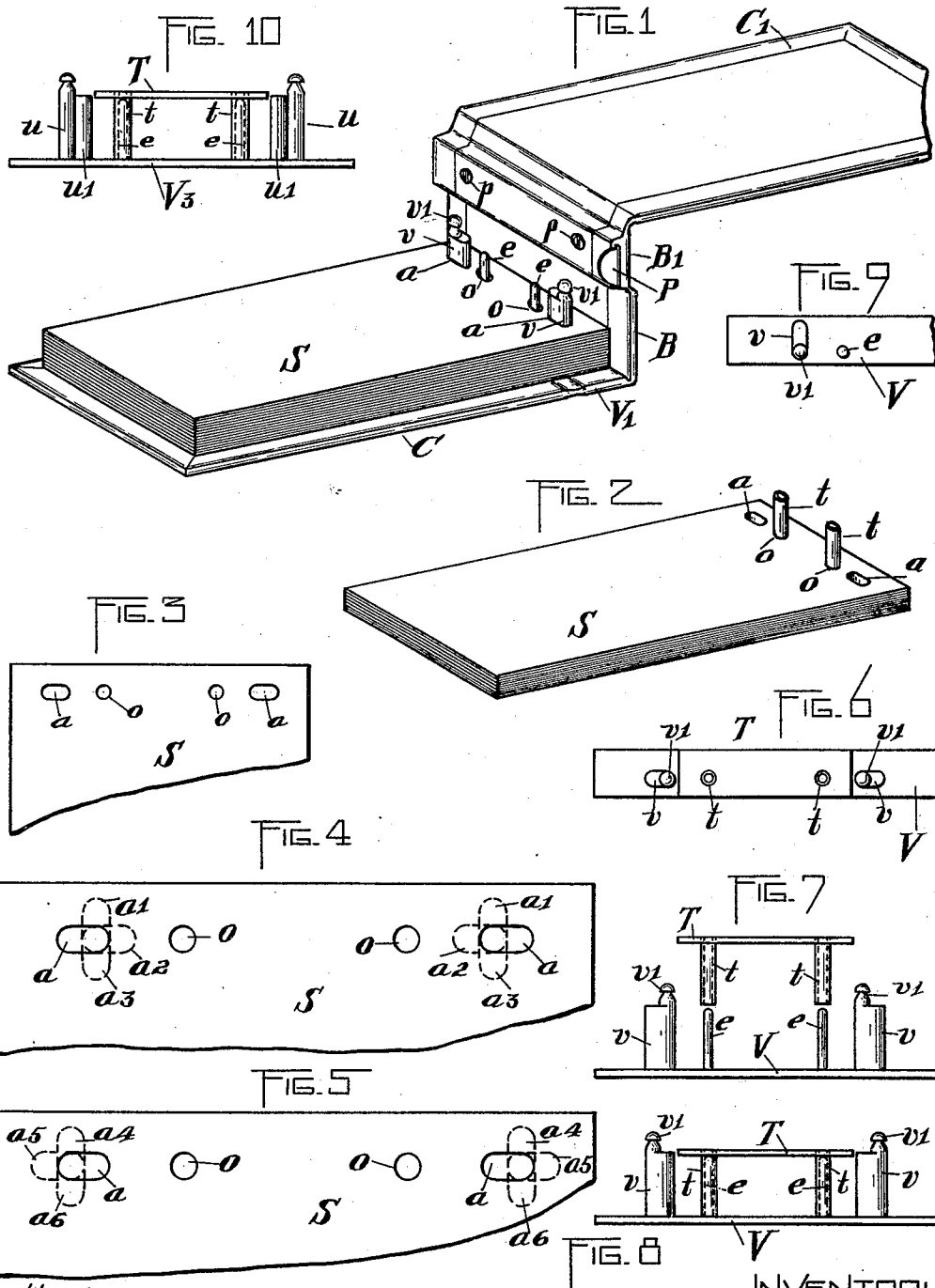


G. C. MOORE.
 LOOSE LEAF BINDER AND LEAF THEREFOR.
 APPLICATION FILED JULY 25, 1911.

1,007,591.

Patented Oct. 31, 1911.



WITNESSES:
 Martha M. Nelson
 Osborne H. Gurney

INVENTOR:
 Gaius C. Moore
 BY W. H. Coolidge, ATTORNEY

UNITED STATES PATENT OFFICE

GAIUS C. MOORE, OF ROCHESTER, NEW YORK, ASSIGNOR TO JOHN C. MOORE CORPORATION, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

LOOSE-LEAF BINDER AND LEAF THEREFOR.

1,007,591.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed July 25, 1911. Serial No. 640,429.

To all whom it may concern:

Be it known that I, GAIUS C. MOORE, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Loose-Leaf Binders and Leaves Therefor, of which the following is a specification.

This invention relates more especially to loose leaf binders and leaves therefor of that general class described in United States Letters Patent 979326, issued Dec. 20, 1910 for a loose leaf binder and has more especial relation to means for securing the maximum number of different classes of binders and leaves with a minimum number of angular changes in the disposition of the impaling posts in the binders and openings in the leaves therefor. I have found in the use of such binders, when the angular change in the disposition of the posts is slight, that the reëntrant angles in the openings in the leaves sometimes get out of place.

A purpose of my present invention is to avoid this difficulty and another object is to produce a binder of the character described in which the impaling posts may be swung angularly upon either one of two axes and in which there are also no reëntrant angles in the openings in the leaves therefor.

In carrying out my invention I have found that for the purpose under consideration an impaling post whether integrally formed or otherwise and in which the two edges of the post situated at opposite ends of the maximum diameter thereof comprise semicylinders overcomes the difficulties in question and such an impaling post may be formed either of two adjacent cylindrical members or it may be formed integrally and with opposite edges of its maximum diameter presenting preferably a semicylindrical conformation while the posts may be formed with plain surfaces between and connecting such semicylindrical edges and, in either case, the posts may be swung angularly upon the longitudinal axis of either semicylindrical edge surface. By this construction I am enabled to secure a large number of different arrangements of the impaling posts and the openings in the leaves therefor with the different angular dispositions of the posts varying by ninety degrees.

The accompanying drawings illustrate a loose leaf binder of the general construc-

tion shown in my United States Letters Patent 979326 for a loose leaf binder issued Dec. 20, 1910, modified in accordance with my present invention.

The drawings are as follows:—Figure 1 is a perspective view of the binder opened with a part of the leaves and the removable impaling post carrying plate removed therefrom, which is shown in Fig. 2 in inverted position with some of the leaves impaled on the posts carried thereby. Fig. 3 is a plan view of the back edge of a part of a leaf adapted to use in this binder. Figs. 4 and 5 show parts of leaves with modified arrangements of the openings therein indicated adapting them to use with correspondingly angularly disposed impaling posts. Fig. 6 is a plan view of the impaling post carrying plates removed from the binder. Figs. 7 and 8 are side views of these same parts with the outer pair of impaling posts oppositely disposed, Fig. 7 showing the two impaling post carrying plates as separated from each other. Fig. 9 is a view of a modified arrangement of one end of the lower impaling post carrying plate while Fig. 10 shows in a view similar to Fig. 8 that modification of my invention in which each of the impaling posts carried by the lower plate comprises two adjacently disposed parallel cylindrical members.

Similar parts are designated by similar reference characters through the several figures of the drawings.

Referring to the drawings,—a binder in accordance with my invention may comprise lower and upper cover leaves C and C¹ flexibly united to intermediate cover sections V¹ and B¹ each in turn flexibly connected to a common back piece B. Within the part V¹ there is bound an impaling post carrying plate V having secured therein and projecting upwardly therefrom two cylindrical post members *e* adapted to telescope with the tubular impaling posts *t* carried by the removable plate T. There are also secured in this plate V the prismatic impaling posts *v* having oppositely disposed parallel plane surfaces connected by semicylindrical surfaces at the opposite ends of the maximum diameter. These posts *v* are extended upwardly and reduced just beneath a hemispherical portion to comprise locking members adapted to coöperatively engage the spring actuated locking bolt P in such a

way as to force the same inwardly, as the member B^1 is pressed downwardly in closing the binder, until the member P is permitted under the influence of the spring actuating the same to engage under the hemispherical portions v^1 at the top of the post v . Parts of the posts v are removed at their upper ends to receive the member B^1 with the parts v^1 engaging in the openings p therefor in the under side of the member B^1 .

The leaves S are provided as indicated in Figs. 1, 2 and 3 with openings a and o adapted to receive the posts v and t . A binder thus constructed does not differ as to the method and manner of its use materially from the binder shown in my above mentioned former United States Letters Patent except that in accordance with my present invention the impaling posts may be swung upon the axis of their innermost and adjacent cylindrical parts as shown in Fig. 4 to occupy the positions indicated in dotted lines at a^1 , a^2 and a^3 or such posts may be swung upon the axes of their outermost semicylindrical parts to the positions indicated in dotted lines at a^4 , a^5 and a^6 in Fig. 5. The posts v may be secured in the plate V in any one of the different angular dispositions indicated in Fig. 4 at a^1 , a^2 or a^3 or such posts may be secured in such plate in any one of the different angular dispositions shown in Fig. 5 at a^4 , a^5 or a^6 in the first and second instances being swung according as such posts are disposed at different angles about the axes of their inner and adjacent or outermost semicylindrical parts or portions. In either case, however, there are shown four different angular arrangements of each post. It will be noticed however that the disposition of the posts shown in Figs. 4 and 5 in full lines corresponds and for this reason it is desirable to make use of only that arrangement shown in one of such figures in order that there may not be any two arrangements exactly corresponding. There are then provided seven arrangements of each post entirely different from any other arrangement of the same post and each one of such different arrangements of each post may be combined with each one of the correspondingly different arrangements of the other post. Thus there are provided forty-nine different arrangements of the impaling posts requiring different arrangements of the openings of the leaves adapting them to use therewith with the angular dispositions of the posts varying by ninety degrees. It is important, it will be understood, that in this arrangement the edges of

the posts opposite their maximum diameters should be alike in conformation.

Refer now to Fig. 10,—the modification herein shown differs from the modification already described only that instead of the impaling posts v being formed with plain surfaces connected by cylindrical surfaces at the opposite ends of their maximum diameters such posts are formed from two separate and independent cylindrical members u and u^1 disposed in parallel relation and preferably substantially in contact with each other as shown in Fig. 10. In this case the plate V^3 represents the bottom plate bound into the member V^1 .

What I claim is:

1. As a means for classifying loose leaf binders and leaves therefor two pairs of impaling posts in the binder, one of such pairs comprising prismatic members provided with oppositely disposed cylindrical outer edge surfaces having their axes spaced apart and with the plane containing such axes disposed at different angles for each different classification.

2. As a means for classifying loose leaf binders and leaves therefor two pairs of impaling posts in the binder, one of such pairs comprising prismatic members provided with oppositely disposed cylindrical outer edge surfaces having their axes spaced apart and with the plane containing such axes disposed at different angles for each different classification and leaves having correspondingly different series of openings therein conformed to engage over all the impaling posts in only the corresponding binders.

3. A leaf for a loose leaf binder having two pairs of openings the openings of each pair adapted to be so engaged by a pair of correspondingly conformed prismatic posts that a plurality of such leaves may be held in alinement by either pair of posts independently of the other pair, each opening of one pair elongated and semicircularly conformed at its ends whereby such leaf is insertible over correspondingly conformed impaling posts only when the impaling post corresponding to each opening of said pair has its maximum diameter which passes through the axes of its opposite cylindrical portions angularly disposed correspondingly with the angular disposition of a line connecting the centers of the semi-circular ends of the openings.

GAIUS C. MOORE.

Witnesses:

OSBORNE F. GURNEY,
WM. H. COOLEY.