No. 726,430. PATENTED APR. 28, 1903.

J. W. HINE.

CARD OR CHECK FILE.

APPLICATION FILED DEC. 26, 1901.

NO MODEL. 2 SHEETS—SHEET 1.

Fig 1

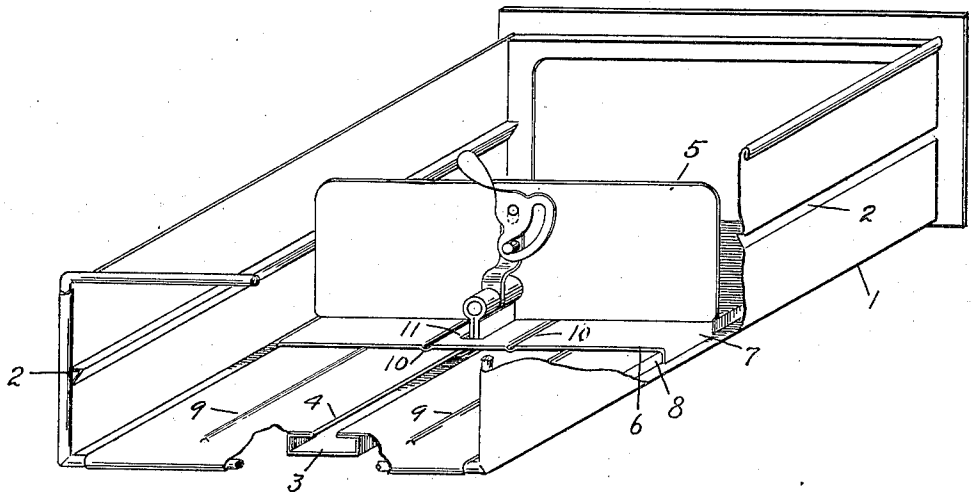


Fig 2

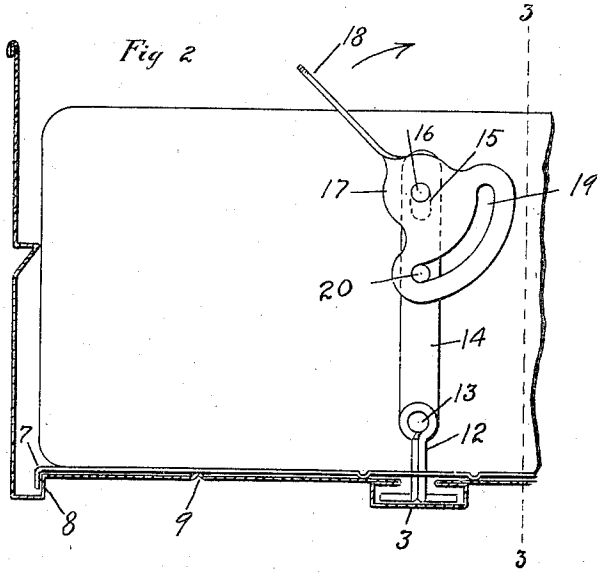
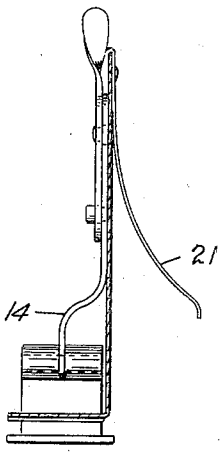


Fig 3



Witnesses
Albert Gilbert
Angus McKenzie

Inventor
James W. Hine

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig 4

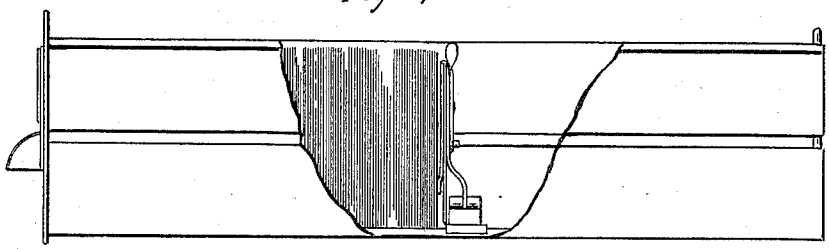


Fig 5

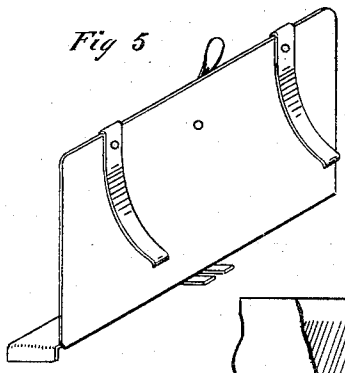


Fig 6

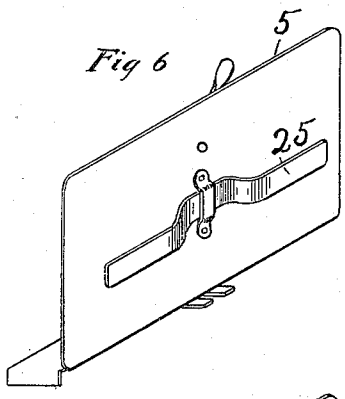


Fig 7

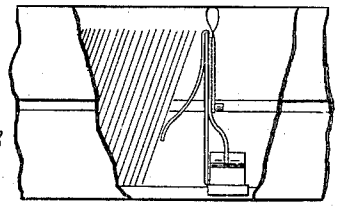


Fig 8

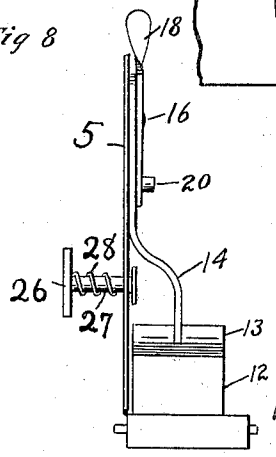


Fig 10

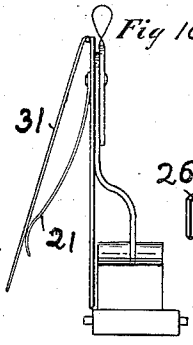
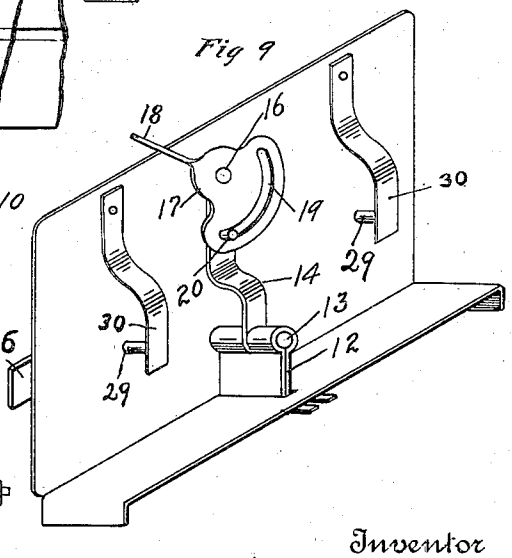


Fig 9



Witnesses
Albert Gilbert
A McKenzie

Inventor
James W. Hine

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES W. HINE, OF JAMESTOWN, NEW YORK, ASSIGNOR TO ART METAL CONSTRUCTION COMPANY, OF JAMESTOWN, NEW YORK, A CORPORATION OF NEW YORK.

CARD OR CHECK FILE.

SPECIFICATION forming part of Letters Patent No. 726,430, dated April 28, 1903.

Application filed December 26, 1901. Serial No. 87,237. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. HINE, of Jamestown, county of Chautauqua, State of New York, have invented certain new and useful Improvements in Card or Check Files; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My invention relates to a filing-case for keeping card-indexes or bank-checks or any series of papers of uniform size or any other kind of flat unfolded papers which may for convenience be placed in it, and which consists, broadly, of a drawer having a guide, a slide which may be clamped at any position along the guide, which slide carries springs which will compress the papers first at the bottom and release them last at the bottom. This causes the papers to fall back at the top first when releasing them, throwing them into the natural position in which they can be most readily examined by any person using the file. The springs have the additional function of throwing the slide back from the papers as soon as the presser-foot is released, making it unnecessary for the operator to move it back after it has been released. In this retracted position the slide, with its springs, serves as a beveled block and holds the cards resting against it in a position such as they would be held in while resting against an ordinary beveled wooden block, such as is frequently used in card-index files. This slide, with its springs, is referred to in the claims in some cases as a "slide-block."

To these and other ends it consists in certain improvements in construction and combination of parts, as will be hereinafter fully described, all features being pointed out in the claims annexed.

In the accompanying drawings, Figure 1 is a perspective view of the drawer or check file. Fig. 2 is a detailed sectional view showing the presser-foot and guides for the slide. Fig. 3 is a cross-section on the line 3 3 of the slide shown in Fig. 2. Fig. 4 is a longitudinal elevation broken away to show the relation of the slide and papers held by the file. Fig. 5 is a perspective view showing the side of the slide toward the papers. Fig. 6 is a variation of Fig. 5. Fig. 7 is a side elevation showing relation of the slide and the papers in the file when the papers have been released for examination. Figs. 8 and 9 show additional variation from form of slide shown in Fig. 5. Fig. 10 is a modified form of wedge-block in which a plate backed by the springs is pivoted to the top of the upright.

Similar reference-numerals of the several figures represent similar parts.

The drawer or casing in which the slide is mounted may consist of metal or woodwork, and a metal drawer of preferred form is shown in Fig. 1.

Reference-numeral 1 refers to the drawer. The sides of this drawer may be ribbed, as shown at 2 2, for a purpose hereinafter referred to. The bottom of drawer is bent to form a broad groove or guide 3, which has a narrow slot 4, which runs the length of the drawer.

The slide 5 consists of, preferably, a single piece of metal bent to form an angle. The bottom part 6 of this angle-piece is provided with flanges 7, which flanges embrace corresponding guides 8 in the bottom of the drawer. These flanges hold the slide to a comparatively parallel movement, thus preventing the slide from getting out of its parallel relation to the papers which are held compressed by it or which may be supported by it when retracted in position for examination.

The bottom of the drawer is provided with beads 9 9, upon which the slide travels, which prevent it from scraping along the bottom and reduce the friction of its movement. Similar beads 10 10 may be provided upon the slide itself.

In the middle of the bottom of the slide is an opening 11, through which extends a presser-foot 12, which extends into and engages with the top of the guide 3. This presser-foot is carried on a pivot 13 at the bottom of a link 14, which link is capable of a limited vertical movement. Near its upper end this link is provided with a slot 15, through which it engages with a rivet or pin 16, carried by

the slide. Pivoted on this same rivet is a rocking cam 17, with a handle 18, and a cam-slot 19, which engages with a pin 20 on the link 14.

The rotation of the handle of the rocking cam to the right, as shown by the arrow in Fig. 2, will cause the presser-foot to rise and clamp the bottom of the drawer securely between the presser-foot 12 and the bottom of the slide 6, thus holding the slide in any position in which it may thus be clamped.

The presser-foot is made of two pieces which are exactly alike and which are placed back to back upon pivot 13. This gives them considerable flexibility, which enables them more readily to accommodate themselves to the groove in which they slide. Experience has shown that the presser-foot made after this design binds very much less as the slide is moved along the drawer than does a foot that is made solid in a single piece. This, together with flanges 7 7, practically eliminates all binding from the movement of the slide.

On the opposite side of the slide from the rocking cam (shown in Fig. 2) are carried two or more springs 21, such as are shown in side elevation in Fig. 3, and which are again shown in Fig. 5 and with variations in Figs. 6, 8, 9, and 10.

When the operator wishes to close the drawer, he presses the slide 5 up against the papers until the papers and spring assume the position shown in Fig. 4. By moving the handle 18 to the right, as shown by Fig. 2, the slide may be clamped in position, which will hold the papers compressed and in fixed position until further inspection of them is desired. When the operator wishes to inspect the papers further, he opens the drawer and places a single finger against the lever 18 and throws the rocking cam over into position shown in Fig. 2. As soon as the cam has passed far enough to release the presser-foot from frictional engagement with the bottom of the drawer the springs 21 react against the papers and throw the slide back into the position shown in Fig. 7. The papers frequently have a natural expansion, which coöperates with the springs to effect this result, and if the drawer has sufficient papers in it the slide may be thrown completely away from the papers, leaving the papers to be supported by the division-cards, which have offsets resting on the longitudinal supports 2. These longitudinal supports 2 2 may be entirely omitted from the filing-case, and entire dependence may be placed upon the slide or wedge block. They constitute no necessary part of my invention. By omitting them additional space is gained in the filing-case, so that longer cards may be used in same-sized case. The slide can be clamped in any position with the cards released, and it will support the cards as effectually when they are open as though the longitudinal supports 2 2 were present.

It will thus be seen that a large number of drawers can be rapidly inspected and closed up again, leaving their contents in perfect condition, so that they will not be disturbed by any subsequent handling of the drawers.

The springs 21 are made, preferably in all cases, so that they bear against the lower part of the card instead of the middle of the card or upper part of it. This leaves the cards or papers free to expand at the top before they have begun to expand at the bottom, and when the releasing has been completed the top of the cards will follow the slide back and the cards will assume a convenient position for examination, this position being the one ordinarily used in index-files. This has also been found by experience to effectually prevent the cards from sliding backward at the bottom. The plane which passes through the top of the slide and through the upper edge of the spring-blades is substantially of the same angle of inclination as the plane usually found in the wedge-blocks ordinarily used in card-index drawers, such as are shown, for example, in Fig. 1 of the patent to Carl F. Lomb, No. 550,984. In this respect the slide, with its springs, performs the functions of an ordinary beveled or wedge block. This block, however, has the additional advantage of being compressible from the wedge shape to a flat block of practically parallel sides, so that a compressing-surface is presented to the cards which is perpendicular to the line of force used in compressing. When the slide has been thrown back, with the cards resting against it, as shown in Fig. 7, it may be clamped in position, in which case it will serve every purpose that a wedge-block will serve and is substantially a wedge or beveled block, which can be locked in any position to accommodate itself to the volume of contents of the drawer. It is apparent that if the cards were compressed between wedge-shaped blocks the tendency of the wedge-shaped blocks would be to lift the contents bodily out of the drawer, to prevent which usually some device is used in the drawer to permanently hold the cards or checks or papers from being thus lifted. This device is frequently a pin, and whatever it is it must be removed from the drawer before any papers can be taken out for examination, &c.

It will be seen that by my construction I retain all the advantages of a wedge-block and hold the papers or cards securely in place if the drawer is handled or taken from its case and also effect an instant release of every paper or card in the file the instant the presser-foot is released by the rocking cam, so that the papers are at once accessible for examination or removal.

It will be apparent that a number of variations may be made without departing from the spirit of my invention, and several of these variations are shown in the drawings.

Fig. 6 shows a single-blade spring 25, extending horizontally across the face of the

slide 5 and fastened to the face of the slide at the middle of the length of the spring.

Fig. 8 shows in side elevation a narrow plate carried on the face of the slide 5. Pins 27 extend from said plate 26 through the vertical member of the slide 5, which pins are headed up at the back to keep them from pulling through the holes. A small spiral spring 28 is threaded on each of these pins, which normally hold the plate 26 out from the face of the slide. In Fig. 9 this plate 26 is supported by pins 29 in the same way, which pins 29 pass through the plate; but instead of spiral springs on the pins the pins are pressed forward by blade-springs mounted on the back of the upright member of the slide 5.

In Fig. 10 I have shown the same slide that is shown in Fig. 5, with the addition of a plate 31, hinged at the top to the top of the vertical member of the slide 5. This plate has the springs 21 under it, which throw the front plate out at the bottom, giving the slide a beveled front and a vertical back similar in form to the beveled wooden blocks in use in file-cases.

Having thus described my invention, what I claim as my invention is as follows:

1. The combination of a filing-case with an adjustable slide, a clamp for holding said slide, springs carried by said slide on the face thereof.

2. The combination with a filing-case, of a slide movable along said case, a clamp carried on the back of said slide, and springs mounted on the face of said slide.

3. The combination of a filing-case with a slide movable along said case, said slide having a vertical face and a vertical back, a clamp carried on the back of said slide, and a spring mounted on the face of said slide.

4. The combination of a filing-case with a slide therefor, springs mounted in one side of said slide, said springs being compressible to support the cards in either an inclined position, or a vertical position.

5. The combination of a filing-case with a compressor-slide for the papers thereof, a spring carried by said compressor-slide to automatically throw out said compressor-slide when it is released.

6. The combination of a filing-case for papers, a movable compressor for said filing-case, adjustable in said case for clamping the papers thereof, means for rigidly holding said compressor, springs carried by said compressor for automatically retracting said compressor from clamping position upon the release of said holding means.

7. The combination of a filing-case for papers, a compressor for the papers thereof, said compressor being capable of movement along substantially the whole length of said filing-case, means for holding said compressor in compressing position at any place to which it can be moved, means for automatically retracting said compressor when said holding means is released.

8. The combination of a filing-case, a slide therefor, means for holding the said slide to a parallel movement, means for holding said slide in any position, means carried on said slide for automatically retracting said slide, when said holding means is released.

9. The combination in a filing-case for unperforated papers, means freely movable for compressing said papers in a vertical position, a clamping device for rigidly holding said means against movement, said means, when released from compressing position independently supporting said papers in a slanting position, said means having an upright plate forming the back thereof, said upright plate being mounted to stand vertically in both its compressing and releasing positions.

10. The combination of a filing-case for papers a freely-movable slide-block for independently supporting said papers in an inclined position for examination, said slide-block also serving to compress said papers in a vertical position, a clamping device for rigidly holding said slide-block against movement, said slide-block having an upright plate forming the back thereof, said plate being mounted to stand vertically in both its compressing and released positions.

11. The combination of a filing-case for holding papers, with means for holding papers of said filing-case compressed, means for automatically throwing back said means, to release the papers of the filing-case.

12. The combination in a filing-case of a slide therefor comprising an angle-piece having a base and an upright, flanges on the sides of said base, springs carried by said upright, a presser-foot carried by said upright, means for clamping said presser-foot to the said filing-case.

13. The combination in a filing-case of a slide therefor comprising an angle having a base and an upright, a slot in said base, a presser-foot extending through said slot, a link supporting said presser-foot, said link having a slotted engagement with a pin carried on an upright of said slide, a lever rotatably mounted on said pin, means on said lever for raising and locking said presser-foot.

14. The combination with a filing-case of a slide therefor, springs carried by said slide for automatically retracting said slide when released, said springs compressing the papers in the case at the bottom.

15. The combination with a filing-case for unperforated papers of a slide therefor, compressing said papers in a vertical position, means carried on said slide for increasing the pressure on said papers at the bottom, said means serving to automatically retract said slide as soon as slide is unlocked.

16. The combination of a filing-case with an adjustable slide mounted therein, means for locking said slide in any adjusted position, and means for automatically moving said slide simultaneously with the releasing of it.

17. The combination of a filing-case with an adjustable slide mounted therein, means for locking said slide in its movement, springs mounted on the face of said slide for moving said slide simultaneously with the unlocking of it.

18. A slide-block for a filing-case having normally the outlines of a beveled block and being capable of compression therefrom to the outlines of a vertical compression-plate.

19. A slide-block for a filing-case normally expanding to the outlines of a beveled block and being capable of compression therefrom to the outlines of a vertical compression-plate.

20. A slide-block for a filing-case having a normal expansion to the outlines of a beveled block and being capable of compression therefrom to the outlines of a vertical compression-plate, said slide-block having a rigid upright plate forming the back thereof.

21. The combination in a slide-block for a card-file, of an upright plate, springs mounted on said plate, said springs and said plate normally presenting an inclined plane to the cards of said file.

22. The combination in a slide-block for a card-file of an upright plate, springs mounted on said plate, said springs and the upright plate normally presenting an inclined plane to the cards of said file, and being capable under pressure of presenting an upright surface thereto.

23. A slide for a card-file having springs mounted on one side of said slide, said springs extending normally away from the slide, but being compressible against it.

24. A presser-foot for the slide of a card-file comprising two duplicate angle-pieces placed back to back on a single pivot.

25. The combination in a filing-case for papers of means for either compressing said papers in a vertical position or for holding them in a slanting position when released, said means leaving said papers free to be removed when held in a slanting position, said means having an upright plate forming the back thereof, said plate being mounted to stand vertically in both its compressing and released positions.

26. A filing-case containing cards, a slide-block therefor capable of expansion and compression at the bottom of the face of said slide, to hold the cards in a slanting or vertical position as required.

27. The combination in a filing-case for papers of means for holding said papers compressed in a vertical position or for holding them when released in a slanting position, said means leaving said papers free to be removed when held in a slanting position, said means having an upright plate forming the back thereof, said plate being mounted to stand vertically in both its compressing and released positions.

JAMES W. HINE.

Witnesses:
ALBERT GILBERT,
ANGUS MCKENZIE.