L. H. ORR.

EMBOSSING APPLIANCE.

APPLICATION FILED JULY 26, 1909.

941,532. **Patented Nov. 30, 1909.**

2 SHEETS—SHEET 1.

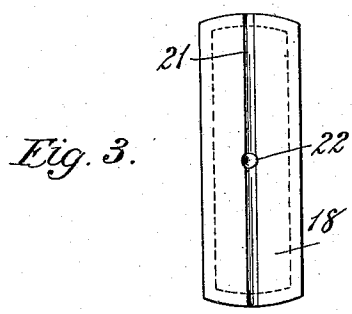


Fig. 3.

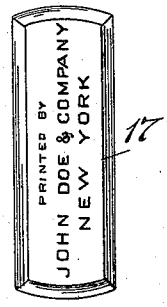


Fig. 4.

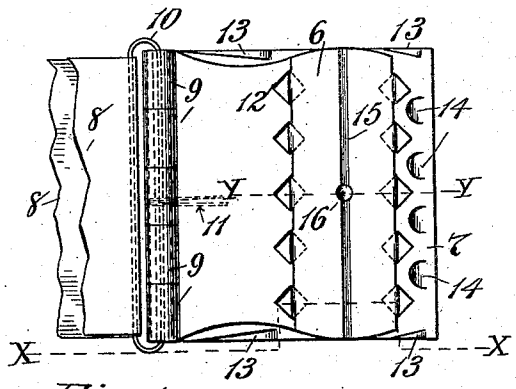


Fig. 1.

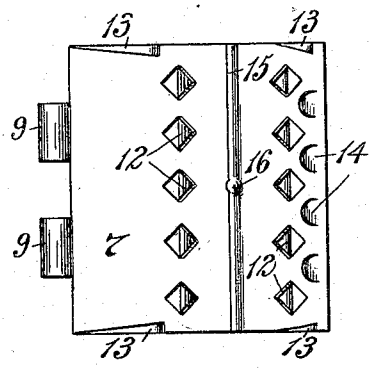
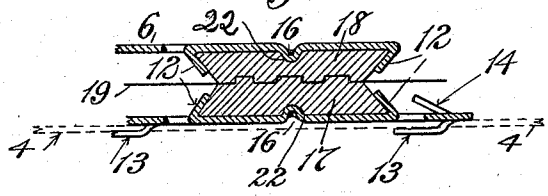


Fig 2.

Fig. 6.



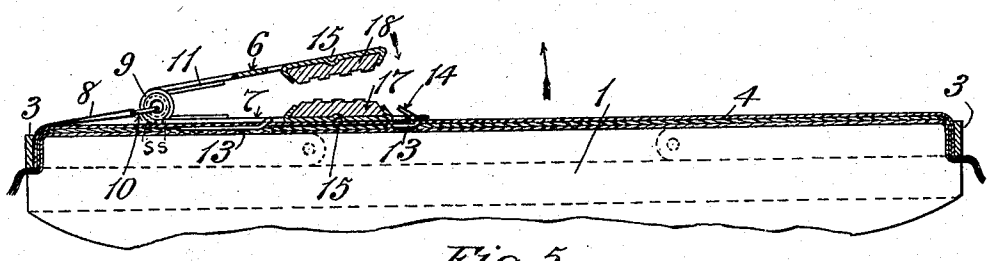


Fig. 5.

Witnesses:
Edward Rowland.
M. F. Keating

Inventor
Louis H. Orr
By Attorney
Charles J. Kintner

L. H. ORR.

EMBOSSING APPLIANCE.

APPLICATION FILED JULY 26, 1909.

941,532. Patented Nov. 30, 1909.

2 SHEETS—SHEET 2.

Fig. 7.

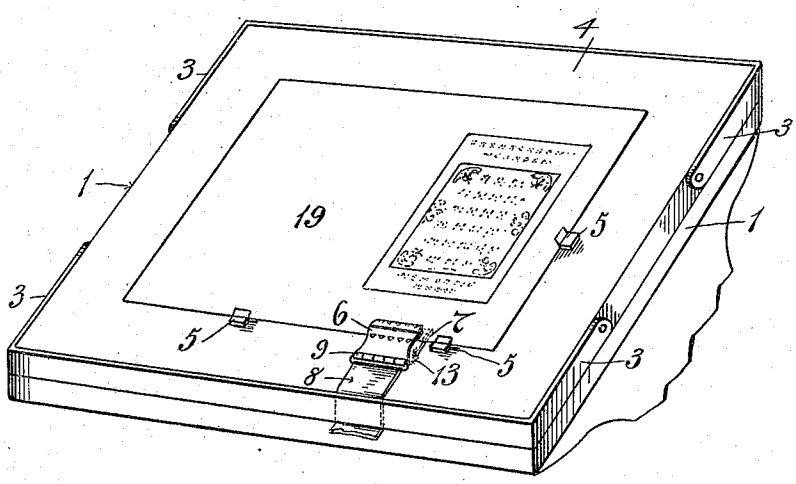
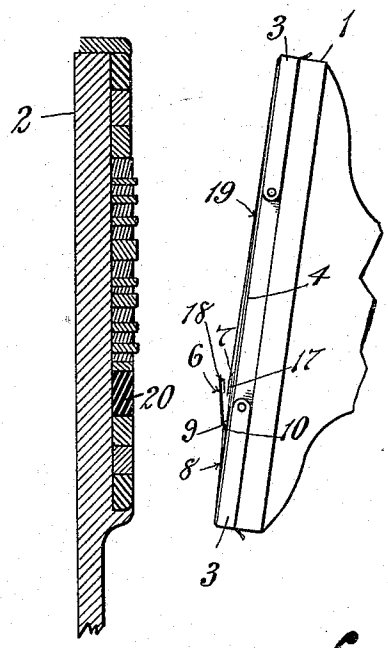


Fig. 8.



Witnesses:
Edward Rowland.
M. F. Keating

Inventor
Louis H. Orr
By Attorney
Charles J. Kintner

UNITED STATES PATENT OFFICE.

LOUIS H. ORR, OF NEW YORK, N. Y.

EMBOSSING APPLIANCE.

941,532. Specification of Letters Patent. **Patented Nov. 30, 1909.**

Application filed July 26, 1909. Serial No. 509,696.

To all whom it may concern:

Be it known that I, LOUIS H. ORR, a citizen of the United States, and a resident of New York city, borough of Manhattan, county and State of New York, have made a new and useful Invention in Embossing Appliances, of which the following is a specification.

My invention is directed to a novel embossing appliance designed to effect the embossment of letters, figures, or characters upon paper or analogous substances, and it has an especial utility in connection with ordinary printing presses for the purpose of embossing the name of the printer or firm by whom the work is done.

In the printing of book-covers, programs, circulars, prospectuses, etc., it has heretofore been the custom to display the name of the firm by whom the work was done on some part of the paper by printing the same in one corner or at the top or bottom thereof.

My improvement in appliances of the nature indicated has for its objects: first, to provide a novel die holding appliance which may utilize individual sets of embossing dies, each individual set being adapted to emboss different letters, figures or characters; second, to provide a novel embossing device, consisting of a die holding appliance having detachable die parts which shall be available as a whole for use with printing presses, or with hand or power operated devices generally; third, to provide an embossing appliance, embracing yieldingly connected parts each carrying one half of an embossing die, the die holding parts of the appliance and the halves of the die themselves being so constructed that the die parts, when in position for use, will be locked in accurate relation to each other and may be reversed or turned end for end, if desired, so as to enable one to effect the embossing either at the top or bottom of the paper being operated upon; fourth, to provide a novel embossing die so constructed that each half thereof may be slipped into place in its die holding appliance and locked therein, the relation of the two halves of the die when thus locked being such that a perfect embossment will be effected at each complete operation of the holding appliance.

My invention will be fully understood by referring to the accompanying drawings, in which,

Figure 1 is a plan view looking at the top thereof; and, Fig. 2 a similar view of the lower half only, the two parts of the embossing die being shown in plan view Figs. 3 and 4 and in position ready for insertion into the die holding or sustaining appliance. Fig. 5 is a sectional view of the invention taken through Fig. 1 on the broken line X—X and also through the platen of a printing press to which it is attached ready for use. Fig. 6 is an enlarged detail sectional view taken through Fig. 1 on the line Y—Y. Fig. 7 is a perspective view illustrating the application of my invention to the platen of a printing press with a book-cover to be printed upon in position. Fig. 8 is an enlarged part sectional, part side elevational view showing the application of my invention to the platen of a printing press and also the bed of the press, together with the form of type embracing the matter to be printed and the means by which my appliance is automatically actuated when the press is in operation.

Referring now to the drawings in detail and first to Figs. 7 and 8, 1 represents the platen of a printing press, 2 the bed thereof supporting the usual form of type for effecting the impression of the printed matter upon the paper to be printed. 3, 3, 3, represent the usual pivoted locking latches and 4 the usual sheet of backing paper which is secured in place upon the platen by such latches in the manner shown. 5, 5, 5, represent the guides for effecting the proper adjustment of the sheets of paper to be printed upon when fed forward successively over the platen. The devices so far described are in well known public use in many printing offices.

My invention contemplates, as before stated, the application or use of an appliance or device for effecting by embossment on the paper to be printed, any letters, numbers or characters it may be desired to represent; such, for instance, as the name and address of the firm by whom the work is done, and is illustrated in Figs. 1 to 6 inclusive wherein is shown a two-part hinged supporting frame or appliance made preferably of sheet steel, said parts being pivotally secured together by a plurality of hinges 9, 9, 9, around an accurately turned hollow hinge pin, as clearly shown in Figs. 1 and 5, the structural arrangement being such that the hinged parts 6 and 7 may be moved

toward and from each other with the greatest accuracy. These two parts or halves 6 and 7 are provided at their hinges with abutting shoulders *s*, *s*, for limiting the separation of the male and female parts of the die, as shown in Fig. 5, and they are held normally in separated position by the ends of a spiral spring 11 wound around the hinge pin at a point near its center.

12, 12 in each half or part represent two parallel rows of struck-up teeth which, together, constitute pairs of alining guide-ways for the insertion and alinement of the male and female parts 17 and 18 of the embossing die, (see Figs. 3, 4 and 6).

13, 13, 13 represent a plurality of spurs or teeth on the under side of the lower half 7 for securing the appliance in slits in the backing paper 4 attached directly to the platen and in proper position for effecting the embossment of the paper 19 at the desired point, as clearly indicated in Figs. 6 and 7. 8 represents a strip of paper of proper width and length to be secured within a wire loop 10 one half of which extends to and through the hinge pin 9, the function of this strip of paper being to aid in more firmly holding the appliance in connection with the platen of a press as will be obvious on inspection of Figs. 5 and 7. These parts 8, 10 and 13 constitute means for securing the appliance and its supported die fixedly in place with relation to the work the die is to perform, although the part 13, 13 might alone constitute sufficient means.

14, 14, 14 represent a series of struck-up teeth in the lower half 7 of the appliance, their function being to act as guides to properly direct the paper 19 between the halves of the embossing die.

15, 15 represent accurately alined ribs on the adjacent faces of the upper and lower halves or parts 6 and 7 of the die supporting appliance (see Fig. 5), said ribs constituting means for assuring the proper alinement of the halves 18, 17 of the die with relation to each other.

16, 16 are cone-shaped indentations at the absolute center of each rib 15. These indentations are relatively deeper than the alined ribs 15, 15.

It is the function of the two ribs 15, 15 to enter accurately alined slots or grooves 21, 21, upon the back faces of the two halves 18, 17 of the die. This slot or groove 21 is not visible on the back of the male die part 17, as will be obvious on inspection of Fig. 4, the two die parts 17 and 18 being exact duplicates, except as to the raised and depressed characters on the operating faces thereof.

22, 22 are centrally located cone-shaped holes or openings in the back faces of the die parts 17, 18 adapted to receive the corresponding cone-shaped indentations 16, 16 (see Figs. 3 and 6), the entire structural arrangement being such that when the two halves 18, 17 of the die are slipped into place from the position shown in Figs. 3 and 4 to their final location in Figs. 1 and 2, they are locked ready for use, and every part of each of the male and female embossing faces of said die will be located in such exact relation to each other than when the two parts are forced into the position shown in Fig. 6 the characters indicated on the upper face of that half of the die illustrated in Fig. 4 will be clearly embossed upon the paper 19.

20 (see Fig. 8) represents a block secured directly in the form when the same is put in place in a printing press and it is located in such relation to the embossing appliance that it will, when the platen is moved forward, actuate the upper part 6 of the appliance so as to effect the embossment of the characters upon the paper 19 by forcing the two parts of the die into the relation shown in Fig. 6; at the same time placing the strong spiral spring 11 under stress so that when the platen is withdrawn the part 6 will assume the position shown in Fig. 5.

In using this appliance the spurs or teeth 13, 13, of the lower half thereof are secured to the paper 4 in slits or openings therethrough as will be apparent on inspection of Fig. 6, after which the strip of paper 8 is turned at its free end downward over the edge of the platen, drawn taut, and it, together with the backing paper 4, are then effectually secured in place by the locking latches 3, 3, the appliance being located in the proper relation to the paper guides 5, 5, 5, to effect the embossment upon the sheet of paper 19 at the proper point with relation to the printed page, as will be obvious on inspection of Fig. 7.

It will be apparent that each time a sheet of paper 19 is fed into position by the attendant against the guide-ways 5, 5, in the usual manner and the platen 1 moved to its forward or printing position, the matter in the form will print the page and simultaneously the block 20 will cause the embossing appliance to effect the embossment of the characters shown in Fig. 4 at the lower edge of the paper.

It will be noted that by reason of the central location of the cone-shaped holes or openings 22, 22 and the slots or grooves 21 on the faces of the two halves of the die, said halves may be withdrawn, turned completely around, and reinserted, thereby making it possible to print the characters in reverse position, this constituting an important feature, in that it enables one to effect the necessary changes of these two parts of the die in the appliance, in order to print on either end of the sheet when thus turned in reverse position, it being obvious that both halves thereof may be turned 180° and in-

serted, thereby completely reversing the relation of the letters. It is important, however, that one end of each half of the die shall be properly marked in order that when they are turned these marks shall be at the corresponding ends thereof.

Although I have shown my invention as applied to a printing press in connection with which it has an especial utility, I do not limit the same to such use, as obviously it may be applied in connection with any power or hand operative device which has a stationary and a movable operating part.

I am aware that an embossing appliance has heretofore been devised, the same consisting of two flexible sheets of metal yieldingly connected together and provided with male and female embossing characters impressed in the adjoining faces of such halves and adapted to be actuated between a pair of rollers when passed therethrough, and I make no claim hereinafter broad enough to include such a structural device.

I am also aware that embossing tools having half of a die permanently secured to the fixed part and the other half thereof to the movable part of an operating appliance is old and in well known public use, such devices having been utilized in connection with notary stamps, and the like; and I am aware that it has heretofore been proposed to combine a two-part hinged embossing die with a printing press by securing the same to the bed thereof and effecting the operation of embossing characters upon some part of a sheet of paper at the same time that printing is being effected on the remainder of the surface of the sheet, and I make no claim hereinafter broad enough to include such a structural device, my claims being limited to improvements thereupon.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:—

1. An embossing device embracing yieldingly interconnected parts provided each with alining guide-ways and male and female die parts conforming to the guide-ways and adapted to be inserted into and withdrawn therefrom, one of said interconnected parts being provided with means for securing the device as a whole in fixed relation to the work it is to perform.

2. An embossing device embracing yieldingly interconnected parts and male and female die parts; means for detachably securing said die parts to said interconnected parts; means for locking said die parts in accurate operative relation with each other, and additional means for securing the entire device in fixed relation to the work it is to perform.

3. An embossing device embracing a two-part holding appliance and male and female die parts therefor; means for detachably securing said die parts to the holding appliance, and locking means for each die part; said locking means of each die part having a definite or fixed relation to the corresponding holding part such that the two die parts may be reversed in operative relation as a whole and thereby adapted to emboss at either the top or bottom of the material being operated upon.

4. An embossing device embracing a two-part sheet metal holding appliance provided with hinges secured together about a hollow hinge pin; means for holding the parts in separated relation, and a two-part embossing die secured to the adjacent faces of the holding appliance; together with means for securing the holding appliance in fixed relation to the work the die parts are to perform.

5. A die holding appliance for a two-part embossing die embracing two hinged parts provided with means for yieldingly holding them apart or away from each other, each part having guide-ways for one of the die parts, and means for fixedly securing the die parts in definite locked relation to each other; together with means for securing the appliance as a whole in definite or fixed relation to the work the die parts are to perform.

6. A die holding appliance, embracing two hinged sheet metal parts each provided with struck-up guide-ways for the male and female parts of the die; spurs or teeth struck up from the bottom of the lower part, and additional holding means secured to the device and adapted to hold the appliance in fixed relation to the work the die parts are to perform.

7. A two-part die holding appliance provided with parallel guide-ways for the individual parts of the die; in combination with male and female die parts held by said guide ways; locking means carried by the die parts and the holding parts for locking the dies in accurate operative relation with each other; said locking means being adapted to permit the dies to be locked in position for embossing either at the top or bottom of the material being operated upon, as desired.

8. A two-part embossing die each part of which is provided with an accurately alined slot or groove in its back face and centrally located locking means adapted to lock said die parts in position in a die holding appliance and in accurate relation to each other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS H. ORR.

Witnesses:
C. J. KINTNER,
M. F. KEATING.