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Sullivan

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[54] **BINDER CARRIER AND SUPPORT STRUCTURE**

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[52] **U.S. Cl.** ..... **312/184,** 224/45 T

[51] **Int. Cl.** **B42f 15/04**

[58] **Field of Search** . 224/45 P, 45 T, 45 W, 45 BA, 224/45 N, 45 Q, 46 R, 57; 211/94.5, 113; 402/4, 73; 312/183, 184; 281/15 A, 50

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Assistant Examiner—Kenneth Noland
Attorney, Agent, or Firm—Biebel, French & Bugg

[57] **ABSTRACT**

A carrier for attachment to a binder, such as a binder for computer print-outs, and supporting structure for the carrier. The carrier includes a carrying handle, a first pair of hooks for engaging the binder posts without opening the binder, and a second set of hooks for engaging a rack. The handle includes an enlarged portion extending along an edge of the carrier and a cut-out beneath the enlarged portion which can be used either to accomodate the fingers of a person holding the carrier or for engagement with a supporting rack. A specially designed support structure may be used with the carrier which includes a channel having inwardly directed, spaced side wall edges adapted to engage the enlarged portion of the carrier handle.

7 Claims, 10 Drawing Figures

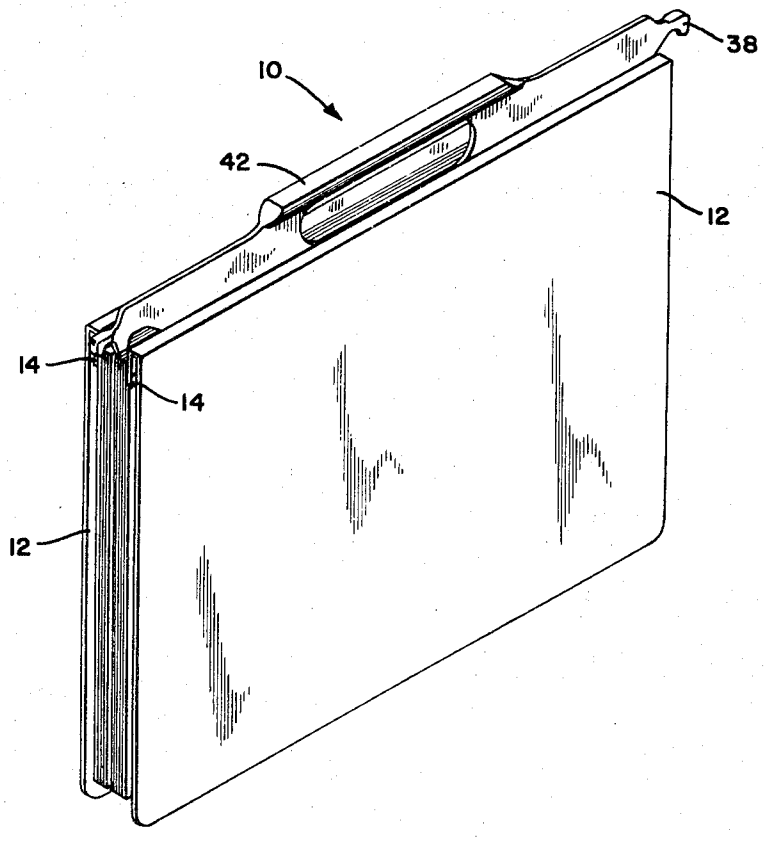


FIG-1

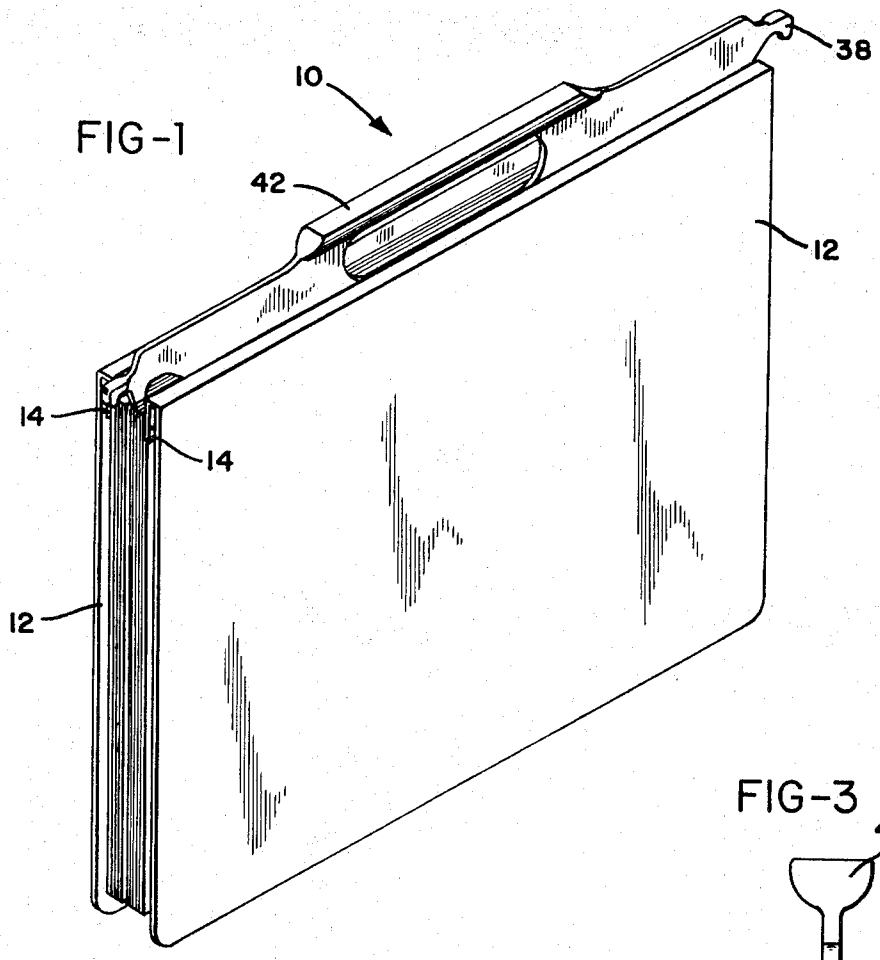


FIG-3

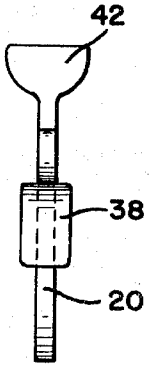


FIG-4

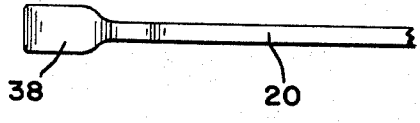


FIG-2

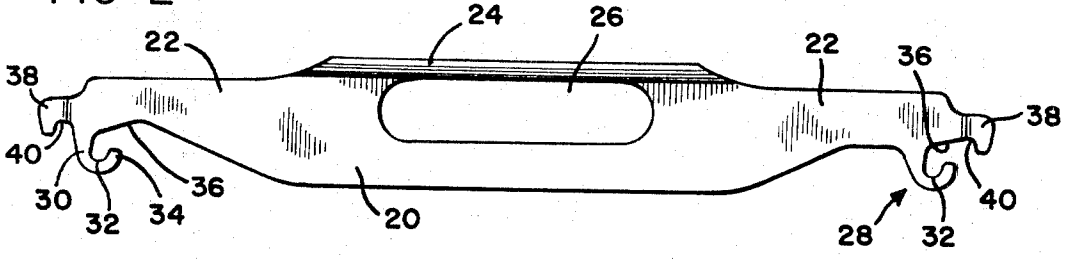


FIG-5

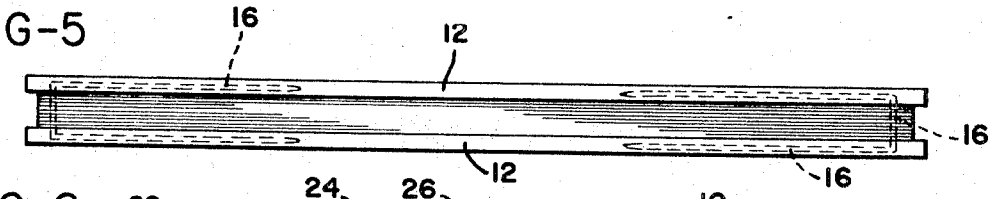


FIG-6

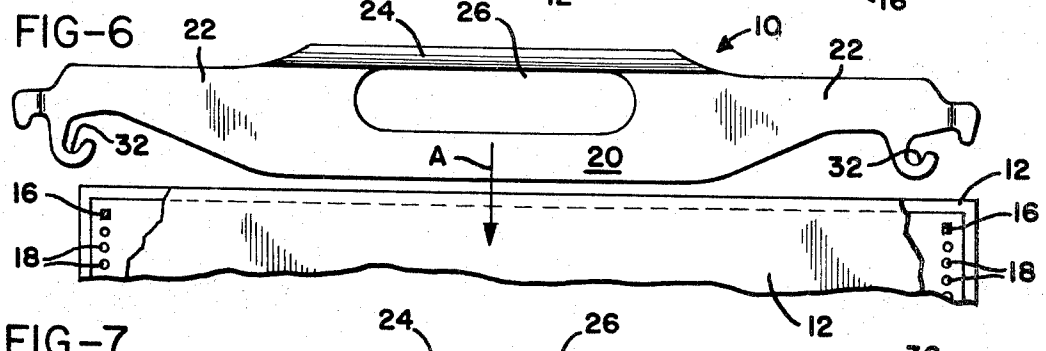


FIG-7

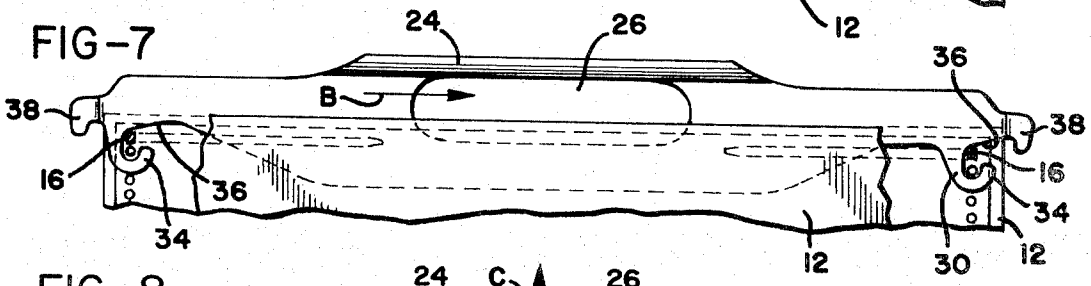


FIG-8

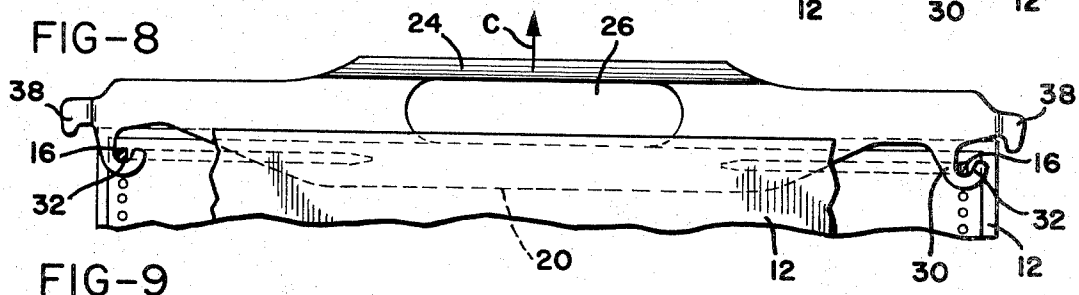


FIG-9

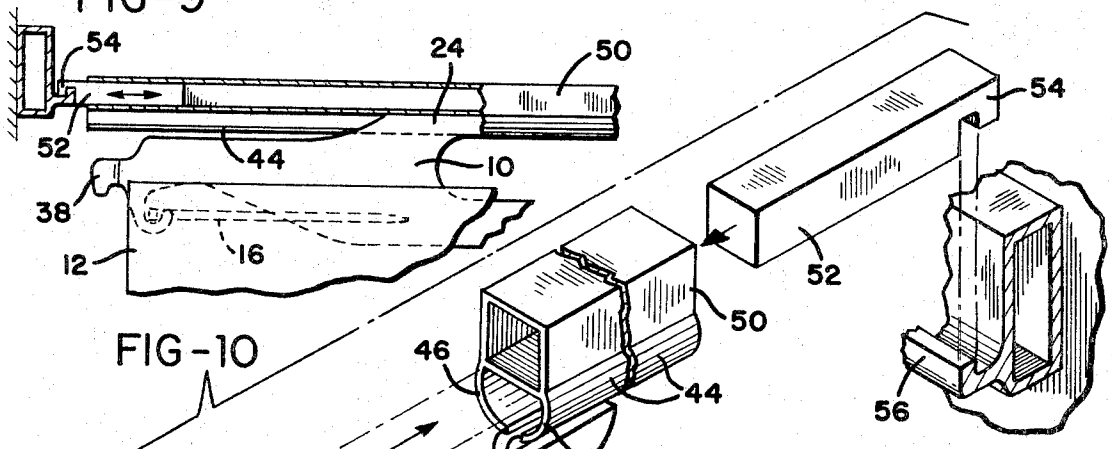
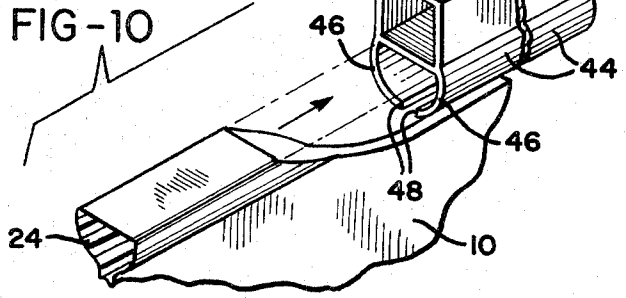


FIG-10



BINDER CARRIER AND SUPPORT STRUCTURE

BACKGROUND OF THE INVENTION

The print-outs from high speed computers generally take the form of continuous webs of several, superimposed plies of paper and carbons having regularly spaced feed holes along their edges for engagement by drive sprockets. Conventionally, these continuous webs are also perforated at regular intervals so that they may be separated or folded for convenience in handling and storage. For storage purposes a binder may be utilized which includes a pair of long, flexible posts made of nylon which may be inserted through aligned feed holes in the print-out sheets and bent over to secure the sheets in place.

In order to facilitate storage and handling of the binder various carrier structures have been proposed. One type, for example, comprises a substantially rectangular plate having an enlarged portion along one edge and a pair of holes formed adjacent the opposite edge. The binder posts are threaded through the holes and the enlarged portion of the carrier is engaged by a rack or other support structure.

It is desirable, however, for the carrier be approximately centered in the binder so that it will be balanced for handling and storage. Therefore, with a carrier of this type it is necessary, each time additional print-out sheets are added to the binder, to completely disassembly the carrier, remove the carrier and usually some of the print-out sheets, reposition them, and then, reassemble the binder with the new sheets added. This is obviously a time consuming operation.

After a period of time many print-outs may be relegated to inactive storage, where they may be simply stacked so that a carrier is unnecessary. At this time, therefore, it is desirable to remove the carrier for reuse with active files. Again, to do this with a conventional carrier it is necessary to disassemble the binder, remove a portion of the print-out sheets from the binder posts, remove the carrier, replace the removed sheets back in the binder and then reassemble the binder.

As a practical matter clerical personnel may find this task too bothersome or time consuming and simply deposit the binders in inactive storage with the handles attached. Additionally, it will be seen that a carrier of the above construction is rather awkward to handle.

SUMMARY OF THE INVENTION

The present invention provides a binder carrier which may be readily attached and detached from a binder without disassembly or removal of print-out sheets.

The carrier in accordance with the present invention includes a pair of hooks which are slipped between print-out sheets from the back of the binder into engagement with the binder posts. The carrier is also provided with a pair of surfaces along one edge which slope downwardly and lead into the post engaging hooks. These surfaces thus serve as camming surfaces to facilitate engagement and disengagement of these hooks with the binder posts.

To further facilitate engagement of the posts by the hooks, the carrier includes a central portion which separates the sheets and provides easy entry for the binder post engaging hooks. Additionally, the central portion, when the carrier is in engagement with the binder, is

positioned within the binder and provides additional stability during handling and storage.

The carrier also includes a pair of downwardly opening hooks projecting from each end of the carrier and adapted to engage the rails of a rack of either the angle or drop type file. To provide better seating of the downwardly opening books on the rack rails, the hooks are flaired at their bight portions to provide a greater seating area.

The carrier also comprises an enlarged portion along its upper edge and a cutout or opening extending approximately coextensively with the enlarged portion to serve as finger openings so that the binder and carrier may be handled much like a birefcase or satchel.

In some installations, such as where the racks are stacked vertically in a modular system, it will be apparent that the binders cannot be dropped into place from above, as in angle or drop files. In this type of system, therefore, downwardly opening channels having side walls terminating in spaced apart, inwardly directed side wall edges are used as supporting structures and the carriers may be slipped into place in these channels with the inwardly directed side walls thereof engaging the enlarged portion of the carrier.

In conjunction with this type of supporting structure a pair of plugs may be telescopically received in opposite ends of a tubular backing channel mounted above and extending coextensively with the carrier engaging channel. The outer ends of the plugs are provided with downwardly opening hooks adapted to engage complementary structures, such as rails, on a supporting rack, and the telescopic connection between the backing channel and the plugs permit some adjustment of the carrier to accommodate different rail spacing.

the enlarged portion of the carrier is preferably semicircular in cross section, having a flat under edge. This not only provides a more aesthetically pleasing design but permits the carrier engaging channel to assume a lower profile. Additionally, a more positive engagement between the carrier and carrier channel is obtained.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a binder with the carrier of the present invention attached thereto;

FIG. **2** is a side view of the carrier;

FIG. **3** is an end view thereof;

FIG. **4** is a top view of one end of the carrier of FIG. **2**;

FIG. **5** is a view of the back of a print-out binder;

FIG. **6** is a view of a portion of a print-out binder and a carrier in accordance with the present invention;

FIG. **7** is a view similar to FIG. **6** showing a step in attaching the carrier to a binder;

FIG. **8** is a view similar to FIG. **7** but showing the final step in attaching the carrier to a binder;

FIG. **9** is a portion of one end of a binder, the carrier and supporting structure therefor; and

FIG. **10** is an exploded perspective view of a portion of the structure of FIG. **9**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As it will be noted from FIG. **1** of the drawings, the carrier **10** of the present invention is intended for use with a binder of the type typified by a computer print-out binder. A binder of this type includes covers **12**,

backing strips **14** and, as best seen in FIG. **5**, a pair of flexible binder posts **16** constructed of nylon or some similar tough, flexible material.

The computer print-out sheets will have a series of feed holes **18** formed along each of their edges and the binder posts **16**, as best seen in FIGS. **6** through **8** of the drawings, are inserted through aligned feed holes an then bent over to bind the computer print-out sheets between the backing strips **14** and covers **12**.

The carrier **10** of the present invention, which is particularly adapted to be used with a binder of the type described above, is best shown, per se, in FIGS. **2** through **4** of the drawings, and, includes a main body section having a central portion **20** and a pair of end portions **22**. The central portion **20** is of considerably greater depth than the end portions, for a purpose to be described below, and is provided with an enlargement **24** along an upper edge and a cutout **26** extending substantially coextensively therewith.

Extending downwardly from the end portions **22** are a pair of hooks **28**, each of which includes a shank portion **30**, a bight portion **32** and return portions **34**, the latter terminating in spaced relationship to the body of the carrier, and portions of the lower edge of the carrier slope downwardly into each of the hooks **28** to provide camming surfaces **36**.

Projecting from each end of the carrier is a downwardly opening hook **38** having a bight portion **40**. The hooks **38**, as best seen in FIGS. **3** and **4** of the drawings, flare outwardly to provide a width at the bight portions thereof approximately three times the width of the main body of the carrier.

It will also be noted from FIGS. **1**, **3** and **10** of the drawings that the enlarged portion **24** is preferably semicircular in cross section, including a flat upper surface **42** extending longitudinally thereof.

With the above structure and with reference to FIGS. **6** and **8** of the drawings, it will be seen that the carrier **10** is readily attached to a binder without disassembly thereof and removal of the pages therefrom. Thus, the carrier **10** may be moved initially in the direction of the arrow A in FIG. **6** of the drawings, allowing the wide central portion **20** of the carrier to slide between the print-out sheets, separating them and facilitating the entry of the hooks **28**.

As the central portion and hooks **28** slide between the print-out sheets, the camming surfaces **36** will engage the binder posts **16** at a point thereon to the right of the hooks **28**. Thereafter the carrier is moved to the right, as indicated by the arrow B in FIG. **7** of the drawings, causing the carrier to move upwardly as the posts **16** slide along the camming surfaces until they reach the shank portions **30** of the hooks. The carrier is then moved in the direction indicated by the arrow C in FIG. **8** of the drawings, to cause the posts to be engaged by the bight portion **32** of the hooks.

With the carrier thus attached, the binder and print-out sheets may be carried, much like a briefcase or satchel, with the enlarged portion **24** and cutout **26** serving as a handle. Additionally, the binder may be stored on a conventional rack of either the angle or drop type, with the downwardly opening hooks **38** engaging the spaced rails of the rack. When so stored it will be seen that the flared portions of the hooks **38** provide greater seating area and, hence, greater stability.

Regardless of whether the binder is carried manually or stored, it will be seen that the central portion **20** of the carrier is positioned well within the binder, so that, in addition to serving as a spreader to facilitate entry of the hooks between the print-out sheets, the engagement of the central portion within the binder prevents the carrier from bending longitudinally thereof and allowing the hooks **28** to disengage.

While the hooks **38** are suited for storing the binders with carriers attached in angle or drop files, it will be apparent that their use is impractical where vertically stacked, modular racks or files are used, since there is no access from the top of the files. When utilizing files of this type, therefore, a support structure of the type shown in FIGS. **9** and **10** of the drawings may be utilized. Such support structure includes a carrier engaging channel **44** having inwardly directed side walls **46** terminating in spaced side wall edges **48**, which cooperate to define a longitudinally extending slot. The channel **44** is of complementary configuration to the enlarged portion **24**, thereby providing a lower profile and a more aesthetically pleasing appearance.

Mounted on the carrier channel **44** and extending longitudinally thereof is a backing channel **50**, which may be of rectangular configuration as shown. Telescopically received in each end of the backing channel **50** is a plug member **52** terminating in a downwardly opening hook **54**. The telescopic engagement between the members **50** and **52** permits some longitudinal adjustment of the spacing between the hook **54**, as indicated by the arrows in FIGS. **9** and **10** of the drawings, so that some variation in the spacing between the rails of the racks may be accommodated.

It will also be seen that, while the cutout **26** is intended primarily to serve as a convenience in handling, it also permits the binders to be stored with supporting structure received through the cutouts.

From the above it will be apparent that the present invention provides a carrier readily adapted for handling and storage of print-out binders, and which may be quickly and easily attached to a binder without time consuming diassembly and assembly to the binder.

While the form of apparatus herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of apparatus, and that changes may be made therein without departing from the scope of the invention.

What is claimed is:

1. A binder carrier comprising:

a. a planar main body section having a central portion and a pair of end portions,

b. means defining an enlargement projecting out of the plane of said central portion along an upper edge thereof,

c. means defining an opening through said central portion beneath said enlargement,

d. a pair of post hooks formed on said end portions and opening upwardly toward said upper edge of said central portion,

e. a pair of support engaging hooks positioned outwardly of said post engaging hooks and opening downwardly away from said upper edge of said central portion,

f. bight portions of said support engaging hooks being of substantially greater thickness than said planar main body section to provide greater stability be-

tween said support engaging hooks and supports engaged thereby,

g. portions of said main body section extending downwardly past bight portions of said post engaging hooks to be received within a binder carried by said carrier.

2. A binder carrier comprising:

a. a substantially planar main body section,

b. a pair of upwardly opening post hooks extending downwardly from said main body section,

c. said post hooks including:

i. shank portions projecting downwardly from said main body section in spaced parallel relationship to each other,

ii. bight portions extending from their respective shank portions in the same direction and adapted to engage spaced binder posts,

iii. return portions extending from their respective bight portions in the same direction upwardly toward said main body section and terminating spaced therefrom

d. support engaging hooks disposed outwardly of said post engaging hooks and opening downwardly, oppositely to said post engaging hooks to engage a support for supporting said carrier with a binder attached thereto, and

e. a pair of camming surfaces extending from a base of each of said shank portions over the bight portion associated therewith and sloping upwardly away from both said bases of said shank portions and said post hook bight portions in substantially parallel relationship to each other.

3. A binder carrier comprising:

a. a substantially planar main body section,

b. a pair of upwardly opening post hooks extending downwardly from said main body section,

c. said post hooks including:

i. shank portions projecting downwardly from said main body section in spaced parallel relationship to each other,

ii. bight portions extending from their respective shank portions in the same direction and adapted to engage spaced binder posts, and

iii. return portions extending from their respective bight portions in the same direction upwardly toward said main body section and terminating spaced therefrom, and

d. said main body section including an entry portion projecting downwardly thereform in the same direction as said post hooks past said bight portions thereof, said

e. support engaging hooks disposed outwardly of said post engaging hooks and opening downwardly, oppositely to said post engaging hooks, for engaging a support for supporting said carrier with a binder attached thereto.

4. A binder carrier comprising:

a. an elongated, substantially planar main section,

b. said main section including a relatively wide central portion and a pair of relatively narrow end portions,

c. an enlarged portion formed integrally with said central portion projecting out of the plane thereof along an upper edge thereof and having a substantially flat outer surface,

d. means defining a finger accommodating opening through said central portion beneath said enlarged portion,

e. a pair of planar, post engaging hook sections formed integrally and coplanar with said main section and projecting downwardly therefrom away from said upper edge thereof at said end portions of said main section,

f. said hook sections opening upwardly in the same direction toward said upper edge of said main section and including:

i. downwardly projecting shank portions extending from said end portions in spaced parallel relationship to each other,

ii. bight portions extending in the same direction from their respective shank portions and adapted to engage spaced posts of a binder, and

iii. return portions extending from their respective bight portions upwardly toward said upper edge of said main section and terminating spaced therefrom,

g. a pair of camming surfaces extending from a base of each of said shank portions over the bight portion associated therewith,

h. each of said camming surfaces sloping upwardly away from both said bases of said shank portions and said bight portions in substantially parallel relationship to each other, and

i. a pair of planar, support engaging hooks projecting outwardly from opposite ends of said main section at said end portions thereof and opening downwardly away from said upper edge of said main sections.

5. A binder carrier and support therefore comprising:

a. a carrier having:

i. a main body section,

ii. a pair of spaced hooks extending from one side of said main body section and opening in the same direction, and

iii. an enlarged portion extending along a side of said main section opposite said one side,

b. a carrier channel having inwardly directed side walls terminating in spaced side wall edges defining a longitudinally extending slot,

c. said carrier being supported by said carrier channel with said enlarged portion received therein and engaging interior surfaces of said side walls and said main body section depending therefrom,

d. a backing channel extending longitudinally of said carrier channel, and

e. a pair of plugs telescopically received in opposite ends of said backing channel and terminating in hooks disposed outwardly of said opposite ends and opening downwardly toward said carrier channel

6. A binder carrier comprising:

a. an elongated, substantially planar main section,

b. said main section including a realtively wide central portion and a pair of relatively narrow end portions,

c. a pair of upwardly opening post engaging hook sections formed integrally and coplanar with said main section and projecting downwardly therefrom away from an upper edge thereof at said end portions of said main section,

d. a pair of planar, support engaging hooks projecting outwardly from opposite ends of said main section

at said end portions thereof and opening downwardly away from said upper edge of said main section, and

e. means forming on each of said support engaging hooks enlarged bight sections of greater thickness than the thickness of said main section including portions thereof immediately adjacent said bight portions.

7. A binder carrier comprising:

a. a substantially planar main body section,

b. a pair of upwardly opening post hooks extending downwardly from said main body section adjacent opposite ends thereof,

c. said post hooks including:

i. shank portions projecting downwardly in spaced parallel relationship to each other,

ii. bight portions extending from their respective shank portions in the same direction and adapted to engage spaced binder posts, and

iii. return portions extending upwardly in the same direction from their respective bight portions,

d. support engaging hooks disposed outwardly of said post engaging hooks and opening downwardly, oppositely to said post engaging hooks for engaging a support for supporting said carrier with a binder attached thereto, and

e. portions of said main body section extending downwardly past said bight portions of said post hooks to facilitate separation of sheets in said binder and provide stability during handling and storage.

* * * * *