

G. W. DONNING.

TYPE WRITER.

APPLICATION FILED SEPT. 10, 1910.

1,056,646.

Patented Mar. 18, 1913

3 SHEETS—SHEET 1.

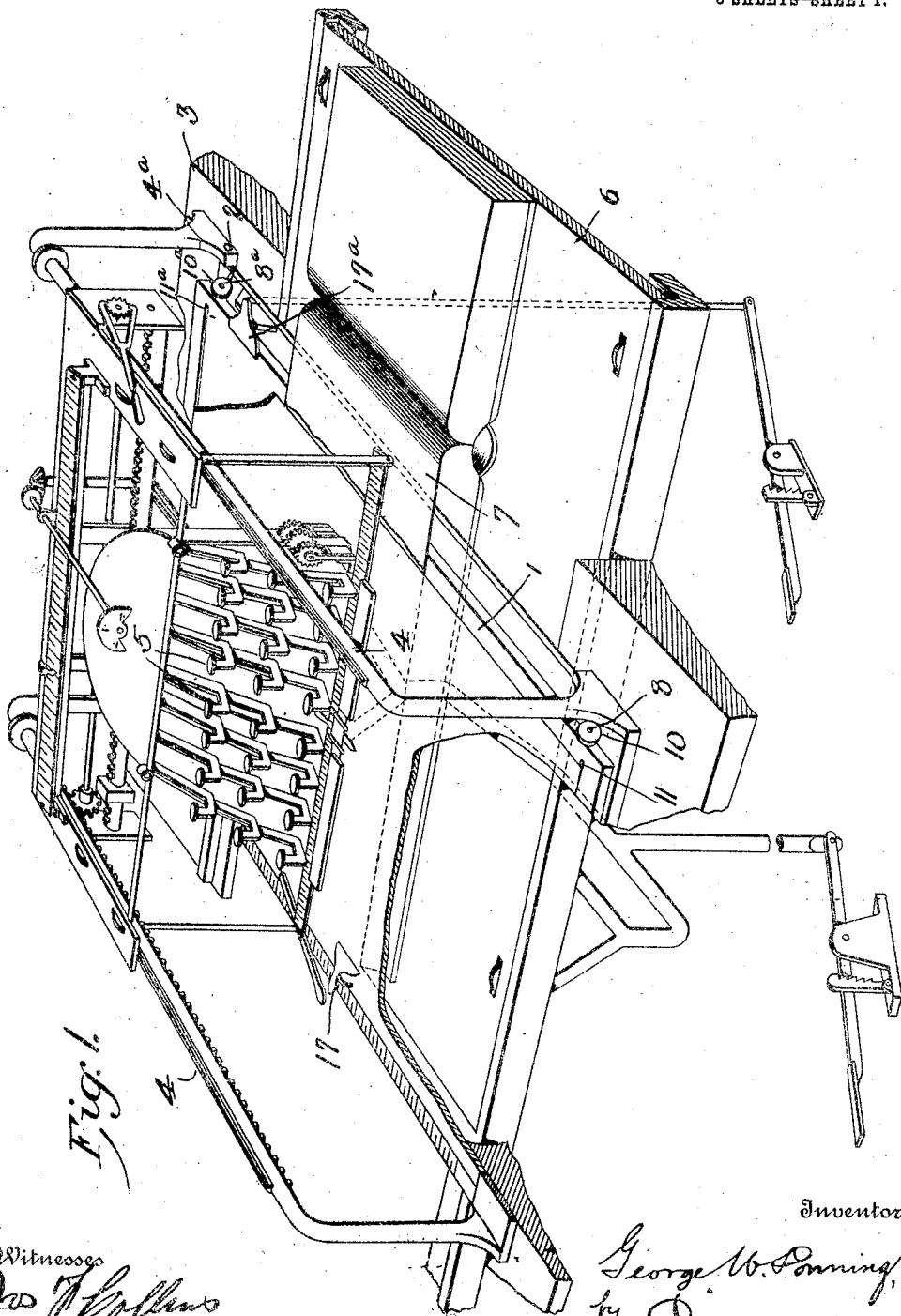


Fig. 1.

Witnesses
Jo. F. Collins
E. C. Monahan.

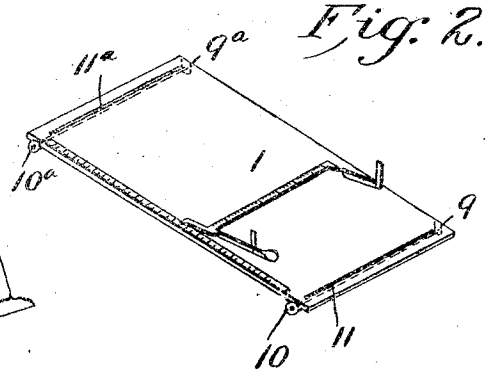
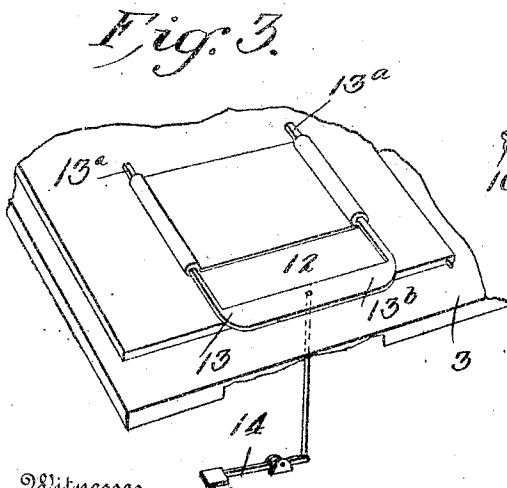
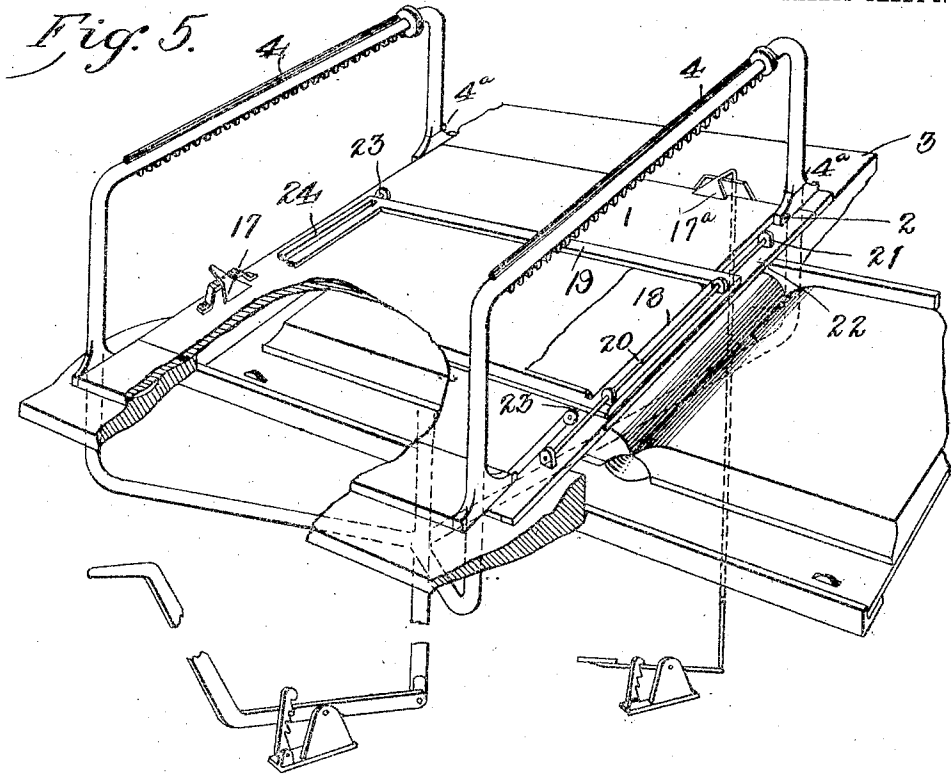
Inventor
George W. Donning,
by *Edmund A. Parry*
Attorney

G. W. DONNING.
TYPE WRITER.
APPLICATION FILED SEPT. 10, 1910.

1,056,646.

Patented Mar. 18, 1913.

3 SHEETS-SHEET 2.



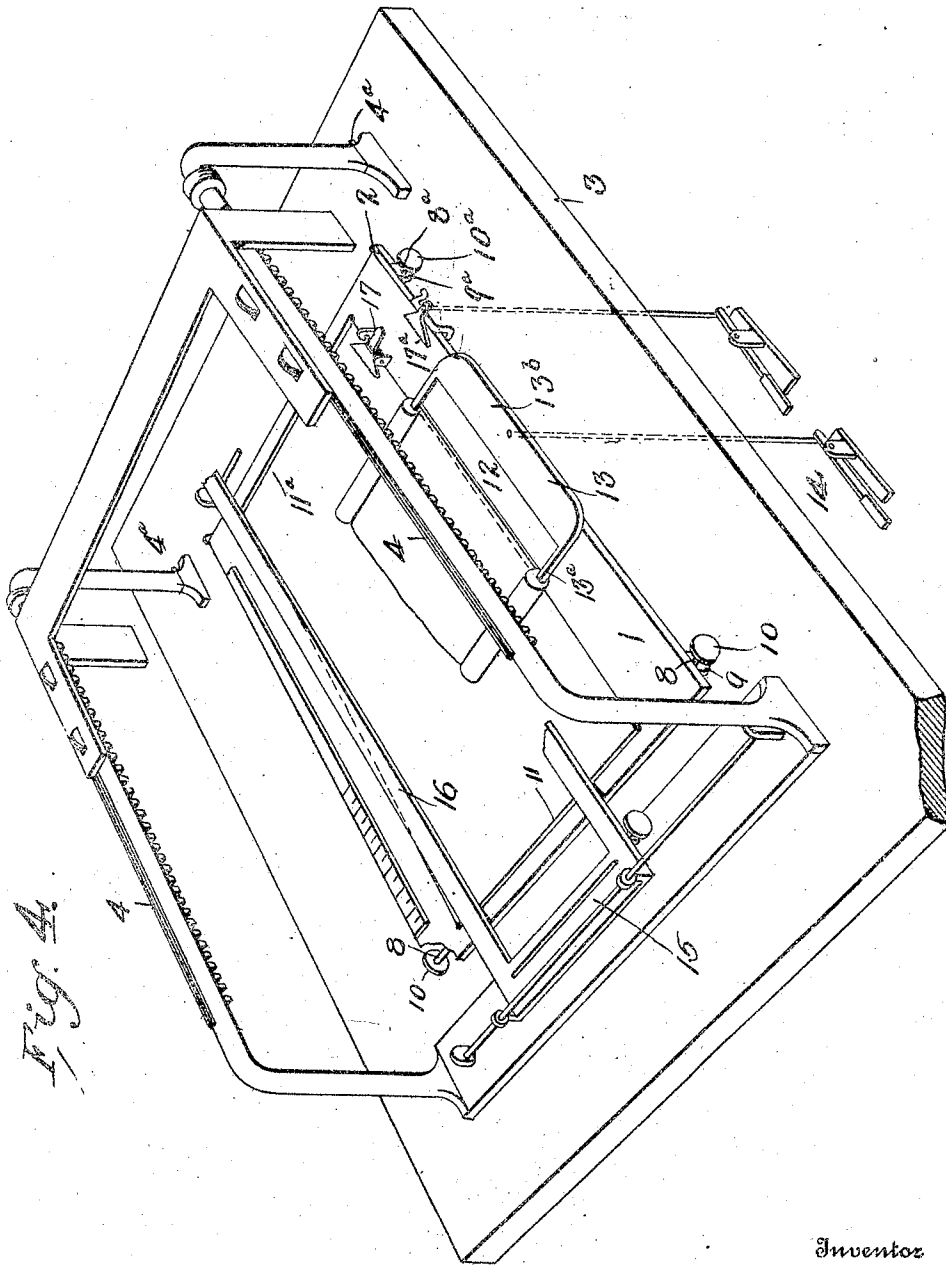
Witnesses
J. F. Collins.
E. L. Minahan.

Inventor
George W. Donning,
By Edmund H. Parry, Attorney.

G. W. DONNING.
TYPE WRITER.
APPLICATION FILED SEPT. 10, 1910.

1,056,646.

Patented Mar. 18, 1913.
3 SHEETS—SHEET 3.



Witnesses
J. C. Collier
C. L. Monahan

Inventor
George W. Donning
334
Edmund H. Parry
Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. DONNING, OF STAMFORD, CONNECTICUT, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO HARRY T. AMBROSE, OF ORANGE, NEW JERSEY.

TYPE-WRITER.

1,056,646.

Specification of Letters Patent. Patented Mar. 18, 1913.

Original application filed June 6, 1899, Serial No. 719,623. Divided and this application filed September 10, 1910. Serial No. 581,389.

To all whom it may concern:

Be it known that I, GEORGE W. DONNING, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Type-Writers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to typewriters and, particularly, to structures employed in conjunction therewith for supporting and positioning manifolding material in relation to the platen forming a part of said typewriter.

The object of the invention is, primarily, to provide a manifolding element adapted to be supported and positioned, at the will of the operator, in relation to the platen, and to combine therewith simple and easily-manipulated means for actuating said manifolding-element whenever necessary—whether it be for the purpose of presenting a relatively different surface in position for operation, or for bodily changing its position in relation to the platen.

In a more specific aspect, the invention includes carbon-supporting means sustained by parts of the machine other than the carriage-supporting rails forming a part of said machine.

The present case is a true division of an application filed by me June 6th, 1899, Serial No. 719,623, for improvements in typewriters, and which has now eventuated in Patent No. 970,195, dated September 13th, 1910, and is directed to subject-matter expressly carved out of said application. In that case, the subject-matter comprehends, among other structure, manifolding-devices in which the carbon-sustaining devices are supported, particularly, in relation to or on the carriage-supporting rails or guides.

As before stated, the subject-matter of the present case has relation to manifolding-devices in which the supporting-structures therefor are distinct from said rails or guides, in the sense that they are independent thereof. One embodiment of such structure contemplates the provision of support-

ing-devices carried by or disposed adjacent to the platen of the machine.

In the accompanying drawings, I have illustrated some of the embodiments of my invention; and, in said drawings: Figure 1 is a view in perspective showing one form of typewriting-machine in which my invention is embodied; Fig. 2 is a similar view of one form of platen detached from the machine, and to which is attached a form of device for supporting and positioning a manifolding-element; Fig. 3 is a similar view of one form of platen with which is mounted a different form of device for supporting and positioning a manifolding-element; Fig. 4 is a similar view, showing the forms of manifolding-devices shown in Figs. 2 and 3 combined, whereby a plurality of copies may be produced at one writing; and Fig. 5 is a similar view of a modified form of structure, wherein the carbon-supporting and positioning device is independent of the platen and track-frame and is shiftable over the latter and tiltable relatively thereto.

In these drawings: The numeral 1 designates a platen which, in this instance, is of the so-called "flat-platen" form. It may, if desired, be tiltable and, to this end, would be pivoted at one edge, as at 2.

Underlying the platen is a supporting-structure 3 which, in some instances, (as in the present), is adapted to sustain a track-frame 4 upon which is mounted a printing-mechanism 5. The track-frame, in this instance, is shown, by way of example, as tiltable, and, to this end is hinged, as at 4^a.

In Fig. 1, a traveling book-supporting structure 6 is shown, and a page 7 of the book sustained thereby is shown as extending across the platen.

As illustrated in Fig. 1 and, on a larger scale, in Fig. 2, the platen 1 is provided with carbon-carrying members, spindles, or rolls 8, 8^a, rotatably mounted in brackets 9, 9^a, beneath the forward and rear ends of the platen. Each of said carrying-members 8 is provided with a knurled head or portion 10, 10^a, respectively, and whereby said members may be rotated by the operator. It will be understood that carbon, or any other

appropriate form of manifolding material, or even stationery—the work-sheet—is to be wound upon, and extend between said carrying-members, and overlie the upper surface of the platen. The knurled heads afford a simple and convenient means for moving the manifolding-element or work-sheet, as the case may be; as, for instance, when it is desired to present a new part of said element or sheet over the operative surface of the platen. By these means, as will be readily understood, the carbon-sheet or other form of manifolding-element may be supported and positioned over the platen. To facilitate these operations, the platen may be provided, adjacent the carrying-members and parallel therewith, with elongated slots or apertures 11, 11^a, through which the manifolding-sheet or ribbon readily passes.

In Fig. 3, I have shown another form of manifolding-device 12 which is adapted to support and position a manifolding-element or ribbon over the operative surface of the platen: In this instance, the device comprises a frame 13 to which is secured the sheet or ribbon of manifolding-material. Connecting with the frame is an actuating-mechanism 14 whereby it may be moved (and, with it, the manifolding-element) in relation to the platen.

In Fig. 4, I have shown both of the described forms of manifolding-devices operatively combined; that is to say, the rotatable form of carbon-carriers of Fig. 2 are shown as supporting a sheet to overlie the platen, and the frame-form of Fig. 3 is shown as supporting its manifolding-element so as to overlie the first-mentioned manifolding-element. By these means, as is obvious, a plurality of copies may be produced simultaneously: The lower manifolding element may, in this instance, rest upon the upper surface of the platen; then a sheet or book-page may be laid thereover; a second sheet or page would then be arranged to overlie this; and, then, the manifolding-element or ribbon carried by the frame would be interposed between said second sheet and a third sheet against which the type would strike and print. If the manifolding-element in each instance is an inked fabric, the copies would all be ribbon or “original” copies. If a further copy is desired, I would provide a third form of manifolding-device 15, in the form of a frame 16, suitably mounted adjacent to, but independently of the platen, as shown in Fig. 4. It is adapted to position its sheet across the platen—in this instance, at right-angles to the sheet carried by the frame 12.

To confine the work-sheets or a manifolding-element upon the platen, one or more clamping-devices 17, 17^a may be provided, as shown in Fig. 4. It will be understood that the frame 12 may similarly be utilized

to confine an underlying sheet upon the platen; and, also, that it may be secured to the platen or otherwise supported. Where a tiltable platen is employed, it would, of course, be disposed independently of the platen and so arranged that it could conveniently be positioned in operative relation to the platen.

In Fig. 5, I have shown still another form of manifolding-device 18 which, in this instance, is a frame 19 pivotally and slidably mounted on a rod 20 journaled in upstanding lugs 21, 21, carried by a supporting-member 22. In this example or embodiment, it will be seen that the said frame may be tilted away from the platen, and, also, shifted thereover. By this means, the manifolding-element carried by the frame may be positioned in relation to the platen in a plurality of directions. The frame carries spindles, 23, 23, and the sheet may pass through elongated slots 24 formed in said frame adjacent to said spindles.

By the several elements disclosed, where the platen-supported spindles 8, 8^a carry stationery, in the form of a work-sheet, etc., the positioning-frame may carry a manifolding-element. Or, the platen-supported spindles would carry the work-sheet, as mentioned, the frame carry the manifolding-element, and the clamp-devices 17 be utilized to hold down, at one edge of the platen, one or more sheets, including carbon sheets, etc., and by which several means, also, the clamps and said carbon-holding frame could be utilized to hold down the work at a plurality of points, when necessary. Where the platen-spindles are thus employed to support a work-sheet, and the frame (that one, for instance, which is operated by foot-mechanism, as already described), the extensions 13^a, 13^a, could underlie the carbon so as to raise it away from the platen when the work is released by the body-portion 13^b thereof.

In still another aspect of the invention, the platen-supported spindles would carry the manifolding-element, and the several clamping-devices (including the clamps 17, the frame 13, etc.) would be utilized to confine the work-sheet.

In a further aspect, the clamp 17 could be utilized to hold one or more sheets of carbon, and the carbon-carrying-frame made further useful to hold the work-sheet or sheets.

Other obvious changes could similarly be made and yet be within the spirit of my invention.

Having thus fully described my invention, its construction and its mode of operation, what I claim and desire to secure by Letters-Patent is:

1. In a typewriter, the combination with a platen, of a carriage-supporting-frame, a

- secondary frame distinct from the carriage-supporting frame and normally occupying a cooperative relation to the operative surface of the platen and operable thereover to position a manifolding-sheet above said operative surface of the platen.
2. In a typewriter, the combination with a flat-platen, and rolls attached directly upon the platen at opposite edges thereof to constitute means for carrying a carbon-element to be positioned over the platen, said platen being provided with apertures adjacent the edges thereof, substantially as described.
3. In a typewriter, writing-mechanism including an inked ribbon, in combination with a flat-platen and means carried thereby for supporting a manifolding-element in cooperative relation to the same.
4. In a typewriter, a flat-platen, a writing-mechanism support, and a carbon-carrying device disposed in juxtaposition to an edge of the platen and independently of said support for carrying a manifolding-element and movable to position the same in relation to the platen.
5. In a typewriter, the combination with a platen provided adjacent opposite edges with a transverse slot, of a roller journaled below each slot for carrying a manifolding-element.
6. In a typewriter, the combination of a flat-platen, and carbon-carrying devices disposed at two edges thereof and movable to position a manifolding-element over the platen.
7. In a typewriter, the combination with a writing-mechanism, a support therefor, a platen, and carbon-carrying devices arranged contiguous to said platen and independently of said support.
8. In a typewriter, the combination with a writing-mechanism, a support therefor, a platen, and carbon-carrying means disposed in juxtaposition to the platen independently of said support and operable to position a manifolding-element into operative relation to the platen.
9. In a typewriter, the combination with a writing-mechanism, a support therefor, a flat-platen, and carbon-carrying means disposed in juxtaposition to the platen independently of said support and operable to position a manifolding-element into operative relation to the platen.
10. In a typewriter, the combination with a writing-mechanism, a support therefor, a tiltable flat-platen, and carbon-carrying means disposed in juxtaposition to the platen independently of said support and operable to position a manifolding-element into operative relation to the platen.
11. In a typewriter, the combination with a platen and carriage-supporting tracks, of carbon-carrying means mounted in cooperative relation to the platen and independent of said tracks.
12. In a typewriter, a flat-platen, a plurality of manifolding-devices including carbon-carrying means mounted on said platen,
13. In a typewriter, a flat-platen, a plurality of manifolding-devices including carbon-carrying means mounted on said platen, and a carbon-carrying member overlying the platen.
14. In a typewriter, a flat-platen, a plurality of manifolding-devices including carbon-carrying means mounted on said platen, and a carbon-carrying member overlying the platen, in combination with a carbon-carrying device supported independently of said platen.
15. In a typewriter, a flat-platen, a track-frame, and a carbon-carrying device for supporting a manifolding-element over the operative surface of the platen and independently of said track-frame.
16. In a typewriter, a printing-mechanism including an inked ribbon, a support for said printing-mechanism, in combination with a platen, of a holding-device mounted independently of said support for securing a manifolding-element in operable relation to said platen, and means for holding a work-sheet relatively thereto.
17. In a typewriter, a flat-platen, a track-frame, a carbon-carrying device for supporting a manifolding-element over the operative surface of the platen and independently of said track-frame, and a work-sheet holding device arranged in juxtaposition to the platen.
18. In a typewriter, a work-support, a printing-mechanism, a support therefor, a holding device independent of said support for securing a work-sheet upon the platen and provided with means for supporting manifolding material.
19. In a typewriter, the combination with writing-mechanism, a support therefor, a platen, and means independent of the writing-mechanism-support for holding a manifolding sheet, one of said two last-mentioned elements being movable to change its relation with respect to the other.
20. In a typewriter, in combination, a support, carriage-guides thereon, a platen, means independent of said guides for carrying a manifolding element, and means for changing the relation between the manifolding element and the platen.
21. A typewriter, including in combination, a support, carriage-guides thereon, a platen, means independent of said guides for carrying a manifolding sheet, and means for moving one of said two last-mentioned elements away from the other.
22. A typewriter, including in combination, a support, carriage-guides thereon, a movable platen, means independent of the

guides for carrying a manifolded sheet, and means for moving one of said two last-mentioned elements away from the other.

23. In a typewriter, the combination with a support including machine-guides, a work-holding element, a manifolded element supported independently of said guides, and means distinct from said guides for changing the relation between manifolded ele-

ment and the work-holding element to permit positioning of work-sheets therebetween.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. DONNING.

Witnesses:

CHAS. P. BATT,
W. L. BILLMYER.