A system for organizing groups or sets of related papers in which a plurality of substantially identical, interconnectable paper clips are provided. Each clip is capable of receiving and retaining a single set or group of papers, and is provided with lateral or vertical interconnecting elements for connection to a like paper clip with the connecting elements being positioned so as to dispose the various interconnected clips and their associated retained sets of papers in segregated but connected, spaced-apart parallel planes forming a terrace-like or vertical stack array. The individual paper clips may be indexed, such as by labeling, color coding or other indexing devices to facilitate the identification of the individual groups of papers in the interconnected array.

10 Claims, 5 Drawing Figures
INTERCONNECTED PAPER CLIPS

BACKGROUND OF THE INVENTION

In general the present invention relates to a system for retaining and organizing papers or documents. Although there are all shapes, forms and sizes of paper clips, for the most part, paper clips are designed and intended for individual fastening of a single group or set of papers or for fastening multiple groups of papers in an inseparable collection. For example, with a conventional paper clip, two related sets of papers may be each individually joined by a single paper clip. However to join the paper sets it is necessary to either unclip one set of papers and rejoin the consolidated set with a single clip, in which case the sets of papers lose their separate identity entirely, or clip the two individual sets of papers together with a single, larger clip. In either case, the use of such prior clips is limited, because the separate paper sets cannot be easily removed or detached from the consolidated sets without unclipping the individual papers of at least one set.

In many cases, it is desirable to relate these separate sets of papers, each consisting of two or more leaves, in an organized and interconnected, but detachable fashion, without comingleing or mixing all or some of the pages of the various sets together and without unclipping one or more of the separately bound sets.

It is accordingly an object of the present invention to provide an improved paper clip which overcomes the foregoing disadvantages noted with respect to conventional paper clips and provides an improved paper clipping system for organizing papers.

These and other objects will be more particularly brought out upon reference to the accompanying drawings and detailed description of particular preferred embodiments of the present invention.

IN THE DRAWINGS:

FIG. 1 is an isometric view of the interconnectable paper clip of the present invention.

FIG. 2 is a side elevation of two like paper clips of the type shown in FIG. 1 illustrating the manner in which they interconnect to organize and retain groups of paper in segregated, interlocked or interconnected relationship.

FIG. 3 is a partially cut-away isometric view of paper clips of the type shown in FIG. 1 interconnected and holding separate groups of papers together.

FIG. 4 is an alternate embodiment of the interconnectable paper clips of the present invention.

FIG. 5 is a further alternate embodiment of the interconnectable paper clips of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention relates to a paper clipping and organizing system for holding together a number of pieces of paper or document pages, and more particularly to a plurality of paper clips each being configured so as to be interconnectable with other like clips of the system. It is the intent of the interconnectable feature of these clips to permit related groups of papers, each held together by an individual clip, to be attached to one another to form a single convenient terraced or stacked paper display which can be broken apart or added to as desired.

The use of such a clip device is best illustrated by a practical example of its application. An accountant or bookkeeper may use the clips to organize receipts, billings, receivables, etc. during preparation of financial statements. The various materials are efficiently, categorically subdivided with the individual clips, and thereafter consolidated by interconnecting the clips in an appropriate order. Use of the paper clip system of the present invention permits each category or group of papers, e.g. receipts, billings, etc., to retain its individual identity while participating as a portion of an overall display of material related to the particular account.

Color coding or other indexing of the clips may be employed to make them additionally valuable by providing instantaneous identification of each information data group in an interconnected display of papers. Obviously the foregoing example of the system is only one of numerous applications of this invention, and it may be used generally in business, industry, education, medicine, etc. wherever a need to efficiently organize documentary material exists.

FIG. 1 illustrates the interconnectable paper clip of 10 constructed in accordance with one preferred embodiment of the present invention. In this embodiment, clip 10 is injection molded of a resilient plastic. This material imparts spring qualities to the clip necessary for releasable retention of the individual groups or sets of papers as more fully discussed herein.

A plurality of substantially identical paper clips 10 are used, each of which is comprised of a pair of substantially planar jaws 12 and 14 joined in a base portion 16 with an opening or slot 18 between the jaws providing means for accommodating plural sheets of paper 21 or the like. The lower jaw 12 may be stiff or rigid as in this embodiment and provided with a jaw face 20 which guides the paper edges 19 beneath the upper jaw 14.

Upper jaw 14 is resiliently flexible for retaining the papers by a clamping force. An interior face 22 on base portion 16 to the rear of the jaws abuts, limits, and aligns the paper edges. The upper jaw 14 is molded to conform to a contour which permits it to reside in a generally parallel relationship to the lower jaw 12 providing a clamping line 24 in a paper receiving plane generally defined by a slot 18 between confronting jaw faces 20 and 21. An upturned forward lip 26 of upper jaw 14 permits the edges 19 of the sheets of paper 21 to be easily positioned and inserted into and between the jaws 12 and 14. Roughened or textured surfaces may be molded into the jaw faces 20 and 21 to enhance the gripping power of the jaws. The forward corners of both jaws may be rounded to prevent damage to clipped papers during bending and handling.

Each paper clip 10 has integrally molded into it complementary male and female interconnecting elements 28 and 30 respectively disposed on opposite lateral sides of the jaws 12 and 14. In this embodiment male element 28 is comprised of a projection 32 of rectangular cross section which extends laterally outwardly from the base portion 16 adjacent jaw 14 and is terminated on its outer end in a knob-like protuberance 34. Female element 30 consists of a recessed molded socket 36 and entry opening 38 extending laterally inwardly from the base portion 16 adjacent jaw 12. Socket 36 and opening 38 are so dimensioned in depth to match the overall length of projection 32 and protuberance 34 of element 28 of an adjoining clip such that
portions of the sides of the interconnecting clips abut one another. Entry opening 38 for socket 36 is very slightly smaller in cross section than the protuberance 34 on the male element 28 to insure a press-fit. Additionally the socket 36 is enlarged in dimension at its maximum depth so as to accommodate the protuberance 34 in a snap fashion after it has been pressed through the entry opening 38. Female element 30 is disposed in this case in base portion 16 at its junction with lower jaw 12. To accommodate this placement lower jaw 12 is wedge shaped with the larger section adjoining base portion 16 to provide a relatively large cross section of material for molding socket 36 and opening 38. The essentially rectangular cross section of the projection 32 of the male element 28, as it resides in and bears on the likewise rectangular cross section of opening 38 of the female element 30, tends to resist twisting between the clips thereby maintaining an essentially parallel relationship between the respective groups of papers held therein.

Male and female elements 28 and 30 are positioned on clip 10 in the respective planes generally defined by jaws 12 and 14 and on opposed sides of the plane defined by slot 18 between the jaws 12 and 14. This location of the interconnecting elements serves in this embodiment as a means for spacing the plurality of interconnected clips in elevation with the slots 18 disposed in uniformly spaced apart parallel planes with each clip being at a slightly different elevation than the adjacent clips as illustrated in FIGS. 2 and 3. The connected clips are thus laterally adjacent one another and offset in elevation so as to present the groups of individually clipped papers in a terraced presentation as shown in FIG. 3.

Paper clips of the type described by this invention of a size and capacity comparable to that of common wire clips may be used singly or joined in groups of from two to perhaps a dozen when grouping and retaining standard eight and one-half by eleven sheets. Note in FIG. 2 that the interconnected clips provide a relationship such that the jaws of the successive clips present slots 18 for sheaves of papers 17 and 23 each one at a different elevation such that when placed upon one another the successive groups of papers maintain a separate physical identity and may be separated at any interface between clips for access at any time. Also it is noted in FIG. 3 that the base portions 16 of the laterally interconnected clips 46, 48 and 50 are visible beyond the upper marginal edges 52, 54 and 56 of the successive groups of paper 58, 60 and 62. Because of this color coding of the clips, such as by molding the clips in different colors, provides a valuable index means or referencing system for locating a specific group of papers in the interconnected array. A further embodiment of the index means may be provided by a roughened upper margin surface 63 on the base portion 16 of each clip upon which an alphabetical or numeric index reference may be written with pencil or ball point pen to supplement or provide an alternative to the color coding reference. Still another embodiment of said index means is to provide label receiving means such as stick-on labels or molded label receptacles on the upper surface 63 of base portion 16.

FIG. 4 illustrates an alternate embodiment of the interconnectable paper clip of the present invention. This embodiment illustrates a clip 64 stamped from a sheet of metal or plastic or a type which provides the spring qualities necessary for clip operation. The stamping is formed into the general shape described by the preferred embodiment previously described and functions in a similar manner. In this embodiment, however, the male interconnecting element 66 is comprised of a hook-like lateral extension 68 on the one side of a flat plate-like upper jaw 70. The female element 72 on the other hand is a contoured flange which depends first downwardly and then laterally outwardly from a side of a flat plate-like lower jaw 74. The male and female elements in this case are disposed on the respective jaws adjacent a base portion 73 joining jaws 70 and 74. A tip 76 of the male element 66 is inserted through a slotted opening 78 in the female element 72 and is rotated to position the clips in juxtaposition so that the hook 68 completely engages the female element 72. An upper surface 80 of the outwardly extending portion 81 of female 72 functions to support the lower surface 83 of the hook 68 and to maintain the spaced apart parallelism of the clip jaw planes.

FIG. 5 shows a still further alternative embodiment of the interconnectable paper clip system. Here, the complementary male and female interconnecting elements 91 and 92 of clips 90 are disposed to extend substantially normal or perpendicular to the planes of the clip jaws and again on opposite sides of the plane defined by slot 93. Elements 91 and 92 can be either vertically aligned on each clip 90 to form a straight vertical stack of interconnected papers, or laterally offset such that progressively higher clips are laterally shifted to one side of the underlying clips to create a terraced effect similar to the embodiment of FIG. 3. As in the case of clip 10 described above, clip 90 may be molded of resilient plastic, with elements 91 and 92 being integral therewith and shaped similarly to the male and female elements of clip 10 to provide the same press or snap fit.

I claim:
1. An interconnectable paper clip for use in a system of like interconnectable paper clips, comprising:
   a base portion;
   a pair of jaw portions joined at the rear thereof by said base portion and forming a paper receiving and retaining slot opening at the front thereof;
   a male interconnecting element disposed on said base portion and extending laterally outwardly therefrom adjacent one side of said jaw portions and a complementary female interconnecting element disposed on said base portion and extending laterally inwardly thereof adjacent an opposite side of said jaw portions for detachable interconnection with a complementary male element of another substantially identical interconnectable paper clip;
   and
   said male and female elements being positioned on said base portion on opposed sides of a paper receiving plane defined by said jaw portions slot, whereby said interconnectable paper clip is interconnectable with a plurality of like clips in a side-by-side array with said paper receiving and retaining slots positioned in uniformly spaced apart planes for organizing groups of individually clipped papers in a terraced presentation.
2. The interconnectable paper clip as defined in claim 1, wherein said base portion and said jaw portions and said male and female interconnecting elements are integrally formed.
3. The interconnectable paper clip as defined in claim 2, said integrally formed base portion, jaw portions and male and female interconnecting elements being formed from a molded resilient plastic so as to impart a spring-like quality to said jaw means for resiliently retaining said group of papers.

4. The interconnectable paper clip of claim 1 further defined by said jaw portions including a lower rigid jaw and an upper resilient jaw biased toward said lower rigid jaw for clamping said groups of paper therebetween, one of said interconnecting elements being positioned in a plane generally defined by said lower rigid jaw and the other of said interconnecting elements being positioned in a plane generally defined by said upper jaw such that the interconnection of said paper clip with like paper clips positions the paper receiving and retaining slots in said uniformly spaced apart planes.

5. The paper clip as defined in claim 4 wherein said lower jaw is wedge shaped defining a relatively large body section joining said base portion and tapering therefrom to a relatively smaller section adjacent the opening of said jaws, said female interconnecting element being positioned within said relatively large section of said lower jaw at its junction with said base portion and said male interconnecting element extending from a junction of said upper jaw with said base portion whereby said elements are positioned for interconnecting said paper clips with said slots positioned in successively increasing or decreasing uniformly spaced apart planes.

6. The interconnectable paper clip as defined in claim 1, said male and female interconnecting elements being further defined by said male element comprising a hook-like lateral projection extending from one side of said jaw portions adjacent said base portion and said female element comprising a mating contoured flange having a slotted opening for detachably receiving said hook-like extension of another like paper clip, said contoured flange extending generally downwardly and outwardly from the opposite side of said jaw portions adjacent said base portion.

7. An interconnectable paper clip system for organizing papers comprising:

8. The interconnectable paper clip system of claim 7, wherein said male and female elements of each said clip are disposed in lateral alignment on opposite sides of said jaw portions, whereby the interconnection of said elements disposes said clips in a laterally aligned array.

9. The interconnectable paper clip system of claim 7, wherein said male and female elements of each said clip are positioned in vertical alignment, substantially perpendicular to the plane defined by said slot, whereby the interconnection of said elements disposes said clips and papers retained thereby in a vertically aligned stack.

10. The interconnectable paper clip system of claim 7, wherein said male and female elements of each said clip are formed with press fit rectangular cross sections resisting twisting between any pair of interconnected said clips and thereby structurally retaining said spaced apart parallelism between slots and said alignment of said rear abutment faces.