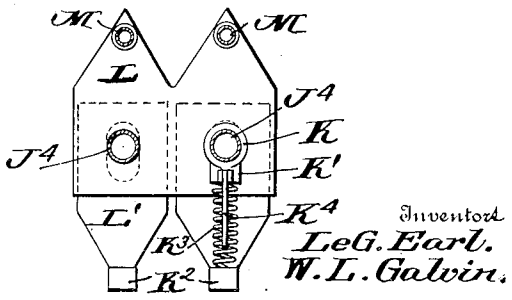


Fig. 9.



Witnesses

M. B. Rowell

Clarence Shaw

Inventors

Le G. Earl.

W. L. Galvin.

By

O'Meara & Brock

Attorneys

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LE GRAND EARL & W. L. GALVIN.

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APPLICATION FILED DEC. 31, 1903.

3 SHEETS—SHEET 3.

Fig. 10.

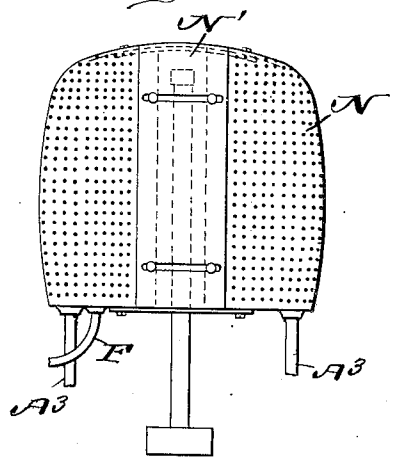


Fig. 11.

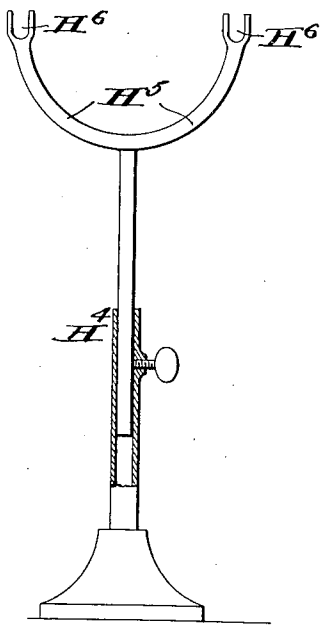
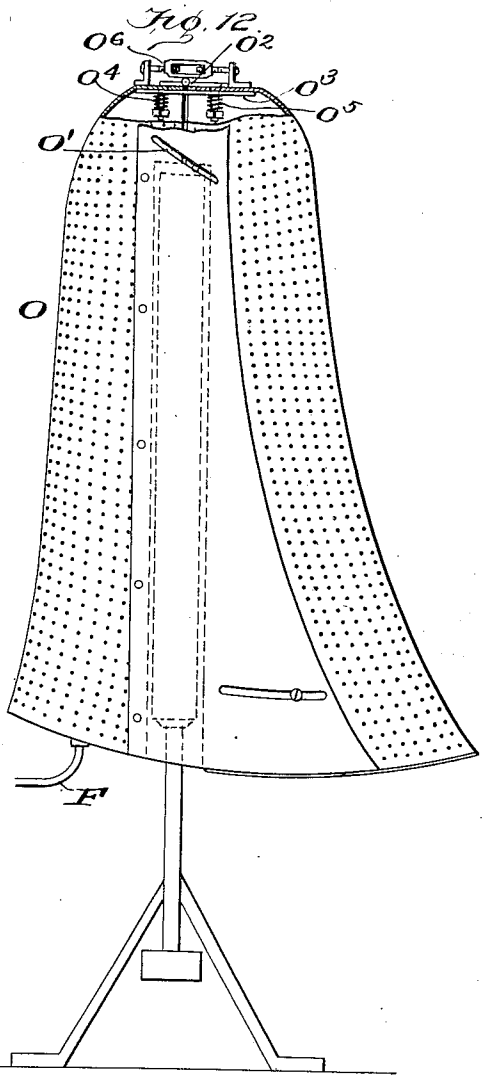


Fig. 12.



Witnesses

M. L. Blondel.

Clarence L. Shaw.

Inventors

Le G. Earl.

W. L. Galvin,

By O'Meara & Bock

Attorneys

No. 786,554. Patented April 4, 1905.

UNITED STATES PATENT OFFICE.

LE GRAND EARL AND WILLIAM L. GALVIN, OF YOUNGSTOWN, OHIO.

DEVICE FOR STEAMING AND SHAPING GARMENTS.

SPECIFICATION forming part of Letters Patent No. 786,554, dated April 4, 1905.

Application filed December 31, 1903. Serial No. 187,348.

To all whom it may concern:

Be it known that we, LE GRAND EARL and WILLIAM L. GALVIN, citizens of the United States, residing at Youngstown, in the county of Mahoning and State of Ohio, have invented a new and useful Improvement in Devices for Steaming and Shaping Garments, of which the following is a specification.

Our invention relates to means for steaming and shaping garments of various kinds by stretching them over an adjustable former and then subjecting them to a dry superheated steam.

The object of the invention is to not only shape the garments, but to cleanse them of foreign odors by the action of the steam which is forced through the materials of which the garments are made, and a further object is to prevent shrinkage of the garments so treated by employing a dry steam.

Our invention consists in the novel features of construction and combination of parts hereinafter described, particularly pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a front vertical elevation of a coat, the steam pipe, coil, and boiler being shown in outline. Fig. 2 is a side elevation of the coat-form. Fig. 3 is a plan view of the bottom of the form. Fig. 4 is a detail section on the line 4 4 of Fig. 1. Fig. 5 is a plan view of the table on which the form stands. Fig. 6 is a side elevation of a former for trousers. Fig. 7 is a plan view of a slightly-modified form. Fig. 8 is a section on the line 8 8 of Fig. 7. Fig. 9 is a section on the line 9 9 of Fig. 7. Fig. 10 is a vertical front elevation of the upper form for the trousers. Fig. 11 is a detail view of a support for one end of the trousers-form. Fig. 12 is a view of a form for skirts, the same being shown in elevation.

In all of the various forms, which are shaped to fit the garment with which they are to be used, the form is made of metal, preferably copper, formed in two adjustable sections and provided with means for admitting the steam into the interior, of keeping it superheated, and of heating the form after the steam has been cut off, and they are also provided with a multiplicity of very minute apertures adapted to admit the steam into contact with the garment which is arranged on the form. It is thought, therefore, that a detail description of the coat-form as shown in Figs. 1, 2, 3, and 4 and a brief description of the other forms will be sufficient. In the figures above mentioned, therefore, A represents the metal form made in two sections, which when joined together will give the general outline of a coat. These sections are supported on a table B, supported in turn by a standard B′, which is provided with a suitable base. Each section of the form A has a bottom portion A′, and the bottom of each section is provided with bosses A^2, in which are formed threaded sockets, and in these sockets are threaded the upper ends of the supporting-legs A^3. On the stand B are arranged cleats B^2 in pairs, the inner faces of the cleats being undercut, and the lower ends of the legs are formed with suitable shoes or annular flanges A^4, (shown in dotted lines in Fig. 5,) which slide in the guideways formed by undercutting or grooving the cleats. It is understood that each section of the form is entirely closed and hollow, and the two sections being independent of each other they can be moved toward or away from each other by sliding the shoes on the base in the proper direction. To facilitate this adjustment of the sections, they are connected at the neck portion by a turnbuckle A^5. It will be obvious that when the sections are apart a space will be left between them, and as it is not intended that the sections should be in direct contact a flue C is extended vertically between the sections, the flue having an enlarged lower end C′, opening downwardly over the base B. A lamp or burner of any kind may be placed on the base B, and the heat from same will be passed through the flue C. In order that the space between the sections surrounding this flue may be converted into a heating-chamber, plates, front and rear, are arranged vertically on the sections, the plates C^2 having transverse slots formed in them through which pass threaded studs carried by the sections on which work thumb-screws C^3, which bind the plates to the sections, the slots permitting

movement of the sections relative to the plates. The space surrounding the flue C is therefore inclosed on the sides by the sections of the form and in the front and rear by the plates C^2. The upper portion of each section of the form is shaped to form one-half of the neck portion, is non-perforate and closed at the top, the cover being hinged, as at A^6. The outer side faces of the sections of the form, including the shoulder enlargements A^7, are provided with the minute apertures A^8. From Fig. 4 it will be noted that the neck portions D are formed separate from the form A. The neck portions have a slightly-curved bottom, which fits the curved tops of the form-sections, and these bottoms are formed with grooves D′, in which fit tongues D^2, carried by the tops of the form-sections, and the rotation of the turnbuckle will serve to adjust the neck portion relative to the body portion of the form A. The space between the sections at the top of the form proper is closed by a plate A^9, similar to the plate A^{10}, which closes the space at the bottom. This plate A^{10} is provided with the transverse slots A^{11} and is held by set-screws in the same manner as the plates C^2, the only difference between the plate A^{10} and the plate C^2 being in the length and the fact that the plate A^{10} is provided with an opening for the passage of the flue C. In these figures, F indicates a suitable boiler arranged over a burner or other source of heat, and F′ a steam-pipe which opens into the lower portion of one of the sections of the form A. At F^2 the pipe F′ is bent into a plurality of coils inclosed by a casing G, downwardly open, in which is arranged a burner G′, which superheats the steam passing through the coils on its way to the form A. To admit the steam into the other section of the form, a telescopic pipe F^3 is arranged between the two sections adjacent the top, the pipe being in two short sections adapted to slide within a sleeve in a manner that will be well understood. The form above described and termed a "coat-presser" can also be used for steaming and shaping vests and by increasing its length is adapted to be used with overcoats.

In operation the coat is adjusted over the sections A, which are adjusted to fit the coat snugly, and the steam turned on for a few minutes. The steam is superheated in the coils F^2 and is held to this high temperature by the heating of the space between the two sections by reason of the flue C. The steam will issue from the apertures in the sections of the form and will pass through the garment. The steam is then turned off and the garment permitted to remain on the form-sections for about ten minutes, by which time it will be thoroughly dried and shaped by reason of the heat from the flue C. The length of the entire operation is approximately fifteen minutes.

The forms shown in Figs. 6 to 9, inclusive, are designed for the steaming and shaping of trousers-legs, the principle and mode of operation being the same as that just described. The device is formed in two sections H and H′, corresponding to the sections of which the form A is composed, the main difference being in the shape, in the fact that they are arranged longitudinally instead of vertically, and that they are arranged in diverging pairs, as shown in Fig. 7, the inner sections H′ being connected at one end. In Fig. 6 we have shown these sections as held together by a plate H^2, which corresponds to the plate C^2, whereby a heating-chamber is formed, there being two plates used with each pair of sections between the two sections, the section H being the upper section and the section H′ being the lower section. A standard H^3 is arranged adjacent one end of the sections H and H′, and an adjustable standard H^4 is arranged adjacent the opposite end, which may be conveniently termed the "diverging" end. This standard carries at its upper end curved divergent arms H^5, bifurcated at their upper ends at H^6. A solid rod J is secured at one end to the upper portion of the standard H^3, and at its inner end is arranged a T-coupling J′. This coupling carries a depending flue J^2, with an enlarged lower portion J^3, under which a suitable lamp or burner of any kind may be placed. From the sides of the T-coupling branch out flues J^4, which extend through the chambers formed by the plates H^2 between the sections, the end portions of the flues J^4 resting in the bifurcated portions H^6 of the curved arms H^5. Sleeves K are arranged on the flues J^4 at each end of the sections, and on their under sides the sleeves carry plates K′. Lugs K^2 are arranged at the ends of the sections H′, and coiled springs K^3 bear at one end on the plates and at the opposite ends downward on the lugs K^2, tending to force the sections apart. Hooks K^4 are pivoted to the plates K′ and are adapted to engage and hold the springs K^3 in contracted position while the trousers are being placed in position.

The slight modification in Figs. 7, 8, and 9 consists simply in forming the sections L and L′ so that the sides of the section L fit over and slide on the sides of the section L′, thus doing away with the plates H^2, and passing the flues J^4 directly through the form instead of through a central heating-chamber formed between the sections of the form. Otherwise the construction is the same, and in both cases steam is fed to the forms through the steam-pipes M, and the forms are provided with minute perforations, as in the case of the sections A.

In Fig. 10 we have shown the form of form N used for the upper portion of the trousers, which is formed in sections connected by the plates N′, and is similar in every way but shape with the coat-form shown in Fig. 1.

Fig. 12 illustrates a shaper O used in cleaning skirts, and the difference in construction

between this and the forms heretofore described is practically in configuration only.

The operation of all the forms shown is the same.

In the skirt-presser shown in Fig. 12 the slot O′, corresponding to the horizontal slot of Fig. 1, the vertical slots of Fig. 6, and the horizontal slot of Fig. 10, is oblique, so that the rear section of the form carrying the train of the skirt is adjustable not only in its being adapted to be moved away from the remaining side or section, but also in its being at the same time lowered with reference to the front section. A hinge O^2 is secured to the front section, and the rear section is slidably secured to the hinge, so that it can move away from the front section, the hinge also permitting the downward movement of the rear section. A plate O^3 serves to close the top of the form when the sections are moved apart, corresponding to the plate A^9. The plate is slotted and bolts O^4 project through the slots and carry coiled springs, held in plate by washers and nuts, and these springs O^5 press against the plate and hold it firmly against the form. The upper part of the form O is also supplied with the usual turnbuckle O^6. The close resemblance between the skirt-form and the coat-form will be obvious.

We do not desire to restrict ourselves to any particular size or shape of form or to a form for any particular garment.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A device of the kind described comprising two adjustable sections spaced apart, plates connecting the sections, a flue extending upwardly, through the said space between the sections and plates, and means for admitting steam to the sections.

2. A garment steamer and shaper comprising two perforated metal sections adapted to support a garment and adjustable with reference to each other and the garment, slotted plates adapted to partially inclose the space between the sections, threaded studs carried by the sections and projecting through the slots, thumb-screws adapted to work on said studs and bind the plates to the sections, a flue arranged in the said space between the sections and plates, means for heating the air in said flue, and means for admitting steam to the sections.

3. A garment steamer and shaper comprising a hollow form in sections, means for adjustably holding said sections together, the outer side faces of each section being formed with a plurality of apertures, a hot-air flue arranged between the said sections, and means for admitting superheated, dry steam to each section, as and for the purpose set forth.

4. A device of the kind described, comprising two metal sections exteriorly perforated and inclosing a common heating-chamber, a hot-air flue extending longitudinally through the said chamber, the said flue having a downwardly open and outwardly flaring end chamber, and means for admitting steam to the said common heating-chamber, as and for the purpose described.

LE GRAND EARL.
WILLIAM L. GALVIN.

Witnesses:
J. G. HUNT,
N. G. MORLEDGE.