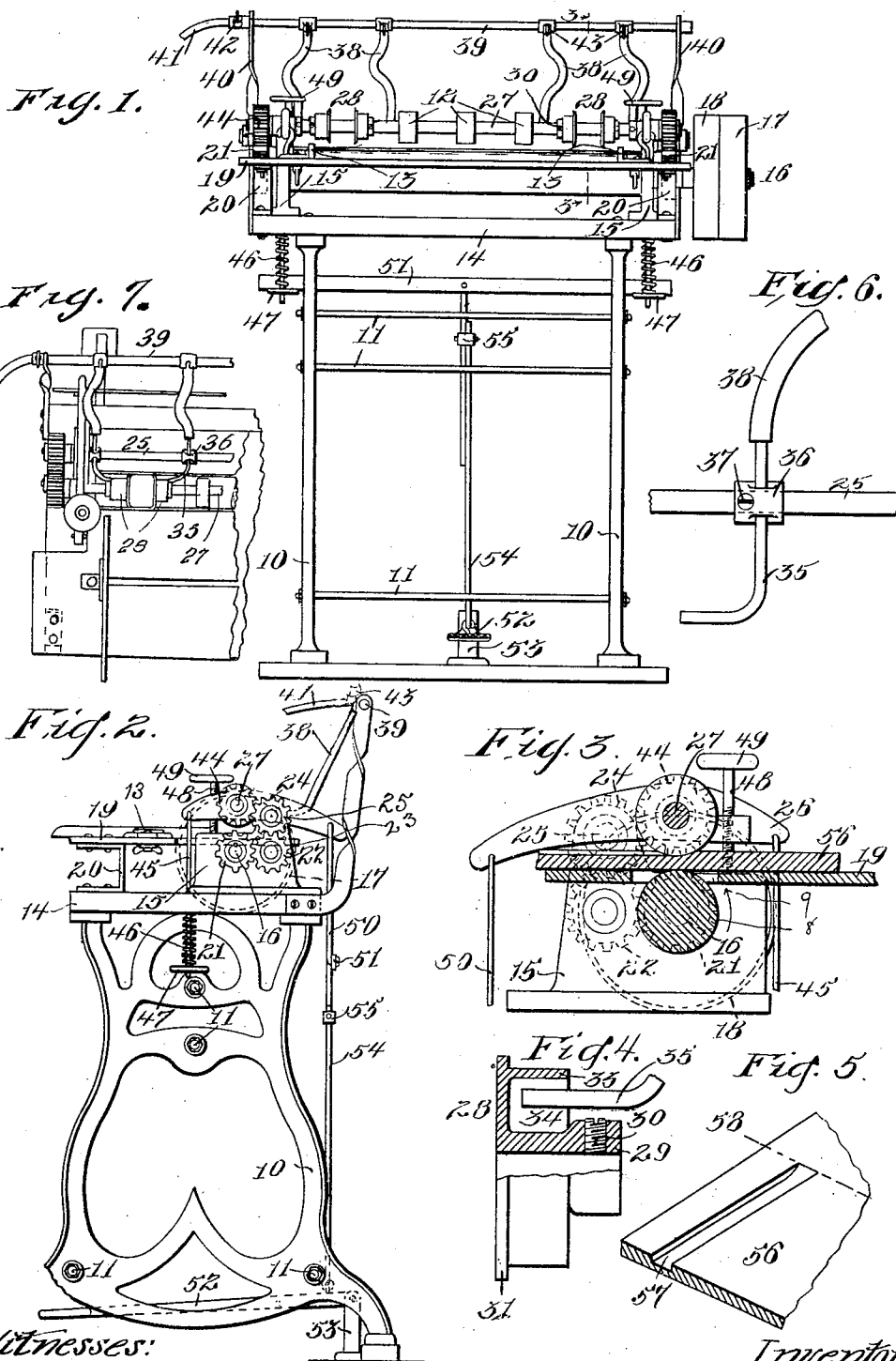


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E. E. SPENCER, JR.
EMBOSSING OR CREASING MACHINE.

APPLICATION FILED AUG. 17, 1904.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD E. SPENCER, JR., OF NEW YORK, N. Y.

EMBOSSING OR CREASING MACHINE.

No. 823,305.

Specification of Letters Patent.

Patented June 12, 1906.

Application filed August 17, 1904. Serial No. 221,022.

To all whom it may concern:

Be it known that I, EDWARD E. SPENCER, Jr., a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Embossing or Creasing Machines, of which the following is a specification.

This invention has reference to the art of leather-working, and in its specific application is directed to a mechanism adapted to crease leather in such suitable manner as to permit the leather to be readily formed into suitable configurations.

It is an object of the invention to construct a device capable of producing a plurality of creases at a single operation and, if desired, to produce such creases in pairs or sets simultaneously.

A further object is to accomplish this result through means simple in construction, inexpensive, and durable.

An application of the invention is illustrated on the accompanying sheet of drawings, whereon—

Figure 1 is a front elevation of a form of machine embodying my present improvements. Fig. 2 is an end view thereof. Fig. 3 is an enlarged cross-section of a portion of the machine on about the line 3-3, Fig. 1, looking toward the right. Fig. 4 is an enlarged detail of one of the embossing-rolls broken away and partly shown in longitudinal section. Fig. 5 is a perspective view of a portion of the work of the machine, and Fig. 6 is an enlarged plan view of one of the burners and its carrier. Fig. 7 is a partial plan view of the device.

Similar characters of reference indicate like parts throughout the figures.

In the form illustrated the machine may comprise a frame provided with standards 10, connected by tie-bolts 11, and said standards in the present instance support a bed-plate 14, adapted to carry the operating mechanism. Proceeding from said bed-plate 14 are supports 15, into which is suitably journaled a driving-shaft 16, shown in the present instance as provided with a fast and loose pulley 17 and 18, respectively. The work-table is suitably supported by the standards 20, carried by the bed-plate. The shaft 16 also carries a roll 8, extending through a slot 9 in the work-table parallel with the roll and coöperates with the creasing and pressing rolls hereinafter set forth.

The driving-shaft 16 is provided at each end with a pinion 21, which mesh, respectively, with pinions 22, which may be mounted, if desired, upon shafts 23, which pinions are also in mesh with pinions 24, which are loose upon the shaft 25, having bearings in the standards at each end of the bed-plate.

Pivoted upon the shaft 25 at the end of the machine is a lever 26, which carries a shaft 27, upon which is mounted a plurality of creasing-rollers 28 and which in the present instance are preferably located in pairs, so that when the stock is passed beneath the rollers the former may be provided with a plurality of creases located in pairs, if desired, during a single operation of the machine. These creasing-rollers are preferably mounted for adjustment longitudinally of the shaft 27, so that the distance between each set of creases may be varied at will to meet the demands of the operator, and for the purpose of maintaining said rollers in their adjusted positions upon the shaft 27 each roller is provided in the present instance with a set-screw 30, which passes through the hub 29 of the roller 28. The shaft 27 is also provided with a set of intermediate stationary rollers 12, which are adapted to press down upon the central portion of the stock while the same is being creased, whereby to prevent the latter from buckling.

One of the features of this invention is the provision of a specially-designed creasing-roller which is adapted to become highly efficient and to maintain its efficiency when a gas-flame is applied thereto.

As seen in Fig. 4, the roller may comprise the hub 29, adapted to be adjusted upon the shaft 27 in any suitable manner—as, for instance, by the aforesaid set-screw 30—and such roller comprises a working edge 31, from which laterally extends a flange 33, concentric with the hub 29, whereby a pocket 34 is formed, into which extends an extremity of a burner 35. In this way the flame is confined within the walls of the chamber 34 and the efficiency therefrom is thereby increased, not only because it is confined in such chamber, but because the draft has no opportunity to deflect said flame away from the roller, as is the case in such constructions where the flame is directed against the outer periphery of a roller. It will also be understood that the usual smutting of rollers which takes place where the

flame is directed against the outer periphery thereof is avoided in this case and that the outer periphery of the rollers 28 is constantly kept clean.

5 In the present instance there are shown four of these rollers mounted upon the shaft 27, each of which has its burner 35, which burners are carried by brackets 36, adjust-
10 ably mounted on the shaft 25, each of which brackets may be provided with a set-screw 37, permitting its adjustment upon the ad-
15 justment of its embossing-tool. The burners may be fed by means of flexible pipes 38, connected to a pipe 39, supported by brack-
20 ets 40 from the machine, and fed by some suitable supply connection 41, which supply-pipe 39 has a stop-cock 42 for shutting off the supply, and each burner has its individual stop-cock 43 for shutting off its supply or
25 regulating it, as the case may be. The shaft 27 has fast at each end a gear-wheel 44 in mesh with the gear-wheel 24.

The embossing-rollers may be held to their work by means of a link 45, which may en-
30 gage one end of the lever 26 and which has a spiral spring 46 pressing between an adjustable head 47 and the lower portion of the bed-plate. One of these is pivoted at each end to the frame in the present instance, and by this means independent adjustment may be had
35 at either end. This is for pulling the embossing-rollers toward the work-table and the work. Each lever may be independently adjustable toward and from the table
40 by means of a set-screw 48, having a hand-wheel 49. This will adjust the rollers at each end. It will be observed also that the work-table 19 is provided with stock-guides 13, which may be adjusted longitudinally of the
45 work-table, so that various widths of stock may be directed through the machine in any given or desirable manner. It may be that in certain work it is desired to emboss heavier at one end than at the other end, in which
50 case the screws 48 may be adjusted, or it might be that the stock may be uneven in thickness, in which case also the separate adjustability of each end of the shaft 27 may be found desirable.

50 In certain kinds of embossing it is desirable to start and stop the embossing-tool from performing its work at points inward of the edges of the stock and to permit the tool to be raised and lowered. The levers 26 have
55 links 50 connected to a cross-bar 51, which is connected and operable by a treadle 52, pivoted on a support 53, connected to the bar 51 by a link 54, having adjusting means 55. Thus it will be seen that as the rollers ad-
60 vance through the stock (designated in a general way by 56) and produce embossing (illustrated by 57) when the tools have reached the point indicated by the dotted line 58 by pressing upon the treadle 52 the
65 rollers or tools will be drawn away from their

work against the pressure of the spring 46, and owing to the connection of the gear-wheel 44 with the gear-wheel 21 upon the driving-shaft through the intermediation of the gears 24 and 22 the raising and lowering
70 of the shaft 27 will not stop the movement of the tools, and no matter how long the shaft is raised the tools will be driven, so that their heating will be uniform during the interrup-
75 tion of the work the same as during their pe-riod of work.

It will now be observed that I have provided a creasing-machine carrying a plural-
80 ity of independently-adjustable creasing devices, with each of which coöperates a heating device. It will also be noted that I provide an adjustable arrangement of parts, whereby various thicknesses and sizes of stock may be accommodated. It will be fur-
85 ther observed that I provide an efficient and novel creasing-roller which is provided with a pocket in which to confine a flame, so that the efficiency thereof may be increased and that by introducing said flame into said
90 pocket or on the inner side of the roller the usual smutting of the periphery or working surface of the same is avoided.

Variations may be resorted to without departing from the spirit of my invention.

Having thus described my invention, I
95 claim—

1. In a machine of the character described, the combination of a frame, a shaft supported from the frame, a roll having an annular pocket in one face, the roll being mounted on
100 the shaft to be adjustable endwise thereof, a second shaft carried by the frame and parallel with said shaft, and a gas-burner carried by said second shaft and adjustable thereon to have its end project into the pocket of said
105 roll in its several positions of adjustment.

2. In a machine of the character described, the combination of a frame, a shaft journaled in the frame, a pair of arms secured to said
110 shaft, a second shaft rotatably carried by said arms, means for rotating the second shaft in the several positions to which such shaft is carried by said arms, a roll mounted on the second shaft and having an annular pocket in one face, and a gas-burner supported
115 on said first shaft and extending into the pocket of said roll.

3. In a machine of the character described, the combination of a frame, a shaft journaled in the frame, a pair of arms secured to said
120 shaft, a second shaft rotatably carried by said arms, means for rotating the second shaft in the several positions to which such shaft is carried by said arms, a roll mounted on said second shaft to rotate therewith, and
125 having an annular pocket in one face, and a gas-burner mounted on said first shaft and having its extremity extending into the pocket of said roll, the gas-burner being at-
130 tached to the first shaft to swing therewith

whereby the burner will remain immovable relative to said roll when the latter is rocked by the movement of said arms.

4. In a machine of the character described, the combination of a frame, a shaft journaled in the frame, a pair of arms secured to the shaft, a second shaft rotatably carried by said arms, a roll carried by said second shaft to rotate therewith and adjustable along the shaft, the roll having an annular pocket in one face, and a gas-burner carried by said first shaft and having its end projecting into

the pocket of said roll whereby the burner will be immovable relative to the roll upon the latter being rocked by the movement of said arms, the burner being adjustably carried by said first shaft whereby it can be adjusted along its supporting-shaft to correspond with the adjustment of said roll along said second shaft. 15

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