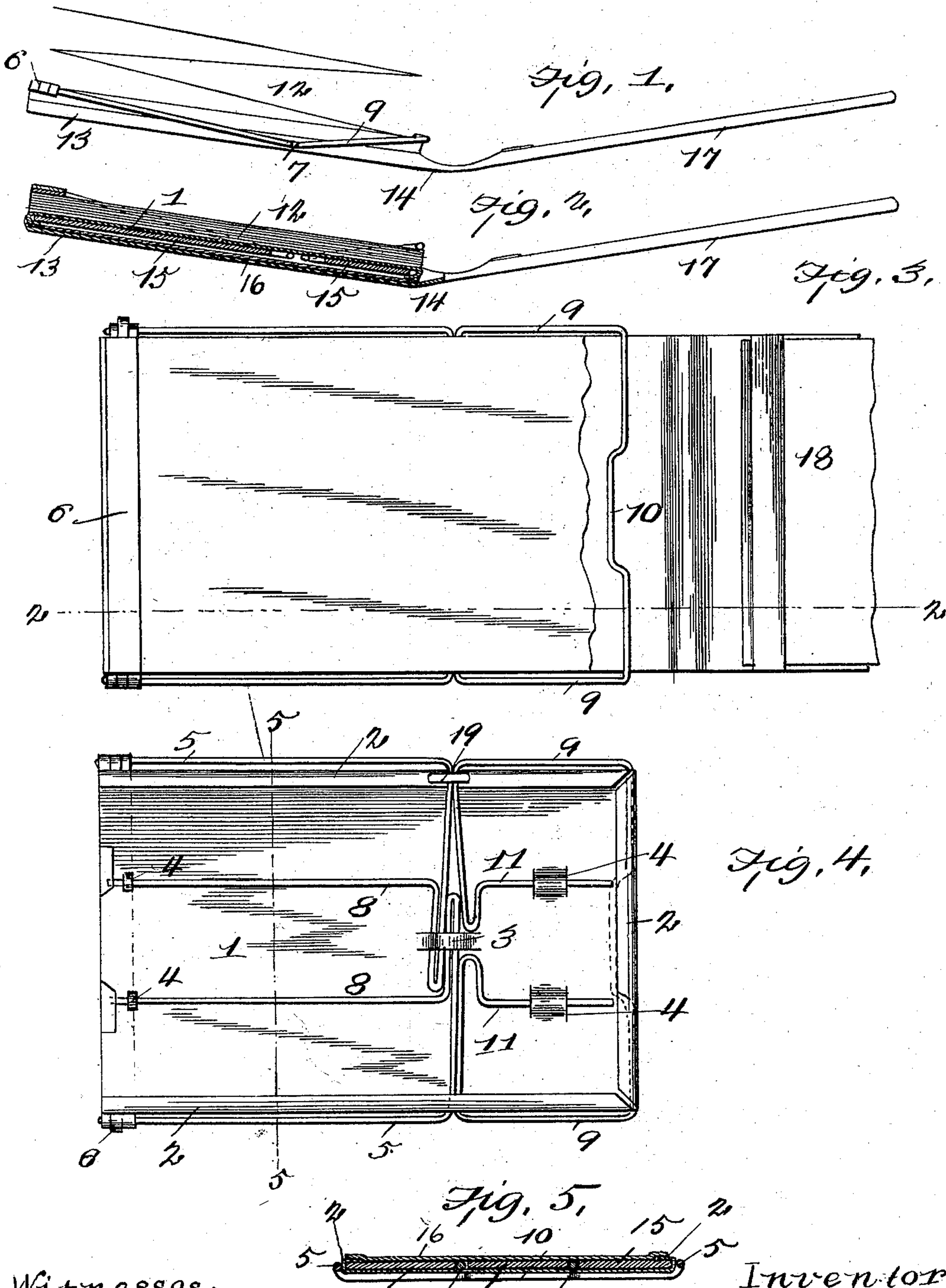


(No Model.)

W. W. O'HARA.
MANIFOLD MEMORANDUM BOOK.

No. 559,145.

Patented Apr. 28, 1896.



Witnesses-

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UNITED STATES PATENT OFFICE

WALTER W. O'HARA, OF ARLINGTON, MASSACHUSETTS, ASSIGNOR TO THE
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MANIFOLD MEMORANDUM-BOOK.

SPECIFICATION forming part of Letters Patent No. 559,145, dated April 28, 1896.

Application filed December 20, 1893. Serial No. 494,184. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. O'HARA, of Arlington, in the county of Middlesex, in the State of Massachusetts, have invented new and useful Improvements in Manifold Memorandum-Books, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The invention relates to certain new and useful improvements in manifold memorandum-books in which carbon-sheets are employed for producing memoranda of the original itemized bill of sale and cash received thereon, such as are now commonly employed in retail business generally, and whereby the salesman, cashier, and customer may have a check on each other to such an extent as to insure the rectifying of any error in the items and footing up of the bill and also identify the amount of cash received and change returned or balance on said bill.

The principal objects of the invention are to reduce the bulk or thickness of the book and at the same time increase its strength and to attach the springs for holding the tablet or record sheets directly to a metallic base and secure the same to the cover in such a manner that the thickness of said cover will not be materially increased. Torsional springs when heretofore employed for this purpose were embedded in a pasteboard base, which was secured to the inner side of the cover. Such construction made the book thick and cumbersome and presented a serious objection to its use. My invention is designed to overcome this objection, which is accomplished by means of the device illustrated in the accompanying drawings, in which—

Figure 1 represents a side edge view of my improved memorandum-book in open position, showing several of the duplicating-leaves in extended position; Fig. 2, a longitudinal sectional view on line 2 2 of Fig. 3; Fig. 3, a top plan view of the book in open position with a portion of the front cover broken away; Fig. 4, a bottom plan view of the metal base and its attached spring-arms and clamps detached from the cover; and Fig. 5, a transverse sectional view of the same on line 5 5, showing pasteboard strip and paper lining in position.

Referring specifically to the several figures of the drawings, the numeral 1 indicates a base which is composed of a metal sheet stiffened by having its two side edges and preferably one end edge bent over upon itself to form lips 2. The bottom side of the metal base is provided with a large staple 3 and a series of smaller staples 4, which are preferably formed by making two parallel slits in the sheet forming the base and striking up the portion between said slits, the purpose of which staples will be hereinafter explained.

The numeral 5 indicates two spring-arms lying at each side edge of the metal base and having their free ends connected together by a metal clamping-plate 6 and their other ends, which enter perforations or recesses 7 in the lips 2, provided with torsional springs 8, which are confined by the staple 3 and two of the series of staples 4, as shown in Fig. 4. Each spring-arm, after it passes through the perforations or recesses in the lipped edges of the base, extends, preferably, transversely across said base a suitable distance, and is then bent upon itself to form a closed loop, which is inserted through the staple 3, as hereinbefore explained. The arm is again bent to extend parallel with the side of the base, and its end is inserted through one of the staples 4, thus securing the spring portion of the arm in such manner as will not interfere with its free action.

The numeral 9 indicates a spring-holder, which is formed of two parallel side arms connected together by a transverse bar 10, and is provided with torsional springs 11, secured to the metal base by two of the staples 4, as shown in Fig. 4. These springs are similar in form to the springs 8, and the side arms pass through the perforations or recesses provided for the arms 5.

I prefer to make the springs 8 and 11 occupy substantially the length of the metal base and bend them in the manner shown, so as to distribute the resisting power of each spring over as much wire as possible, which not only makes them more sensitive in their action, but extends their life materially, as there is no point subjected to a severer strain than any other, as is the case with the springs heretofore used in this class of books. In

carrying out the idea of the free action of the springs I find they work better and last longer by employing staples or loops instead of solder to secure them to the metal base. The
 5 metal base as thus constructed and provided forms a rigid support for the manifold tablet 12 and is inclosed in the back 13 of a suitable cover 14 in such manner as to permit of the free use of the spring clamping-plate and the
 10 spring-holder. The metal base is secured to the cover-back with its smooth or top side up, and in order to make the outside of the cover-back smooth and to prevent the springs from wearing through the material composing the
 15 cover I fill in the spaces between the springs with strips 15 of pasteboard or other suitable material, as shown in Figs. 2 and 5, and then cement or glue a paper covering 16 over all, fastening the edges of the covering to the
 20 lipped edges of the base, thus securely confining the strips against displacement and presenting a smooth and level surface for the cover-back. The base as thus constructed is placed upon the inside of the cover-back,
 25 which is slightly larger than said base, and the side edges and end of the cover-back material is turned over and cemented to the upper or top side of the base. A covering of some suitable material is then cemented to
 30 said side to give it the proper finish.

The manifold tablet is firmly held upon the incased metal base at one end by the spring clamping-plate 6 and at the other end by the spring-holder 9.

35 The cover-back is flexibly connected to a cover-front 17, which is provided with any well-known means for holding the usual record-card 18.

In order to facilitate the introduction of the
 40 springs, more particularly the springs of the holder, into the perforations or recesses 7, I prefer to cut through one of the lips 2 to the perforation. The opening thus made permits the spring to be readily introduced, after
 45 which a small strip of metal 19 is preferably soldered across said opening, so that the spring

will be securely held therein and the sheet have the rigidity it possessed before the cut was made.

Having thus fully described my invention, 50 what I claim as new, and desire to secure by Letters Patent, is—

1. In a manifold memorandum-book, the combination, with the cover thereof, of a metal base having its side edges bent over and pro- 55 vided with perforations or recesses, said base incased within the back of said cover and provided with a tablet-clamping plate having its arms extending through said perforations or closed recesses transversely across the base 60 and bent upon themselves for a short distance and then extending longitudinally of the base to form springs, and filling-strips arranged between said springs, as and for the purpose set forth. 65

2. In a manifold memorandum-book, the combination, with the back of the cover, of a metal base incased within said cover-back, said base having turned-over side edges pro- 70 vided with perforations or closed recesses, a tablet-clamping plate having its side arms extending through said perforations or recesses and formed with transverse springs having their free ends extending longitudinally of the base, said springs secured to said 75 base by means of staples, a holder provided with side arms extending through the perforations in the turned-over side edges of the base and formed with transverse springs bent upon themselves and having their free ends 80 extending in an opposite direction to the ends of the tablet-clamping plate-springs, filling-strips between said springs, and a cover for the same, whereby a smooth and level surface is presented for the cover-back. 85

In testimony whereof I have hereunto signed my name.

WALTER W. O'HARA. [L. S.]

Witnesses:

GEO. N. SMITH,
 EUGENE H. MOORE.