Sept. 29, 1942. A. VOLK 2,297,442

FILING SYSTEM

Filed March 7, 1940 2 Sheets-Sheet 1

Fig.1

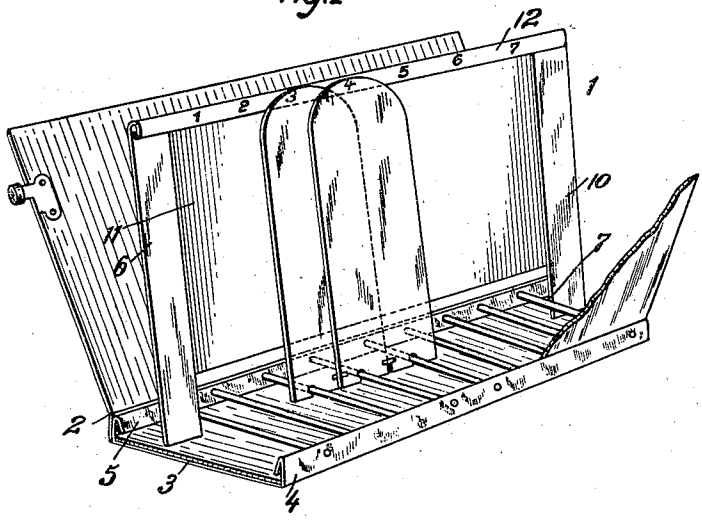


Fig.3

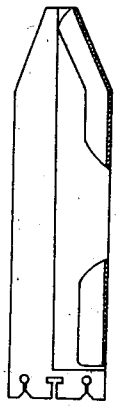


Fig.2

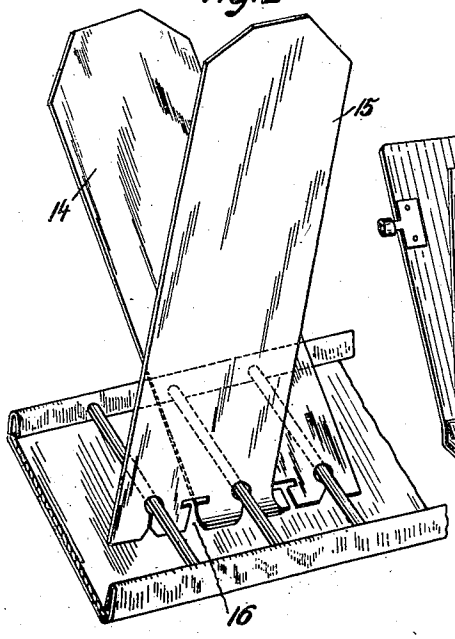
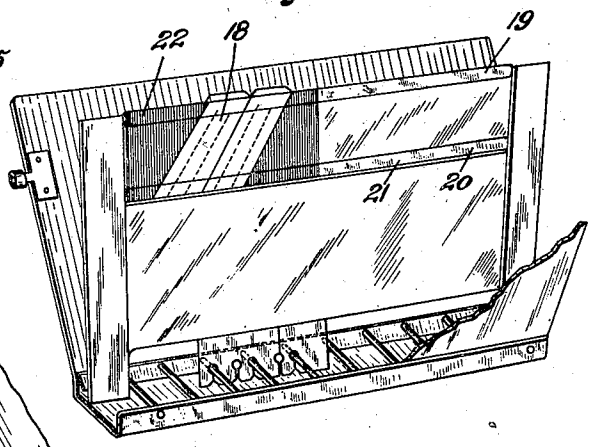


Fig.4



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FILING SYSTEM

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Fig.5

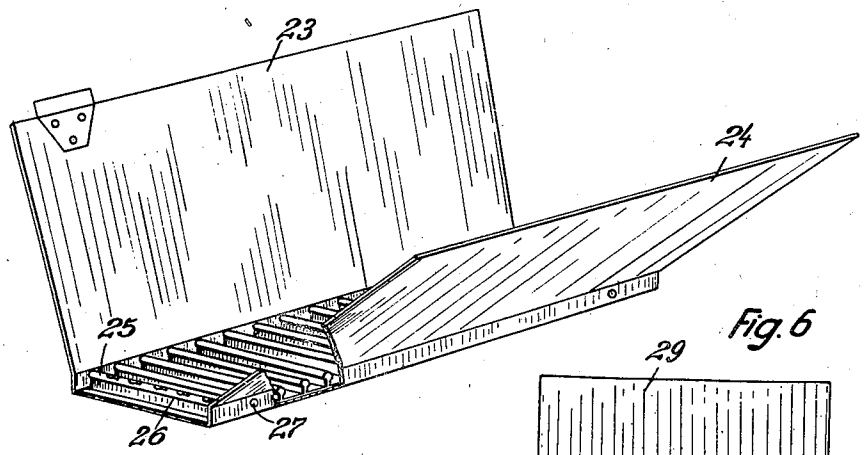


Fig.6

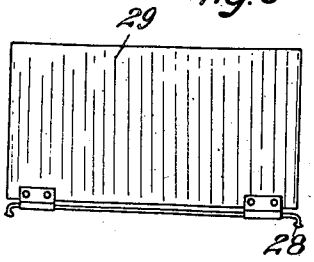


Fig.8

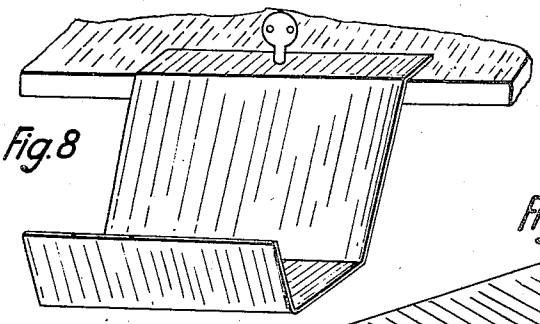
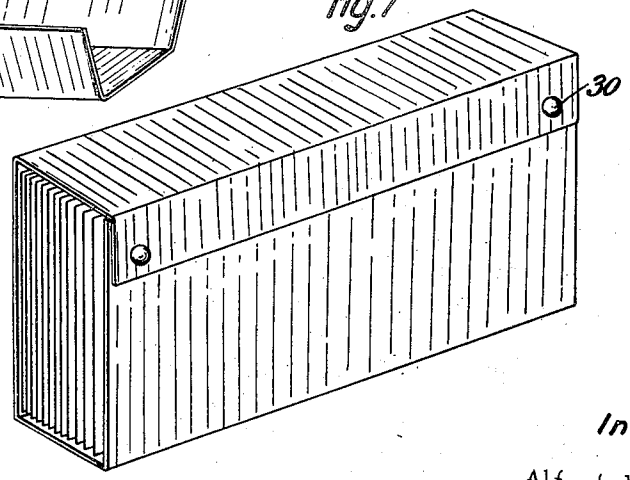


Fig.7



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UNITED STATES PATENT OFFICE

2,297,442

FILING SYSTEM

Alfred Volk, Berlin, Germany; vested in the Alien Property Custodian

Application March 7, 1940, Serial No. 322,713
In Germany December 9, 1938

9 Claims. (Cl. 129—16)

The present invention relates to vertical filing systems.

Vertical filing systems are known in which small separator strips project beyond the recording cards and form a means for finding any selected recording card. The recording or index cards are arranged between the individual separator strips.

The usual filing systems have separator strips allowing an oblique survey, said strips being narrower than the recording or index cards and provided at the bottom with teeth engaging corresponding spacing members. This arrangement has the disadvantage that the separator strips, consisting of resistant material, are rather thick and must be relatively broad particularly if a safe mounting is to be obtained. Now, if the oscillating axis of these separator strips is placed at the upper edge of the teeth so that the foot ends freely oscillate, the foot ends require a considerable additional oscillating space. If, however, the oscillating axis is placed exactly at the bottom end of the separator strips, this additional space also must be provided, because during oscillation the recording or index cards in this case have a different angular position than the one of the separator strips the axis of which is arranged in a low position. Neglecting the requirement of the oscillating space has the effect that during oscillation the parts of the piled and rigid teeth at the foot portion are pressed against each other and that complete groups of index cards are lifted off the bottom.

Numerous prior art drawbacks are obviated by the present invention by the fact that the separator strips consisting of very thin and very flexible material engage at least over two spacing members and that the foot ends, overlapping each other in the center of the length, easily bend against each other when they are oscillated. The spacing members have a circular cross section which facilitates their production as well as the exchange ability of the separator strips. The flexibility of the ends of the separator strips obtained by the provision of a short slot in the center of the ends of the separator strips easily allows the arrangement of the oscillating axis exactly in the height of the upper edge of the spacing members, provided a very small play of bending is present in the circular recess. As the separator strips are always very long with regard to their foot end, the bending pressure of the two foot portions overlapping each other is very small during oscillation. As strip material thin and very flexible transparent artificial materials based on viscose or cellulose acetate are most suitable which with regard to thin metal have the advantage that they slide far more easily upon paper and do not rust. The easy exchangeability is obtained by providing the foot ends of the separator strips with at least two circular or slightly oval perforations respectively which terminate in a slot tapering downwardly.

The bottom of the box of the filing system may be provided with notches or rails the, cross-section of the upper portions of which is circular. The best way, of course, is to provide unobstructed rods, because the recesses of the separator strips may be very small only for the purpose of ensuring good stability of the individual separator strips. The safety projection provided at the lower side of the oval recess, therefore, is only strong enough if this recess completely embraces the profile.

These unobstructed relatively thin rods must be provided with numerous cross supports. It is, therefore, advantageous to arrange the rods in filing boxes which have a small width relatively to the depth of the box. Hereby simultaneously the advantage is obtained that a large group of index cards may as a whole be taken off the box and dealt with at any desired place. The individual filing boxes or satchels are technical units independent of each other and may be placed in any desired container which is indispensable for the unlimited use of the filing system. The filing boxes may also be broader than the index cards so that a plurality of groups of index cards may be arranged side by side in the filing satchel, or the index cards may laterally be offset between the separator strips if they are provided with teeth at their lower edge.

Another very important advantage is obtained according to the invention by the fact that the separator strips consist of transparent material. When using separator strips of opaque material the survey of the index marks is prevented over the total filing system.

This drawback is obviated by the fact that the transparent separator strips extend over the index or filing cards only far enough to be easily visible. Preferably the upper part of the separator strips is tapered or rounded so that they may be differentiated from each other. The separator strips now form short and resistant tabs to which refer indicating marks. The indicating marks are arranged at the upper edges of the card group separators guided in transparent cross members mounted between the individual groups of separator strips. When using numbers

as reference marks requiring a small height only of the guides carrying said transparent cross members and adapted to be fixed to the card group separators a permanent survey of all rows of numbers may simultaneously be obtained. In connection with names arranged upon oblique plates the separator strips always are arranged in front of the plates having the corresponding name. To obtain survey of a group of cards, the card group separator first of all is turned.

It is well known to write indications or markings upon the individual separator strips or to provide same with a system of rules or with exchangeable small plates referring to tabs. The complete effect of exchangeable plates carrying names only then facilitates the use of the filing system if the plates also may be displaced in an oblique position and if no separating line exists between the plates and the tabs. These difficulties often occurring with prior devices are obviated by the fact that the guide for the plates entirely consists of transparent synthetic materials based on viscose or cellulose acetate which is so arranged that simultaneously the entire upper edge of the card group separator is protected against damages. The walls of the guide for the card group separators are bent to admit to easily exchange the small plates and to obtain a spring action towards the wall of the card group separator.

The slight thickening of the upper edge of the card group separator, however, has also the effect that climbing of groups of cards is absolutely prevented.

In the accompanying drawings the invention is shown by way of example.

In these drawings:

Fig. 1 is a perspective view of separator strips and a card group separator for a number filing system arranged in a collecting satchel,

Fig. 2 is a perspective view of a number of separator strips showing a position during oscillation thereof,

Fig. 3 is a templet used for exchanging the separator strips,

Fig. 4 is a perspective view of a collecting device containing a number of separator strips and a card group separator adapted for an alphabetic filing system,

Fig. 5 is a perspective view of a filing device provided with a sheet metal insertion in its back,

Fig. 6 is a front elevation of a main card group separator,

Fig. 7 is a perspective view of a filing device and

Fig. 8 is a perspective view of a support of the filing device of Fig. 7 fixed to the edge of a table.

The collecting device 1 consists of stiff cardboard similar to the cover of a book and is provided at 2 with a hinge, whereas back 3 is rigidly connected to side walls 4 by frame 5 serving to support the spacers. Frame 5 may consist of two simple iron rails provided with rows of perforations carrying rods. A more suitable construction, however, is shown in the drawings. The frame here consists of a rust proof sheet metal covering the entire back and having both sides bent upwardly. The side walls extend obliquely from the top towards the lower part and are each provided with a row of perforations. The perforations carry circular rails or rods 7 some of which are passed through cover 4 of the filing device and fixed by nuts or rivets. The metallic lining of the back of the filing device enhances easy sliding of the metallic feet 6 and 10 of the card group separator 11 and protects the back against bending. Finally the metal back may be pressed from a rectangular sheet metal with a small consumption of material and thus has a small weight only. The sides of the card group separator 11 are provided with sheet metal reinforcings the extensions of which serve as feet and are clamped together below the cardboard. The feet have such a length that the lower side of the cardboard portion of card group separator 11 occupies a position some centimeters above the spacing members.

The upper edge of the card group separator 11 is surrounded by a folded strip 12 of transparent synthetic materials based on viscose or cellulose acetate the front portion of which contains a plate section provided with symbols. The plate may be pushed under the left and right hand sides of the metal edges and may be exchangeably fixed in this manner or may be connected to the card group separator 11 by an ear extending through the longer rear portion.

Fig. 2 illustrates two separator strips 14 and 15 to explain the oscillating or turning operation. The foot ends of the separator strips 14, 15 are provided with the above described recesses and overlap each other in the middle of their length. For the purpose of increasing the bending capacity the foot end is provided with a short slot 16 arranged about in its middle portion. The punched out portions of slot 16 preferably extend radially outwards to facilitate insertion of the separator strips.

Fig. 4 shows a construction which differs from the just described construction by the fact that the card group separator is provided with strips 19 consisting of a transparent synthetic material based on viscose or cellulose acetate, which allow the provision of exchangeable plates 18 carrying names arranged in an oblique position. The strip 19 surrounds the entire upper edge of the card group separator and the lower bent portion 20 extends through a slot 21 in the card group separator. After the Celluloid strip 19 has been inserted the rear side of the slot 21 is to be covered by a strip of material fixed by an adhesive. Due to its stretching ability easy application of the strip of transparent artificial material based on viscose or cellulose acetate is provided in such a manner that said strip is safely fixed without using any auxiliary means. The groove of the rail 19 contains a fixed support 22 consisting of a colored material and a movable support consisting of a transparent synthetic material based on viscose or cellulose acetate which allow the arrangement and guidance of plates 18 in an inclined position. The names are applied by a typewriter onto the originally continuous plates.

The advantages of filing systems using separator strips are well known. With the construction according to the present invention special index or guide tabs are nearly superfluous as a complete sub-division is obtained already by means of the separator strips. The economy of space is considerably increased by the employment of the flexible overlapping separator strips and their easy oscillation renders the operation of this filing system rather agreeable and free of objections. The construction is very simple and cheap.

The filing device shown in Fig. 5 consists of cardboard or other suitable material and is provided with walls 23 and 24 the upper portions of which are oscillatable, whereas the short lower portions are rigidly held in their position by the

sheet metal insert 25. The sheet metal member 25 is fixed by pins 26 which extend through elevations of the insert 25 provided at the right and left hand side and in this manner connect the side walls 23, 24. The wave-shaped elevation of the insert 25 arranged farthest to the right and to the left are provided with perforations 27 into which engages the hinged hook-shaped spacing pin 28 of the main card group separator 29.

The filing device illustrated in Fig. 7 is provided with a cover which may be closed by buttons 30. The inserted separator strips and recording or index cards must exactly fill the interior height of the filing device. Then the latter may be arranged in any position without the position of the recording cards being altered.

Fig. 8 illustrates a metal support which in the ordinary manner may be screwed to the edge of a table. This support may also be rotatable so that the operator may bring same in any desired position.

The invention allows the arrangement of large filing systems in classifiers and shelves which in many cases is necessary for reasons of lack of space. Moreover, the survey is facilitated and the costs of the entire arrangement are considerably reduced.

What I claim is:

1. A separator strip for filing systems adapted to be mounted on spaced longitudinal rails, said strip consisting of flexible material, one end portion of said strip being provided with a plurality of recesses having a spacing corresponding to the distance spacing of said rails, said recesses each having a wide head portion adapted to receive a rail and a narrow slot connecting said head portion with the outer edge of said strip, the end portion of said strip having said recesses being further provided with an incision having a substantially vertical portion extending to the outer edge of said strip and a substantially horizontal head portion, said incision being arranged between said recesses to make said end portion substantially bendable when said strip is mounted on said rails and oscillated.

2. A filing system comprising a rigid bottom portion and short rigid side walls, a plurality of longitudinal rails mounted in spaced relation in said side walls, and separator strips mounted on said rails and consisting of flexible material, the foot portion of each of said separator strips being provided with at least two recesses having a spacing corresponding to the spacing of said rails, said recesses each having a wide head portion adapted to receive a rail and a narrow slot opening towards the edge of said strips, said recesses being adapted to be pushed over said longitudinal rails to allow easy insertion and withdrawal of said strips, the end portion of said strip having said recesses being further provided with an incision having a substantially vertical portion extending to the outer edge of said strip and a substantially horizontal head portion, said incision being arranged between said recesses to make said end portion substantially bendable.

3. A filing system comprising a reinforced bottom portion and reinforced short side walls, a plurality of longitudinal rails mounted in spaced relation in said side walls and a short distance above said botton portion, and separator strips mounted on said rails and consisting of flexible material, said strips being arranged in overlapping relation, the foot end of each of said strip being provided with a plurality of recesses spaced to correspond to the spacing of said rails, said recesses each having a wide head portion adapted to receive a rail and a narrow slot connecting said head portion with the edge of said strip, the foot end of each of said strips being further provided with an incision having a substantially vertical portion extending to the outer edge of said strip and a substantially horizontal head portion, said incision being arranged between said recesses to make said foot end substantially bendable when oscillated, whereby insertion and removal of said strips from said rails is facilitated.

4. A filing system comprising a satchel having the shape of a book, longitudinal rails mounted in spaced relationship in the bottom of said satchel, and separator strips mounted on said rails and consisting of flexible material, said strips being arranged in overlapping relation, the foot end of each of said strips being provided with a plurality of recesses spaced to correspond to the spacing of said rails, said recesses having each a wide head portion adapted to receive a rail and a narrow slot connecting said head portion with the outer edge of said strip, the foot end of each of said strips being further provided with an incision having a substantially vertical portion extending to the outer edge of said strip and a substantially horizontal head portion, said incision being arranged between said recesses to make said foot end substantially bendable when oscillated, whereby insertion and removal of said strips from said rails is facilitated.

5. A filing system comprising a satchel having the shape of a book, said satchel having a reinforced bottom portion and reinforced short side walls, longitudinal rails arranged in spaced relation in the bottom of said satchel, and separator strips mounted on said rails and consisting of flexible material, said strips being arranged in overlapping relation, the foot end of each of said strips being provided with a plurality of recesses spaced to correspond to the spacing of said rails, said recesses each having a wide rail receiving head portion and a narrow slot connecting said head portion with the outer edge of said strip, the foot end of each of said strips being further provided with an incision having a substantially vertical portion extending to the outer edge of said strip and a substantially horizontal head portion, said incision being arranged between said recesses to make said foot end substantially bendable when oscillated, whereby insertion and removal of said strips from said rails is facilitated.

6. A filing system as set forth in claim 2 in which card group separators are provided for subdividing the filing system, said card group separators being provided at their upper edges with guides, consisting of transparent material.

7. A filing system as set forth in claim 3 in which card group separators are provided for subdividing the filing system, said card group separators being provided at their upper edges with guides, consisting of transparent material.

8. A filing system as set forth in claim 4 in which card group separators are provided for subdividing the filing system, said card group separators being provided at their upper edges with guides, consisting of transparent material.

9. A filing system as set forth in claim 5 in which card group separators are provided for subdividing the filing system, said card group separators being provided at their upper edges with guides, consisting of transparent material.

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