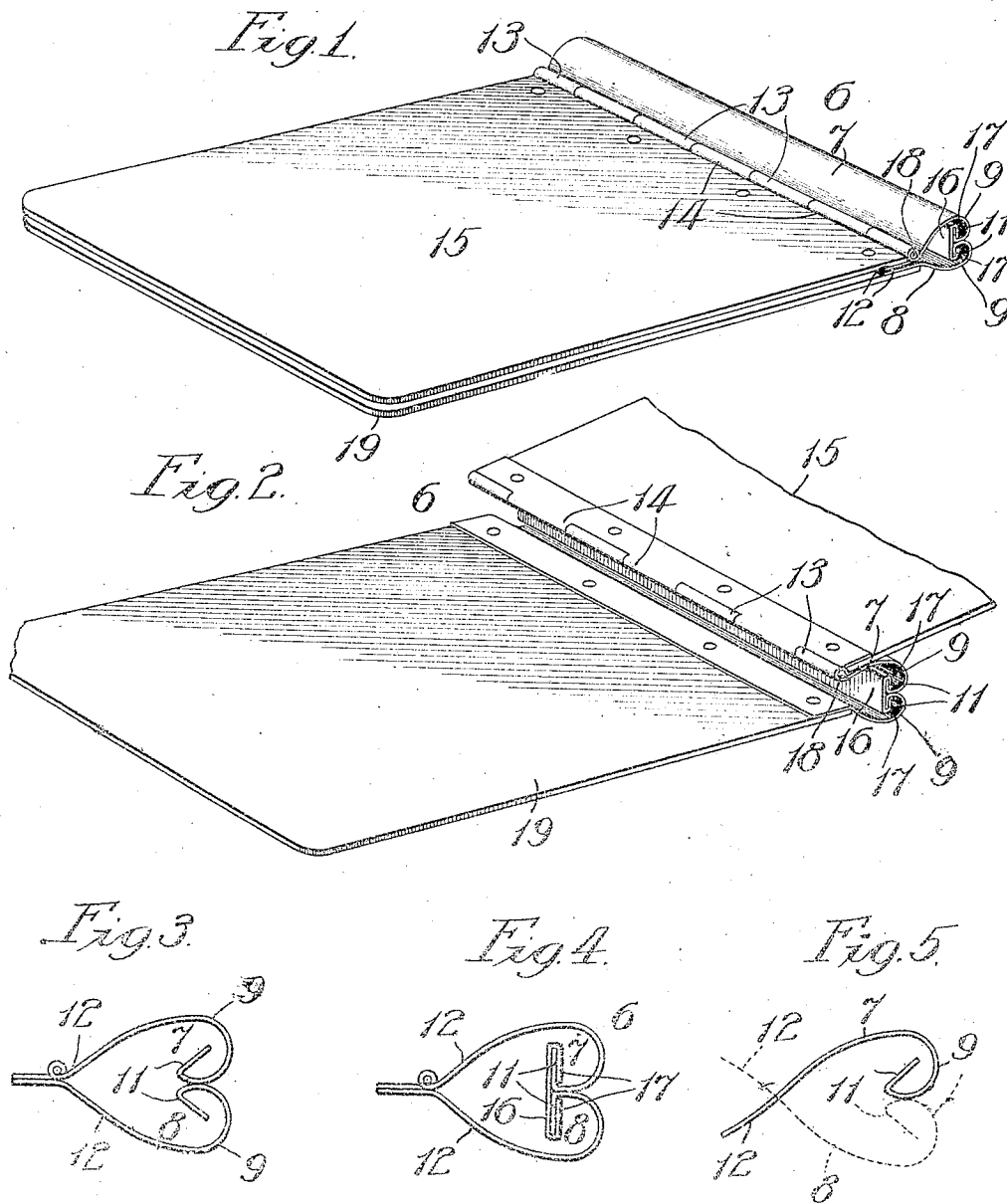


J. A. MUDD.  
 SPRING CLAMPING DEVICE.  
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932,163.

Patented Aug. 24, 1909.



Witnesses:  
 John Enders  
 Chas. H. Buel

Inventor:  
 Joseph A. Mudd  
 By *Agnew, Fitch, Lee, Christman & Oiler*  
 Attys.

# UNITED STATES PATENT OFFICE.

JOSEPH A. MUDD, OF CHICAGO, ILLINOIS.

## SPRING CLAMPING DEVICE.

932,163.

Specification of Letters Patent.

Patented Aug. 24, 1909.

Application filed March 26, 1909. Serial No. 435,980.

*To all whom it may concern:*

Be it known that I, JOSEPH A. MUDD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Spring Clamping Device, of which the following is a specification.

My invention relates to an improvement in spring-clamping devices of the type more particularly designed for use on temporary binders in which each or one of the two covers is hingedly connected with a spring clamping-back operating on the principle of a spring-clip for gripping between its jaws loose sheets of paper.

The object of my invention is to provide a simple, novel construction of the spring-back whereby its tension shall be rendered such as to adapt it to firmly clamp between its jaws a single sheet, even of the thinnest paper, as well as a block of sheets.

Having especially devised my improvement to afford the spring-back of a temporary binder, it is herein shown and described in that connection.

In the accompanying drawing, Figure 1 is a perspective view of a binder embodying my improvement; Fig. 2 is a similar view of the same in opened condition and with a portion of one of the covers broken away; Fig. 3 is an end view of the two side-members of the spring-back showing them in abutting relation and in their condition preparatory to uniting them by means of the third member; Fig. 4 is a similar view of the completed spring-back, and Fig. 5 is a view in the nature of a diagram, showing one of the two members of Fig. 3 by full-line representation in an end view and the cooperating corresponding member by dotted-line representation to illustrate the tendency of the gripping ends of the members to pass each other and thus tension the spring-back by abutting against each other.

The binder-back 6 consists of three members. Two similar members 7 and 8 are of stiff spring-metal (preferably steel), each of a shape to form, when in an assembled condition, a back of heart-shape in transverse section. The head-portion 9 of each of said sections presents a partial coil with its inner-end section 11, in the unassembled condition of the member, occupying an oblique position, as represented in Figs. 3 and 5, and the tail-section 12 of the member extending to any desired degree of inclination relative to

the head; and each or (as shown) one of the tail-pieces has its extremity formed with a series of cylindrical eyes 13 to produce hinge-members to alternate with similar members 14 provided on the edge of a cover 15. The third member, 16, of the back consists of a flat strip of metal, preferably spring steel, having its edge-portions bent toward each other to form folds 17 overlapping the end-sections 11 of the members 7 and 8, thereby uniting the two and straining these normally oblique sections to and holding them in alining positions, with the result of greatly tensioning the springs with their tail-pieces abutting against one another in the relation they occupy with the members assembled to form the spring back.

To construct my improved binder, the side-members 7 and 8, preparatorily formed in the condition in which they are represented in Figs. 3 and 5, are united by bending over and upon their oblique end-sections 11 the edge-portions of the straight member, thus forcing them to the straight alining positions in which they are represented in the finished back of Fig. 4, with their tail-pieces abutting to establish the tension throughout each side-member, which is augmented by so straightening the sections 11; and the degree of tension will be greater or less according to the greater inclination of the tail-pieces as indicated by the dotted representation in Fig. 5, or their lesser inclination resulting in the respectively corresponding degree of pressure against each other of the tail-pieces where they form the cooperating gripping-jaws of the back. If only the cover 15 is to be hingedly connected with the back, it alone is provided with spaced cylindrical eyes 14 to fit between the hinge-eyes 13 and be connected therewith by a hinge-pin or pintle 18 passing through the entire series. The other cover 19 may be attached in the same manner, if it be desired to hinge both covers, but it is shown to be riveted to the tail-piece of the back-member 8.

The construction thus described provides on a binder a spring-back of very simple construction, involving few parts and affording a spring-clip which will exert sufficient tension on the thinnest sheet of paper to grip it securely between its jaws, while being adapted to be readily spread apart, by straining the hinged cover 15 backwardly, to admit any number of sheets between the jaws to be clamped by them.

My improved spring clamping-device may be used for purposes other than binder-backs, so that I do not limit my invention to a binder-back.

5 What I claim as new and desire to secure by Letters Patent is—

10 1. A spring clamping-device, consisting of a pair of members composed of spring-metal and formed with heads having straight ends within them and with tail-pieces extending toward each other from the heads, and a third member composed of a strip of metal with its edge-portions secured to said ends and uniting and tensioning the members of said pair with their tail-pieces abutting and forming jaws.

2. A spring clamping-device, consisting of a pair of members composed of spring-metal and formed with heads having similar straight ends within them and with tail- 20 pieces extending toward each other from the heads, and a third member composed of a strip of spring-metal with its edge-portions folded over and confining said ends and uniting and tensioning the members of said 25 pair with their tail-pieces abutting and forming jaws.

JOSEPH A. MUDD.

In presence of—

K. M. CORNWALL,  
R. A. SCHAEFER.