Feb. 10, 1931. C. HERSCHEL 1,791,671

COPYING ARRANGEMENT FOR COMMERCIAL BOOKS

Filed Feb. 14, 1929

Fig. 1

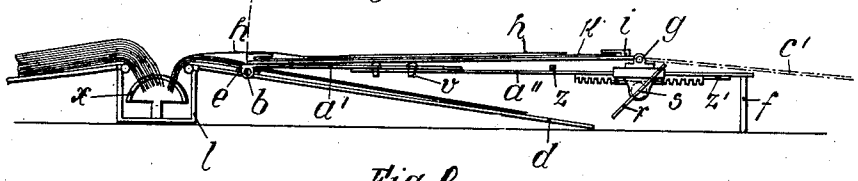


Fig. 2

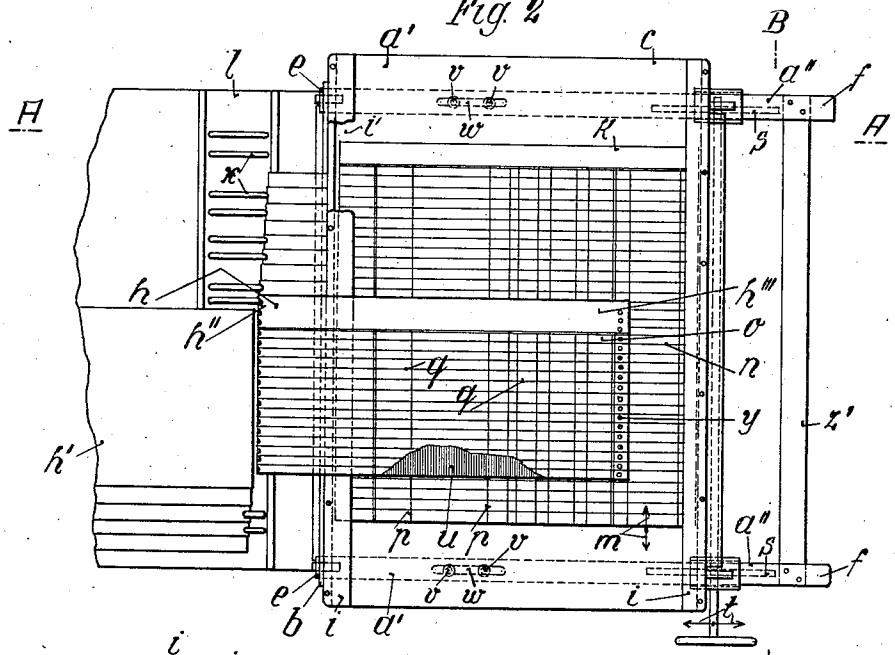


Fig. 3

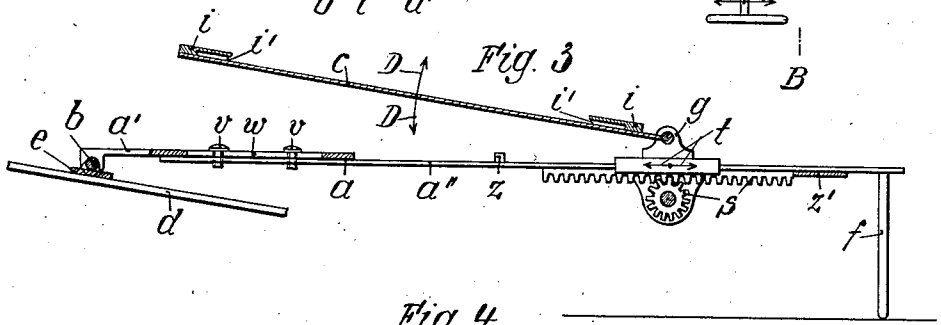
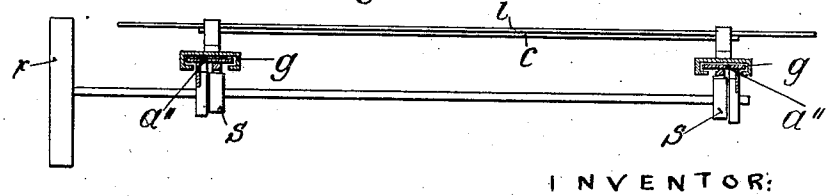


Fig. 4



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UNITED STATES PATENT OFFICE

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COPYING ARRANGEMENT FOR COMMERCIAL BOOKS

Application filed February 14, 1929, Serial No. 339,990, and in Germany November 16, 1928.

This invention relates to improvements in manifolding devices, the principal object of the invention being to provide an improved device of this character which is particularly well adapted for use in connection with sheets or cards contained in a file binder without removing them from the binder.

According to the present invention, a writing plate forming a flat base for copying and adapted to receive the duplicate sheet is pivotally mounted on a framework which is connected to the cover of the book or to the file binder, preferably in a removable manner. In this fashion it is possible to utilize the simplicity of the copying process with all commercial books and particularly with file binders. In the latter case there is the special advantage that removal of the individual file sheets is eliminated and consequently loss of the sheets is impossible. Considerable time is saved in copying and, moreover, the reliability of the book-keeping is substantially increased by the possibility of utilizing to the full the advantages of the file binder.

One embodiment of the invention is illustrated by way of example in the accompanying drawing in which:

Figs. 1 and 2 are a front elevation and plan respectively of a copying device embodying the present invention, combined with a file binder,

Fig. 3 is a section taken on the line A—A of Fig. 2 to a larger scale and

Fig. 4 is a section taken on the line B—B of Fig. 2 also to a larger scale.

The two parallel bars *a* of the frame for the plane rigid base plate *c* are pivotally connected by means of a hinge pin *b* with the hinges *e* attached to the cover *d* of the file binder. The bars *a* of the frame when laid on the table are held in a horizontal or approximately horizontal position by two supporting legs *f*. Shoes *g*, upon which the plate *c* is pivoted so as to be able to swing in the direction of the arrows D (Fig. 3), are adapted to slide on the bars *a*. When the copying device is to be employed, the base plate *c* is swung into the opened file under the original sheet *h* to be written upon (Figs. 1 and 2). At both longitudinal edges the plate *c* carries bars *i*, between which and the plate *c* are formed spaces *i'*, wherein the duplicate sheet *k* is inserted at its edges and is thereby prevented from sliding out of place laterally. In order to bring the vertical rulings *p* of the duplicate sheet *k* into register with the corresponding rulings *q* of the original sheet *h*, the plate *c* may be displaced at right angles to the back *l* of the file by rotating the butterfly key *r* which brings about displacement of the shoes *g* by means of the rack and pinion gear *s* and thus also causes displacement of the plate *c* in the direction of the arrows *t* to the left or right. The amount of the displacement is limited to the left by a stop pin *z* and to the right by a connecting bar *z'*. After the rulings *p* have been adjusted the duplicate sheet *k* may be moved by hand in the spaces *i'* formed by the bars *i*, parallel to the back *l* of the file binder up or down in the direction of the arrows *m* until the lines *n* of the duplicate sheet *k* to be written upon are brought into register with the corresponding lines *o* of the original sheet *h*. After the duplicate sheet *k* has been adjusted precisely in the manner described relatively to the original sheet *h*, a carbon paper *u* or the like is laid between the two sheets *h* and *k* after which the copying can be performed. Upon the termination thereof the plate *c* is swung out of the file and is brought, if desired, into the position *c'* (Fig. 1) ready to be swung back again under another sheet of said file. So long as copies are being made in the file the plate *c* remains connected therewith so that the copying can be performed very rapidly. If the copying arrangement is to be used with another file then the hinge pin *b* is withdrawn to enable the frame to be removed and said frame is then combined in a corresponding fashion with the other file or the like with which it is to be employed.

It may happen possibly that the points of attachment *e* for the frame are not located quite at right angles to the back *l* and thus the plate *c* also does not lie in true parallelism with the original sheets *h*. In order to be able, if necessary, to compensate for the

oblique setting of the plate *c* thus caused, the bars *a* are made up of two separate bars *a'*, *a''* which are connected together by screws *v*. One bar *a'* has a slot *w* in which the screws *v* of the other bar are adapted to be slid and set. In this way the overall length of the bar *a* may be adjusted as desired enabling a slight angular adjustment of the plate *c* to obviate oblique positioning of the latter.

If the copying device is provided in the manner described only on one (the right hand) side of the file, then it is only possible to write upon the front sides of the original sheets *h*. If their rear sides *h'* are to be written on after the leaves have been turned over, like the leaves of a book, then it is not possible to make copies since in this case the leaves do not come to lie on the plate *c*. It would only be possible then to obtain copies when writing upon the backs by removing the leaves *h* from the clips *x* of the securing means engaging perforations at the left hand edge *h''* of the leaves, turning the latter through 180° until the back lies uppermost and then re-inserting them with the same holes in the clips *x*. In this case, however, the written matter upon the front would be upside down relatively to the written matter on the back owing to the turning of the leaf. To avoid this, according to the present invention, holes *y* are provided not only along the left hand edge *h''* but also along the right hand edge *h'''* of the original sheet. If after the writing up of the front *h* has been completed, the back *h'* also is to be written upon, the original sheet is taken out of the clips *x* of the file and re-attached therein by means of the holes provided upon the right hand side *h'''*. In this manner the back becomes the front and the written matter is arranged in the correct manner upon both sides of the sheet. Consequently it is also possible to write upon the backs of the original sheets while it is only necessary to provide the copying device upon one side (the right hand side) of the file.

What I claim is:—

1. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back and extending transversely of said cover to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, and a leaf-supporting plate hingedly carried on said frame members adjacent to their free outer ends.

2. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back and extending transversely of said cover to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, a member mounted for sliding movement on each of said frame members adjacent to its free outer end, and a leaf-supporting plate hingedly secured at one edge thereof to said slidable members.

3. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back thereof and extending transversely of said cover to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, a member mounted for sliding movement on each of said frame members adjacent to its free outer end, a leaf-supporting plate hingedly secured at one edge thereof to said slidable members, and means for imparting movement to said slidable members simultaneously.

4. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back and extending transversely of said cover to a point beyond its free edge, a member mounted for sliding movement on each of said frame members adjacent to its free outer end, a leaf-supporting plate hingedly secured at one edge thereof to said slidable members, a shaft journalled in said slidable members, racks carried by said parallel frame members, gears secured on said shaft in mesh with said racks respectively, and means for manually rotating said shaft.

5. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said binder adjacent to the back and extending transversely of said binder to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, a leaf-supporting plate hingedly carried on said frame members adjacent to their free outer ends, and parallel sheet guides carried by said plate and extending in a direction transverse of the frame members.

6. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back and extending transversely of said cover to a point beyond its free edge, means independent of the binder for supporting said frame members at

their free ends, a member mounted for sliding movement on each of said frame members adjacent to its free outer end, a leaf-supporting plate hingedly secured at one edge thereof to said slidable members, and parallel sheet guides disposed on said plate at opposite edges thereof and extending in a direction transverse of the frame members.

7. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said binder adjacent to the back thereof and extending transversely of said binder to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, a member mounted for sliding movement on each of said frame members adjacent to its free outer end, a leaf-supporting plate hingedly secured at one edge thereof to said slidable members, means for imparting movement to said slidable members simultaneously, and parallel sheet guides disposed on said plate at opposite edges thereof and extending in a direction transverse of the frame members.

8. A device of the character described, comprising in combination a file binder having a back and a cover hingedly connected to said back, a pair of parallel frame members each having one end hingedly connected to said cover adjacent to the back and extending transversely of said cover to a point beyond its free edge, means independent of the binder for supporting said frame members at their free ends, a leaf-supporting plate hingedly carried on said frame members adjacent to their free outer ends, and parallel sheet guides disposed on said plate at opposite edges thereof and extending in a direction transverse of said frame members.

In testimony whereof I have signed my name to this specification.

CARL HERSCHEL.