

Sept. 8, 1936.

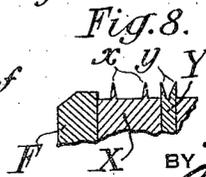
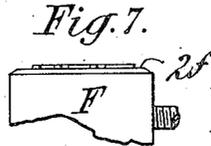
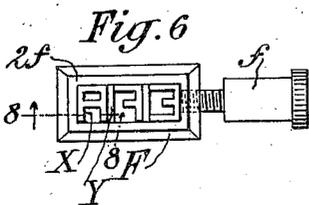
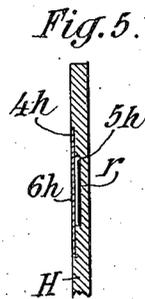
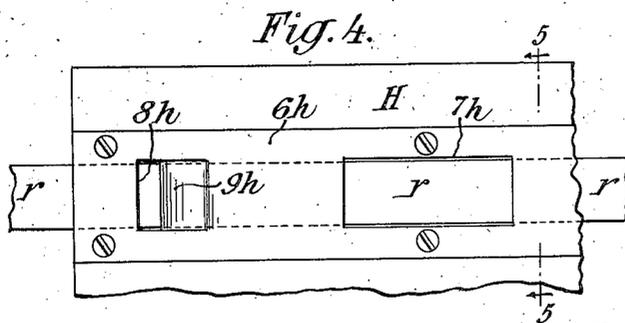
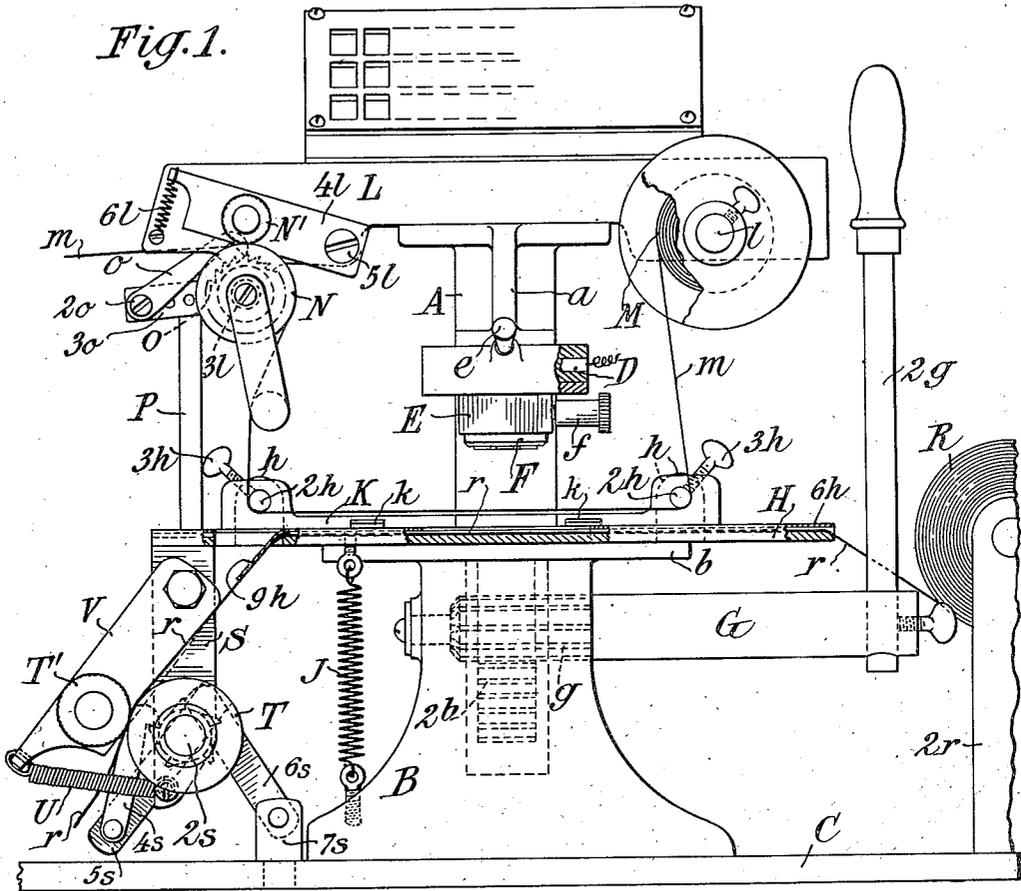
H. GOULD ET AL

2,053,473

COMBINED HOT STAMPING AND PERFORATING DEVICE

Filed Nov. 21, 1934

2 Sheets-Sheet 1



INVENTOR
Herman Gould and Frank Ackerman,
 BY *Abraham Engel*
 ATTORNEY

Sept. 8, 1936.

H. GOULD ET AL

2,053,473

COMBINED HOT STAMPING AND PERFORATING DEVICE

Filed Nov. 21, 1934

2 Sheets-Sheet 2

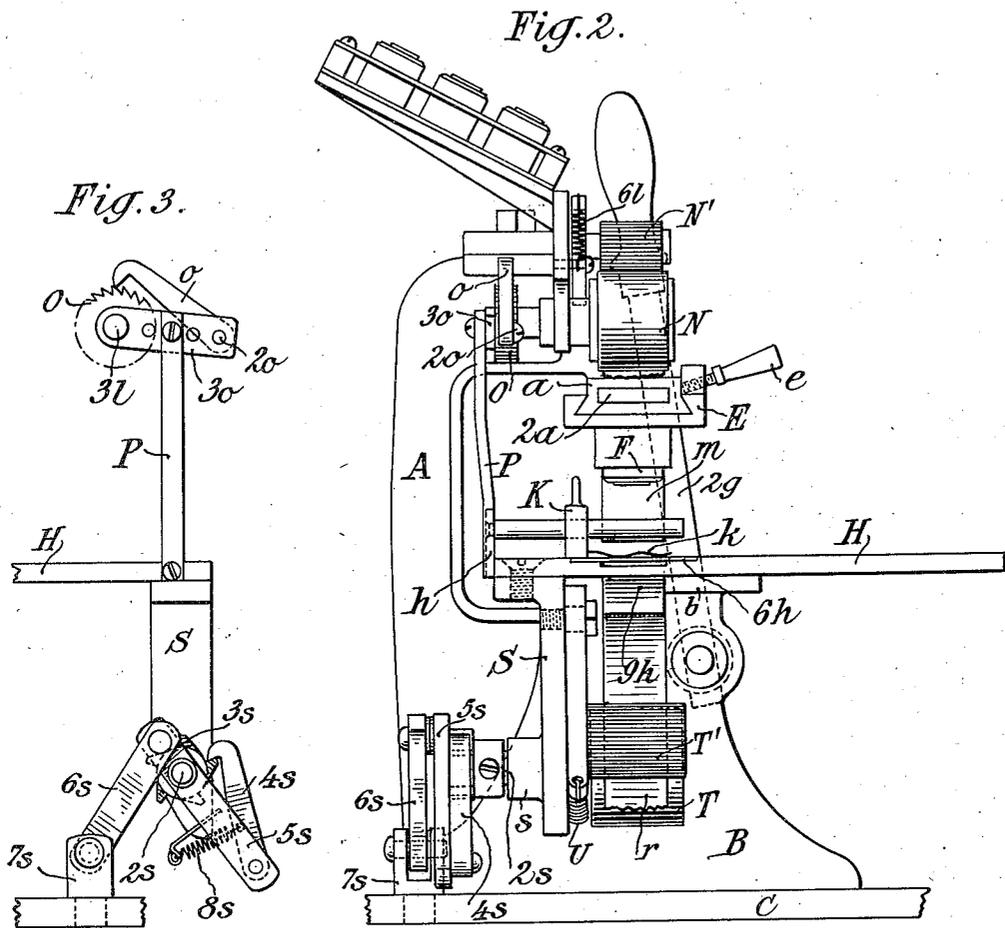


Fig. 9.

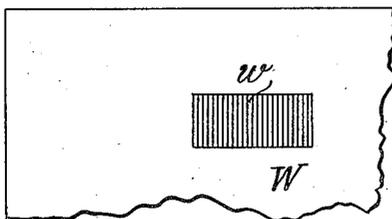
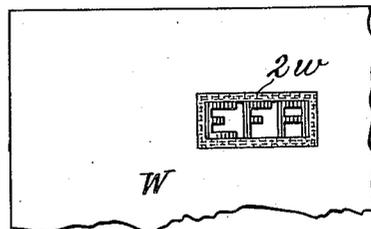


Fig. 10.



INVENTOR
Herman Gould and
Frank Ackerman's
BY
Abraham Engel.
ATTORNEY

UNITED STATES PATENT OFFICE

2,053,473

COMBINED HOT STAMPING AND PERFORATING DEVICE

Herman Gould, Brooklyn, and Frank Ackerman,
Bronx, N. Y., assignors to Ackerman-Gould
Corporation, New York, N. Y., a corporation
of New York

Application November 21, 1934, Serial No. 754,126

6 Claims. (Cl. 41—1)

Our present invention relates to a combined hot stamping and perforating press and to the method of simultaneously hot stamping and perforating stationery or the like and constitutes an improvement upon the invention disclosed in Patent No. 1,978,790 granted to us on October 30, 1934.

The primary object of our invention is to provide a press which is capable of use for either separately or simultaneously stamping or imprinting and perforating articles of stationery such as writing paper, announcement cards and the like to provide said articles with plain or perforated uni-colored or contrastingly colored, lustrous or metallic foil designs, monograms, insignia, etc. A further object is to provide a press of the character described which will be inexpensive, portable and so simple as to be efficiently operable by a person of average intelligence after but a few minutes' instruction as to its use. A further object is to provide novel means for automatically simultaneously feeding the color strip carrying the imprinting ink or metal foil and the cushioning strip for the perforating die so as to present fresh portions of said strips to the stamping die for each stamping and perforating operation. A further object is to provide a novel form of type or die for use with such press whereby the simultaneous hot stamping and perforating of stationery and the like to provide the same with contrasting color designs can be accomplished. A still further object is to provide a novel method of ornamenting stationery and the like and the product resulting from such method.

The foregoing and other objects of our invention will be better understood from the detailed description which follows when considered in conjunction with the accompanying drawings, wherein:

Figure 1 is a front elevation of the press embodying our invention, parts thereof being broken away to better show the details of construction.

Fig. 2 is a side elevation of the press shown in Fig. 1 when viewed from the left end thereof.

Fig. 3 is a fractional rear elevation of the color strip and cushioning strip feed controlling means.

Fig. 4 is a fractional top plan view of the platen showing the cushioning strip guiding means.

Fig. 5 is a transverse section taken along the plane of the line 5—5 of Fig. 4.

Fig. 6 is a top plan view of a chase containing stamping and perforating dies.

Fig. 7 is a fractional side elevation of the chase and dies shown in Fig. 6.

Fig. 8 is an enlarged section taken along the line 8—8 of Fig. 6.

Fig. 9 is a fractional plan view of an article of stationery to which the invention is applicable.

Fig. 10 is a view similar to Fig. 9 of the article after having been operated upon by the stamping and perforating die.

Referring to the drawings, let A indicate a substantially C-shaped frame carried by and preferably formed integrally with a substantially conical base member B which in turn may be formed integrally with or mounted upon a supporting plate C. The upper arm of the C-shaped frame is formed with a depending portion *a* having a transverse recess *2a* therethrough for accommodating heating means preferably in the form of an electric resistance element D which is removably carried thereby. The front and rear sides of the depending portion are inclined inwardly and upwardly from the base thereof to provide a dovetail supporting and guiding means for a palette E which has a complementary dovetail recess. The palette is formed with a socket within which a chase F may be suitably held by a clamping screw (not shown). To facilitate the mounting and removal of the palette from its supporting means the palette is provided with a screw threaded clamping handle *e*.

The base member B at its top supports a table *b* and depending from said table and extending centrally through said base member is a stud *2b* formed with a rack for cooperation with a pinion *g* formed on an operating shaft G which extends transversely through an opening in said base. An operating handle *2g* is connected to the outer end of the operating shaft for rotating said shaft to raise or lower the table *b*. A platen H is mounted on the table *b* and is movable upwardly toward the chase F as the operating handle *2g* is moved downwardly. For resisting said upward movement and for returning the platen downwardly on the completion of a stamping operation there is provided a helical coil spring J. At the rear of the platen there are mounted two plates *h* each of which carries a stud or pin *2h* which extend in parallel relation over the top face of the platen and provide guides for a gauge bar K which at each end is formed with an opening through which the pins extend. The gauge bar may be held in any adjusted position over the platen by thumb screws *3h* or the like. A pair of spring clips *k* are carried by the gauge bar K and adapted to receive and hold the stationery to be stamped and/or perforated.

Secured to the top bar of the C-shaped frame

is a carrying member L near one end of which is mounted a spindle *l* extending forwardly therefrom and upon which in turn is mounted a roll of color strip material M which may be of any desired character that will transfer colored ink or metallic foil therefrom to an article being stamped under the influence of heat and/or pressure. Suitable means may be employed for providing the necessary frictional resistance to said roll M to permit unwinding thereof under tension. At the opposite end of the member L upon a depending lug thereof is mounted a spindle *3l* upon which in turn is rigidly mounted a friction roller N. In superposed relation to the roller N is a second friction or pressure roller N' carried by an arm *4l* pivoted at *5l*, said roller N' being held against the roller N under the tension of a spring *6l*. Also fixedly carried by the spindle *3l* is a ratchet wheel O which cooperates with a gravity activated pawl *o* to cause movement of the roller N to draw the color strip *m* from the roll M between the rollers N and N' as the platen is raised and lowered. The pawl *o* is pivotally mounted at *2o* to one end of a link *3o*, the other end of which is pivotally mounted on the spindle *3l*. For moving the link *3o* and with it the ratchet wheel O there is provided a rod P, one end of which is fixed to the platen H and the other end of which is pivotally connected to the link *3o* intermediate its ends.

The top face of the platen H underlying the horizontal component of the color strip *m* is formed with a channel extending thereacross, said channel being of two depths *4h* and *5h*, the latter being the deeper and extending centrally of the former. Disposed within the channel *4h* so as to lie flush with the top of the platen is a plate *6h*, which latter has a rectangular opening *7h* underlying the chase F and a second opening *8h* provided by bending a portion *9h* of the plate *6h* downwardly as best seen in Fig. 1. The plate *6h* forms with the platen a longitudinally extending recess through which is guided a cushioning strip *r* of heavy paper or the like supplied from a roll R mounted upon a support *2r* extending upwardly from the supporting plate C or any other suitable means.

Depending from the platen H at the rear thereof and preferably in alignment with the rod P is a bracket S having a hub or bearing *s* near its lower end and through which extends a spindle *2s*. Mounted on the rear end of said spindle is a ratchet wheel *3s* and engaging therewith is a pawl *4s*. The pawl is pivotally carried by one end of a link *5s*, the other end of which is pivotally connected to one end of a link *6s*, the other end of which in turn is pivotally connected to an upstanding bifurcated lug *7s* mounted on the base plate C. The pawl *4s* is held in engagement with the ratchet wheel by a tension spring *8s*. Mounted upon the forwardly extending end of the spindle *2s* is a cushion roller T. A friction roller T' mounted upon a link V pivotally connected to the depending bracket S is held in frictional pressing engagement with the periphery of said roller T by means of a spring U, one end of which is connected to the free end of the link V and the other end of which is connected to the bracket S.

The cushioning strip *r* after being guided through the channel *5h* in the platen and under the deflecting lip *9h* passes through the friction rollers T and T', the associated pawl and ratchet mechanism of which serves to draw said strip through the rollers every time the platen com-

pletes an upward and downward movement in performing a stamping operation.

In the operation of our press a sheet of stationery or the like W which is to be operated upon by the stamping and perforating dies is engaged under the clips *k* on the platen after the guide K has been set. In the instant case a sheet of stationery has an area *w* of contrasting color to the sheet and the guide K is set so as to bring this area *w* directly under the stamping dies. Now let us suppose that it is desired to ornament said paper sheet with the cut out arbitrary initials "EFA" and to encompass said initials in a border *2w* of contrasting color to both the paper and the area *w*. More specifically let us suppose that the paper is white, the area *w* is red and the border *2w* is gold so that the cut out initials will be red surrounded by a border of gold. The stamping and perforating initial dies "EFA" with spacing elements therebetween will first be mounted in the chase F and the chase then mounted in the palette E. The color strip *m* will be such as adapted to deposit upon the paper a gold coloration when heat and pressure is applied thereto. The individual initial and spacing dies are of the character more specifically shown in detail in Figs. 6 to 8.

The initial dies X and spacer dies Y have cutting means *x* and *y* respectively which are adapted to cut through or perforate the paper to leave the initials "EFA" stand out in relief. The top *2f* of the chase is of less height than the cutting means *x* and *y* but of greater height than the clearance or depth of said cutting means so that the top of the chase provides a backing portion adapted to engage the color strip and cause the transfer of the gold therefrom to the paper while the cutting means cut through both the color strip and the paper being stamped. The clearance in the dies is of greater depth than the combined thicknesses of the color strip and the paper being stamped but not sufficient to permit the cutting means to cut through the cushioning strip. The cushioning strip therefore under the influence of heat and stamping pressure upon the chase will embed the cut out or scrap portions from the sheet W and the color strip *m* in the surface of the cushioning strip which will carry said scrap portions away as fresh portions of the color and of the cushioning strips are presented to the dies for each stamping operation. It will be apparent that such fresh portions of both the color strip and the cushioning strip will be presented to the stamping dies after each stamping operation because of the feed action of the ratchets O and *3s* respectively.

It will be apparent that any color scheme of contrasting colors for the ornamentation of stationery and the like can be provided by our invention by varying the contrasting colors of the paper and color strips employed and it will be also apparent that the color strip may be used with ordinary stamping or printing dies or type and that cutting dies may be used without or independently of any color strip. It will also be apparent that the invention is susceptible of embodiment in other forms than herein specifically illustrated and we therefore do not wish to be limited to the details of construction shown and described since the same may be changed without departing from the spirit of the invention as expressed in appended claims.

What we claim is:

1. A hot stamping press comprising in combi-

5 nation, a frame having mounted thereon a
 platen, type holding means, means for moving
 the platen and the type holding means relatively
 to each other for stamping operations, a color
 10 strip movably disposed over the platen in spaced
 relation thereto beneath the type holding means,
 a cushioning strip movably disposed upon the
 platen to lie substantially flush therewith in un-
 15 derlying relation to the color strip and means
 responsive to the relative movement of the platen
 and the type holding means for simultaneously
 moving both the color strip and the cushioning
 strip relatively to the platen to present fresh
 portions thereof beneath the type holding means
 for each stamping operation.

2. A hot stamping press comprising in combina-
 tion, a frame having mounted thereon a
 platen, hot stamping and perforating means,
 means for moving the platen toward and away
 20 from the first mentioned means, a color strip
 movably disposed over the platen in spaced re-
 lation thereto beneath the first mentioned
 means, a cushioning strip movably disposed
 25 upon the platen to lie substantially flush with
 the top face thereof in underlying relation to the
 color strip, said platen having in its upper face
 a groove and means for guiding said cushioning
 strip in said groove and means responsive to the
 30 movement of the platen for simultaneously mov-
 ing both the color strip and the cushioning strip
 relatively to the platen to present fresh portions
 of said strips beneath the stamping and perfor-
 ating means for each stamping operation.

3. A stamping press comprising in combina-
 35 tion, a frame having mounted thereon a platen,
 a hot stamping and perforating die, means for
 moving the platen and the die relatively to each
 other for stamping operations, a color strip
 movably disposed over the platen in spaced re-
 40 lation thereto beneath the die, a cushioning strip
 movably disposed upon the platen to lie substan-
 tially flush therewith in underlying relation to
 the color strip, the die having a backing portion

and cutting edges, the backing portion being
 adapted to engage the color strip and cause
 transfer of the color therefrom to the article
 being stamped, the cutting edges extending above
 5 the backing portion to a height to cut through
 the color strip and through the article being
 stamped but not through the cushioning strip,
 which latter is adapted to take the thrust of the
 die and retain and carry away the scrap stamp-
 10 ings from both the color strip and the article
 acted upon by the die and means responsive to
 the relative movement of the platen and the die
 for moving the color strip and the cushioning
 strip relatively to the platen to present fresh
 15 portions of said strips to the die for every stamp-
 ing operation.

4. A stamping and perforating die comprising
 a block having a printing surface, cutting means
 within the outline of and normally projecting in
 20 advance of said printing surface and defining
 therewith the outline of the design or character
 to be cut by the die and relief recesses at the
 bases of said cutting means extending deeper
 than the printing surface.

5. A stamping and perforating die comprising 25
 a block having a socket therein, a perforating
 die removably held within said socket and hav-
 ing cutting means normally extending above the
 top of the block and defining with the socket of
 the block the outline of the design or character
 30 to be cut by the die and relief recesses at the
 bases of the cutting means of a depth extending
 below the top of the block.

6. A stamping and perforating die comprising 35
 a block having a socket therein, a plurality of
 removable and interchangeable perforating dies
 held within said socket and having their cutting
 means normally extending above the top of the
 block and relief recesses at the bases of the cut-
 40 ting means of a depth extending below the top
 of the block.

HERMAN GOULD.
 FRANK ACKERMAN.