Nov. 24, 1942. S. B. FREIBERG 2,303,038

VISIBLE MARGIN FILE

Original Filed Jan. 9, 1939

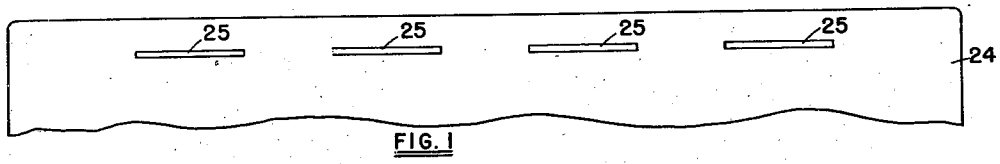


FIG. 1

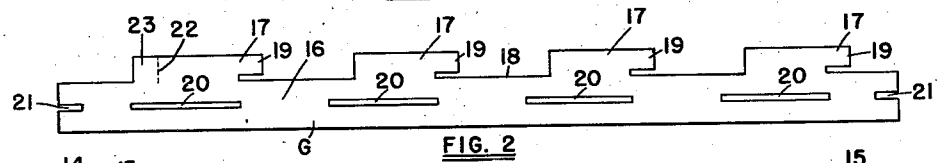


FIG. 2

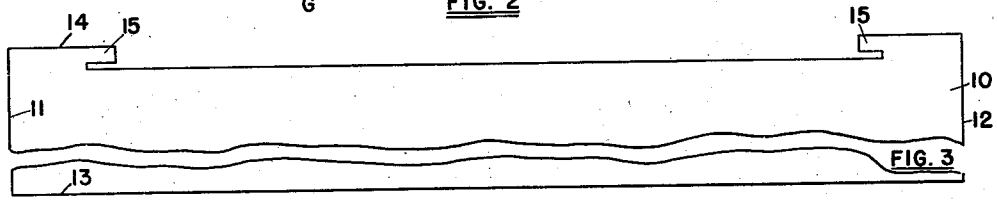


FIG. 3

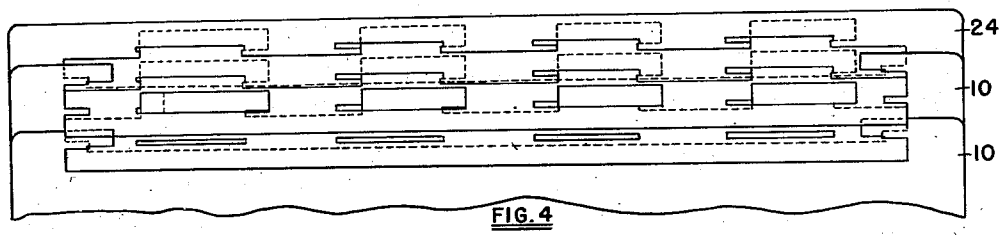


FIG. 4

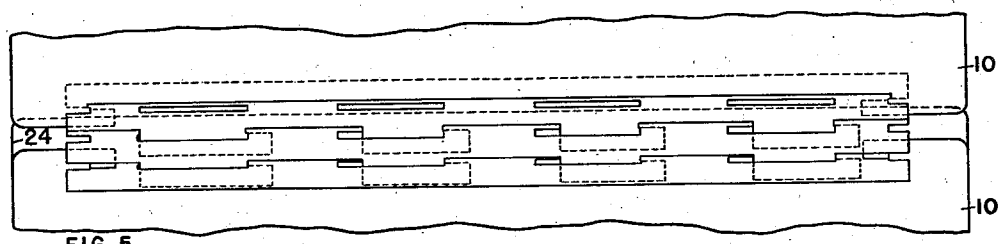


FIG. 5

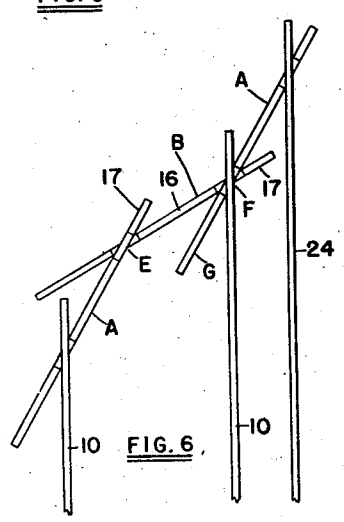


FIG. 6

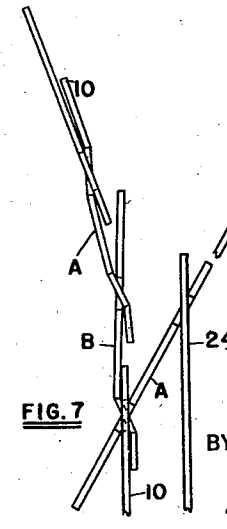


FIG. 7

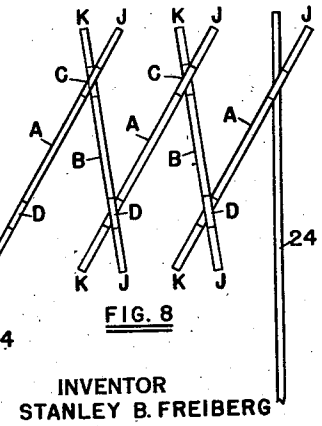


FIG. 8

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Stanley B. Freiberg, Cincinnati, Ohio

Original application January 9, 1939, Serial No. 249,837. Divided and this application July 1, 1941, Serial No. 400,680

15 Claims. (Cl. 129—16.5)

This is a division of my copending application Serial Number 249,837, filed January 9, 1939.

This invention is concerned with record cards or equipment of the character wherein it is desired to make readily available, an individual card or cards of a common group, by exposing one or more of the marginal portions of such card or cards.

An object of the invention is to provide an arrangement and means whereby a plurality of cards may be readily coupled to and separated from a linkage assemblage, and which linkage assemblage may be readily extended for use wherein the marginal portions of the cards coupled thereto are disposed echelon, and which assemblage may be compacted into a substantially right angled cubical formation wherein the cards coupled thereto will likewise be compacted into a substantially right angled cubical formation for storage or housing thereof in common filing drawers or cabinets.

Another object of the invention is to provide an arrangement of the character indicated wherein the record cards themselves do not constitute part of the mechanism for obtaining the stated objectives.

These and other objects are attained by the means described herein and illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmental plan view of a base or carrier card forming a detail of the invention.

Fig. 2 is a plan view of a link forming a detail of the invention.

Fig. 3 is a fragmental plan view of a record card adapted to cooperate with links of the type disclosed in Fig. 2.

Fig. 4 is a plan view of a plurality of links of the type disclosed in Fig. 1, assembled together into cooperating pairs or groups, connected to a carrier card, and carrying record cards, the various links and cards being disposed in an extended position.

Fig. 5 is a plan view similar to Fig. 4, but wherein the lowermost record card and its associated links have been moved through an arc of one hundred and eighty degrees for selectively exposing the opposite side and marginal edges of said record card.

Fig. 6 is an enlarged, laterally separated, end view of the assembly of parts shown in Fig. 4.

Fig. 7 is an enlarged end view of an assembly of parts shown in Fig. 5, in a laterally separated condition for clarity of detail.

Fig. 8 is an enlarged end view of an assembly of pairs or groups of links connected to a carrier card, the links being disposed in a compacted, but somewhat laterally separated, position.

The record cards or sheets 10 may be of any shape, form or size. It is contemplated that all the cards of a given group will be substantially identical, so that corresponding ends or edges of a group of cards may be placed in such overlapped relation as will provide a so-called visible margin upon which various indexing or qualifying data may be applied for readily distinguishing cards from one another according to the data to be applied on such cards. The cards shown herein are generally rectangular, although such form is not essential. Each card may include opposed side edges 11 and 12, a bottom edge 13 and an upper edge 14. The upper longitudinal edge 14 of each card is preferably provided with a pair of opposed bayonet ears 15, each having a leading end extending in opposite directions, as disclosed in Fig. 3.

As disclosed in Fig. 2, the links of the present invention comprise substantially identical pieces of flat sheet material comprising a body portion 16 and a plurality of lugs 17 extending from the upper longitudinal edge 18, each of said lugs including a leading end 19 extending in the same direction. The body portion of each link includes a series of narrow aligned slots 20 disposed longitudinally thereof. A narrow pocket 21 may be provided in the opposite ends of a link, said pockets being in alignment with the longitudinal axis of slots 20. The lugs 17 of each link, are complementary to corresponding slots of a second similar link, being insertable in the slots of said second link for hingedly and detachably uniting the two links to form a pair or group. Ready separation of the lugs of one link from the pockets of its associated or cooperating links may be effected by slitting the end lug transversely as shown at 22 for providing a fractional lug portion 23, which precludes movement of the lugs 17 longitudinally of the slots 20, thus preventing accidental and/or unintentional separation of the parts. The flexible nature or character of the links permit ready manipulation of the indicated parts for accomplishing the indicated relationships.

In the preferred embodiment of the invention it may be found desirable to provide a base or support card 24, provided with a plurality of narrow aligned slots 25 into which the lugs 17 of a given link may be lodged or secured. Thus, a linkage assemblage may comprise a plurality of groups of interconnected links of Fig. 2, which

are carried by and secured to a base or support card 24, as disclosed in Fig. 8.

The links of Fig. 2 are preferably associated together in pairs, or groups of two, wherein each group of links may be employed to support either one or two of the record cards of Fig. 3. As is most clearly disclosed in Fig. 6, the lugs 17 of the first or upper link of each group, hereinafter identified by the letter A, are preferably inserted upwardly through the slots of the second, or lower link B, of the next higher group of links, whereby to overlie the body portion 16 of said link B. It will likewise be noted that the lugs 17 of the lower or second link B of each group are preferably inserted through the slots 20 of link A of its own group whereby to extend under the body portion of said link A. This procedure may be repeated indefinitely so as to provide an indefinitely extended crisscrossing of interconnected groups of links A and B. As disclosed in Fig. 8 the hereinabove described interrelationship of links A and B of each group permits the individual links comprising the various groups to be folded or collapsed with their corresponding lateral edges, viz., J—J and K—K turned one hundred and eighty degrees whereby their corresponding body portions will assume a coplanar relationship, and whereby the various interconnected groups of links will collectively assume a substantial right angled cubical formation.

It should be observed that as the links are extended from the folded position of Fig. 8 for providing the assembly of Fig. 4, the second or lower links B of each group are turned approximately one hundred eighty degrees so that the lateral edges of the corresponding links of the various groups are disposed in echelon relationship.

As disclosed in Figs. 4 to 7 inclusive only one record card 10 is detachably and pivotally mounted or coupled to each pair or group of links, however it should be understood that if desired, one record card 10 may be detachably and pivotally coupled to each of links A and B which together comprise a group of links. For clarity of understanding the pairs of pockets 21 of any one pair or group of links may be called upper pockets C and lower pockets D, Fig. 8. When applying but one record card 10 to each of the indicated linkage groups, preferably only one set or class of pockets should be used, viz., either the upper pockets C or the lower pockets D.

Various pockets 21, slots 20, and ears 15 are slightly larger than the thickness of the various cooperating parts of the cards, links, etc., intended to enter or cooperate therewith.

The second or lower link B of each group is freely movable about the hinge connection provided with its corresponding link A through an arc of approximately one hundred and eighty degrees without altering or in any way disturbing the relationship of the individual links comprising groups disposed above or below the group including said link B. Such construction makes it possible for link B of Fig. 6 to be swung upwardly relative to the lower end of its associated group link A for exposing the underside of link B. Such a manipulation of link B will bodily lift the groups of links disposed below, that is, to the left of link B, upwardly by an amount substantially equal to the lateral distance between points E and F.

It will be noted that when the first or upper link A of a group is lifted or swung upwardly in a clockwise direction, that part of its body portion 16 disposed below slots 20, denoted by the letter G, will engage the underside of its associated lower link B and that link 17 will engage the upper side of body portion 16 of link B of the next higher link-group, whereby link A will carry with it link B of its own group, as well as link B of the next higher link-group.

It should be observed that whenever a record card is turned one hundred and eighty degrees from the initial extended position of Fig. 4, all of the record cards coupled to the lower link-groups will likewise be turned one hundred and eighty degrees whereby the rear faces of the cards will be arranged in echelon position thereby rendering the data disposed thereon instantly available to the user of the file.

It will be noted that the axes about which the interconnected links turn, are coplanar with the thickness dimension of the links. Likewise the axes about which the record cards are turned relative to their respective links are coplanar with the thickness dimension of the cards. By reason thereof, it is possible to compact the cards and links in a cubical space which approximates but does not substantially exceed a volume three times the thickness of the cards when only one record card is coupled to each group of links, but does not substantially exceed a volume four times the thickness of the cards when two record cards 10 are coupled to each group of links.

In some instances it may be desirable to provide a sliding connection between the individual links comprising a group, in lieu of the hinged connections illustrated whereby a chain of detachable links will be provided to which the record cards 10 may be hingedly and detachably connected for movement in either of two echelon positions.

When using the visible margin file of the type embodied in the present invention, the lower marginal edge of each of the individual record cards 10 may be disposed echelon and made readily available by lifting the upper edge of that link to which the uppermost record card is coupled for permitting the other record cards and the base card 24 to hang therefrom. One or any number of the record cards whose lower front edges are thus disposed echelon may be turned one hundred and eighty degrees for exposing the rear faces of the various cards, and whereby the free or outer edge of the rear face of each of the cards so turned one hundred and eighty degrees will likewise be disposed in echelon position, thereby rendering suitable identifying indicia disposed on the front and rear faces of the outer or free edge of each card available to the user of the file whether the cards be disposed in the first or second of the echelon positions.

What is claimed is:

1. The combination of a plurality of flat sheet material links hingedly and detachably connected directly together in pairs and a card hingedly and detachably connected to each pair of links.

2. The combination of a plurality of flat sheet material links hingedly and detachably connected together, said hinged connections having axes coplanar with the thickness dimension of said links, whereby to provide an assembly of links movable to and from extended and compacted positions.

3. The combination of a plurality of flat sheet material links hingedly and detachably connected together in groups of two, said hinged connections having axes coplanar with the thickness dimension of said links, whereby to provide

an assembly of links movable to and from extended and compacted positions, in the former of which the marginal portions of the corresponding links of each group are disposed echelon.

4. The combination of a plurality of similar flat sheet material links hingedly and detachably connected together in groups of two with the first link of each group hingedly and detachably connected to the second link of the preceding group, said hinged connections having axes coplanar with the thickness dimension of said links, whereby to provide an assembly of links movable to and from extended and compacted positions, in the former of which the marginal portions of corresponding links of each group are disposed echelon.

5. A link of the class described comprising a flat sheet material body portion and a plurality of lugs extending from one longitudinal edge thereof, said lugs each having a leading end extending in the same direction, said body portion having a plurality of narrow aligned slots disposed longitudinally thereof, the lugs of the link being complementary to the slots of a second similar link and insertable in the slots of said second link for hingedly and detachably uniting the two links, means provided on at least one of said lugs for precluding the accidental or unintentional disengagement of the lugs of one link from the slots of a second link, and means at the ends of said link for hingedly and detachably connecting a card thereto.

6. An assemblage of the class described comprising a pair of links each comprising a flat sheet material body portion and a plurality of lugs extending from one longitudinal edge thereof, said lugs each having a leading end extending in the same direction, said body portion having a plurality of narrow aligned slots disposed longitudinally thereof and a narrow pocket disposed at each of the opposite ends of each link in alignment with said slots, the lugs of one link being complementary to the slots of a second similar link and insertable in the slots of said second link for hingedly and detachably uniting the two links, and a sheet material card having a pair of oppositely extending ears projecting from a longitudinal edge, the ears of said card registering with the pockets of one or the other of said links for providing a pivotal and detachable connection between said card and the particular link to which it is connected.

7. An assemblage of the class described comprising a plurality of substantially identical flat sheet material links hingedly and detachably connected together in a continuous series of groups of two, with the first link of each group being connected to the second link of the preceding group, a plurality of sheet material cards hingedly and detachably connected to a corresponding link of each group, said hinged connections having axes coplanar with the thickness dimension of said links and cards, whereby to provide an assembly of links and cards movable to and from extended and compacted positions, in the former of which the marginal portions of the cards are disposed echelon.

8. An assemblage of the class described comprising a plurality of substantially identical flat sheet material links hingedly and detachably connected together in a continuous series of groups of two, each link comprising a flat sheet material body portion and a plurality of lugs extending from one longitudinal edge thereof, said lugs each having a leading end extending in the same direction and a plurality of narrow aligned slots disposed longitudinally of the body portion of each link, the lugs of each link being complementary to the slots of the other links, the lugs of the second link of each group being insertable in the slots of the first link of said group for hingedly and detachably uniting the two links which comprise a group whereby said links may be selectively moved to a collapsed or folded position or into an extended position, the links of a group when in folded position being disposed with their corresponding lateral edges turned one hundred eighty degrees whereby their respective body portions assume a parallel relationship and when in extended position being disposed with their corresponding lateral edges in overlapped echelon relationship, the lugs of the first or upper link of each group being inserted through the slots of the second link of the next higher group whereby to overlie the body portion of said link, the lugs of which extend under the body portion of the first link of its group whereby the links comprising the various interconnected groups will collectively assume a substantially right angled cubical formation when the links of each group are in a folded position, and whereby the corresponding links of various groups will assume an echelon relationship when the links are extended, the second link of each group being movable about the hinged connection with the first link of said group through an arc of approximately one hundred and eighty degrees without altering or disturbing the relationship of the individual links comprising groups above or below the group of which it comprises a part, the first link of each group being movable with the second link of its own group and the second link of the next higher group about the hinged connection of the said second link of the next higher group relative to the first link of said higher group through an arc of substantially one hundred eighty degrees without disturbing the groups of links disposed above or below the said three mentioned links.

9. The combination set forth in claim 8 wherein the ends of the links of each group are provided with means for hingedly connecting a card thereto.

10. The combination of a plurality of flat sheet material links hingedly and detachably connected together in groups of two, each link comprising a body portion and a plurality of lugs extending from one longitudinal edge thereof, said lugs each having a leading end extending in the same direction, a plurality of narrow aligned slots disposed longitudinally of the body portion of each link and a narrow pocket disposed at each of the opposite ends of each link and in alignment with said slots, a plurality of sheet material cards each having a pair of oppositely extending ears projecting from a longitudinal edge, the ears of each card adapted to hingedly and detachably engage the pockets of one or the other of corresponding links of each group, one link of each group comprising a support for the second link of a group and which second link comprises a card supporting and subsequent link carrying link.

11. The combination of a plurality of flat sheet material links detachably connected directly together in pairs, and a card hingedly and detachably connected to each pair of the links.

12. The combination of a plurality of flat sheet material links detachably connected directly together in pairs, and a card hingedly and detachably connected to each pair of links, whereby to

provide an assembly of cards movable to one or the other of two echelon positions.

13. An assemblage of the class described comprising a plurality of substantially identical flat sheet material links detachably connected directly together in groups of two in a continuous series, a plurality of sheet material cards hingedly and detachably connected to each group of two links, whereby to provide an assembly of links and cards wherein the marginal portions of the cards are adapted to be disposed in one or the other of two echelon positions spaced one hundred and eighty degrees apart.

14. The combination of a plurality of flat sheet material links each of which include complementary interlocking elements hingedly and detachably connected directly together in pairs and a card hingedly and detachably connected to each pair of the links.

15. The combination of a plurality of flat sheet material links each of which include integral interlocking elements, said links hingedly and detachably connected directly together in groups of two by said interlocking elements, and a card hingedly and detachably connected to one of the links comprising each group.

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