

J. S. SHANNON.
Temporary Binder.

No. 217,907.

Patented July 29, 1879.

Fig: 1.

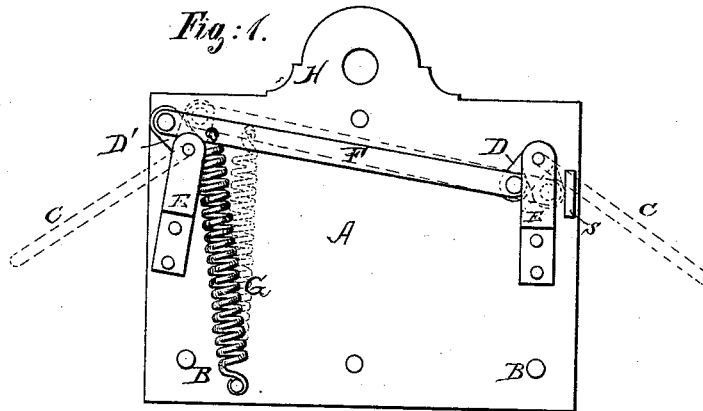


Fig: 2.

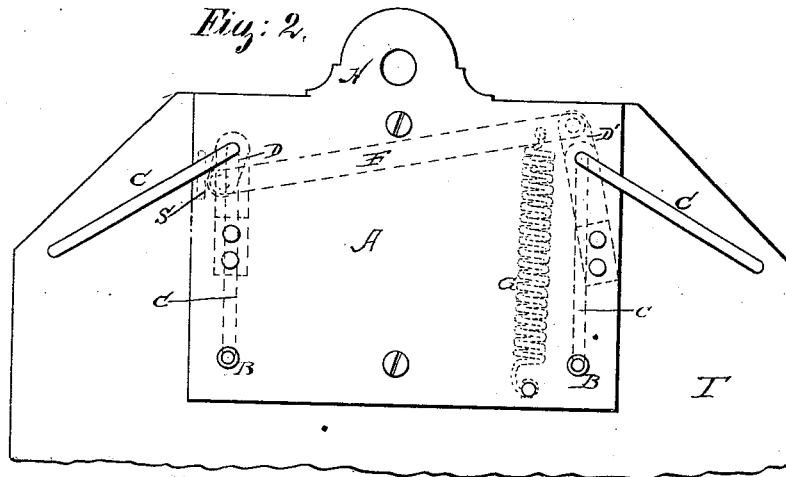
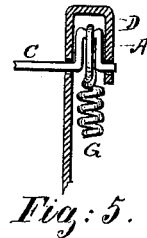
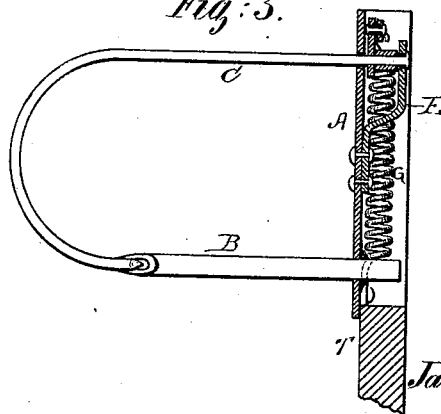


Fig: 4.



Fig: 3.



WITNESSES

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IMPROVEMENT IN TEMPORARY BINDERS.

Specification forming part of Letters Patent No. **217,907**, dated July 29, 1879; application filed November 29, 1878.

To all whom it may concern:

Be it known that I, JAMES S. SHANNON, of Chicago, State of Illinois, have invented certain new and useful Improvements in Temporary Binders; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a novel construction in temporary binders of the class having fixed receiving-wires and hinged or vibrating transfer-wires; and consists, first, in giving movement to the latter on a vertical axis, for the purpose of swinging their free ends toward or from the free ends of the fixed wires; secondly, in means, provided and arranged substantially as herein shown and described, whereby the vertically-vibrating wires are held stationary, either in contact with or removed from the fixed wires; and, thirdly, in connecting the two swinging wires of a double file, so that in rotating one the other is also operated.

Figures 1, 2, and 3 of the drawings illustrate, in bottom, top, and lateral sectional views, respectively, the devices by which my invention is applied to tableted double binders. Fig. 4 shows an enlarged and detached point of a fixed wire; and Fig. 5 is a vertical sectional view, showing a vibrating wire bent to form the crank by which it is held. This figure will be particularly referred to as showing how my invention may be better applied in a single file.

A is a metal plate of the desired size, and of any form of outline that fancy or convenience may suggest. Its object is to form a base of attachment for the several working parts, and as a connection for them with a board or tablet, T.

B B are vertical fixed wires, secured preferably to the plate A, and, if tubular, extended through the board, as shown in Fig. 3.

C C are vibrating wires, having each a vertical and a curved or arched portion, arranged in the plate A at the same distance apart as the fixed wires B. C C pass through the plate A, and are supported at the foot by the brack-

ets E, in which and in the plate they freely but closely turn. The free ends of the wires B are beveled on one side, as clearly shown in Fig. 4, to give puncturing-points. Preferably they are beveled from the outside upwardly and inwardly, and the vibrating wires are beveled or sharpened so as to meet the beveled faces of B B, to form a directly continuous ring, as shown in Fig. 3, and are both vibrated outwardly, as seen in Figs. 1 and 2.

D and D' are crank-arms fixed to the wires C C, between the plate A and the brackets E E. F is a connecting-rod, joining the extremities of D and D', for the purpose of giving to the wires C C simultaneous vibration when either of them is rotated.

G is a spring, fixed at one end to the plate, and attached at the other end to the connecting-bar F. This spring is for the purpose of holding the wires C C either in contact with the wires B B or away from them, according as it may be required to have the rings closed or open. To this end one of the arms, as D', and the spring G are so relatively arranged in connection with the arch of the wires C that the arm will be held by the spring at each extremity of its throw. S is a slot, limiting the throw of the crank-arm and wires C, so that the latter may not bear forcibly at their points against the fixed wires B. Their throw in the opposite direction is arrested in this instance by the connecting-bars F which strikes one of the wires C. Obviously other means may be provided for this purpose.

By varying the relative arrangement of the crank-arms D and D', the arched portions of the transfer-wires C C may be made to rotate in opposite directions or in the same direction—that is, either both inwardly, both outwardly, or both to either side. The drawings illustrate the arrangement suited to produce rotation in opposite directions and both outwardly, which I prefer.

The crank-arms D and D' are, in this case, arranged on opposite sides of the transfer-wires, and the spring G, instead of being centrally connected to the bar F, (as it might be were the arms both on the same side of C C,) is connected as near as may be to the arm D'.

If the wires C C be bent to form a crank,

as shown in Fig. 5, the spring may be directly connected thereto, or other forms of spring may, obviously, be otherwise applied. The mode of forming the crank-arm shown in Fig. 5 is especially adapted to single files—that is, to files having only one fixed and one transfer wire. This figure also shows the plate A bent over at its margin to form the bracket to support the foot of the wire C. When the plate is cut from sheet metal, projections for this purpose may be formed at the corners of the plate no longer than is required to form the central hanging loop or eye, H.

It is not material to the invention herein claimed whether the wire B is solid or tubular. If solid, it may be perforated near its point, as shown in Fig. 4, for the purpose of stringing the contents of the file. Nor is it material that the wires B B shall be fixed to the metal plate instead of to the tablet at the rear of the plate; but it is obviously better to secure them to the plate, in order to permit separate packing of the tablets and working parts for shipment, and to facilitate putting the parts together in proper relation.

It has been stated that the transfer-wires may be swung in either direction. The beveled faces of the fixed wires should be arranged to meet the transfer-wires, whichever way the latter may swing, so as to make as smooth and perfect a joint as possible, in order that papers may be transferred from one wire to the other without injury.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In combination with the fixed wire B and the base A, the arched vibrating wire C, having a positive rotary movement in the axis of its vertical portion, whereby its free end may be swung into contact with or away from the free end of the fixed wire, substantially as described.

2. In combination with the vibrating wire C and the fixed wire B, the spring G and the crank D or D', formed or fixed in the vibrating wire C, whereby the ring composed of the latter and the fixed wire B may be held either open or closed, substantially as described.

3. The combination, in a double file or binder, of the fixed wires B B, the vibrating wires C C, crank-arms D and D', connecting-bar F, and spring G, whereby the free ends of the wires C C may be simultaneously swung horizontally to open and close the rings, substantially as described.

4. The fixed wires B B and vibrating wires C C, combined with operative spring G, connecting-bar F, and cranks D D', set in opposite directions, so that the said vibrating wires move in opposite directions as they open or close.

In testimony that I claim the foregoing as my invention, I affix my signature in presence of two witnesses.

JAMES S. SHANNON.

Witnesses:

JESSE COX, Jr.,
M. E. DAYTON.