(No Model.)

E. REIN.

MACHINE FOR PRINTING UPON HAT SWEATS.

No. 307,411. Patented Oct. 28, 1884.

Fig. 1.

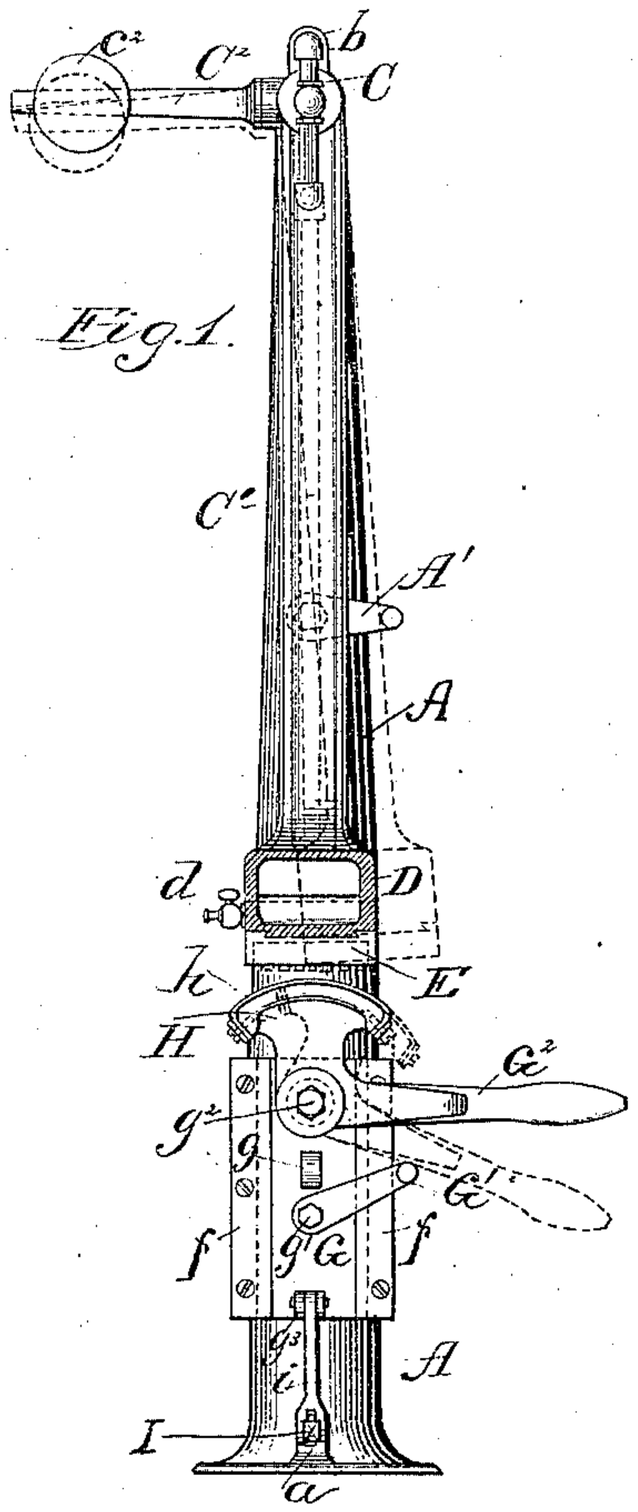
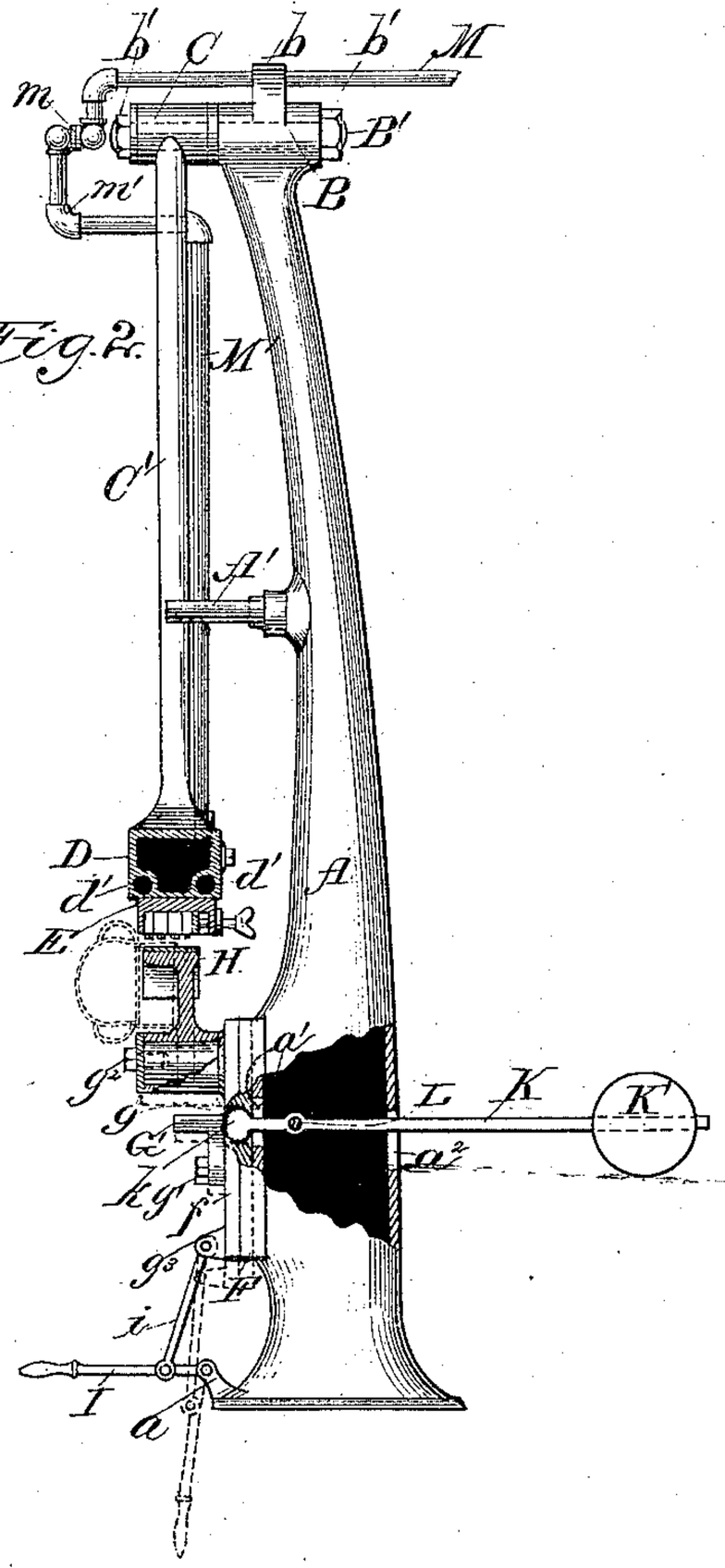


Fig. 2.



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UNITED STATES PATENT OFFICE.

RNEST REIN, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO STRAW, ELLSWORTH & CO., OF SAME PLACE.

MACHINE FOR PRINTING UPON HAT-SWEATS.

SPECIFICATION forming part of Letters Patent No. 307,411, dated October 28, 1884.

Application filed March 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, ERNEST REIN, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Machines for Printing upon Hat-Sweats; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to the printing or gilding of a name, firm-title, or other device upon the sweat-leather of hats; and it consists of a machine designed to accomplish this result upon hat-sweats which are already stitched to the hats, the latter being in all other respects complete and ready for the market.

In the drawings, Figure 1 is a front elevation, and Fig. 2 is a side elevation, of my device, parts being represented in section or broken away in each view the better to show the construction.

A is the standard or upright frame of my machine, which may be secured to a table or other suitable base, and which bears at its top a hub, B, through which passes a shaft, B′, the forward-projecting portion of which receives the sleeve C, having depending arm C′ rigid with said sleeve, and hence adapted to swing therewith on the shaft B′ in the arc of a circle, and this arm at its lower end carries a heating-box, D, below which it has ways to receive the grooved or beveled top of a type-holder, E. The hub B and sleeve C are in line with each other, and after the shaft B′ has been passed through both it is secured at each end by nuts *b′ b′*, as shown.

F is a vertical guide-plate, the rear of which is cast with the front of the standard and centrally planed out, and then has strips *f* bolted to each outer edge and projecting over the planed-out center, to receive the vertical slide G. This slide has a central vertical slot, *g*, and below this an adjustable L-shaped stop, G′, secured to the slide after adjustment by bolt *g′*, while above the slot the slide carries a pin, g^2, which serves as the fulcrum for a bell-crank lever, G^2, having a segmental head, H, and this segmental head is furnished with a rubber or other pad, *h*, to serve as a cushion on which the hat-sweat rests during printing or gilding, so as not to injure the type. The base of the standard is provided with a lug, *a*, to which is pivoted a lever, I, and to this lever, near its pivoted end, there is pivoted one end of a link, *i*, the other end of which is pivoted to a projection, g^3, at the base of the slide G, and by simply moving this lever I up or down the slide G and its attachments will be raised or lowered. The standard A is preferably hollow, and has front and rear slots, *a′* a^2, through which pass the ends of a weighted lever, K, pivoted on a transverse rod, L, and the short arm of this lever bears a rounded head, *k*, which projects into the slot *g* in the slide G, while the long arm carries the weight K′, which can be adjusted back and forth thereon, to vary the pressure of the segment-head against the type, while the tendency of said weight is always to force the slide upward, unless the lever I and link *i* are turned to a vertical position in line with each other, as shown in dotted lines, Fig. 2, which is done in order to lock the slide against rising, while a hat-sweat is placed on the segment H, after which the lever I is returned to its normal horizontal position, when the weight on the lever K will immediately serve to carry the slide (and with it the hat supported by its sweat on the segment) upward, so that the said sweat will be directly against the type in the holder E.

From one side of the sleeve C, already described, there projects a second arm or lever, C^2, at right angles to the arm C′, and this lever C^2 carries a weight, c^2, which may be adjusted back or forth thereon, and the said weighted lever serves to keep the arm C′ normally away from a vertical position and swing it as far to the right as is permitted by the adjustable L-shaped stop A′, which is secured to the standard A in the same manner that the stop G′ is secured to the slide G. The hub B has a vertical lug or projection, *b*, on top, and this lug is perforated to receive the horizontal portion M of a steam-pipe, which has a properly-packed loose joint, *m*, to permit its lower vertical portion, M′, to be carried back and forth by the arm C′ in its oscillations, the said pipe having an elbow, *m′*, the upright arm of

which connects with the said joint *m*, while its horizontal arm passes through the arm C′, and connects with the portion M′ of said pipe, and the lower end of this part M′ screws into the top of the hollow heating-box D, to admit steam thereto, a cock, *d*, being provided to carry off the water of condensation, and thus the box D and type-holder and type supported thereby can be quickly heated, which is necessary in the application of gold or silver leaf.

When it is inconvenient or impracticable to employ steam as a heating medium, I may use gas in this manner: Two holes, *d′ d′*, are bored entirely through the lower part of the heating-box, and a flexible gas-tube with two burners is used, allowing the flames from the said burners (which are placed within the holes *d′ d′*) to pass through said holes, thereby quickly heating the box and its attachments.

The operative parts of my machine when at rest and ready for stamping the name or device on the hat-sweat are in the positions shown in dotted lines in Fig. 1—that is to say, the handle-arm of the bell-crank lever G^2 is resting on the projecting arm of the stop G′, and the depending arm C′, which carries the box D and type-holder, is swung over to the right (by means of weight c^2 on lever C^2) until the said arm rests against the stop A′.

The operation is as follows: The lever I is depressed to a vertical position, which pulls down the slide G and locks it, and the operator takes a hat, opens out the sweat-leather, and hangs the same over the segment-head H, and places a piece of gold-leaf on the sweat, ordinary size having been first applied to the latter. The lever I is then raised, and the weighted lever K at once forces the slide, segment, and hat-sweat up under the type in the holder, as shown in Fig. 2, the box D, holder, and type having been made hot by either steam or gas, as already described. The highest point of the segment is now directly under the first line or edge of the type or block in the type-holder, and by merely raising the lever G^2 the segment-head, together with the hat-sweat thereon supported, is carried over to the left, and the printing thereby accomplished, the said segment in its movement presenting the leaf-covered sweat equally against all the type in the holder and carrying it along, the parts being represented in full lines in Fig. 1 at a stage when the printing is about half finished, and as soon as the lettering is accomplished the slide can be drawn down again and the hat removed, and as the arm C′ will have been already swung back again by the weight c^2, the parts are ready to receive another hat-sweat and repeat the operation.

Should it be desired to print the device without the use of gold or silver leaf, the box D need not be heated; but the type can simply be inked and the sweat printed therewith in the manner described, and this printed impression can be dusted with bronze-powder, if desired, or left just as printed.

A very valuable feature of my invention is that I may employ movable type as well as any electrotype-block, and these may be set up in any order or arrangement desired in the type-holder, and their projecting or printing surfaces will always be on the same horizontal plane, and hence I am not compelled to prepare a special block or die whenever I wish to change the matter to be printed or gilded on the hat-sweat.

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

1. In a machine for printing or stamping upon hat-sweats, an arm or lever swinging from a stand and carrying a type-form, the printing-surfaces of which are all on the same horizontal plane, combined with and adapted to engage with and follow a pivoted segment carrying the hat-sweat, as the same, being raised in place, is swung upon its pivot, thereby effecting the printing of said hat-sweat, substantially as set forth.

2. In a machine for printing or stamping upon hat-sweats, a weighted arm or lever swinging from a stand and carrying a die connected to a heating-box, and adapted to engage with and follow a pivoted segment carrying the hat-sweat, as said segment, being raised and locked in place, is swung upon its pivot, whereby the leaf-covered sweat is stamped, substantially as set forth.

3. In a machine for printing or stamping upon hat-sweats, the stand A, having hub B for shaft B′, and the stop A′, in combination with the sleeve C, carrying the weighted lever C^2, and depending arm C′, provided with the heating-box D and the type or die holder E, substantially as shown and described, and for the purpose set forth.

4. In a machine for printing or stamping upon hat-sweats, the stand A, having slots *a′* and a^2, and vertical plate F, with strips *f f*, in combination with the weighted lever K, having rounded head *k*, fulcrum-rod L, and slide G, having central slot, *g*, substantially as shown and described, and for the purpose set forth.

5. In a machine for printing or stamping upon hat-sweats, the slide G, having slot *g*, and adjustable stop G′, with fastening-nut *g′*, substantially as described, in combination with the segment-head H, having elastic cushion *h*, handle G^2, and fulcrum-pin g^2, substantially as shown and described, and for the purpose set forth.

6. In a machine for printing or stamping upon hat-sweats, the stand A, having lug *a*, and slide G, having projection g^3, in combination with weighted lever K, fulcrumed within the stand A, and projecting through slots formed in said stand and slide G, and the lever I and link *i*, substantially as shown and described, and for the purpose set forth.

7. In a machine for printing or stamping upon hat-sweats, the stand A, having slide G, substantially as described, in combination

with the arm C′, swinging on shaft B′, and carrying the heating-box D, having connecting steam-pipes M M′, cock *d*, and holes *d′ d′*, for gas-burners, and the type or die holder E, substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand, on this 9th day of March, 1883, in the presence of two witnesses.

ERNEST REIN.

Witnesses:
H. G. UNDERWOOD,
FRED HORNEFFER.