

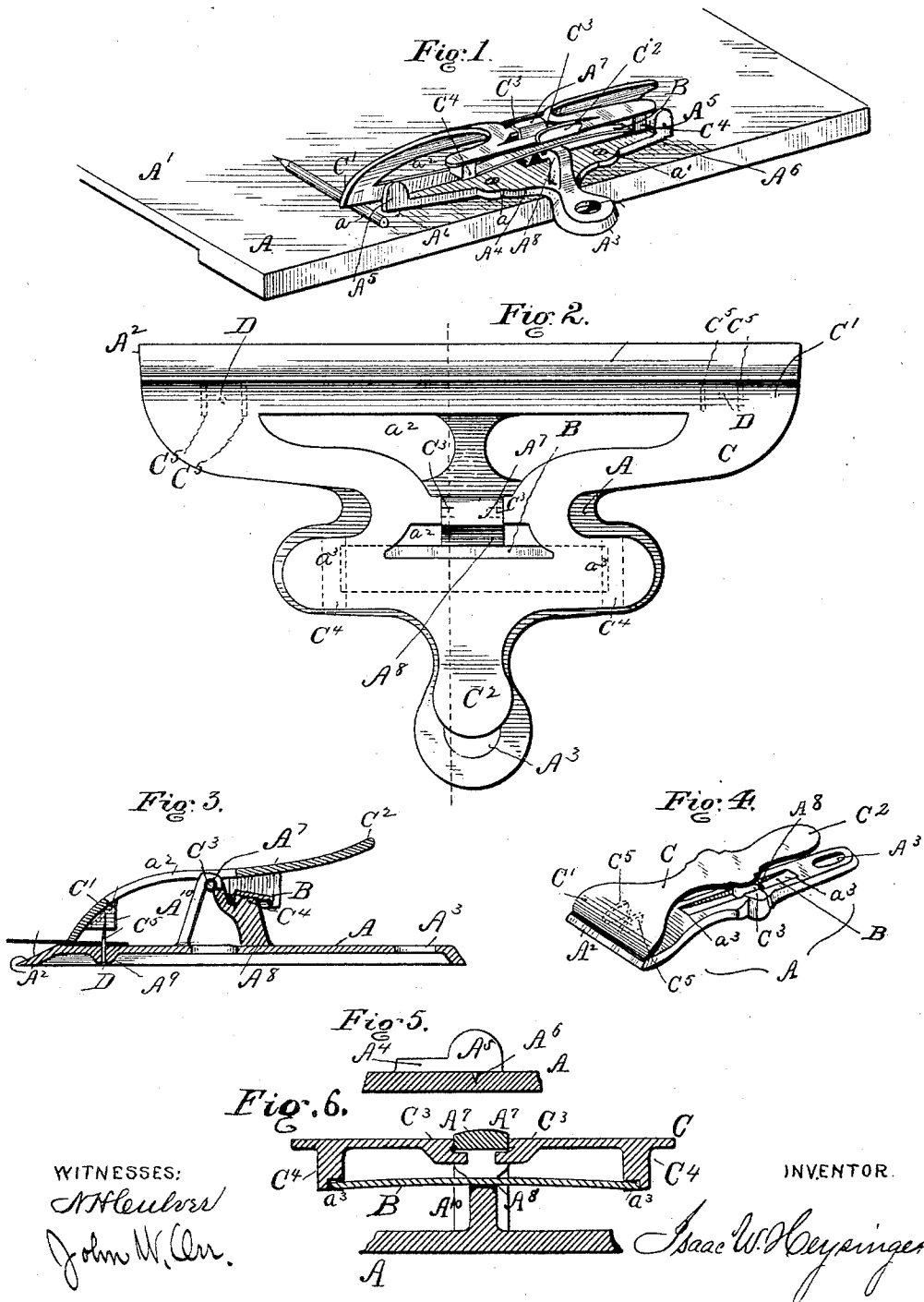
(No Model.)

I. W. HEYSINGER.

PAPER CLIP.

No. 327,553.

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UNITED STATES PATENT OFFICE.

ISAAC W. HEYSINGER, OF PHILADELPHIA, PENNSYLVANIA.

PAPER-CLIP.

SPECIFICATION forming part of Letters Patent No. 327,553, dated October 6, 1885.

Application filed April 14, 1885. Serial No. 162,178. (No model.)

To all whom it may concern:

Be it known that I, ISAAC W. HEYSINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have made a certain new and useful Improvement in Paper, Letter, and other Clips, of which the following is a full, clear, and exact description, reference being had to the drawings accompanying and forming a part of this specification, in which—

Figure 1 is a rear perspective view of one of my paper or letter clips constructed with an enlarged tablet or board, so as to adapt the device to be used on a writing-desk for holding sheets of letter-paper preparatory to writing upon them, &c. Fig. 2 shows in plan view from above the device with a metal base for use as an ordinary paper-clip. Fig. 3 is a vertical section of Fig. 2, taken along the middle line from front to rear. Fig. 4 shows an inversion of the spring and its supports, (as shown in Fig. 1,) the spring also being differently placed. Fig. 5 shows one of the flanged ends of the skeleton frame of Fig. 1, (intended to limit the advance of papers when inserted between the jaws, so as to secure evenness thereof,) and clearly shows also the construction of the point which is indented into the tablet or board beneath to prevent the papers from slipping under the flanged gage or stop; and Fig. 6 is a rear elevation, partly in section, to show the operation of the coacting parts of the device, the spring, pins, sockets, supports, &c.

The lettering in all the figures is uniform.

My invention in some of its features is an improvement upon the clinching-clip which forms a part of my Letters Patent of the United States No. 226,402, dated April 13, 1880, the modifications and changes being intended to render the device more useful and convenient as an ordinary paper or letter clip, and to enable it, as enlarged, expanded, and altered, to be more readily put together or taken apart, and with less expense than could otherwise be done.

By the means shown by me in the present invention I render the clamping-lever laterally self-adjusting, so that it will bind the papers at both sides, notwithstanding imperfect fitting or warping of the board, and I do this by the simplest means, without the necessity

of tools for putting together or taking apart my clip and without any additional expense.

Referring to the drawings, my device consists of a base part, A, which may be entirely of metal, as in Figs. 2 and 3, or partially of wood or pasteboard, extending forward, as in Fig. 1, to form a large writing board or tablet for holding a package of loose sheets of paper from which the sheets may be singly removed as written over by depressing the thumb-lever C² at the rear of the lever-arm C, so as to raise the clamping-jaw C', which is pivoted to the base at C³ A', and supported and held under tension by the flat spring B, resting at each end upon the shoulders a³ a', and impinging at its middle upon the heel or support A⁸.

The spring B, which is a simple flat strip of tempered steel, is, as shown in Figs. 1, 2, and 6, laid transversely across the under side of the lever C and in rear of its bearings C³ C'. It is raised from contact with the under surface of C by the posts or supports C⁴ C', which are provided with terminal sockets a³ a', opening inward, and in which sockets the free ends of the spring B may rest securely when held up in place by the impingement of the support A⁸ against the middle of said spring. This support A⁸ is raised from the level of the base A in rear of the bearings A' A', as shown in Fig. 3, and the spring B, having its ends seated in the sockets a³ a' and its middle arched over the support A⁸ and resting upon it, will securely hold down the jaw C' or return it to place, if raised by depressing the thumb-lever C². As shown in Fig. 3, the spring B does not lie horizontal from front to rear, but is upon a radial line having its center at the bearing C³ A', so that it may be placed upon any radial line having C³ A' as a center, and it will work equally well, and will not slip in its sockets or slide during motion to and fro across the top of the support A⁸.

The means for supporting the lever C are clearly shown in Fig. 6, and the relative position of the parts may be seen in Figs. 2 and 3. The top plate or lever, C, is cast or otherwise formed with an opening, a², in its middle part. This opening is provided with a contraction from opposite sides, and from these two contracted sides two pins project inward and opposite each other, and preferably beneath the general level of C. (See Fig. 6.)

The base A is provided with an elevation, A¹⁰, in its middle part, hollow on its under side, to form bearings or journal-boxes opening downward, and narrowed in the rear below the summit of the elevation A¹⁰ and the journal-boxes A⁷, to admit the pins C³ C³ when presented from the rear. Upon this narrowed portion is the support A⁸, upon which the middle of the spring B impinges, and the opposite pins C³ C³ are passed alongside this narrow support A⁸ until directly beneath the expanded portion of A¹⁰ and the journal-boxes A⁷ A⁷, when the lever C is lifted and the pins are seated in their bearings. The spring B is now placed with one end in one of the sockets a³, and the middle is strongly bent up, and the opposite end bent down, when the middle will pass over the support A⁸ and the opposite end slip into its proper socket a³, when the device will be put together and ready for use. By reversing the process it will be taken apart. No tools are requisite, nor is any fitting required, the castings as delivered from the foundry being all ready for use.

It will be readily seen that as the terminal spring-supports a³ a³ are outside the lines of the pin-bearings A⁷ A⁷, and the center spring-support, A⁸, lies between the lines of the said pin-bearings, (said lines being drawn from front to rear,) the top lever or its broad lip C' may be rocked sidewise, and that it will balance back to equilibrium as soon as the side strain is taken off, or will adjust itself to any inequality of the base-board A' or unequal thickness of material between the jaws and on opposite sides of C'. As shown in Fig. 1, where a pencil is interposed at one side of the clamping-lip C', this side will be raised from the base A, while the opposite side will still rest securely thereupon, or upon any paper placed between the jaws. In such case the points of support against the tension of the spring, instead of being at C³ C³, will be at one of the bearings C³ only, the other being lifted out of its journal-box A⁷ by the twist at the opposite side produced by the interposition of the pencil. The other point of support will be thrown upon the spring-support A⁸. This construction enables the clip to be used without reference to the warping of the board A', or the irregularity of the base A, or the free edge of the clamping-lip C'. It also enables the clip to be used for holding papers of different thicknesses at opposite sides, or for interposing an eraser, a pencil, a bunch of envelopes, stamps, &c., at one side, while the clip is in use for holding a quantity of sheets of paper, and it also greatly cheapens the cost of construction, as, being self-adjusting, no fitting is required to make the lip C' fit accurately along its length upon the base A, which is a difficult and expensive thing to do in clips having a broad-faced clamping-lip, C'. This broad-faced lip C' is matched with and covers a similarly broad base, which projects slightly in front of the lip C', and is checked or rough-

ened upon its upper surface to more securely hold papers, &c.

As shown in Figs. 2 and 4 in dotted lines and in Fig. 3 in side elevation, I sometimes use a pin, D, upon which papers are impaled and held. As ordinarily used, such pins project through the clamping-lever, and are liable to injure the user. In my present invention I provide this pin D with a hood or cover, so that the entire pin, including its point, is concealed and securely protected by a swell or hood upon the front part of the clamping-jaw, as shown in Fig. 3. While I sometimes raise this hood upon the top surface of the clamping-jaw, I usually, for neatness and facility of finishing the top surface of C, prefer the form shown in Fig. 3, and likewise in Figs. 2 and 4. The forward part of C is brought down sharply to the lip C' in a bold curve, and two blades or ribs, C⁵ C⁵, are dropped down from the under side of this curve, which, with the front edge of the lip C', form a three-sided vertical channel closed at the top by the surface of the plate or lever C, so as to form a hood to protect the pin D and assist in forcing down the papers thereupon. The pin projects upward from the base A, and lies in this vertical channel, its point extending up to and nearly in contact with the under surface of C. The lower edges of the blades C⁵ C⁵, which are beveled off from front to rear, so as to lie upon the paper horizontally when the lever C' is raised, and the part of C' which joins them in front, together press the paper down upon the pin and prevent it from slipping aside or bending without puncturing. The swell of C to accommodate the pin may be of any height desired, and I sometimes use one pin and sometimes two or more.

When I use the board A', as shown in Fig. 1, I form the base A in skeleton, so that the broad lip C' shall come down in contact with the board A' itself, the skeleton having lateral flanged guides A⁵ A⁵, against which the sheets of paper, when inserted from the front beneath the lip C', shall engage, so as to limit their advance and secure even adjustment thereof; and in order to prevent the sheets of paper from slipping beneath the flanges A⁵ A⁵, I provide them with counter points or pins A⁶ A⁶, projecting downward from A⁵ A⁵, and which I indent into the top surface of the board A', as shown in Figs. 1 and 5.

The skeleton frame of A, as shown in Fig. 1, also contains the mechanism of the bearings A⁷ C³ and the spring a³ a³ A⁸ B, and has extending to the rear a looped or slotted projection, A³, corresponding to those having a metal base, as shown in Fig. 2, whereby the device may be suspended from a nail, and is also kept from tilting up when the thumb-lever C² is depressed.

While I usually, for the reasons stated, insert my spring B transversely to the base when the side space is narrow or the lip C' does not require accurate adjustment upon the base A,

Isometimes arrange it longitudinally, as shown in Fig. 4, which is an inversion, so far as relates to the spring and its supports, of that form shown in Fig. 1, and in such case I use
 5 one broad flat spring or two parallel springs, as may be preferred. In such case, as the broad lip C' requires the top lever, C, to be inserted from above, I provide the lever C with an elongated neck, upon which are placed
 10 the pins C³ C³, and I form this neck so that it can be rotated when in the spring-slot of the base A, and provide it with a heel or support, A⁸, which bears against the spring B and compresses the jaw C' A. To insert this I place
 15 the lever C over the base A, and pass the neck and pin and heel part of the lever down through the spring-slot in the base at right angles thereto. I then turn the lever C in line with the base, and move the pins forward under
 20 their bearings A⁷ A⁷, as shown in the other figures, and the top lever, C, being lifted, will bring the pins C³ C³ into their seats, and the spring pressed in and seated in the sockets a³ a³, and impinged upon by the support or heel
 25 A⁸, will unite the different parts for permanent use as a single device. In the form shown in Fig. 6, also, I sometimes invert the arrangement of the pins C³ C³ and their journal-boxes A⁷ A⁷, and otherwise vary the construction
 30 to suit special requirements.

Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A spring paper or other clip consisting
 35 of the opposite clamping-jaws A and C, provided with the detachably-pivoted bearing C³ A⁷, the spring-supporting sockets a³ a³, the transverse spring B, supported at its opposite ends in the said sockets a³ a³, and the heel or
 40 support A⁸, impinging, under pressure, against the middle of said spring, the whole constructed to operate substantially as and for the purposes described.

2. In a paper-clip consisting of the base A,
 45 vibrating clamping-jaw C, provided with jaw C', hood C⁵, and opposite thumb-lever C², and

spring B, one or more pointed pins, D, projecting upwardly from the said base, and adapted to perforate and hold in place papers, &c., when forced down upon the said pins by
 50 the compression of the jaw C, each of said pins D being covered and protected by the blades C⁵, or their equivalent, formed upon and integral with the said jaw C', substantially as described.

3. A paper-holding clip consisting of a fixed
 55 jaw, adapted to rest, as a base, upon a table, and a centrally-pivoted vibrating upper jaw provided with a broad-faced clamping-lip at its forward extremity, and a thumb-lever at its
 60 rear, together with one or more flat plate-springs supported in terminal sockets at one end, attached to one jaw, and impinged upon at its center by a heel or support upon the
 65 opposite jaw, said spring or springs occupying a slot or space sufficiently large to permit the supporting-pins of one jaw to be hooked into the open journal-boxes of the other, so that the
 70 whole shall be held firmly in place, and pressure applied to the clamping-jaw by the tension of the said spring, substantially as described.

4. A paper-holding clip consisting of a fixed
 75 jaw, adapted to rest upon a table or be attached to a tablet or board, and a centrally-pivoted vibrating spring clamping jaw attached thereto, supported by a pivoted bearing
 80 in one jaw seated in one or more open journal-boxes in the other, and held in place by the upward pressure of a flat plate-spring supported at its ends in sockets upon one jaw, and
 85 impinged upon at its center by a heel or support upon the other jaw, the said spring extending transversely across the base, and having its terminal supports beyond the side lines of the said pivoted bearings of the clamping-jaw, substantially as and for the purposes shown and described.

ISAAC W. HEYSINGER.

Witnesses:

P. O'DONNELL,
 F. L. ROEPKE.