Oct. 7, 1947. H. W. BOWEN 2,428,484

TROUSER TOP FINISHER

Filed Feb. 25, 1946 2 Sheets-Sheet 1

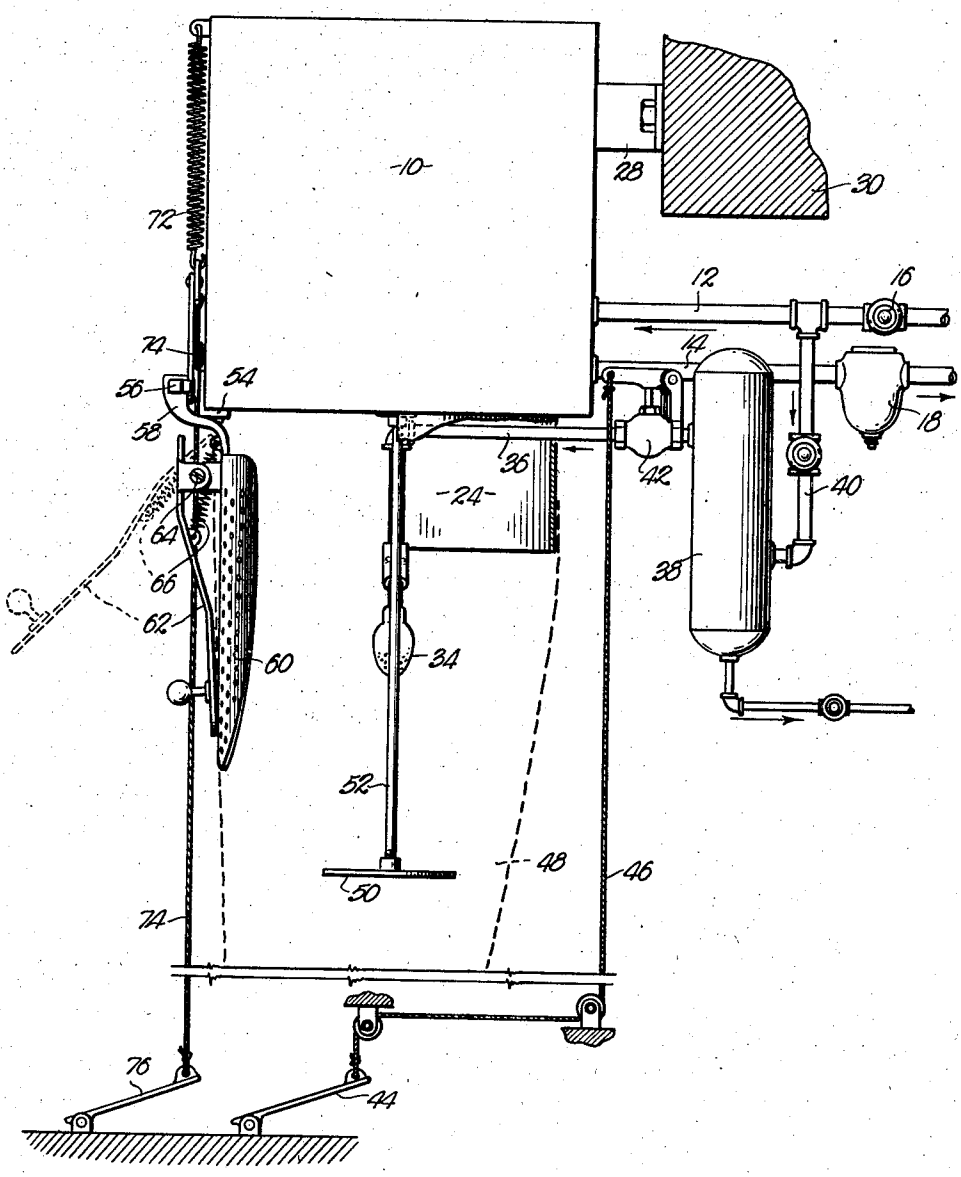


Fig. 1.

INVENTOR.
Harold W. Bowen
BY
ATTORNEY.

Oct. 7, 1947. H. W. BOWEN 2,428,484

TROUSER TOP FINISHER

Filed Feb. 25, 1946 2 Sheets-Sheet 2

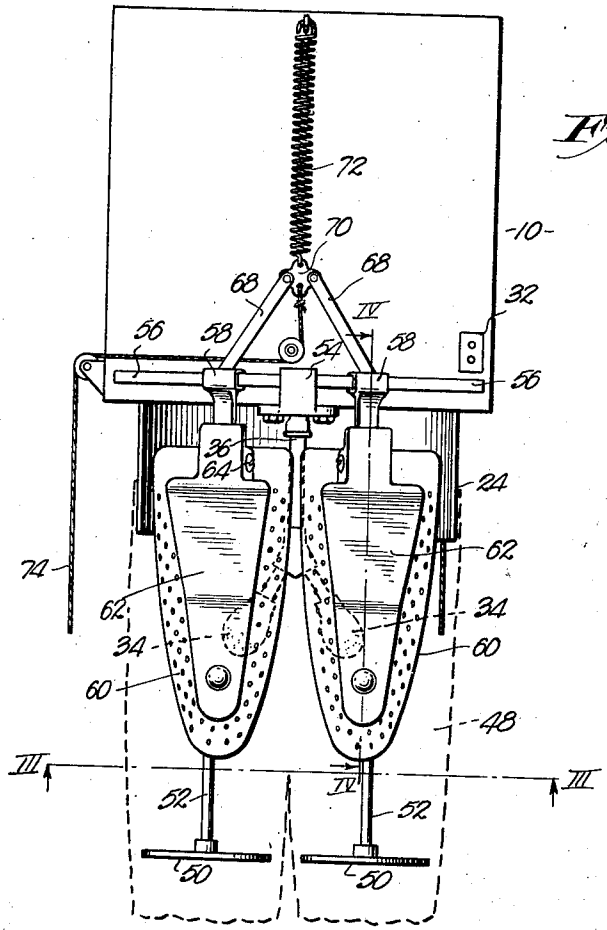


Fig. 2.

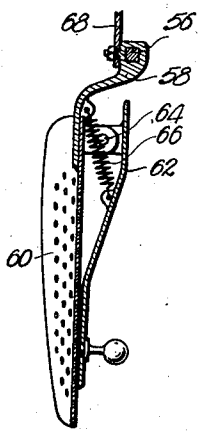


Fig. 4.

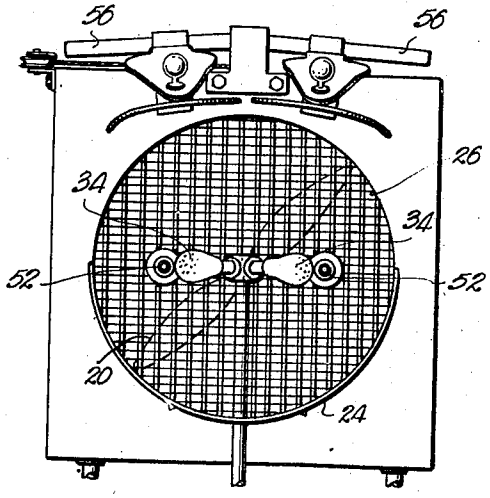


Fig. 3.

INVENTOR.
Harold W. Bowen
BY
ATTORNEY.

Patented Oct. 7, 1947

2,428,484

UNITED STATES PATENT OFFICE

2,428,484

TROUSER TOP FINISHER

Harold W. Bowen, Kansas City, Mo.

Application February 25, 1946, Serial No. 650,025

7 Claims. (Cl. 223—73)

1

This invention relates to the art of finishing garments and particularly equipment designed to remove wrinkles from fabric wearing apparel after it has been cleaned.

The primary object of this invention is the provision of apparatus of the aforementioned character formed, designed and otherwise adapted to finish the top of trousers through the application of steam and a blast of hot air while the trousers top is held in an extended position with all areas of the material from which the same is formed in an extended condition to receive steam and air.

One of the important aims of this invention is the provision of a trousers top finisher having as a part thereof novel and unique means for holding the pleats that are oftentimes a part of the trousers top in a folded and creased condition as steam is applied to the tops of the trousers for the purpose of removing wrinkles therefrom, said pleat retaining apparatus being capable of movement to operative positions where the pleats are engageable and further, where the waist band of the trousers is held taut.

This invention has for further objects the provision of a finishing machine known in the art as apparatus for "topping" trousers and wherein is provided parts for holding the trousers with the legs thereof in a depending condition; wherein is included steam nozzles and baffles for confining the action of the steam and air to the upper portion of the trousers; and wherein the path of travel of the steam and air may be extended to pass through the legs of the trousers as weights are attached thereto for the purpose of stretching the trouser legs when such an operation is necessary or desirable.

Other objects of the invention are important and will become apparent during the course of the following specification referring to the accompanying drawings, wherein:

Figure 1 is a side elevational view of a trousers top finisher made in accordance with the present invention.

Fig. 2 is a front elevational view thereof.

Fig. 3 is a cross sectional view taken on line III—III of Fig. 2 and looking in the direction of the arrows; and

Fig. 4 is a fragmentary detailed sectional view taken on line IV—IV of Fig. 2 looking in the direction of the arrows.

The form of the invention chosen for illustration comprises a unit heater 10 of well known type and including coils connected to steam supply pipes 12 and 14 extending from and to respectively a source of steam and having a control

2

valve 16 and a trap 18 therein. Pipes 12 and 14 supply steam to conventional coils within unit heater 10 and a motor driven fan 20 drives air downwardly through the steam coils 22 and through an opening or outlet port 26. Apron 24 is secured to the lower side of unit heater 10 and partially circumscribes opening 26, as hereinafter more fully described.

Unit heater 10 is supported by a bracket 28 having connection to any rigid wall or pedestal 30 and when unit heater 10 is so disposed, it becomes a carrying member for the component parts of the finisher.

Fan 20 has a conventional electric motor (not here shown), controlled by a manually manipulable switch 32 mounted within convenient reach of the operator. A pair of nozzles 34 depend below unit heater 10 in a position shown clearly in Figs. 1 and 2 and these nozzles are joined to steam supply pipe 12 by a pipe 36, condenser 38 and valved pipe 40. This pipe 40 is in direct connection with steam line 12 and a valve 42 is interposed in pipe 36 for operation by pedal 44. Connection between pedal 44 and valve 42 is by way of cable 46 and when the pedal is depressed, the valve will be opened to allow the passage of steam through nozzles 34. Apron 24 is substantially arcuate and fits into the waist band along the back of trousers 48 when such garments are being finished. When the garments 48 are so positioned, a baffle 50 is held in each leg of trousers 48 by a depending rod 52. This rod is secured directly to the under side of the unit heater 10 and baffles 50 are removably affixed to their supporting rods 52 to the end that the finisher may be used in a manner hereinafter described.

A bracket 54 is mounted on unit heater 10 and has a pair of stems 56 extending across the front of unit heater 10, as shown in Fig. 3. These stems are polygonal in cross section and project to each side of that portion of bracket 54 which is attached to heater 10. A bearing 58 slidably secured to each stem 56 mounts a foraminous member 60 on each side of the median longitudinal vertical axis of the finisher. Each member 60 is slightly arched to conform with the inner surface of the legs of trousers 48 and when the trousers are positioned over apron 24 and members 60, the pleats at the front of the trousers overlie members 60. These pleats are folded or creased as they should appear when the garment is completely finished and the clamps 62 associated with each member 60 are snapped into place against the outer surface of the trousers and directly upon the pleated portions thereof.

Each clamp 62 is spring loaded and pivotally mounted as at 64 to the upper portion of a member 60 and when clamp 62 is in the operative position, as shown in full lines of Fig. 1, its spring 66 will be to one side of the axis of pivot 64. When clamp 62 is in the inoperative position, as shown in dotted lines of Fig. 1, spring 66 will be disposed to the opposite side of the axis of pivot 64.

This past center action insures that clamp 62 will be yieldably maintained in each of its two positions at the ends of its path of travel. A link 68 pivotally joins each bearing 58 with a head 70 as shown in Fig. 2. This head forms a coupling between the ends of links 68 remote from their points of attachment with the respective bearings 58 and when head 70 is shifted vertically, links 68 will move bearings 58 toward and from the center of the finisher to, in turn, shift members 60 toward and from each other. Head 70 has a spring 72 secured thereto for the purpose of normally maintaining members 60, and all parts associated therewith, near the center of the finisher or as close together as the structure will permit.

A cable 74 extends to a pedal 76 and when this pedal 76 is depressed, spring 72 will be extended and head 70 will be drawn downwardly to force bearings 58 apart. In this manner the members 60 may be adjusted to underlie the pleated portions of the two legs of trousers 48 and at the same time cause members 60 to cooperate with apron 24 in tightly engaging the waist band of trousers 48. When trousers 48 are applied to the finisher, the waist band is drawn over apron 24 and over the outer faces of members 60 and thereafter buttoned together to establish a completely closed tubular garment. When in such position, the operator will depress pedal 44 and inject steam into the tops of trousers 48 for a period of from 3 to 5 seconds. This action will cause steam to spray through nozzles 34 and outwardly toward the walls of the trousers and while the steam valve 42 is still open, the operator should manipulate switch 32 to cause fan 20 to direct a blast of air downwardly through outlet port 26 and into the top portion of trousers 48. The air should be left on for approximately four seconds, whereafter the steam valve 42 is closed and air allowed to continue to flow for approximately 5 seconds. This action will insure a complete finishing of the trousers top for baffles 50 will confine the action of the steam to that length of the trousers 48 above baffles 50. The pressure from the force of air will shape the trousers after the steam has conditioned the cloth to where it can be so shaped and since the weight of the trousers 48 contributes to removing the wrinkles, the time consumed in the operation is reduced to a minimum.

In the event it becomes necessary to wash trousers 48 to remove stains due to perspiration, the finishing of the trousers may require stretching due to the shrinkage incident to the washing operation. Under such condition, the bottoms of the legs of the trousers 48 are weighted and baffles 50 are removed by merely unscrewing the same from their threaded association with the respective rods 52. When baffles 50 are removed, the trousers are finished by the injection of steam for a desired length of time to not only remove the wrinkles from the upper portion of trousers 48 but to condition the legs of the trousers for easy creasing when the same are transferred to a pressing machine. Hand work usually required for the ironing out of the pleats at the upper portions of the legs of the trousers is eliminated when the finisher made as above described, is used. The hands of the operator are left free to handle the trousers 48 during the application thereof to the machine because the steam supply is controlled by foot pedals as is the position of members 60.

Work done by the finisher above disclosed is highly satisfactory and the trousers top is finished in an exceptionally short length of time and through a minimum amount of work.

Deviations may be made from the structure shown and described without departing from the spirit of the invention or scope of the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In a trousers finisher of the character described, a substantially arcuate apron; a baffle in spaced relation to the apron for each leg respectively of the trousers being finished and positioned to extend transversely of the legs of the trousers when the latter have the waist band thereof circumscribing the apron; a rod for each baffle for holding the same in said position, said baffles being removably fixed to one end of respective rods; and a nozzle having connection to a source of steam disposed adjacent to each baffle respectively.

2. In a trousers finisher of the character described, a substantially arcuate rigidly mounted apron; a baffle in spaced relation to the apron for each leg respectively of the trousers being finished and positioned to extend transversely of the legs of the trousers when the latter have the waist band thereof circumscribing the apron; a nozzle having connection to a source of steam disposed adjacent to each baffle respectively, said apron being mounted in a vertical position and partially circumscribing a source of hot air under pressure; and means spaced from the apron and movable independently thereof to and from a position for holding the waist band of the trousers in circumscribing relation to the apron.

3. In a trousers finisher of the character described, a substantially arcuate apron; a baffle in spaced relation to the apron for each leg respectively of the trousers being finished and positioned to extend transversely of the legs of the trousers when the latter have the waist band thereof circumscribing the apron; and a nozzle having connection to a source of steam disposed adjacent to each baffle respectively, said apron being mounted in a vertical position and partially circumscribing a source of hot air under pressure, said baffles being depended below said apron.

4. In a trousers finisher of the character described, an apron formed to receive the waist band of the trousers and disposed to cause the legs of the trousers to assume a pendulant position; means for directing heated air downwardly past the apron and into the trousers when the latter are on the apron; a foraminous member disposed within each leg of the trousers respectively opposite the apron; and structure mounting the said members for movement laterally with respect to the apron to draw the waist band of the trousers taut, said structure maintaining the members spaced from the apron throughout their paths of travel.

5. In a trousers finisher of the character described, an apron formed to receive the waist band of the trousers and disposed to cause the

legs of the trousers to assume a pendulant position; means for directing heated air downwardly past the apron and into the trousers when the latter are on the apron; a foraminous member disposed within each leg of the trousers respectively opposite the apron; and structure mounting the said members for movement in directions to draw the waist band of the trousers taut, said members each having a swingable clamp on one side thereof to engage the portions of the trousers overlying the members.

6. In a trousers finisher of the character described, an apron formed to receive the waist band of the trousers and disposed to cause the legs of the trousers to assume a pendulant position; means for directing heated air downwardly past the apron and into the trousers when the latter are on the apron; a foraminous member disposed within each leg of the trousers respectively opposite the apron; and structure mounting the said members for movement in directions to draw the waist band of the trousers taut, said members being movable toward and from each other and having manually manipulable apparatus for so shifting the members from a normal position.

7. In a trousers finisher of the character described, an apron formed to receive the waist band of the trousers and disposed to cause the legs of the trousers to assume a pendulant position; means for directing heated air downwardly past the apron and into the trousers when the latter are on the apron; a foraminous member disposed within each leg of the trousers respectively opposite the apron; and structure mounting the said members for movement in directions to draw the waist band of the trousers taut, said members having means for yieldably holding the same in a normal position and manually manipulable apparatus for shifting the members from said normal position.

HAROLD W. BOWEN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
176,172	Egleston	Apr. 18, 1876