R. MARX.

CLIP.

APPLICATION FILED MAY 23, 1912.

1,088,602.

Patented Feb. 24, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

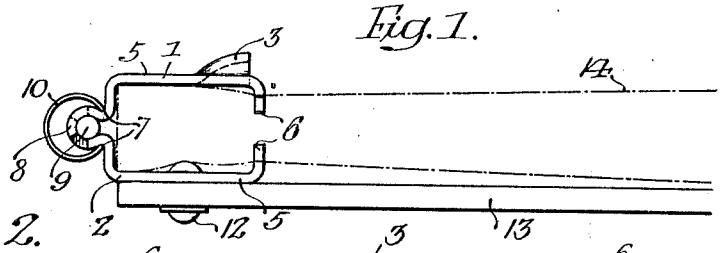


Fig. 2.

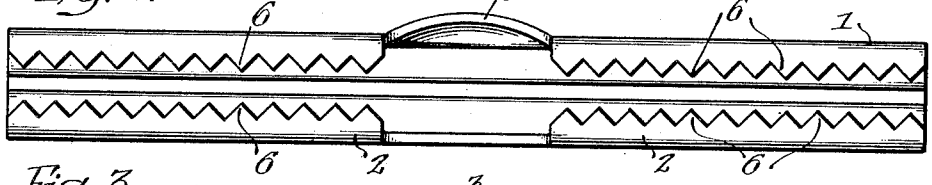


Fig. 3.

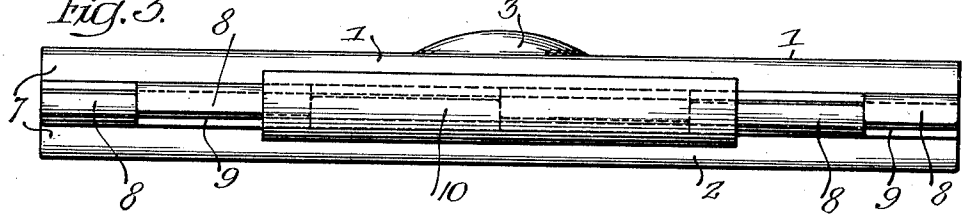


Fig. 4.

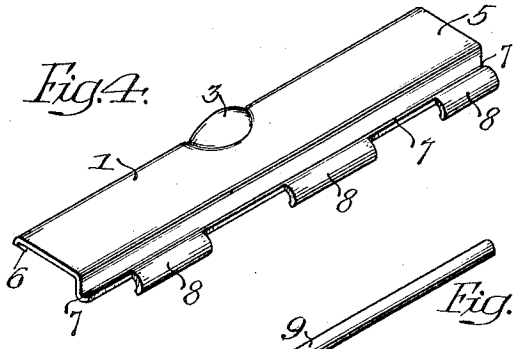


Fig. 5

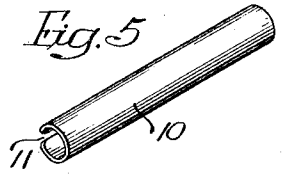


Fig. 6.

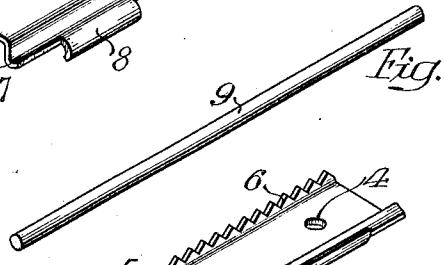


Fig. 7.

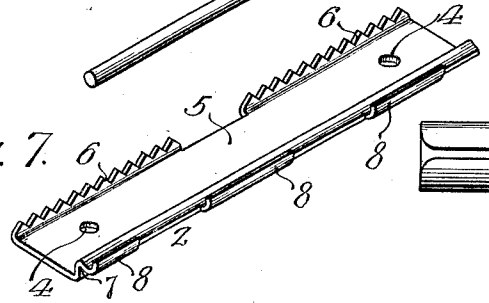
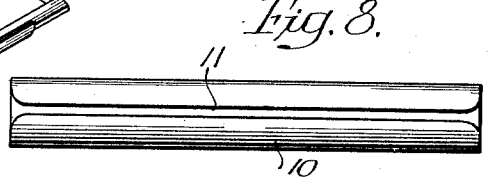


Fig. 8.



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2 SHEETS—SHEET 2.

Fig. 11.

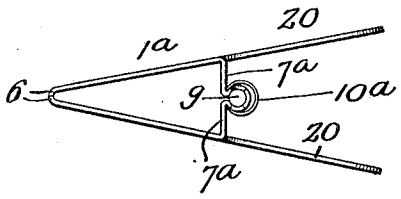


Fig. 12.

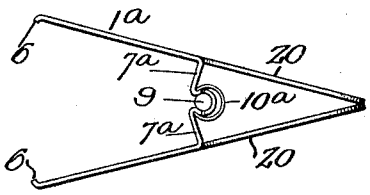


Fig. 9.

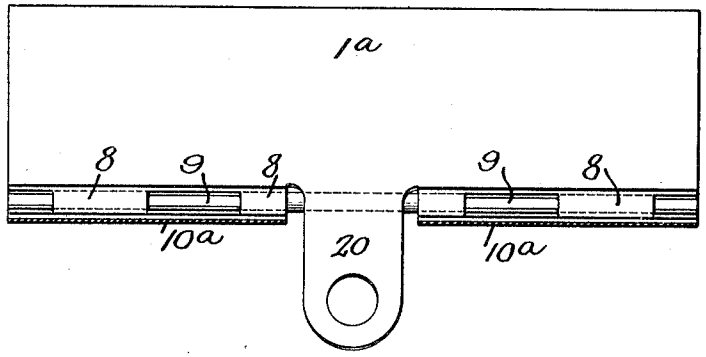
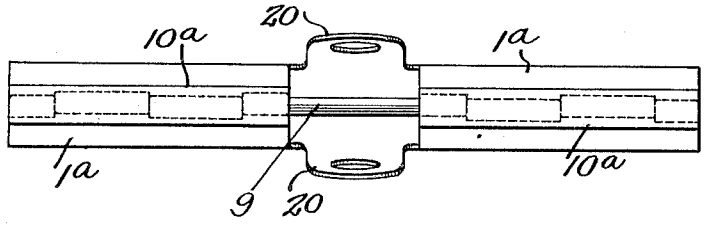


Fig. 10.



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UNITED STATES PATENT OFFICE.

RICHARD MARX, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO DEFIANCE MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CLIP.

1,088,602. Specification of Letters Patent. Patented Feb. 24, 1914.

Application filed May 23, 1912. Serial No. 699,201.

To all whom it may concern:

Be it known that I, RICHARD MARX, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Clips, of which the following is a specification.

One object of my invention is to provide a form of clip holding device especially designed to grip and hold together leaves of a sales or other book, which shall be relatively inexpensive to make and convenient both to manufacture and to assemble.

A further object of my invention is to provide a clip having the above noted characteristics, whose construction shall be such as to permit of its easy application to the book or other object to be held and which shall have its parts so arranged as to insure the proper and permanent positioning of the teeth; the invention also contemplating such a form of hinge connection between the parts of the clip as permits of a full opening of the same for the purpose of inserting the book or assemblage of loose leaves between the two clip members or jaws.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings; in which,

Figure 1 is a side elevation of a clip constructed according to my invention and indicating it as holding together a number of loose leaves forming a record or other book; Figs. 2 and 3 are respectively front and rear elevations of the clip shown in Fig. 1; Figs. 4 to 7 are perspective views of the detail parts of my clip; Fig. 8 is an elevation of the cylindrical spring shown in Fig. 5; Figs. 9 and 10 are a side elevation and a plan of a second form of my invention; and, Figs. 11 and 12 are end elevations illustrating the second form of clip in its closed and open positions respectively.

As will be seen from the above drawings, the clip comprising my invention consists of two jaws 1 and 2, which are precisely similar in form with the exception that in that form of the device shown in Figs. 1 to 8 inclusive one of them is provided with a slightly pressed out portion 3, whereby it may be engaged by the thumb or finger of the user as hereinafter noted, and the other is provided with two or more holes 4. Each of said jaws is preferably formed of a single stamping of strip sheet metal, usually steel, and has an elongated body portion 5, one of whose edges is flanged and serrated to provide teeth 6.

The other edge is formed with alternate projections and recesses and in the process of manufacture is flanged and provided with a groove 7 between the body 5 and the projections 8. Said projections are curved so that each of them forms approximately half of a hollow cylinder constituting a longitudinally open hinge eye and the projections of each jaw are axially in line with each other. The recesses between the projections of one jaw are complementary to the projections of the other jaw; that is to say, said latter projections accurately fit into the recesses of the first jaw when the two jaws are approached to each other back to back. When in such positions and with their teeth adjacent each other the arrangement is such that the projections of the two jaws and the portions immediately adjacent thereto form a substantially continuous cylindrical passage for the length of the clip; it being noted that the projections are of such length that when the teeth of the jaws engage each other, there is an opening at the back of each projection which allows of the jaws being opened. In this cavity or passage way I mount a pintle or hinge pin 9 preferably of such length and diameter as to completely fill said cavity, and hold these three parts permanently together by means of a spring in the form of an elongated cylinder 10, preferably made of spring steel and having a longitudinal slit extending from one end to the other; the edges adjacent the ends of the slit being inclined or curved as shown in Fig. 8. This cylindrical spring extends around and incloses the projections 8 of the two jaws and its ends slidably fit between the two grooves 7, so that under normal conditions it at all times tends to force the teeth of the jaws toward each other. These teeth being the same on each jaw are therefore caused to accurately match by reason of the hinge construction above described, so that as shown in Fig. 2, the points of the teeth of one jaw are directly in line with and engage the points of the teeth of the second jaw.

While my improved clip may be used in a number of ways, it is preferably provided with the holes 4 in the body portion 5 of the jaw member 2 which is permanently

fixed by means of the rivets 12 to a stiff back 13 of pasteboard, metal or other suitable material. Any desired assemblage of leaves 14 may then be introduced between the jaws 1 and 2, and for the purpose of separating said jaws, the former of them has the thumb receiving projection 3 as previously noted.

One important advantage of the above described construction resides in the fact that its parts may be assembled with the utmost ease, for after the two jaws have been placed so that their curved projections 8 intermesh the pivot rod 9 is loosely placed within the cylinder passageway thus formed and the spring is then caused to slide over the hinge portions formed by these two sets of projections; the edges of its slit 11 sliding in the grooves 7.

It is obvious that since the jaws may be made with great accuracy, and since the various parts are connected as above described so that there is no lost motion between them, the teeth of the two jaws are at all times caused to accurately match as required.

In the case illustrated in Figs. 9 to 12, inclusive, I have shown my clip as provided with operating handles and so made that the two jaws 1^a are substantially identical in construction, each of them having along one of its longitudinal edges a series of teeth 6 and being provided at the middle of its opposite longitudinal edge with a flat preferably perforated extension 20. This second longitudinal edge on each side of the projection 20 is formed with alternate projections and recesses similar to those of the other form of my invention and is flanged and provided with a groove 7 for the reception of springs 10^a of which there is one on each side of said projection.

As before, the two jaws 1^a are held together by a pintle or hinge pin 9 extending the full length of the clip, and the construction is generally otherwise similar to that of the parts described in the other form of my invention. The flange 7^a of each of the jaws is preferably at an acute angle to the general plane of the body thereof, and since the handle projections 20 preferably lie in these planes, they with the bodies of the jaws are inclined to each other when the teeth 6 are in engagement. In order to separate the teeth and open the jaws, the handle extensions 20 are pressed toward each other, thereby causing the parts to occupy the positions shown in Fig. 12.

I claim—

1. The combination in a clip of two similar jaws having intermeshing longitudinally open eyes; a pivot pin extending through said eyes; and a spring engaging the jaws and encircling the hinge eyes.

2. The combination in a clip of two jaws each having a series of longitudinally open hinge eyes respectively meshing with each other to form an elongated passageway; a pivot pin loosely mounted in said passageway; and a spring extending around the eyes in position to hold the two jaws together.

3. The combination in a clip of two jaws each having an open concave projecting portion; a pivot pin mounted in the passageway defined between the jaws by said projections; and a split cylindrical sleeve slidably engaging the jaws to hold them together.

4. The combination in a clip of two jaws of sheet material each having along one edge a plurality of hinge eyes each forming approximately half of a hollow cylinder and intermeshing with those of the other jaw; with a pivot pin mounted between the two sets of eyes in position to rotatably engage the same; and a spring engaging the jaws to force them together.

5. The combination in a clip of two bodies each having a plurality of series of longitudinally open concave hinge projections together forming an elongated passageway; a pivot pin loosely mounted in said passageway; a plurality of springs extending around the projections in position to hold the pieces together; and a projecting handle for each of the jaws.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

RICHARD MARX.

Witnesses:
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JOS. H. KLEIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."