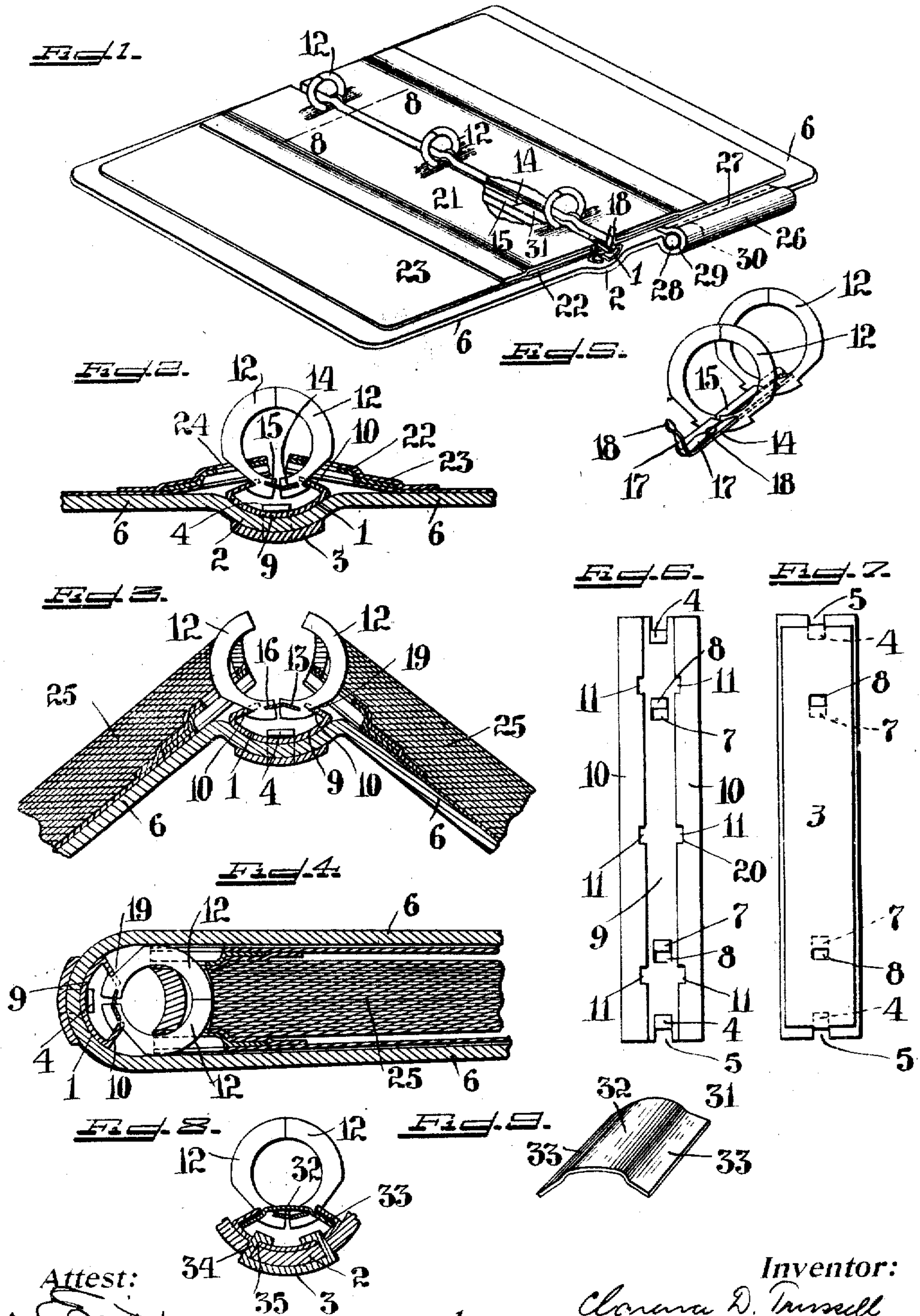


C. D. TRUSSELL.
 TEMPORARY BINDER.
 APPLICATION FILED JUNE 23, 1908.

934,770.

Patented Sept. 21, 1909.



Attest:
[Signature]
 b. S. Ashley

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 Clarence D. Trussell
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UNITED STATES PATENT OFFICE.

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TEMPORARY BINDER.

934,770.

Specification of Letters Patent. Patented Sept. 21, 1909.

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To all whom it may concern:

Be it known that I, CLARENCE D. TRUSSELL, a citizen of the United States, residing in the borough of Manhattan, New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

My invention relates to temporary binders for blank books, account and memorandum books, and the like, in which the leaves may be inserted or removed at will.

The object of my invention is to provide a temporary binder of simple, neat, cheap and strong construction, which may be opened or closed with great facility for the insertion or withdrawal of the sheets or leaves of paper.

My method of making the covers of the binder and securing the same to the operating metallic parts obviates the use of paste or stitches for the binding, back or covers. The covers of my binder will lie snugly along the operating parts and sheets to reduce the bulk of the binder when carried in the pocket. My covers will not buckle or become distorted as is usual with covers of several layers pasted together. I provide also an ornamental metallic plate at the exterior of the back of the binder which may be availed of as a name plate or to indicate the contents of the binder.

Figure 1 of the drawings is a perspective view of the temporary binder in open position, the sheets not being in place. Fig. 2 is a side view of a pair of the sheet-holding prongs, in closed position, the parts below being shown in section. Fig. 3 is a similar view showing the prongs open for the withdrawal of the sheets. Fig. 4 is a similar view showing the sheet-holding prongs and covers closed. Fig. 5 is a perspective side view of two pairs of sheet-holding prongs and the device for operating the same. Fig. 6 is a plan view of the spring plate. Fig. 7 is a rear view of the same showing the binding plate. Fig. 8 is a sectional view on the line 8—8 in Fig. 1 illustrating a modification of the means for securing the back and covers. Fig. 9 is a perspective view of the stop device.

Referring to the drawings, 1 is a spring plate adapted to be secured to the back 2 and covers by means of the binding plate 3 whose end projections 4 are bent upwardly and inwardly through the notches 5 in the

ends of spring plate 1 to clamp together said spring plate 1 and said binding plate 3 so as to hold securely between said plates the back 2 which is made integral with the covers 6 as best illustrated in Figs. 1, 2, 3, 4 and 8. As a fastening device auxiliary to the engagement of end projections 4 with the notches 5 in spring plate 1, the ears 7 are struck upward, from binding plate 3 and driven through the back 2 to enter apertures 8 in spring plate 1 where they are bent inwardly as best shown in Figs. 6 and 7 to hold the parts securely in position.

The spring plate 1 is composed of a curved base portion 9 from which are bent inwardly the parallel wings 10 which are provided with oppositely arranged notches 11. The sheet-holding prongs 12 are made in two pieces, one piece having at its lower end a deep groove or slit 13 adapted to receive and hold firmly a long, thin piece of stiff, spring metal 14 which extends lengthwise of the binder, as most clearly shown in Fig. 5, and is so far embedded in said slit 13 that the outer sides of said slit form the female member of a joint to receive the male member 15 which is a long piece of stiff spring metal corresponding to and parallel to the strip 14. The metal strip 15 is embedded less deeply in the slits 16 of its prongs than is the strip 14, so that the edge of the strip 15 forms the male member of the joint. At one outer edge of the binder the metal strips 14 and 15 turn inwardly, at about a right angle to form the operating fingers 17 best shown in Figs. 1 and 5. The outer ends 18 of said fingers 17 are twisted to present a flat surface to the operator as hereafter explained. Each sheet-holding prong has a notch 19 in its lower outer edge adapted to be engaged by the inner edge 20 of one of the notches 11 in spring plate 1. The upper sides of notches 19 are cut away at an angle so that they will not contact with the wings 10 when the prongs are in open position, as best illustrated in Fig. 3. Adjacent to each cover is a fly-leaf 21 composed of a metallic plate 22 around which is pasted a sheet 23 of glazed paper or similar material so as to envelop completely the same and extend outwardly beyond said plate, as best illustrated in Fig. 1. Each fly leaf 21 is apertured along its inner edge for the reception of the prongs 12. At each of the apertures 24 the metallic plates 22 are bossed or bent

inwardly as indicated in Fig. 1 and best shown in Figs. 2, 3 and 4. The sheets adapted to be held in the binder are indicated by the number 25.

5 The material of one of the covers 6 has an integral extension 26 which is turned inward and sewed to the cover at 27 (Fig. 1) so as to form the tube or pocket 28 for the reception of a pen or pencil. At the inner
10 end of said tube 28 is secured by paste a thin collar 29 whose concealed edge 30 (Fig. 1) will serve as a stop to prevent the pen or pencil from dropping through.

Referring to Figs. 1, 8 and 9, 31 is a metallic stop member having the central portion
15 32 and the downwardly spreading wings 33.

In Fig. 8 is shown an auxiliary or modified method of securing the back and covers. Ears 34 project upward from the side edges
20 of binding plate 3, extend through the back 2 and enter apertures 35 in spring plate 1. Said ears 34 are then forced inward to securely engage the parts in position as illustrated.

25 The operating parts consist of the spring plate 1, the several pairs of sheet-holding prongs 12, the strips 14 and 15 of stiff spring metal with their operating fingers 17 and the stop pieces 31.

30 The spring plate 1 is made of resilient metal. When the sheet-holding prongs are in closed position, as illustrated in Fig. 2, the joints formed by the engagement of the outer opening of notches 13 by the edge of the
35 metallic strip 15 are slightly below the level of the edges 20 which engage the notches 19 so that the spring pressure of the plate 1 holds the sheet-holding prongs in closed position. To open the prongs the operator
40 with his fingers presses together the fingers 17 which cross each other near the point where they turn up from the strips 14 and 15. This movement will open all the prongs at once. The stiff strips of spring metal 14
45 and 15 extending lengthwise of the temporary binder serve to connect all the pairs of sheet-holding prongs 12 so that they will open and close together. As the prongs open
50 so that their lower ends are raised, carrying the joints between the edge of the strip 15 and the notches 13 slightly above the level of edges 20 so that the pressure of the spring plate 1 then serves to force the prongs apart
55 and into the position shown in Fig. 3. The opening movement of the prongs is terminated by the contact of the upper surface of the metallic strips 14 and 15 with the under surface of the stop pieces 31. To close the
60 prongs, one pair is moved together by the fingers. This movement lowers the joint between the edge of the metallic strip 15 and the notches 13 below the level of edges 20 so that the spring plate 1, at the moment the
65 joint passes the level of edges 20, serves to

snap the prongs together and retain them in the position shown in Figs. 1, 2 and 4. The closing movement of one pair of prongs is communicated to all the other pairs of
prongs in the binder by means of the metal
strips 14 and 15. The sides of notches 11
serve to hold the prongs 12 from movement
sidewise and in exact alinement. As the
prongs close the position of metallic strips
14 and 15 is shifted from that shown in Fig. 75
3 to that shown in Fig. 2 separating the
outer ends of fingers 17 so that they may be
again pressed together to re-open the prongs.

A second method of opening the prongs to insert or release a number of sheets is illustrated in Fig. 3. This method is not claimed
here but is covered by Letters Patent No. 880,053 issued to my assignee on February
25, 1908. The sheets or leaves are parted at
the selected point and turned back with the
fly leaves and covers. A slight pressure on
the sheets at about the outer edge of each
metallic plate 22 will cause the several pairs
of prongs 12 to open simultaneously. In
using this method of opening the prongs, the
9 metallic plates 22 act as levers. If the metallic plates 22 are not stiff enough so that
the leverage is communicated to all of the
pairs of prongs 12, the opening of a single
pair will be accompanied by a similar open-
ing of all the prongs, due to the connecting
metallic strips 14 and 15.

The inward bossing or bending of the plates 22 raises the edges of the apertures 24
so that they will not catch in notches 19 in
the prongs 12. The bossing or bending at
the apertures 24 also permits the fly leaves
to nest around prongs 12 when the binder is
closed, as best illustrated in Fig. 4. I show
the fly leaves 21 in this application because
they serve to guide and protect the paper
sheets 25 when the covers are being opened
or closed.

The stop pieces 21 are preferably located inside and adjacent to each outer pair of
prongs 12. They are retained in position by
frictional contact with spring plate 1 as
best illustrated in Fig. 8.

It will be seen that the back, covers and pen or pencil holder are all made of one piece, preferably leather. I have found pig-
skin an excellent material for this purpose. By my novel method of manufacturing the
back and covers and securing the same to the
operating parts I dispense with the use of
paste in securing together several layers of
the cover. My binding plate is exposed at
the back of the binder where it presents a
metallic surface which may be suitably in-
scribed. By dispensing with a plurality of
layers in the back and covers I avoid ob-
jectionable features such as buckling caused
by the drying of the paste or difference in
shrinkage of the layers under varying condi-
tions of temperature and moisture. My

back and covers of one piece may be stamped out by a single operation and readily secured in place by an easily manipulated die.

My pen or pencil holder is formed by a wing integral with the cover. The stop interior collar 29 is effective to prevent the loss of pen or pencil.

When it is so desired, the exposed binding plate 3 may be enveloped by a covering of leather or other material in case the user desires that metallic parts be not exposed at the outside of the binder.

By crossing the operating fingers 17 as indicated in Figs. 1 and 5, a force to shift the metallic strips 14 and 15 to open the prongs may be communicated by pinching the two fingers 17 together with slight pressure. The similar pinching together of one pair of prongs serves to close all the prongs. Thus, the operations of opening and closing the prongs are simplified and similar. The last portion of the opening or closing of the prongs is due to the resiliency of spring plate 1.

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

1. In a temporary binder, a spring member having two parallel inturned wings, a series of mating prongs directly carried on said spring member, a metallic strip engaging all the prongs on one side, a second metallic strip engaging all the prongs on the other side, and a positive stop to limit the opening movement of the prongs.

2. In a temporary binder, a spring member, a series of mating prongs arranged in pairs, the prongs on one side being notched to receive and engage firmly a metallic strip extending lengthwise of the binder, the opposite prongs being notched to receive a second metallic strip, and means whereby the two metallic strips are shifted to open the mating prongs.

3. In a temporary binder, a spring member having two parallel inturned wings, a series of mating prongs arranged in pairs and engaging said wings, a metallic member

extending lengthwise through the binder and engaging all the prongs on one side, a second metallic member extending through the binder and engaging all the prongs on the opposite side, and means whereby the two metallic members may be shifted to open all the prongs simultaneously.

4. In a temporary binder, a spring member, a series of mating prongs arranged in pairs, the prongs on one side being notched to receive and engage firmly a metallic strip extending lengthwise of the binder, the opposite prongs being notched to receive a second metallic strip likewise extending lengthwise of the binder, and fingers extending from each metallic strip whereby they may be shifted to open the prongs.

5. In a temporary binder, a series of mating prongs arranged in pairs and adapted to be opened and closed, a member extending lengthwise of the binder connected with the prongs at one side, a member extending lengthwise of the binder connected with the prongs on the other side, and a finger projecting from each lengthwise extending member, the two fingers crossing so that their ends may be pinched together to open all of the prongs.

6. In a temporary binder, a series of mating prongs arranged in pairs, a member extending lengthwise of the binder connected with the prongs on one side and having a finger projecting across the center of the binder, and a second member extending lengthwise of the binder connected with the prongs on the opposite side and having a finger projecting across the center of the binder and crossing the finger of the first lengthwise extending member.

Signed at New York city in the county of New York and State of New York this 22d day of June A. D. 1908.

CLARENCE D. TRUSSELL.

Witnesses:

JAMES T. OATES,

JOSEPH A. STETSON.