H. J. HICK.

FILING APPLIANCE.

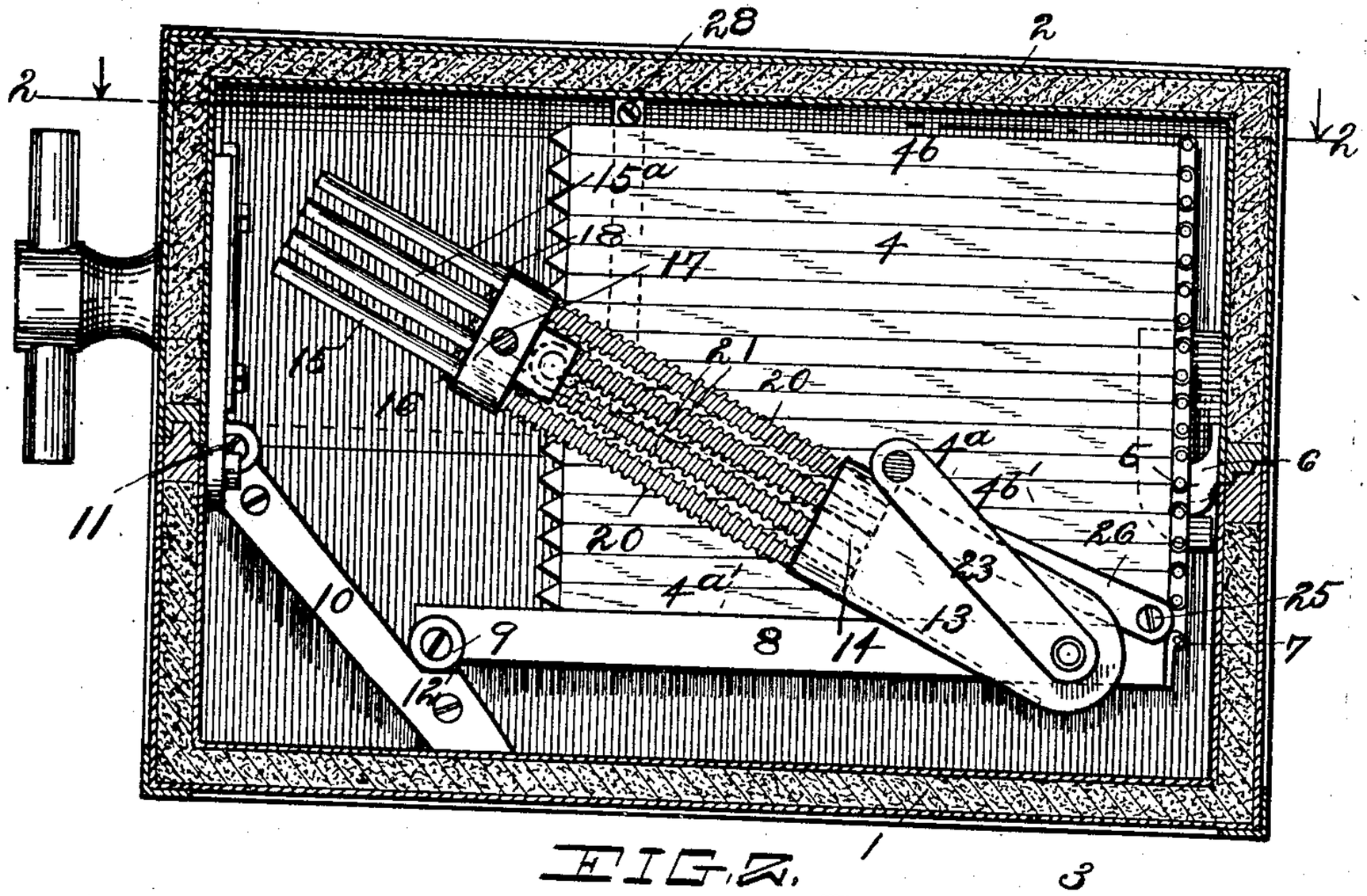
APPLICATION FILED JULY 24, 1914.

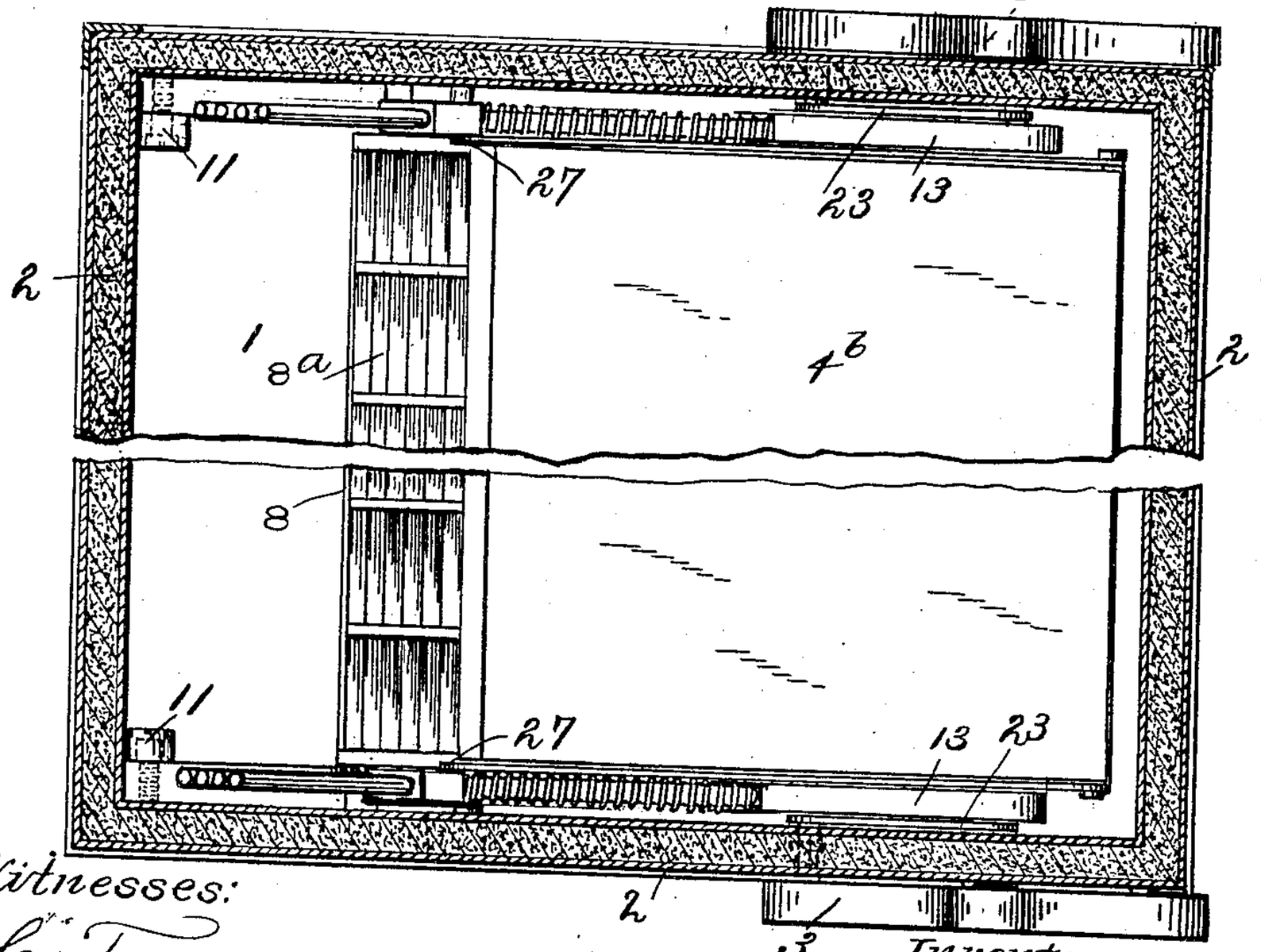
1,251,663.

Patented Jan. 1, 1918.

4 SHEETS—SHEET 1.

FIG. 1





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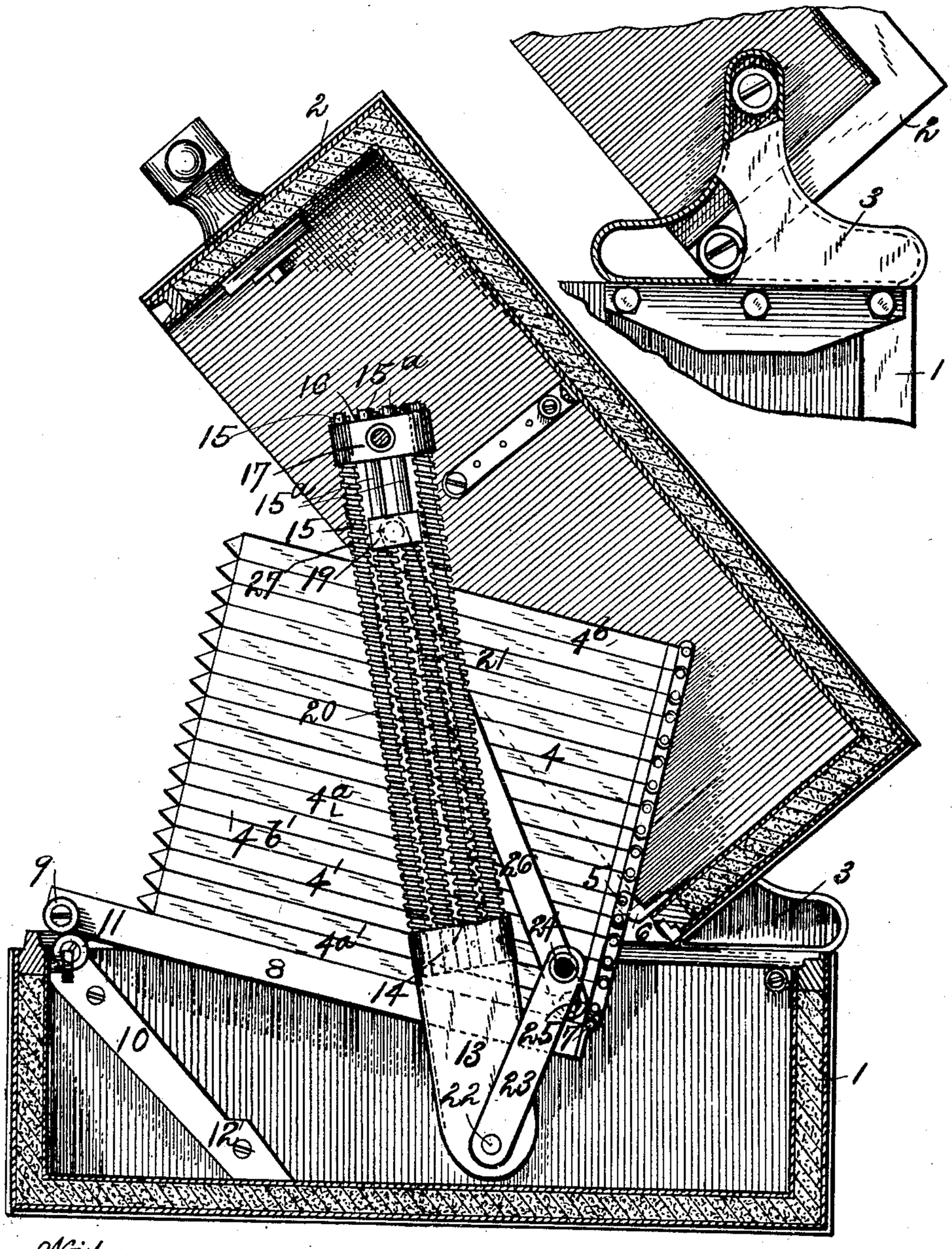
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4 SHEETS—SHEET 2.

FIG. 3.

FIG. 4



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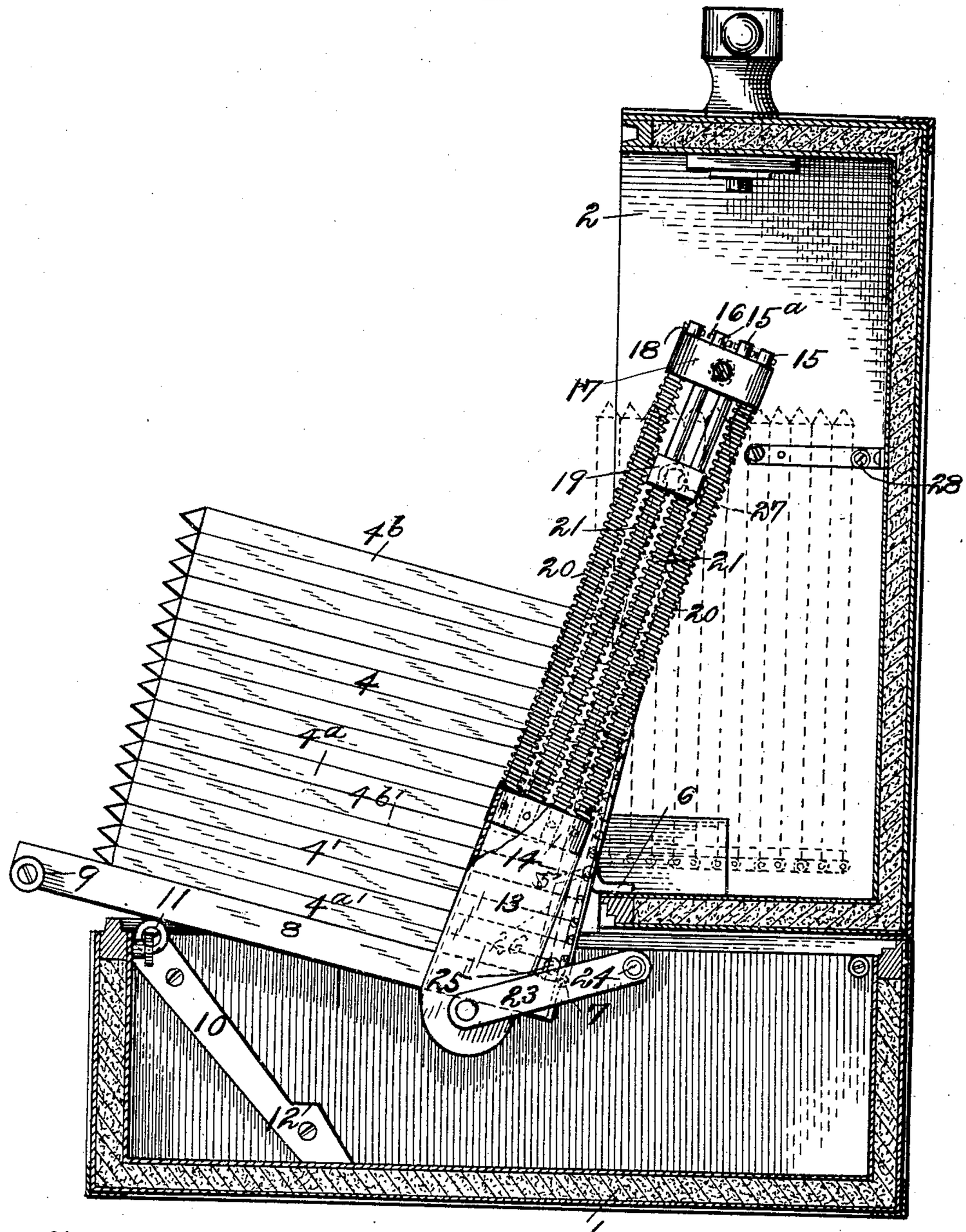
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4 SHEETS—SHEET 3.

FIG. 5.



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1,251,663.

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4 SHEETS—SHEET 4.

FIG. 7.

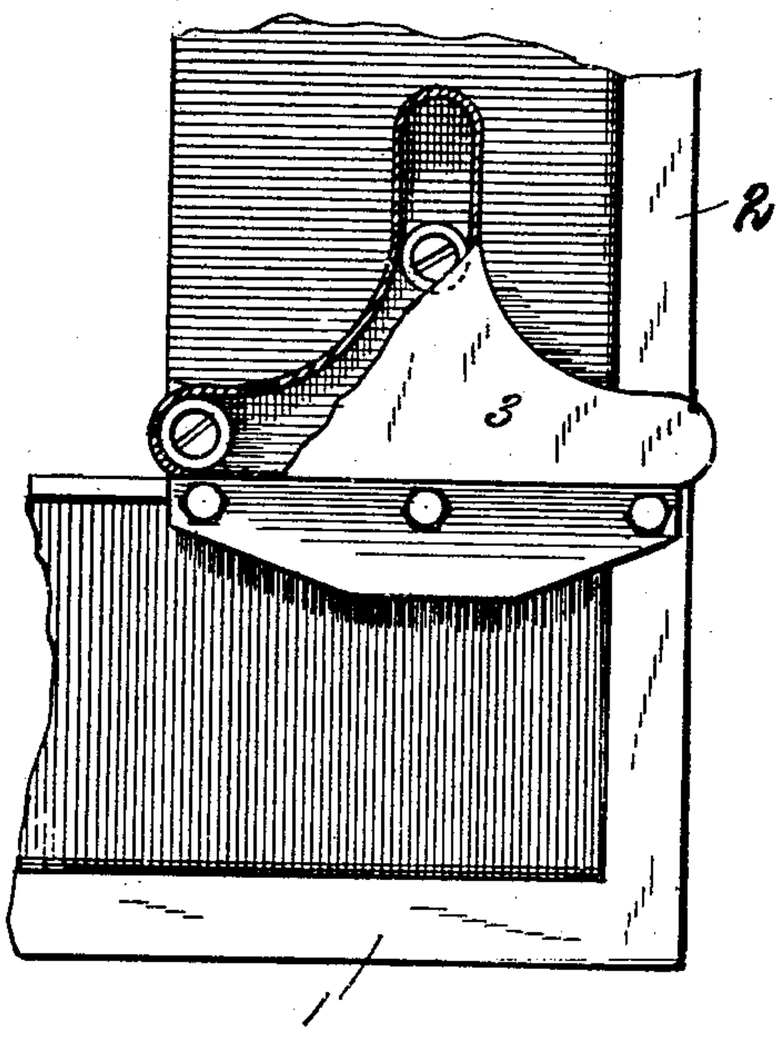


FIG. 6.

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UNITED STATES PATENT OFFICE.

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FILING APPLIANCE.

1,251,663. Specification of Letters Patent. Patented Jan. 1, 1918.

Application filed July 24, 1914. Serial No. 852,835.

To all whom it may concern:

Be it known that I, HARRY J. HICK, a citizen of the United States, residing at Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Filing Appliances, of which the following is a specification.

The invention relates to a filing appliance for sales bills and other similar papers, in which a plurality of bill holders are operatively mounted in a fire-proof case comprising a rectangular base section and a similar cover section adapted to be swung on the base section to incase the bill holders when closed, and to form a back for the same when opened.

In a former application filed June 8, 1914, Serial No. 843,602, a filing appliance of this type or character has been illustrated, described and claimed, in which guiding hinge connections between the cover and base sections and external counterbalancing means for the cover section are provided for swinging and shifting the cover section upon the base section, and in which a series of hinged bill holders and an index frame are pivoted to the rear rim of the cover section.

In a subsequent application filed June 12, 1914, Serial No. 844,672, a filing appliance of this type and character has been illustrated, described and claimed, in which a series of hinged holders have their hinged ends pivoted intermediate the end holders to the rear rim of the cover section of the case, with supporting and guiding means for the free ends of the holders in the base section of the case, and with swinging contracting connections between the hinged end of the lower holder of the series and the cover section of the case for elevating and sustaining the pendent hinged ends of the lower holders.

And in a later application filed July 23, 1914, Serial No. 852,600, a filing appliance of this type or character has been illustrated, described and claimed, in which a plurality of hinged holders have their hinged ends depending from a pivotal connection with the rear rim of the cover section, with means for supporting and guiding the free ends of the holders upward and forward from within the base section over and upon the forward rim thereof, and means bearing in the base section for elevating and sustaining the hinged ends of the holders.

The object of the present invention is to combine within the case, counterbalancing means for the cover section thereof, and elevating and sustaining means for the pendent hinged ends of the holders therein; and to coördinate the operation of these means so that the counterbalance will not come into play until the cover section has been swung part way downward from upright position, and so that the energy of the holder elevating and sustaining means will be added to the cover counterbalancing means, as the cover is swung toward and into its reclined closed position.

This object is attained by assembling the cover counterbalance springs and the holder elevating and sustaining springs in extensible frames within each side of the case, by pivotally connecting the upper ends of these frames with the cover section of the case, by providing the lower end of the frame with a pendent link connection with the base section of the case, and by providing a swinging link connection between the upper ends of the elevating and supporting springs, and the hinged end of the lower holder.

A preferred embodiment of the invention, thus briefly set forth, is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevation section of the case showing the cover section closed downward upon the base section thereof and the holders inclosed therein;

Fig. 2, a plan section of the case on line 2—2, Fig. 1, showing the holders and other parts therein, as in Fig. 1;

Fig. 3, a side elevation section of the case showing the cover section swung upward part way upon the rear end of the base section and the bill holders carried part way upward and forward toward operative position;

Fig. 4, a fragmentary side elevation, partly in section, showing one guiding hinge connection, with the cover section positioned as in Fig. 3;

Fig. 5, a similar section of the case, showing the cover section swung into upright position upon the rear end of the base and the bill holders carried fully upward and forward into reclined operative position;

Fig. 6, a similar section showing all the bill holders rotated into upright position; and

Fig. 7, a side elevation partly in section, of one guiding hinge connection showing the cover section positioned as in Figs. 5 and 6.

Similar numerals refer to similar parts throughout the drawings.

The case is composed of the substantially rectangular bottom or base section 1 and the top or cover section 2, which are operatively connected together by means of the guiding hinge brackets 3, one bracket being located on each side of the rear end portion of the base section; by means of which the cover section can be swung and shifted upon the base section to aline either the top or rear end of the cover section with the rear end of the base section.

The series of bill holders 4 and 4′ are hinged together at the lower rear ends, and the pivot 5 between two adjoining intermediate holders 4ª and 4ᵇ′ are mounted in the bearing 6 secured on the rear end of the cover section; so that the holders above this bearing may be referred to as the upper division of the series, and the holders below this bearing may be referred to as the lower division of the series.

The lower forward bill holder 4ª′ of the series is pivoted at 7 to the rear end of the frame 8, which may carry an index 8ª for the bill holders, or may form a table for writing or other use, or may be considered merely as a tray for supporting the superposed holders at certain times. Rollers 9 are journaled on each side of the forward end of the frame 8, and tracks 10 are secured on each inner side of the side walls of the base section of the case; on which tracks the rollers 9 are adapted to ride as the frame 8 is carried downward and rearward into the base section by its rear end pivotal connection with the lower holder of the series, when the cover section is closed downward upon the base section, as shown in Fig. 1.

The rollers 11 are preferably journaled to the upper end of each track 10, upon which rollers the side edge portion of the frame 8 may travel after the frame rollers 9 have passed upward and forward beyond the track rollers 11. And a bearing shoulder 12 may be provided in each track upon which the frame rollers 9 are adapted to rest when the frame and superposed holders are carried fully downward and rearward into the base section of the case, as shown in Fig. 1.

The spring frame is composed of the bearing plate 13 having the bearing head 14 on its upper end, the outer and inner guide rods 15 and 15ª secured to the bearing head at their lower end and having the stop pins 16 on their upper free ends, the main sliding head 17 having apertures 18 therein for each of the guide rods 15 and 15ª and the minor sliding head 19 having apertures 20 therein for the inner guide rods 15ª.

The outer and inner coiled compression springs 20 and 21 are located around the outer and inner guide rods 15 and 15ª, the outer springs extending between the bearing head 14 and the main sliding head 17, and the inner springs extending between the bearing head 14 and the minor sliding head 19.

The lower end of the bearing plate 13 is pivoted at 22 to the lower end of the pendent link 23, which has its upper end pivoted by the post 24 to the adjacent side wall of the base section of the case, which pivot post extends inward beyond the inner side of the link 23 of the bearing plate 13, to serve as a pivotal abutment or stop for the rear edge thereof. The main sliding head 17 is pivoted at 17ª to the adjacent side wall of the cover section of the case adjacent to the forward edge thereof; and the hinged end of the lower holder 4ª′ is pivoted at 25 to the lower end of the swinging link 26, which link has its upper end pivoted at 27 to the inner side of the minor sliding head 19.

The parts and the strength of the springs are so proportioned and arranged that when the cover section is swung and shifted into upright position upon the rear end of the base section of the case, with the holders carried forward into reclined operative position, as shown in Fig. 5, the stop pins 16 on the upper ends of the guide rods 15 and 15ª will bear upon the upper side of the main slide head 17 which is pivoted at 17ª to the cover section of the case, the weight of the pendent parts being supplemented by the energy of the several springs. During this movement of the cover section, the lower end of the bearing plate 13 is swung forward by its pivotal connection with the pendent link 23 to carry the link upward nearly into horizontal position; and the swinging link 26 between the hinged end of the lower holder 4ª and the minor slide head 19 draws this head downward, by sliding upon the inner guide rods against the resistance of the inner compression springs 21ª, to a substantial distance below the main slide head 17, all as shown in the same figure.

In this relation of the parts it is evident that the bill holders 4, 4ª and 4ᵇ, comprising the upper division of the series, may be rotated upon their hinged ends into upright position, either singly or collectively, in which upright position the upper rear holder of this division is sustained and guided by the abutment rollers 28 provided one in each side of the cover section, and the forward holder 4ª thereof is supported by the pivotal bearing 6 on the rear rim of the cover section, as shown by broken lines in Fig. 5; so that the rotated holders of this division will be maintained in upright position by the action of gravity in the manner well known in this art.

Furthermore, when one or more of the bill holders 4′, 4ª′ and 4ᵇ′, comprising the

lower division of the series, are rotated on their hinged ends into upright position, as shown for all the holders in Fig. 6, the action of the inner compression springs 15ª by thrusting upward the minor slide head 19 and the swinging link 26 pivoted thereto, serves to elevate and sustain the hinged end of the lower holder 4ª, so that all the holders in the lower division of the series which have been rotated into upright position will be maintained in such position. In this operation the minor head 19 may slide upward into contact with the main head 17 when all the holders of the lower series are rotated into upright position, as shown in the same figure.

For closing the case, it is preferred to rotate all the bill holders of the series forward upon their hinged ends into reclined position, superposed upon the frame 8, as shown in Fig. 5, whereupon a forward swinging and rearward shifting of the cover section to close it upon the base section, will carry the frame 8 and superposed holders thereon bodily downward and rearward within the two sections of the case, as shown in Fig. 1.

During the first portion of this movement it is evident that the lower pivoted ends of the bearing plate 13 and the pendent link 23 will swing freely downward and rearward as shown in Fig. 3, and the energy of the outer compression springs 21 will not be brought into play to counterbalance the cover section until the rear edge of the bearing plate 13 impinges the protruding pivot post 24, whereupon a further downward swinging of the cover section will rotate the spring frame around the pivot post 24 as a fulcrum, and will also slide the main head 17 downward upon the guide rods, thereby compressing the outer springs 15 between this head and the bearing head, which counterbalancing resistance will be supplemented by a further compression of the inner springs 21ª when the main head 17 slides downward upon the guide rods far enough to impinge the minor head 19; so that all the compression springs will serve to counterbalance the weight of the cover section of the case during the final portion of its downward movement toward and upon the base section of the case; and reversely, all the compression springs will serve to assist in elevating the cover section during the first portion of its movement into upright position.

I claim:

1. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover section upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding the free ends of the holders upward and forward from within the base section over the forward rim thereof including inclined tracks having rollers on their upper ends for bearing the forward ends of the holders when extending over the base rim.

2. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover section upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding the free ends of the holders upward and forward from within the base section over the forward rim thereof including inclined tracks having shoulders on their lower ends for bearing the forward ends of the holders when carried downward within the base section.

3. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover section upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding the free ends of the holders upward and forward from within the base section over the forward rim thereof, and means inoperative when the cover section is in and near its upright position for counterbalancing the same and the rearward thrust of the holders when swung downward into intermediate and closed positions.

4. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover sections upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding the free ends of the holders upward and forward from within the base section over the forward rim thereof, means inoperative when the cover section is in and near its upright position for counterbalancing the same when swung downward into intermediate and closed positions, and means for elevating and sustaining the hinged ends of the holders supplementing the cover counterbalance means when the cover section is in and near its closed position.

5. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover sections upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding

the free ends of the holders upward and forward from within the base section over the forward rim thereof, means inoperative when the cover section is in and near its upright position for counterbalancing the same when swung downward into intermediate and closed positions, and means for elevating and sustaining the hinged ends of the holders coördinated with and supplementing the cover counterbalance means when the cover section is in and near its closed position.

6. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover sections upon the base section, a plurality of hinged holders mounted in the case, having their hinged ends depending from a pivotal connection with the rear end of the cover section, means for supporting and guiding the free ends of the holders upward and forward from within the base section over the forward rim thereof, a frame including a bearing member with a plurality of slide rods extending upward therefrom having stop pins on their upper ends, a main head pivoted to the case cover having sliding engagement with the rods, a minor head in the path of the main head having sliding engagement with certain of the rods, compression springs around the rods between the bearing member and the respective sliding heads, a pendent link pivoted to the base and the bearing member and having the case pivot extended to form a pivotal abutment for the bearing member, and a swinging link pivotally connected with the minor head and the hinged end of the lower holder.

7. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover section upon the base section, a plurality of hinged holders mounted in the case having their hinged ends depending from a pivotal connection with the rear end of the cover section, counterbalance means for the cover section, and means for elevating and sustaining the hinged ends of the holders supplementing the counterbalance means when the cover section is in and near its closed position.

8. A filing appliance including a case having base and cover sections hinged together, a plurality of bill holders operatively mounted within the case, and counterbalancing and sustaining means for the cover section and bill holders, the counterbalancing means for the cover section being inoperative when the cover section is in and near its upright position and being operative when swung downward into intermediate or closed position.

9. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover sections upon the base section, a plurality of hinged holders mounted in the case, having their hinged ends depending from a pivotal connection with the rear end of the cover section, an index frame pivoted to the hinged end of the lower holder, a roller on the free end of the frame, and means for supporting and guiding the free end of the frame upward and forward from within the base section over the forward rim thereof including inclined tracks upon which the rollers of the index frame are adapted to travel.

10. A filing case including similar base and cover sections with guiding hinge connections for swinging and shifting the cover section upon the base section, a plurality of hinged holders mounted in the case, having their hinged ends depending from a pivotal connection with the rear end of the cover section, an index frame pivoted to the hinged end of a lower holder, a roller on the free end of the frame, and means for supporting and guiding the free end of the frame upward and forward from within the base section over the forward rim thereof including inclined tracks upon which the rollers of the index frame are adapted to travel.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."