

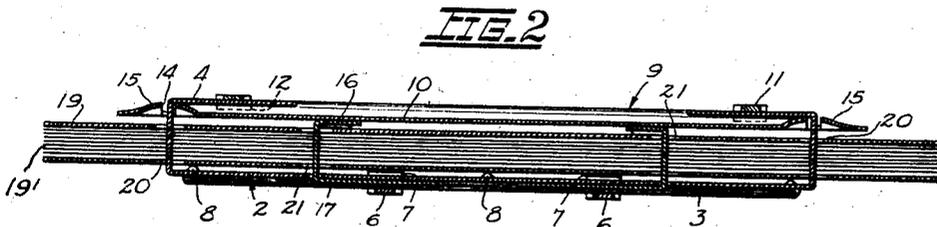
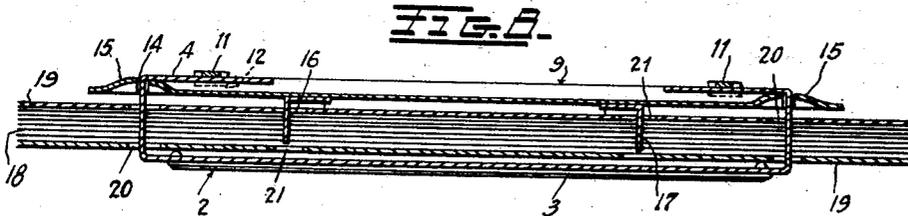
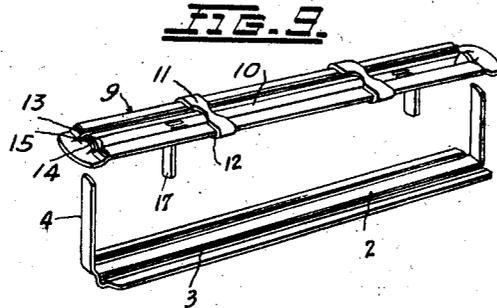
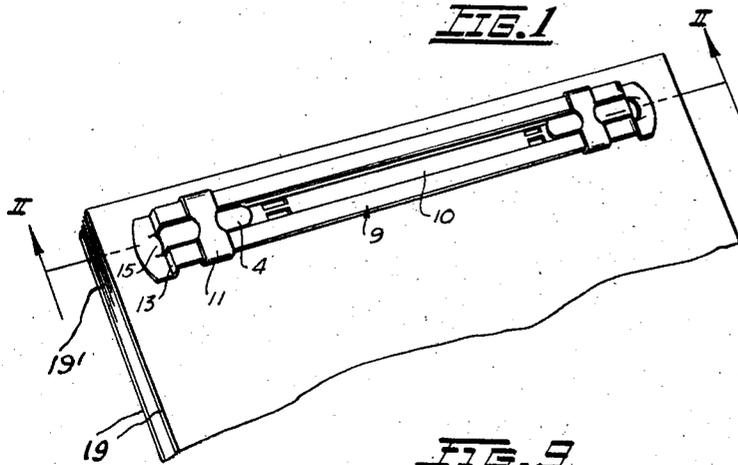
Nov. 27, 1934.

P. O. UNGER
PAPER FASTENER

1,982,272

Filed July 7, 1933

2 Sheets-Sheet 1



INVENTOR.
PAUL O. UNGER
BY
Benjamin Schlosser
ATTORNEY.

Nov. 27, 1934.

P. O. UNGER
PAPER FASTENER

1,982,272

Filed July 7, 1933

2 Sheets-Sheet 2

FIG. 3

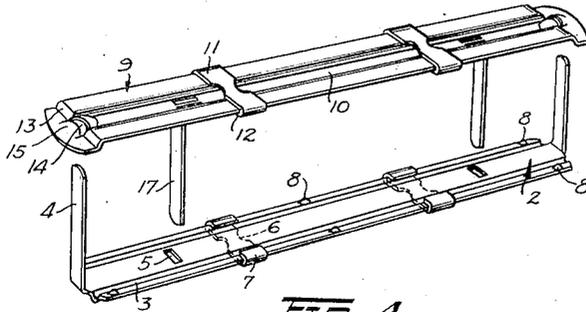


FIG. 4

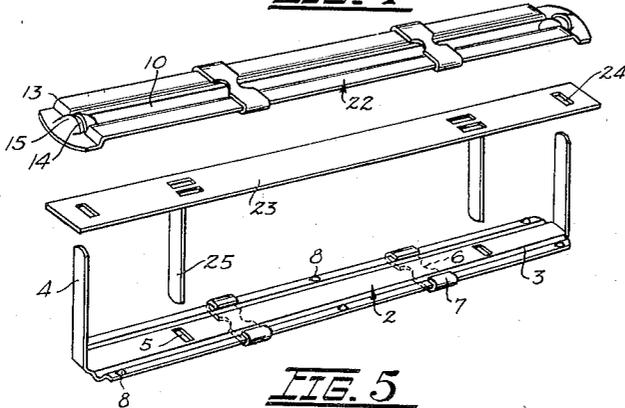


FIG. 5

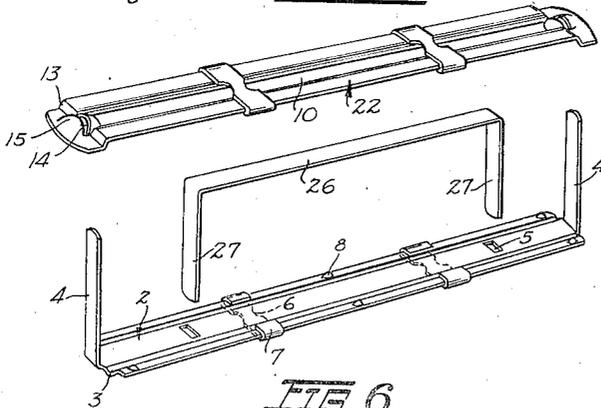


FIG. 6

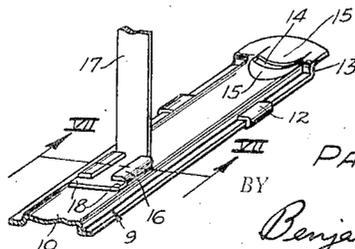
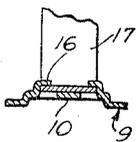


FIG. 7



INVENTOR.

PAUL O. UNGER

BY

Benjamin Schlosser
ATTORNEY.

UNITED STATES PATENT OFFICE

1,982,272

PAPER FASTENER

Paul O. Unger, Glen Ellyn, Ill., assignor to Wilson-Jones Company, Chicago, Ill., a corporation of Massachusetts

Application July 7, 1933, Serial No. 679,272

13 Claims. (Cl. 24—153)

This invention relates to a paper fastener having a plurality of spaced prongs capable of retaining a plurality of sheets of paper or other material in predetermined, orderly arrangement.

5 The primary object of this invention is to provide simple and efficient means for holding a plurality of sheets in orderly arrangement and for permitting withdrawal of any sheet or sheets from the mass of sheets without disturbing the orderly arrangement of the rest of the sheets. Other objects of this invention will become apparent upon reading the following description taken in conjunction with the accompanying drawings in which:

15 Figure 1 is a perspective view of a fastener embodying the invention applied to a folder;

Figure 2 is a cross sectional view taken on the line II—II of Figure 1;

20 Figure 3 is a perspective view showing the parts of the fastener in dissociated position;

Figure 4 is a view similar to Figure 3 showing a modified embodiment of the invention;

Figure 5 is a view similar to Figure 3 showing a second modified embodiment of the invention;

25 Figure 6 is a fragmentary perspective view of the underside of the top member of the preferred embodiment of the invention;

Figure 7 is a cross section taken on the line VII—VII of Figure 6 looking in the direction of the arrows;

30 Figure 8 is a view similar to Figure 2 illustrating a slightly modified form of the invention; and

Figure 9 is a perspective view showing the parts of the embodiment of Figure 8 in dissociated position.

In the drawings the reference numeral 2 indicates a bottom compression member provided with a pair of longitudinal reinforcing ribs 3 and a pair of integral bendable prongs 4 extending from opposite ends of the base portion. The bottom member 2 is provided with a pair of slots 5 and a pair of keepers 6 for a purpose hereinafter described. The keepers 6 have their ends 7 bent around the edges of the base member 2 and projections 8 are provided to prevent the keepers from sliding off the base member. If desired, a center projection 8 may be struck from the base member to limit the inward movement of the keepers. It will be understood that any suitable stop means may be substituted for the projections 8 which are struck from the base member.

The reference numeral 9 indicates a top compression member having a channel shaped de-

pression 10 extending substantially the entire length of the member. A pair of keepers 11 similar to the keepers 6 have their ends 12 bent around the edges of the top member 9 so that the keepers 11 may slide on the top member. The ends of the top member 9 are bent down, as indicated at 13, to provide stops to limit the outward movement of the keepers 11. A slot 14 is provided in each end of the top member 9 to receive the free end of the prong 4 projecting from the adjacent end of the bottom member. The top member is embossed, as indicated at 15, to facilitate guiding the free end of the prong 4 through the slot.

Two pairs of spaced lugs 16 are struck out from the depressed portion 10 of the top member. The lugs 16 depend from the bottom surface of the top compression member. Each pair of lugs is adapted to detachably secure a prong 17 to the top compression member. The prong 17 is provided with lateral projections 18 adjacent one end to prevent the prong from passing all the way through the space between the lugs. Each pair of lugs is so positioned that the prong 17 secured thereby can be received by one of the slots 5 in the bottom compression member.

A plurality of cover members 19 and sheets 19' are provided with two sets of registering apertures 20 and two sets of registering apertures 21. The top and bottom compression members are then positioned on opposite sides of the pile of sheets to be bound so that the prongs 4 of the bottom member pass through the apertures 20 and slots 14 and the prongs 17 pass through the apertures 21 and the slots 5. The free ends of the prongs 4 are bent over the top member 9 so that they lie in the depression 10. The ends of the prongs 4 are held in place against the surface of the top member by means of the sliding keepers 11. Similarly, the free ends of the prongs 17 are bent against the surface of the bottom compression member and are held thereagainst by means of the keepers 6.

It will be seen that I have disclosed a simple and efficient fastener for holding a plurality of sheets in orderly arrangement. When it is desired to remove a sheet from the center of the mass without disturbing the orderly arrangement of the rest of the sheets, the keepers 6 and 11 are slid out of engagement with the prongs and the prongs are bent to vertical position. The sheets lying above the sheet to be removed are grasped with the top compression member and the sheets and top member are moved off the prongs 4. The prongs 17 then maintain the top pile of sheets in

their original arrangement and the prongs 4 maintain the bottom pile of sheets in arrangement while the desired sheet is removed. The rest of the sheets may then be assembled in their original arrangement.

The prongs 17 may be made shorter than the prongs 4. If desired, the prongs 17 may be short enough so they do not extend through the bottom member. In this event, the prongs 17 act merely as aligning members and not as holding members. However, the prongs 4 are generally sufficient to hold the sheets in bound relation, and the shorter prongs 17 are adapted to maintain the top pile of sheets in orderly arrangement when the sheets are separated into two groups.

It is possible to substitute a single prong 17 for the pair of prongs shown. However, the use of two prongs is recommended, because it is then impossible for the sheets temporarily retained on the prongs while separated from the base member to rotate and cause the apertures 20 to move out of register with each other.

The modified embodiments of the invention illustrated in Figures 4 and 5 have the same base member 2 as the preferred embodiment. The fasteners illustrated in Figures 4 and 5 each have the same top member 22 and this top member differs from the top member 9 only in that it has no means for securing prongs thereto. Accordingly, it is deemed to be unnecessary to specifically describe either top or bottom members of the modified embodiments illustrated in Figures 4 and 5.

In Figure 4 a separate member 23 having slots 24 is adapted to be positioned on the prongs 4 between the top member 22 and the bottom member 2. Prongs 25 are detachably secured to the member 23 in the same manner the prongs 17 are secured to the top member 9 of Figures 1 to 3 and 6 to 9, inclusive. The member 23 may be provided with a reinforcing rib if desired, but this is generally not necessary.

In Figure 5 a single piece of thin flat metal 26 has its ends 27 bent to serve as prongs to aid in holding the sheets together. The member 26 is positioned on top of the sheets and is covered by the top member 22 when the member 22 is positioned over the prongs 4 of the base member.

The embodiment illustrated in Figures 8 and 9 is the same as that of Figures 1, 2 and 3, except that the prongs 17 are shorter than the prongs 4 and the slots 5 are omitted from the bottom member. Since the prongs 17 in this embodiment are not intended to pass through the bottom member, it is obvious that the keepers 6 and the projections 8 are also unnecessary in this embodiment.

Although I have described several embodiments of my invention in detail, it will be understood that the description thereof is illustrative rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of my invention. Accordingly, I do not desire to be restricted to the exact construction described, except as limited by the appended claims.

I claim:

1. In a paper fastener, a pair of separate compression members, slots in said compression members, and prong means on each of said compression members adapted to be inserted through the slots in opposite compression members.

2. In a paper fastener, a pair of compression members, slots in said compression members,

prong means on each of said compression members adapted to be inserted through the slots in opposite compression members and bent against the outer surface of said opposite compression members, and means on each of said compression members to hold said prong means against said respective compression members.

3. In a paper fastener, a pair of compression members, sheet impaling prongs on one of said compression members, said other compression member being apertured to receive said prongs, and a sheet impaling prong having its base portion secured to said second mentioned compression member, said first mentioned compression member being apertured to receive the free end of said second mentioned sheet impaling prong.

4. In a paper fastener, a top compression member provided with a pair of slots, a bottom compression member, said bottom compression member being provided with prongs projecting through said slots and bent against said top compression member, means on said top compression member holding said prongs thereagainst, and an intermediate member provided with integral prongs projecting downwardly, said bottom compression member being apertured to receive the free ends of said last mentioned prongs.

5. In a paper fastener, a pair of compression members, sheet impaling prongs on one of said compression members, said other compression member being apertured to receive said prongs, and an intermediate prong member, said intermediate prong member being apertured to receive said first mentioned prongs and said first mentioned compression member being apertured to receive the prongs of said intermediate prong member.

6. In a paper fastener, a bottom compression member having prongs adjacent each end and a slot between said prongs, a top compression member having slots through which said prongs are adapted to be inserted, and keeper members adapted to hold the free ends of said prongs against the outer surface of said top compression member, and an intermediate member having a prong adapted to be inserted through said slot in said bottom compression member.

7. In a paper fastener, a pair of compression members, sheet impaling prongs on one of said compression members, said prongs being insertible through slots in said other compression member and bendable thereagainst, an intermediate member, sheet impaling prongs on said intermediate member, said second mentioned prongs being insertible through slots in said first mentioned compression member and bendable thereagainst, and keepers on said compression members adapted to hold said prongs against said respective compression members.

8. In a loose leaf binder, a bottom compression member having integral prongs projecting from its ends, a top compression member apertured adjacent its ends to receive the ends of said prongs and a plurality of prong members detachably secured to the under surface of said top compression member, said bottom compression member being apertured to receive the free ends of said second mentioned prongs.

9. In a loose leaf binder, a bottom compression member having integral prongs projecting therefrom, a top compression member provided with slots through which said prongs are insertible, and a prong member detachably secured to said top compression member, said bottom compression member being apertured to receive the free ends of

sion member being apertured to receive the free end of said detachably secured prong member.

member to detachably secure a prong member to said top compression member.

10. In a loose leaf binder, a bottom compression member having integral prongs projecting therefrom, a top compression member provided with slots through which said prongs are insertible, prong members detachably secured to said top compression member, said bottom compression member being provided with slots through which the free ends of said second mentioned prongs are insertible, and keeper members on said compression members to hold the free ends of said prongs in parallel planes.

12. In a paper fastener, a top compression member provided with a pair of slots, a bottom member, prongs secured to said bottom member and projecting through said slots, a pair of spaced lugs struck out from said top compression member, and a prong member detachably secured to said top compression member by means of said lugs.

11. In a paper fastener, a top compression member provided with a pair of slots adapted to receive prongs projecting from a bottom member, and means integral with said top compression

13. In a paper fastener, a top compression member provided with a pair of slots adapted to receive prongs projecting from a bottom member, and a prong member having its base portion detachably secured to said top compression member.

PAUL O. UNGER.

20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	