J. J. SMITH.

DISPLAY HOLDER FOR ABRASIVE DISKS OR WHEELS.

APPLICATION FILED MAR. 22, 1912.

1,086,409. Patented Feb. 10, 1914.

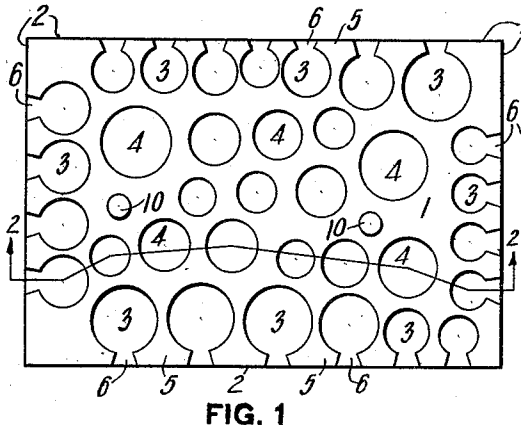

FIG. 1

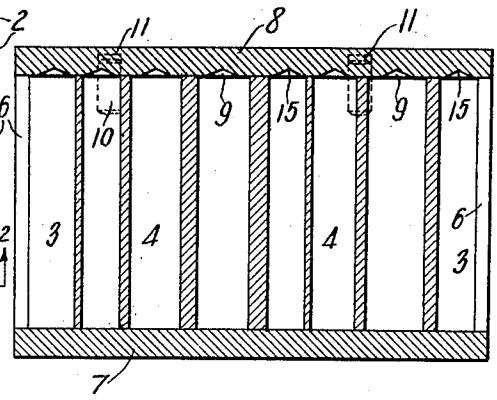

FIG. 2

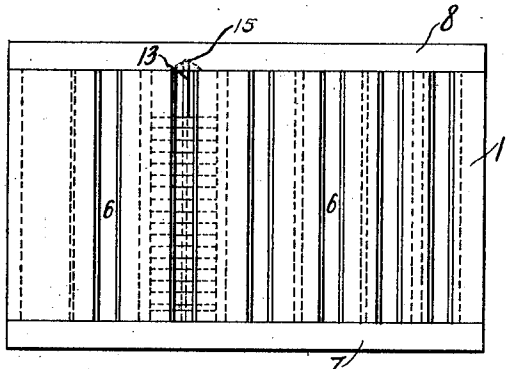

FIG. 3

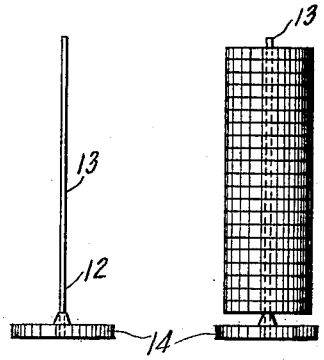

FIG. 5

FIG. 6

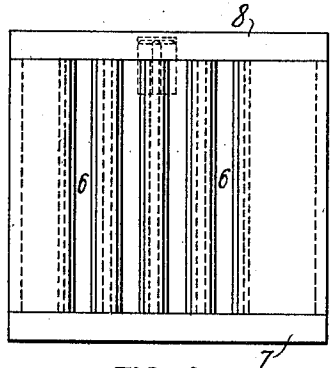

FIG. 4

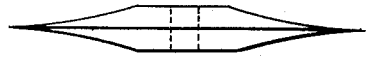

FIG. 7

WITNESSES

W. T. Hohman

E. L. Hyde

INVENTOR

James J. Smith

By Fred'k W. Winter

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES JOHNSON SMITH, OF OAKLAND, MARYLAND, ASSIGNOR TO LEE S. SMITH AND SON COMPANY, OF PITTSBURGH, PENNSYLVANIA, A COPARTNERSHIP.

DISPLAY-HOLDER FOR ABRASIVE DISKS OR WHEELS.

1,086,409. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed March 22, 1912. Serial No. 685,431.

To all whom it may concern:

Be it known that I, JAMES JOHNSON SMITH, a resident of Oakland, in the county of Garrett and State of Maryland, have invented a new and useful Improvement in Display-Holders for Abrasive Disks or Wheels, of which the following is a specification.

This invention relates to a device for holding, carrying and displaying, or shipping abrasive disks or wheels.

The object of the invention is to provide a device of the character specified which is strong and serviceable, may be cheaply constructed and is adapted to carry a number of different sizes of disks.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the drawings Figure 1 represents a plan view of a device constructed according to my invention, the cover being omitted; Fig. 2 is a cross section of the device on the line 2—2 Fig. 1, showing the cover in position; Fig. 3 is an elevation of one side of the same; Fig. 4 is an elevation of another side; Fig. 5 is a detail view of a disk holding member; Fig. 6 is an elevation of a nest of disks; and Fig. 7 is an elevation of one form of abrasive disks.

The present device is intended more particularly for carrying and displaying or for shipping nests of abrasive disks made of emery, carborundum or similar abrasives. Heretofore, such disks have been carried and shipped in metallic or other containers. It has been found impossible in practice, however, to provide a form of container, carrier or holder for such devices, which does not cause considerable loss of the same in transit by unavoidable breakage. Abrasive disks are made of various shapes in cross section, one such shape being illustrated in Fig. 7. Often, as shown, the disks have a thin, razor like edge, and contact of this with the holding, carrying or shipping container is liable to and often does break off small chips from the edge of the disk. In use, a broken disk soon becomes flat sided and useless. In practice, the average loss of disks from breakage is at least 20%.

The present holding, carrying and shipping device is intended to obviate the difficulties with prior devices and to provide a device in which disks may be carried or shipped without loss by breakage of the same. The device illustrated in the drawings comprises a body 1, formed either of wood, paper fiber or some similar substance, which, with reference to the abrasive disks to be carried is comparatively soft. The body 1 shown is in the form of a solid block of wood with rectangular outlines and outer side surfaces 2. It is provided with a plurality of compartments, each adapted to hold a different nest of abrasive disks. Two sets of compartments 3 and 4 are provided in the body. The outer set 3 consists of a number of bores extending entirely through the body from top to bottom thereof and disposed along the side faces thereof. Preferably, the compartments 3 are spaced inwardly a short distance from the adjacent side faces to leave walls 5 between the outer set 3 of compartments and the side faces 2 of the body. Slots or apertures 6 are cut or otherwise formed in the walls 5 between each compartment 3 and the adjacent outer surface 2 of the body. These slots or apertures form windows through which the contents of each compartment may be viewed without removing the cover from the body. The inner set of compartments 4 comprises a number of bores extending entirely through the body from top to bottom thereof and having no communication with the side faces thereof.

The size of the compartments 3 and 4 may be selected according to the sizes of the disks intended to be carried. Preferably various sizes of compartments are used but, as is obvious, all of the compartments may be of the same size. In the form shown, the compartments 3 along one of the narrower sides 2 of the body are all of one size, the corresponding compartments along the other narrower face 2 are all of a size different from the compartments just mentioned, while the compartments along the longer side faces are of other different sizes. The compartments 4 of the inner set vary in size, some being large and some being small.

Preferably a base 7 is provided for the body to seal the lower ends of the compartments and provide a floor upon which the nests of abrasive disks rest. This floor, in the embodiment illustrated, comprises a rectangular member having a flat upper face fitting against the flat lower face of the body 1. It may be either integral with the body or formed as a separate member at-

tached thereto. In practice, it is preferable to form the base 7 as a separate member either glued, nailed or screwed to the body. This provides a convenient arrangement and results in a device which may be easily constructed. The compartments 3 and 4 may be all formed in the body at the same time by the use of a gang drill which will bore all the compartments 3 and 4 entirely through the body at a single step. After this operation, the base 7 is secured to the body, thus providing a level flat floor for each of the compartments. Moreover, the compartments are thus all formed of exactly the same depth.

To close the upper ends of the compartments 3 and 4, cover 8 is provided. This is shown in section in Fig. 2 and comprises a flat member having depressions 9 in its lower or bottom face. These depressions are each formed by boring or cutting away a part of the cover, which may be made of the same material as the body. The depressions are so formed and arranged in the cover as to each lie directly over one of the compartments 3 or 4. To properly locate the cover upon the body with each of the depressions over its proper compartment 3 or 4, dowel pins 10 are formed upon the body and arranged to engage with sockets 11 in the cover.

The abrasive disks are carried in nests upon disk holding members 12, in the manner indicated in Fig. 5. Each disk holding member comprises a rod 13, to the lower end of which is secured a head or button 14. This may comprise one of the abrasive disks or a separate member and is secured to the rod 13 in any convenient manner, as by being cemented thereto, as shown. A disk holding member 12 is provided for each of the compartments 3 and 4. Preferably, the buttons or heads 14 on the disk holding members are made of slightly less diameter than the diameter of the compartments in which the member is to be held. Furthermore, as indicated in Fig. 6, each holding member carries abrasive disks of slightly less diameter than that of the button or head 14 of its holding member, for a purpose to be mentioned. The abrasive disks are threaded onto the rod 13 and nested upon each other in the manner shown in Fig. 6. Each of the holding members 12 is of greater length than the depth of a compartment 3 or 4. As indicated in Fig. 2, when a holding member with its nests of disks is seated in its compartment, a short length of the rod 13 protrudes from the upper end of the compartment, forming a handle by which the holding member may be grasped and removed from the compartment.

The head or button 14 on the holding member is made of slightly greater diameter than the disks which it carries, to space the disks from the inner wall of the compartment in which they are contained. To further assist in obtaining this result, each of the depressions 9 is formed with a seat or bottom 15, the restricted portion of which is arranged to engage the upper extreme end of rod 13 and retain the holding member in axial position in the compartment. When the cover is seated on the body, the seat 15 engages the end of rod 13 and the button 14 engages the inner wall of a compartment, thus preventing any lateral vibration or movement of the holding member which might cause or permit contact between the disks and the wall of the compartment in which they are contained.

To tie the device together in carrying, any suitable means may be provided, as for example, a pair of hooks on the body and eyes on the cover or, if desired, a strong elastic band may be placed around the device.

Since my improved device is formed of wood, paper fiber or other material comparatively soft with reference to hard abrasive disks carried thereby, there is little danger, upon contact of the disks therewith, of breaking or injuring the disks themselves. Furthermore, when the device is closed, the arrangement is such that the holding members cannot vibrate and there is little chance of the disks striking against the walls of their compartments during carrying with consequent injury.

The windows 6 permit the contents of all of the outer compartments 3 to be viewed from the exterior of the device without removing the cover therefrom. Thus it is possible to display a line of samples of disks without removing them from the carrying device. As will be observed, the apertures or windows 6 are each restricted and of considerably less width than the diameters of the compartments to which they lead. There is, therefore, no danger of the disks in a compartment becoming damaged or accidentally displaced or removed therefrom through the window 6. Moreover, all of the openings 6 are of the same size and therefore expose similar portions of the disks in the different compartments irrespective of their size, thus improving the appearance of the entire device, and also flare outwardly to enable the disks to be viewed from wide angles, notwithstanding the restriction of the openings.

The device may be simply and cheaply manufactured and, if made in quantities, the possibility of the use of a gang drill press in its construction, makes the cost of the device still less.

What I claim is:

1. A display holder for abrasive disks comprising a body having a flat upper surface and a plurality of bores therethrough forming cylindrical compartments, all of

said compartments being of the said depth, a base secured to said body and forming a flat level floor for said compartments, a cover for said holder having a flat lower surface fitting the flat upper surface of said body, dowels for positioning the cover on the body, said cover having depressions in its lower face located above the several compartments of the body, and each adapted to receive a disk-holding rod and hold the same centrally in its compartment with the disks carried thereby spaced from the wall of the compartment.

2. A display holder for abrasive disks comprising a body provided with bores forming a plurality of compartments, a base secured thereto and closing the lower ends of said compartments, a disk holding member in each of said compartments comprising a rod of such length as to project from the upper end of its compartment and having a head or button secured to its lower end, and a cover for said body provided with depressions forming seats arranged to engage the upper projecting ends of said rods and support the disk holding members centrally in said compartments.

3. A display holder for abrasive disks comprising a body having outer bores extending entirely therethrough and spaced along its side faces, said body being cut away between each of said bores and the adjacent side face of the body to form restricted openings or windows flaring outwardly, said body also being provided with inner bores having closed side walls, a base secured to said body and extending out to said side faces and having a flat upper face completely closing the lower ends of all of said bores and providing a level flat floor therefor, said bores forming compartments for holding and protecting abrasive disks, and a cover extending out to the side faces of said body and completely closing the upper ends of all of said bores and restricted openings or windows, said base and cover thereby protecting the end abrasive disks held in said compartments.

In testimony whereof, I have hereunto set my hand.

JAMES JOHNSON SMITH.

Witnesses:

M. J. MULLENBE,

E. GERTRUDE ROBINETTE.