(No Model.) 2 Sheets—Sheet 1.

W. I. OHMER & T. L. WAYNE.

FILE BOX.

No. 487,006. Patented Nov. 29, 1892.

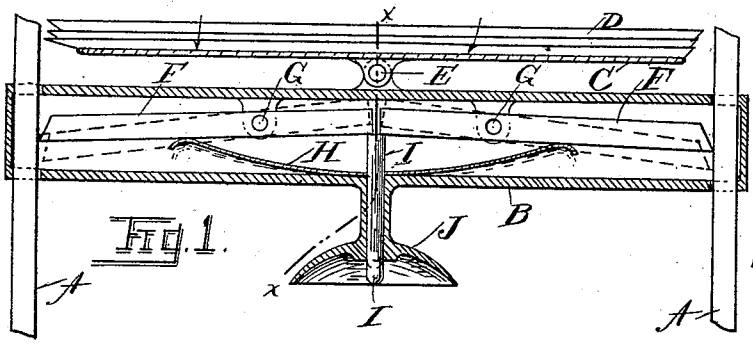

Fig. 1.

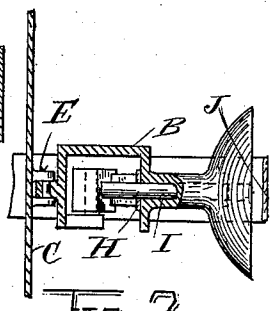

Fig. 2.

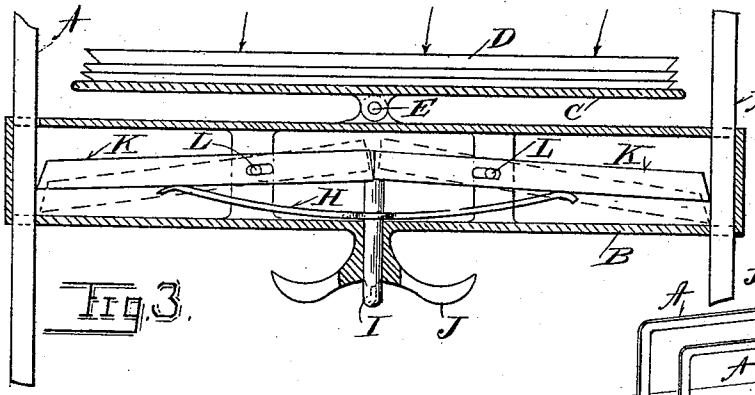

Fig. 3.

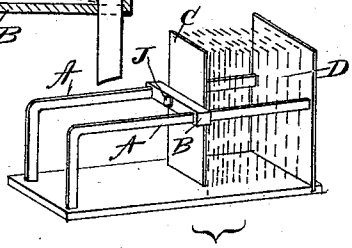

Fig. 1a.

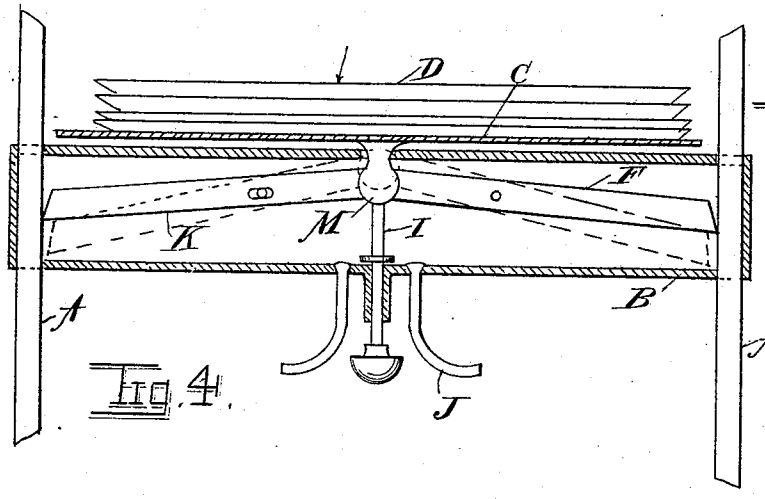

Fig. 4.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

W. I. OHMER & T. L. WAYNE.

FILE BOX.

No. 487,006. Patented Nov. 29, 1892.

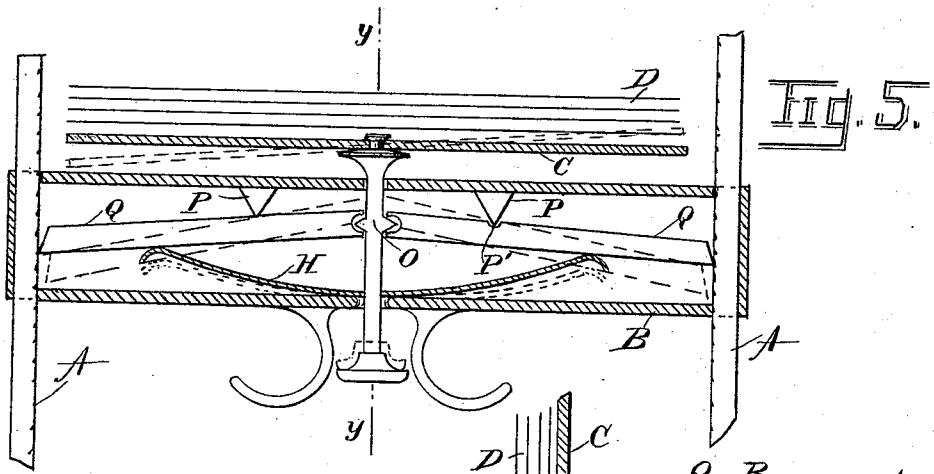

Fig. 5.

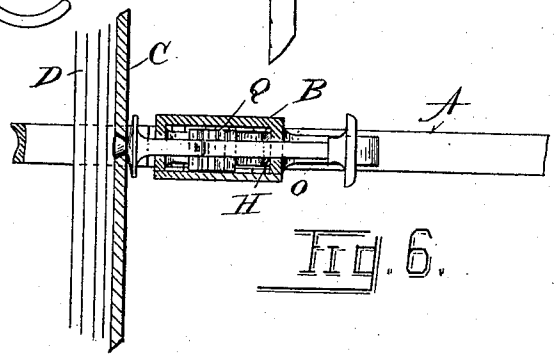

Fig. 6.

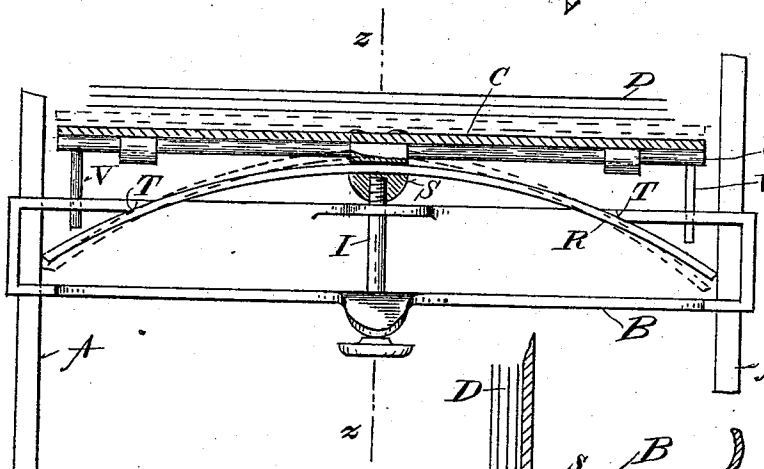

Fig. 7.

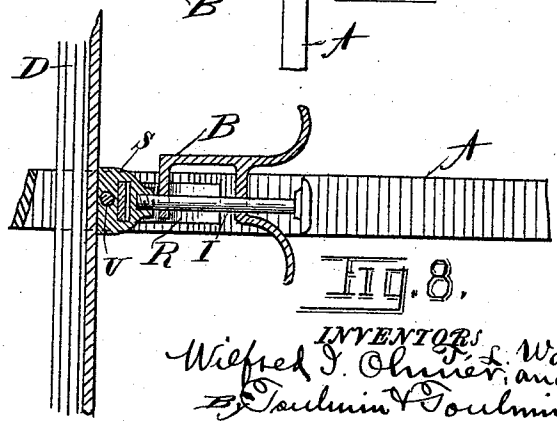

Fig. 8.

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UNITED STATES PATENT OFFICE.

WILFRED I. OHMER AND THOMAS L. WAYNE, OF DAYTON, OHIO, ASSIGNORS TO THE M. OHMER'S SONS' COMPANY, OF SAME PLACE.

FILE-BOX.

SPECIFICATION forming part of Letters Patent No. 487,006, dated November 29, 1892.

Application filed April 15, 1892. Serial No. 429,262. (No model.)

To all whom it may concern:

Be it known that we, WILFRED I. OHMER and THOMAS L. WAYNE, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in File-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to certain new and useful improvements in file-box attachments.

Our improvements have reference to clamps in which the expansion of the papers compressed within the file increases the grip of spreading pieces upon the side bars of a file-box, to other forms of construction in which the expansion of the papers creates the grip, to others in which the grip is effected by the spreading-pieces through other means than the expansion of the papers, have reference to equalizing the grip of said pieces automatically, to means for breaking their gripping engagement, and to other points of construction hereinafter described and claimed.

In the accompanying drawings, in which like reference-letters indicate corresponding parts, Figure 1 represents a plan view of pivoted gripping-pieces and portions of the side bars, the supporting cross-piece being in section; Fig. 1ª, a file-box and clamped file; Fig. 2, a vertical section on line *x x*, Fig. 1; Fig. 3, a similar view to Fig. 1, showing the gripping-pieces butting on each other to equalize the gripping engagement; Fig. 4, another view showing the pieces directly actuated by the expansion of the paper and equalized; Fig. 5, a similar view on the same principle as Fig. 4, with the gripping-pieces laid in the cross-casing and simply fulcrumed; Fig. 6, a cross-section on the line *y y* of Fig. 5; Fig. 7, a bottom view of a device in which the grip is effected by a spring-piece acted on by the expansion of the papers, and Fig. 8 a section on the line *z z* of Fig. 7.

The letters A A designate the side bars or guides on which the clamp is mounted. A cross-piece of casing B is slidingly engaged with said guides, and a pressure-board is connected thereto to receive the expansive action of the file D after the compression of the same within the box. This pressure-board may be mounted on a pivot E, as in Figs. 1 and 3. Any thickness of the papers effecting a slanted position of the board will still be communicated to the center of the casing.

In Fig. 1 the side bars are gripped by spreading pieces F, pivoted at G, and thrown into gripping engagement by a spring H. The clamp may be readily slid toward the papers and compressed thereon; but the spring will immediately spread the pieces to grip the side bars on any attempt to slide the clamp backward except by operating a push-piece or sliding rod I, which throws the gripping-pieces to the dotted position. The clamp may be readily drawn back by the knob J, engaged by the fingers, while the thumb acts on the push-piece I. Here the expansion of the paper increases the grip of the spreading pieces. In Fig. 3 a similar spring H acts on spreading pieces K, slidingly mounted on pins L and butting together at their inner ends in their gripping position, as shown in Fig. 3. Here it will be seen that the expansion of the papers likewise increases the grip of the spreading pieces, while the latter press equally on the side bars on account of their sliding support.

In Fig. 4 the spring in the other forms is done away with, preferably, and the spreading pieces are directly engaged by a knob M, forming an extension from the back board C and engaging with the spreading pieces at their inner ends, which pieces may be either pivoted, as F, on the right or slidingly mounted, like K, on the left. The clamp being pushed against the papers the expansion of the latter will immediately act to spread the gripping-pieces, as shown in this figure. A push-rod similar to the former breaks the gripping engagement, as before.

In Fig. 5 we have the spreading pieces Q simply laid within the supporting-case with their inner ends engaged with projections at O on a push-piece, which serves, also, as a support for the pressure-board C. Instead of a slotted or pivoted engagement of the spreading pieces with the supporting-case I provide fulcrums P, engaging with the spreading pieces either with or without the notch P′. (Shown on the right.) The spring H may or may not be used in this form, since the action

of the compressed papers will serve to spread the pieces Q before tending to slide the clamp. The grip is broken by operating the push-piece to the dotted position. The pressure-board C in this case is loosely mounted on the end of the push-piece to accommodate itself to the pressure of the papers, as indicated by dotted lines. The equalizing feature is also included in this form. This loosely-mounted connection of the pressure-board is one of the important features of our device.

In Fig. 4 the same effect as in Fig. 5 is produced by means of the ball-head M. In fact, in both these figures the connection is such as to form a universal joint allowing of vibrating the board back and forth sidewise, as indicated by dotted lines in Fig. 5, and also back and forth at the upper and lower ends of the board. Thus if the papers are a little thicker on one side than the other the board will adjust itself to press both sides equally. If the top of the papers in the file are somewhat thicker than the bottom, the board, at the top will be pressed backward and press both the top and bottom of the file uniformly. This pivotal connection also allows the papers to lean backward when the arms are released and the papers loosened from the clamp for examination. In Fig. 7 the same effect is produced by the center connection and guiding-pieces V. The transverse rod U supports the pressure-board to allow the backward and forward motion of the top and bottom of the board on the horizontal, while the guides V readily vibrate independently.

Figs. 4 and 5 show the pressure-board with merely a central pivotal connection giving the universal-joint action above mentioned. Fig. 7 is somewhat steadier and less pliable in its motion.

We wish to be understood as laying claim, broadly, to the above universal connection of the pressure-board with its support.

In Figs. 7 and 8 the gripping engagement is effected by a double-armed piece R, loosely or otherwise mounted at S in an extension from the back board, which is engaged by a push-piece sliding in the case or support. This piece R has a certain amount of resiliency and tends to straighten and thus spread out to grip the side bars, as shown. By pushing in on the piece I the ends of the spreading piece are brought inward by the action of the piece against the stops T, on which it slides, as shown by the dotted lines. Here the spreading piece effects its own gripping engagement with the rod, which is increased by the expansion of the papers thereon. The rods are gripped equally by reason of the sliding mounting of the piece R, as shown at S. The pressure-board C may vibrate on a horizontal axis formed by the rod U, having the guide-pins V.

We have thus fully described and illustrated forms by which the before-mentioned expansion of the papers may serve either to actuate the gripping-pieces or increase their grip after being otherwise brought into engagement with the side bars or rods of the file-box.

We do not limit ourselves to any particular construction or arrangement of the parts herein shown and described, but have been thus full in order to show that our invention may be carried into effect in a variety of ways. The adjustability of the spreading pieces to and from each other and the side bars allows of readily fitting up the device without the care and nicety that would be otherwise required. A better action at less trouble and expense thus results.

It will be observed that in some of the constructions the spring proper acts on the gripping-pieces. In other arrangements the expansion of the compressed papers acts on the grippers with a reaction or spring-like force. In both the grippers are actuated by a spring action, which will be found in all the arrangements illustrated and constitutes the underlying principle of our device.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a file-box, the combination, with side bars or guides, of a sliding support or case mounted thereon and adapted to compress the papers within the box, spreading pieces mounted on said support, a spring to spread them into gripping contact with said bars, and a push-piece to break said gripping engagement, the expansion of the papers acting on the supporting-case and increasing the gripping contact.

2. In a file-box, the combination, with side bars and a casing or support slidingly mounted thereon, of spreading pieces adapted to grip said side bars and abutting on each other in their gripping position and a spring to effect said gripping contact, the expansion of the papers compressed by the clamp acting to increase said engagement, the gripping engagement being broken by reversely operating said spreading pieces and equalized on said bars by the abutment of said spreading pieces.

3. In a file-box, the combination, with side bars and a supporting cross-plate or case slidingly mounted thereon, of spreading pieces slidingly mounted on said support and adapted to grip said side bars at their outer ends and abutting on each other in their gripping position to equalize the grip on both bars, the expansion of the papers increasing said gripping engagement, and a push-piece to break said engagement.

4. In a file-box, the combination, with side bars and a supporting-case slidingly mounted thereon, of spreading pieces slidingly mounted on said supporting-case and adapted to grip said side bars at their outer ends and a pressure-board acting on their inner ends to spread the same under the expansive action of the

papers in the said file, whereby the expansion of the papers will act directly on the gripping-pieces to spread them.

5. In a file-box, the combination, with side bars and a supporting-case slidingly mounted thereon, of spreading pieces adapted to elongate and grip the side bars, a pressure-board acted on by the expansion of the papers and operatively connected to said spreading pieces to communicate directly the expansion of the papers thereto, and a push-piece acting to compress the papers and break said gripping engagement of the spreading pieces.

6. In a file-box, the combination, with side bars and a supporting-piece slidingly mounted thereon, of a spreading device mounted between said side bars and adapted to grip the latter, a pressure-board for the filed papers connected to said gripping device to spread the same under the expansive action of the papers, and a push-piece to draw in said spreading device to break said engagement before returning the clamp.

7. In a file-box, the combination, with side bars and a cross-piece slidingly mounted thereon, of a pressure board or piece acted on by the expansion of the compressed papers in the file and a spreading device operatively connected to said pressure board or piece and spread into gripping contact with said bars by the said expansion of the papers, the loosely-mounted connection of said gripping device with the said support and pressure-board allowing of equalizing the grip on the said side bars, substantially as described.

8. In a file-box, the combination, with side bars and a supporting-piece slidingly mounted thereon, of a spreading device carried by said supporting-piece and adapted to be spread to grip said bars and a push rod or button acting on said spreading device to break said gripping engagement.

9. In a file-box, the combination, with side bars and a cross supporting-piece slidingly mounted thereon, of a spreading device carried by said supporting-piece and adapted to be spread to gripping engagement with said bars and a push-piece slidingly mounted between finger-hooks mounted on said cross-piece and acting to break said grip of the spreading device by the action of the thumb thereon while the fingers are engaged with said finger-hooks.

10. In a file-box, the combination, with guides and a supporting-piece slidingly mounted thereon, of grippers carried by said supporting-piece and a spring-action applied to said grippers.

11. In a file-box, the combination, with side bars and independent grippers therefor, of a spring bearing near its ends against said grippers equally and movably mounted to effect a like gripping engagement at each side-bar, whereby if one gripper is slightly different from the other the spring will compensate for the difference and give a like grip to both.

12. In a file-box, the combination, with side bars and a cross-piece mounted thereon, of a pressure-board carried by said cross-piece and having a universal-joint connection therewith to allow of adjusting itself to different thicknesses of portions of the file.

13. In a file-box, the combination, with side bars and a cross-piece mounted thereon, of a pressure-board supported at substantially its center by said cross-piece, the connection between said pressure-board and cross-piece allowing of the sides of the board moving back and forth in a horizontal plane and the top and bottom in a vertical plane.

14. In a file-box, the herein-described self-adjusting connection between a pressure-board and its support, the same consisting of a loosely-mounted fulcrum-piece connecting said pressure-board with its support, whereby the board may adjust itself at the sides, the top, and the bottom, substantially as shown and described, according to the irregular thickness of the papers in the file.

In testimony whereof we affix our signatures in presence of two witnesses.

WILFRED I. OHMER.
THOMAS L. WAYNE.

Witnesses:
B. MURPHY,
J. C. PATTERSON.