E. HUMPHREY.

IRONING APPARATUS.

No. 194,683. Patented Aug. 28, 1877.

FIG. 1.

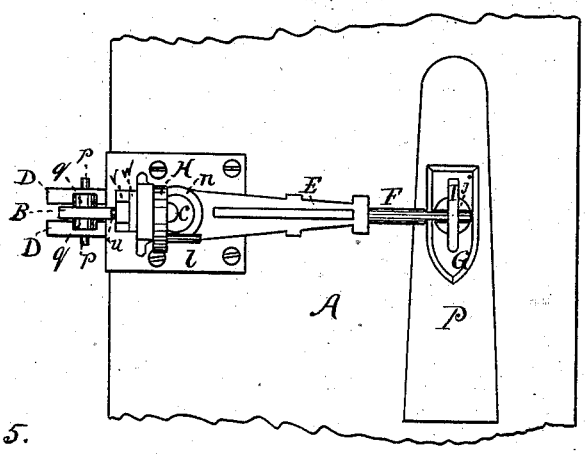

FIG. 3.

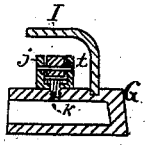

FIG. 4.

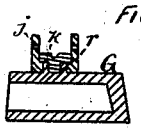

FIG. 5.

FIG. 2.

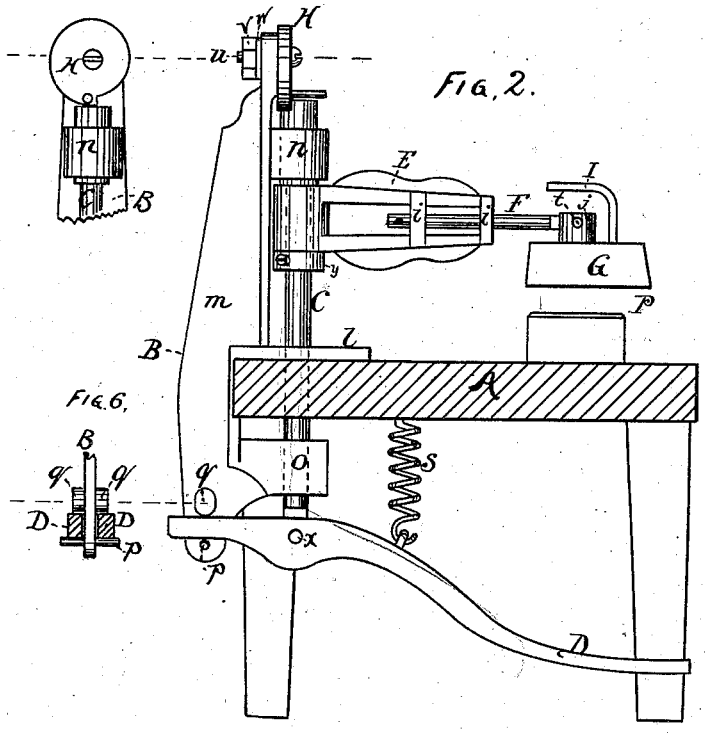

FIG. 6.

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IMPROVEMENT IN IRONING APPARATUS.

Specification forming part of Letters Patent No. **194,683**, dated August 28, 1877; application filed February 6, 1877.

To all whom it may concern:

Be it known that I, EUGENE HUMPHREY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Tailor's Pressing-Machine, which invention is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is to produce a tailor's pressing-machine which shall be more simple and substantial in construction and convenient and effective in operation than those now in general use.

My invention consists in the peculiar construction, combination, and arrangement of certain mechanical devices hereinafter fully described, which constitute a compact, convenient, self-contained, and durable pressing-machine, whereby the results are greatly facilitated and the labors of the pressman relieved.

In the accompanying drawings, Figure 1 is a top view of my machine with the table or stand partly broken away. Fig. 2 is a side elevation of the machine. Fig. 3 is a longitudinal section of the goose and a cross-section of its connecting devices. Fig. 4 is a longitudinal section of a goose with a boss, *r*, cast thereon. Fig. 5 is a front detached elevation of a portion of the bracket, as seen from the right of Fig. 2, and showing the face of cam H. Fig. 6 is a rear detached view, as seen from the left of Fig. 2, showing the lever in vertical section and the manner of its connection with the bracket.

A is a stand or table, which supports the machine and press-board. The top is of wood, and the legs may be of the same material; but preferably of iron, of suitable construction.

B is a hanger or bracket, constructed of cast metal in one piece, and of such form and special adaptation that all the operative parts are connected and perform their functions relatively to each other, and the ultimate results, either directly or indirectly through the agency of said hanger, which, when properly mounted upon the stand, sustains the chief strain resulting from the counteraction of the active and resistant forces in the operations of said mechanism.

This hanger comprises the base-plate *l*, by which it is securely bolted to the table, the vertical body *m*, the horizontal extensions *n* above and *o* beneath the table, which serve, when properly bored out, as guides and bearings for the vertical shaft C, and its top is formed to receive the shaft or bolt *u* of the stop-cam H, as shown, while its lower end is bossed at *q q* to serve as the fulcrum of the treadle D when pressure is applied to its free or pedal end.

Through this bracket, at *n o*, and a suitable aperture cut out in the base-plate *l* and table-top, passes the vertical shaft C, which is supported or guided thereby, and performs its functions therein, and to the upper portion of which is journaled the goose-supporting arm E, while at its lower end is pivoted the treadle D, at *x*.

The goose-supporting arm, which thus swings upon shaft C, is forced downward with said shaft through the agency of the shoulder thereon produced by the enlarged portion which is journaled in bearing *n*, and said arm is kept in contact with said shoulder through the agency of the set-collar *y*, and this arm is composed of two parts or members, E and F. Part E is of cast metal, and adapted to receive said shaft C and to afford suitable bearings for part F. Part F consists of a round wrought-iron or steel bar, of suitable size and strength, and slides, for the purpose of lengthening and shortening the goose-arm, horizontally in the bearings *i i*, Fig. 2, formed in arm E, and may also be revolved in said bearings as the inequality of thickness of the article operated upon by the goose may require.

To the outer end of bar F is attached the goose G, as shown in Figs. 1 and 2, this goose being of the usual hollow construction and adapted to the method of heating by slugs. Said attachment or connecting devices consist of a swivel, *j*, turning upon a screw, *k*, Figs. 3 and 4, which is threaded and inserted in the upper side of the goose, or in a concentric boss, *r*, cast thereon, the ears of said swivel *j* (which is constructed of wrought-iron) being

adapted to receive between them the flattened end of bar F, and through them and said bar the bolt *t* passes, which completes the attachment of the goose to the bar in such manner that it has a free movement in conformity to all the requirements of its proper use.

The handle I is attached to the goose at one end only, in order to allow it a more nearly complete horizontal rotation in the swivel *j*. It moves, when thus connected, to and from arm E, with sliding bar F, swings with arm E around shaft C, rotates vertically with bar F, horizontally in swivel *j*, and oscillates laterally on bolt *t*. Thus it accommodates itself to all inequalities of thickness, and is conveniently brought to bear upon all parts of the press-board, and readily moved out of the way when not employed.

The treadle D is preferably of cast metal, and forked at one end, so as to embrace the lower end of hanger B, and slotted so as to receive the lower and flattened end of shaft C, to which it is pivoted at *x*. It works against the cast bosses or fulcrum *q* when pressure is applied to its pedal end, and is supported in position on said hanger, when its opposite end is raised, by a pin, *p*.

A spring, S, is attached to the under side of the table, and to said treadle, as shown, and serves to hold all the operative parts of the machine properly suspended and ready for use.

If preferred, the left-hand end of the treadle, as shown in Figs. 1 and 2, may be extended a sufficient distance, and an adjustable counterweight attached thereto as a substitute device for spring S.

In practical operation, the goose G, with its supporting arm and bar E and F, moves conjointly with the shaft C in a vertical direction, when said shaft is operated by treadle D to produce pressure, and when it is again returned to its proper elevation automatically by means of the spring S, or any other suitable device.

If deemed preferable, in construction the arm E may be fixed rigidly upon shaft C, in which case the shaft may be made of a uniform size or diameter throughout its entire length, and be fitted in and connected with the treadle D by any of the usual and well-known methods whereby it may be free to rotate on its axis therein, and in its bearings *n o*, thus moving with the swinging arm E in its horizontal as well as its vertical movement.

When convenience requires the goose to be held suspended at an elevation but little above the level of the press-board, that it may be readily manipulated by hand independent of the treadle, the goose may be so suspended, at a greater or less elevation above the press-board, as required, by means of the stop-cam H, provided for that purpose, and so formed and arranged that when turned by the hand of the operator it will arrest the upward movement of the shaft C at any desired point.

The cam H is attached to the hanger B by a screw or bolt, *u*, secured by nut *v*, threaded thereon and turned against a rubber washer or cushion, *w*, and is located over the end of the shaft C in such a manner that by so turning it the upward movement of said shaft is limited to any degree of elevation within the scope of said cam.

In Fig. 2 the shaft is shown at its extreme elevation, it being in contact with the low section of said cam, while in Fig. 5 it is shown at its extreme depression, when at rest, said shaft being in contact with the high section of said cam, which is kept from moving out of position by the action of the machine, by force of said elastic spring, washer, or cushion *w*.

By this method of adjustment I do not change the relative position of the goose-supporting arm upon its actuating-shaft C, but adjustably limit the conjoint upward movement of both.

Force or pressure applied to the pedal end of treadle D is transmitted, with unusual directness, through shaft C, arm E, and bar F to the goose, and thereby acts upon the press-board with a multiplied force in accordance with the leverage gained in treadle D.

This method of longitudinally extending and contracting the goose-supporting arm by means of a construction and arrangement whereby the telescoping or sliding of one arm into or past the other is effected, has an important advantage over the usual hinged arm, in that the force exerted through the former is invariably in a direct line perpendicular to the axis of the actuating-shaft C, and thereby avoids the undue twisting and torsional strain which is unavoidable when the usual hinged arm is used; and, besides the direct and invariable vertical pressure thus produced, great advantage is derived from the multiplied power obtained thereby over those machines which rock the goose-arm, and neutralize the leverage gained in the treadle by the adverse leverage of the arm, through which the movement of the treadle is imparted to the goose.

With such last-named machines the operator usually exerts himself to produce greater pressure by jumping while standing upon the end of the treadle, and thereby renders his labor more irksome. In my machine the simple resting weight of the operator upon the treadle is several times multiplied on the press-board, and thereby the result is facilitated, and the labor of the pressman relieved.

I do not claim, in a tailor's pressing-machine, either in combination or in the abstract, an arm arranged to swing upon or around a center in an unvarying plane, and to be extended or retracted in a direction radial to the circle, which it describes when moving in such unvarying plane, for I am aware that an arm and auxiliary devices susceptible of such movements, in conjunction with a goose upheld by such arm, have been embodied in machines adapted to, and intended for, the purpose to which my invention relates; and that

in the Letters Patent of the United States, issued to R. B. Sanson on the 2d day of September, A. D. 1873, is shown and embodied an arm having such twofold motion; but in this part of my invention I limit my claim to an arm, and its immediate coacting devices, so constructed and arranged that the bar or arm to which the goose is immediately connected shall be susceptible of a vertically-reciprocating movement, a swinging or vibrating motion in a varying horizontal plane, and also a horizontal sliding movement at right angles to the circumferential line described by its movement in a horizontal plane.

I claim as my invention—

1. In a tailor's pressing-machine the hanger B, constructed with its sole-plate *l*, vertical body *m*, shaft-bearings *n o*, and fulcrum terminal for the treadle D, substantially as described and shown.

2. In a tailor's pressing-machine the combination of the reciprocating shaft C, swinging arm E, combined and arranged to move vertically with the shaft, and the sliding bar F, all substantially as and for the purposes specified.

3. In a tailor's pressing-machine the hanger B, formed substantially as described, shaft C, treadle D, and a goose-supporting arm, combined and arranged to operate substantially as and for the purpose specified.

4. In a tailor's pressing-machine the combination of the treadle D, vertical shaft C, arm E, and sliding bar F, constructed and arranged to operate substantially as specified.

5. In a tailor's pressing-machine the combination of the automatically-raised vertical shaft C and adjustable cam H, to check the ascent of the shaft, but admitting a free descent thereof, all substantially as described and shown.

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