

[54] CLAMP BOARD FOR MULTIPLE ENTRY ACCOUNTING

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[22] Filed: **July 8, 1970**

[21] Appl. No.: **53,051**

[52] U.S. Cl. **282/29 B, 402/71, 24/67.7, 281/45**

[51] Int. Cl. **B4113/04**

[58] Field of Search. **282/29 B, 29 C; 402/69, 71; 24/67.3, 67.5, 67.7, 67.9; 281/45**

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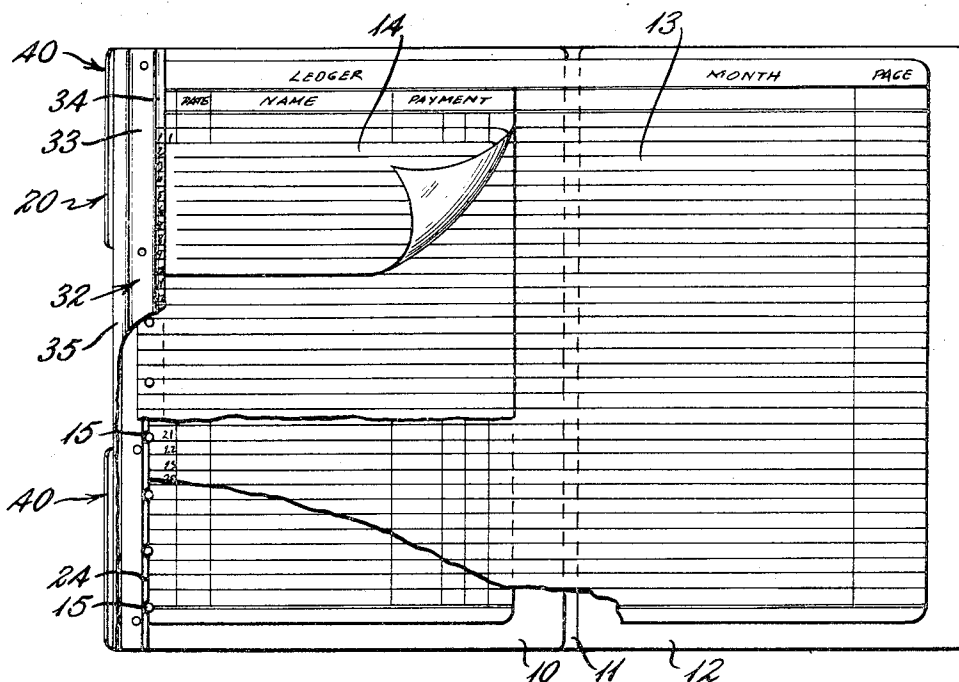
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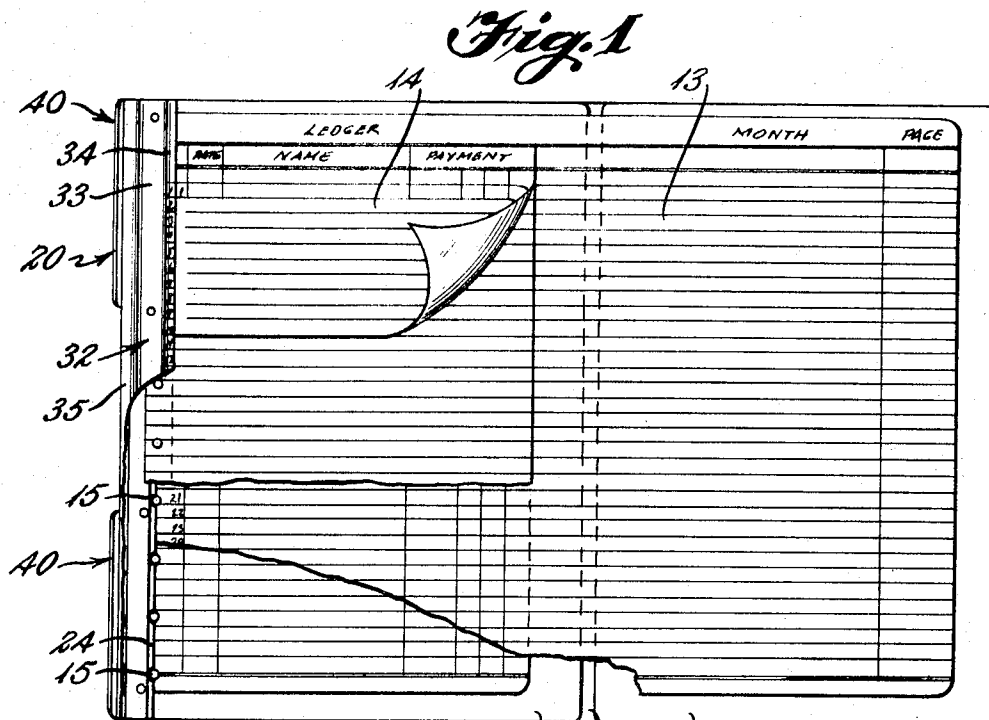
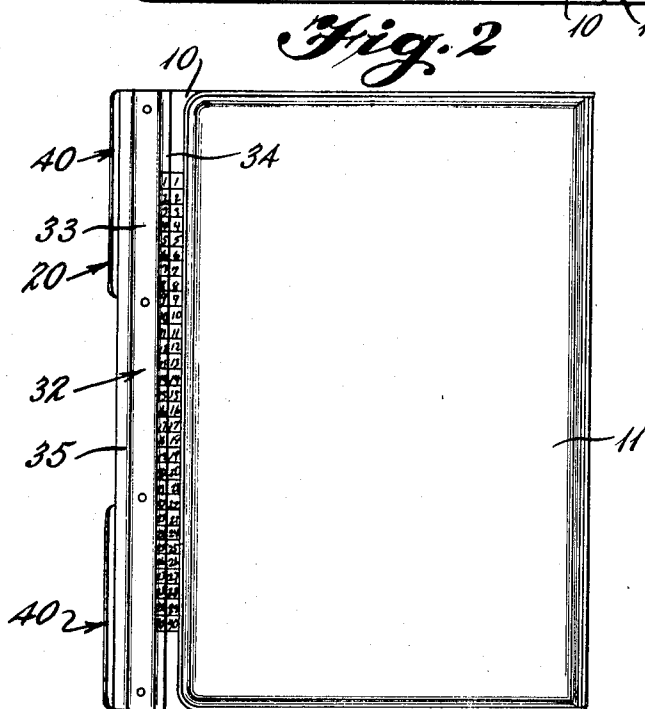
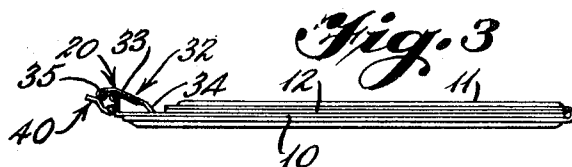
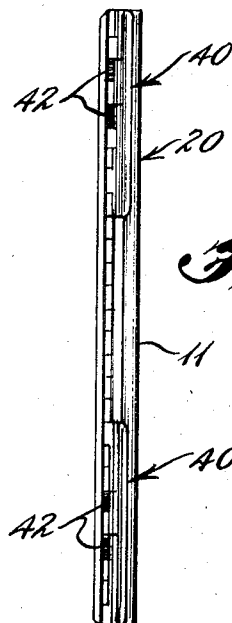
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[57] ABSTRACT

A multiposition clamp apparatus having a plurality of spaced generally parallel hinges arranged in a manner that clamp movement can be shifted from one hinge to another so that a plurality of accounting forms are held in predetermined selected position to record information on a plurality of documents simultaneously and such documents can applied and removed independently. The multihinged clamp can be selectively moved to any one of a plurality of positions and in certain positions the clamp will remain in fixed position while in other positions the clamp will move automatically.

3 Claims, 10 Drawing Figures



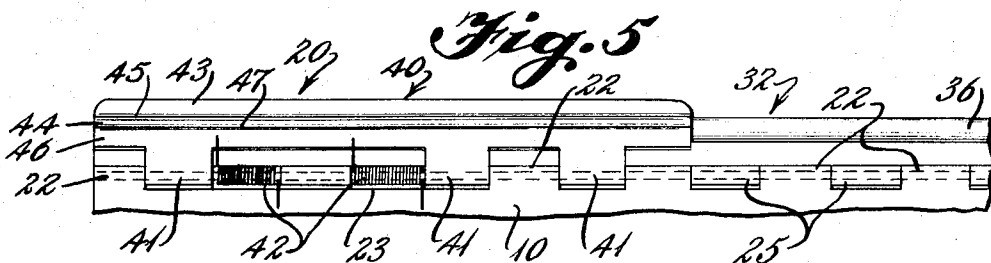
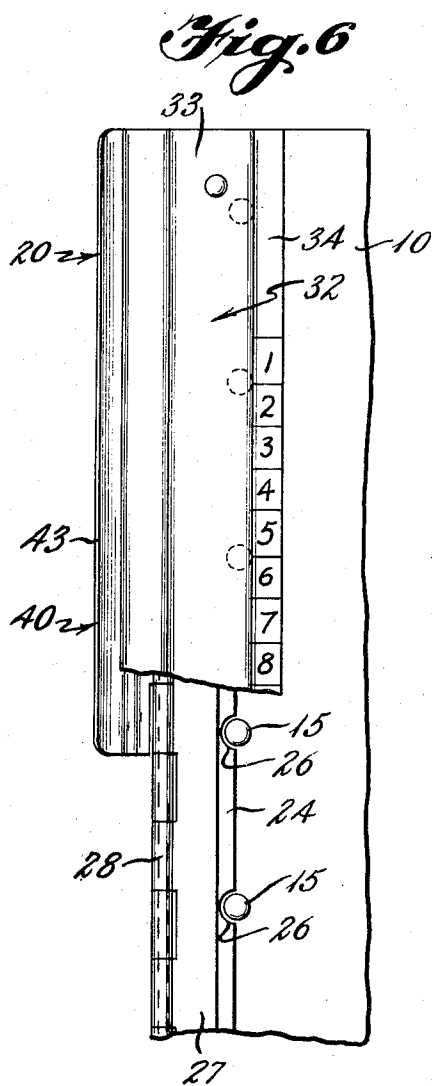
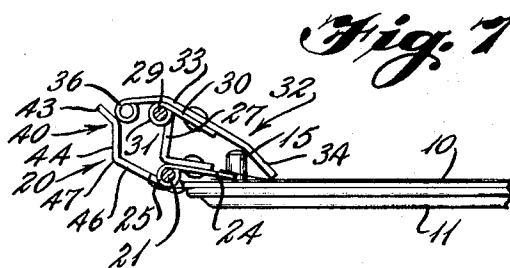
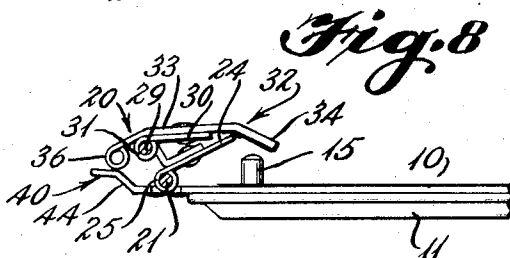
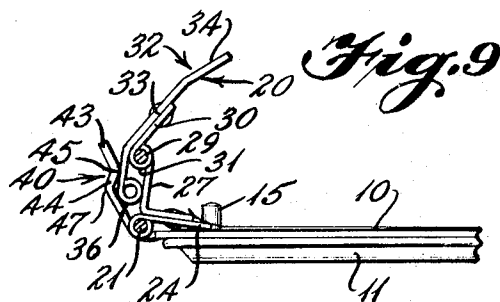
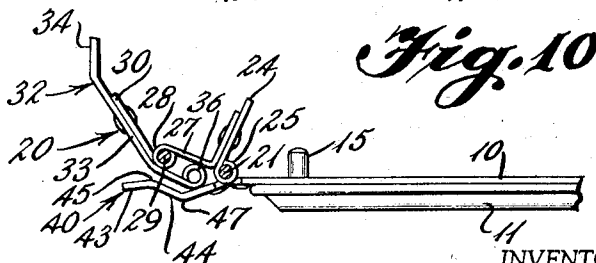


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CLAMP BOARD FOR MULTIPLE ENTRY ACCOUNTING

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to multiple entry accounting systems of various kinds and relates particularly to a clamping mechanism which will permit a plurality of accounting forms to be applied to and removed from predetermined selected positions on a clamp board having a plurality of locating pegs over which at least some of the forms are adapted to be disposed.

2. Description of the Prior Art

In the field of bookkeeping and other accounting records, it is frequently necessary to record identical information on a plurality of forms having different sizes, shapes and uses. For efficiency and accuracy it is desirable to simultaneously record the information on all forms involved.

Heretofore many efforts have been made to provide mechanism whereby multiple accounting forms can be mounted on a board in overlying position and in registration with each other; however, these prior art devices have not been entirely satisfactory since they have been complicated, expensive to manufacture and maintain, have required that the individual accounting forms be applied in a predetermined sequence particularly when using a board with a plurality of upstanding fixed locating pegs, have been so arranged that it has been difficult to disassemble and remove portions of the forms after other portions have been separated and removed therefrom, have had a single hinge about which a clamp has been adapted to rotate (in some instances a plurality of hinges have been provided, however, each hinge has operated independently of another hinge), and for other reasons have not successfully fulfilled the purpose for which they were intended.

SUMMARY OF THE INVENTION

The present invention is a clamp board for multiple entry accounting systems including a base having a clamp at one side thereof. The clamp includes a pair of spaced generally parallel upper and lower hinges with a lifter swingably mounted on the lower hinge and with a portion of such lifter adapted to support the upper hinge. A top plate is swingably mounted on the upper hinge and a spring-biased pressure plate engages the top plate in a manner to maintain the top plate in either closed position or in half open position. The baseplate may be provided with a plurality of equally spaced upstanding pegs on which ledger sheets or other accounting forms having a plurality of cooperating openings are adapted to be placed, and the lifter normally applies a downward pressure to such accounting form or ledger sheet to lock the same in fixed position on the baseplate. Certain accounting forms such as checks, receipts and the like are connected together in shingle or overlapping relationship with each other and normally are provided with perforations adjacent to one edge so that individual segments or portions can be detached from the body of the form. The body portion of a shingled form usually is provided with a plurality of openings spaced apart a distance corresponding to the spacing of the pegs and is received over such pegs and disposed on top of the lifter. The top plate normally maintains the shingled form in fixed position on the baseplate. When the clamp is opened, the lifter will automatically remove the body of the shingled form from the pegs. The clamp is designed to operate from a closed position, a quarter open position, a half open position, and a fully open position.

It is an object of the invention to provide a clamp board for multiple entry accounting systems having a pair of generally parallel hinges and adapted to be operated in a plurality of positions, including a first or closed position in which a plurality of accounting forms are locked in fixed position, a second or quarter open position from which the clamp will automatically close, a third or half open position in which the clamp will remain in open position, and a fourth or fully open position in which the clamp will automatically return to a half open position.

Another object of the invention is to provide a clamp board having a lifter which will lock certain accounting forms to the board in one position and will raise such accounting forms in another position.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view illustrating a clamp board with a clamp along one edge and with the board in extended position.

FIG. 2 is a top plan view illustrating the board in closed position.

FIG. 3 is an end view thereof.

FIG. 4 is a side elevation.

FIG. 5 is an enlarged fragmentary bottom plan view of a portion of the clamp.

FIG. 6 is an enlarged fragmentary top plan view thereof.

FIG. 7 is an end elevation illustrating the clamp in fully closed position.

FIG. 8 is an end elevation illustrating the clamp in quarter open position.

FIG. 9 is an end elevation illustrating the clamp in half open position.

FIG. 10 is an end elevation illustrating the clamp in fully open position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With continued reference to the drawings, a baseplate 10 is provided of any desired material, such as sheet metal or the like, which is bonded or otherwise attached to a flexible backing 11. A cover plate 12 of sheet material may be provided which is spaced from the base plate and connected thereto by the flexible backing 11. The backing 11 may be constructed of any desired material, such as vinyl or the like. When the device is in use, the cover plate 12 is folded outwardly to a position substantially coextensive with the base plate 10, as illustrated in FIG. 1, to support one or more ledger sheets 13 in fully open position. When the device is not in use, as illustrated in FIG. 2, the cover plate 12 is moved to a position overlying the baseplate 10 to protect the ledger sheets and other accounting forms carried by the device. The ledger sheets 13 usually are divided into rows and columns with the rows being numbered and the columns having a heading or other indicia identifying the information to be inserted therein.

Normally one or more additional accounting forms, such as a shingled form 14, is adapted to overlie the ledger sheet 13 and such shingled form is provided with transfer material on the bottom surface so that information written on the shingled form will be transferred automatically to the ledger sheet. The shingled form 14 usually includes a plurality of individual sheets such as checks, receipts and the like connected together in overlapping relationship with each other to form a body along one side and in which the individual sheets are connected to the body by a series of perforations so that each sheet can be easily detached from the body. Each of the sheets of the shingled form includes at least one line on which information is to be recorded and such line preferably is disposed over one of the rows of the ledger sheet 13.

In order to align the ledger sheet with the shingled form, one side of the ledger sheet is provided with a plurality of spaced openings and the body of the shingled form is provided with a corresponding series of openings. The base plate 10 has a plurality of upstanding pegs 15 which receive the openings in the ledger sheet and the shingled form and which maintain the same in fixed relationship with each other.

The structure thus far described is conventional in the prior art and forms no part of the present invention.

In order to lock the ledger sheets 13 and shingled forms 14 to the baseplate 10, as well as any additional papers or forms which may or may not have openings along one side, a clamp 20 is provided along one side of such baseplate. The clamp 20 includes a lower hinge pin or pintle 21 carried by a plurality of hinge members or knuckles 22 which may be formed as an integral part of the baseplate 10 or may be formed as a separate

part and welded, riveted or otherwise fixed to such baseplate. The knuckles 22 are spaced apart a predetermined distance and adjacent to each end of the baseplate 10 a recess 23 is provided within which no knuckles 22 are located. A lifter 24 having a plurality of knuckles 25 is disposed above the baseplate 10 with the knuckles 25 alternating with the knuckles 22 about the hinge pin 21. The lifter 24 extends inwardly to a position substantially along a line passing through the axis of the pegs 15, and the inner edge of such lifter is provided with a plurality of arcuate recesses 26 with one recess disposed about each of the pegs 15 so that the lifter 24 does not engage the pegs.

Attached to the inwardly extending portion of the lifter 24 is a lifter hinge member 27 which is generally angular in cross section. The upwardly extending portion of the hinge member 27 is provided with a plurality of spaced knuckles 28 which support an upper hinge pin or pintle 29. An upper hinge member 30 having a plurality of knuckles 31 disposed along one edge thereof is provided with the knuckles 31 disposed about the upper hinge pin 29 and alternating with the knuckles 28 of the lifter hinge member 27. An elongated top plate 32 is welded, riveted or otherwise fixed to the upper hinge member 30 and such top plate includes a central portion 33, an inner lip 34, and an outer lip 35 terminating in an enlargement 36. The inner edge of the lip 34 and the enlargement 36 are generally parallel with each other and parallel with the baseplate 10 so that the inner lip will engage the baseplate along substantially the entire length of the top plate.

In order to apply tension to the clamp 20, one or more pressure plates 40 are provided having knuckles 41 swingably mounted on the lower hinge pin 21. A pair of torque springs 42 are located within each of the recesses 23 and disposed about the hinge pin 21. Such springs are adapted to have one end bearing against the baseplate 10 and the other end bearing against the pressure plate 40 to urge such pressure plate against the top plate 32. As illustrated, a pair of pressure plates are provided with one of the plates being located adjacent to each end of the baseplate 10. Each of the pressure plates includes an upper portion 43 connected to an intermediate portion 44 along a bend line or shoulder 45 and the intermediate portion is connected to a lower portion 46 along a bend line or shoulder 47. The upper portion 43 and the lower portion 46 are substantially parallel to each other and are connected by the intermediate portion 44.

In the operation of the device, when the clamp is in closed position, the upper portion 43 of the pressure plates will engage the enlargement 36 of the top plate and will apply an upward and inward force to cause the inner lip 34 of the top plate to extend over the pegs 15 and clampingly engage the accounting forms carried by the baseplate 10.

When it is desired to move the clamp 20 to a quarter open position, as illustrated in FIG. 8, a downward pressure and a pressure to the left are applied to the top plate 32 to cause the lifter 24 to swing in a counterclockwise direction around the lower hinge pin 21 to cause the lifter 24 and the upper hinge pin 29 to pivot about the lower hinge pin 21 until the inner edge of the lifter engages the underside of the top plate 32. Movement of the upper hinge pin 29 will raise the inner lip 34 of the top plate out of engagement with the baseplate 10 so that accounting forms can be inserted under the top plate and moved to a position abutting the pegs 15. When the downward pressure is relieved on the top plate 32, the springs 42 and pressure plates 40 will return the top plate 32 to a position where the lip 34 will clamp the accounting forms against baseplate 10 and in abutting relationship with the pegs 15.

To move the clamp to a half open position, a downward pressure is applied to the outer lip 35 of the top plate to cause the top plate to swing about the upper hinge pin 29 so that the enlargement 36 passes the shoulder 45. Initial downward movement of the outer lip 35 will force the pressure plate 40 to the left, as illustrated in FIG. 9, against the tension of the springs 42 but as soon as the enlargement 36 has passed the shoulder 45, the intermediate portion 44 and the lower por-

tion 46 of the pressure plates will force the enlargement 36 to the right against the lifter hinge member 27 and cause the clamp to snap open. When the downward pressure on the top plate is relieved, the clamp will remain open due to the pressure of the pressure plates 40 so that the operator can use both hands to apply an accounting form to the pegs 15 and on top of the lifter 24. It is noted that in this position the lifter 24 has not moved and is still in engagement with the baseplate 10. To close the clamp from the half open position, pressure to the right is applied to the central portion 33 and inner lip 34 of the top plate to cause the top plate to swing about the upper hinge pin 29 until the enlargement 36 passes the shoulder 45 of the pressure plates at which time such pressure plates will cause the clamp to snap closed. The angle of the upper portion 43 of the pressure plate is designed so that the pressure plate partially locks the top plate 32 in closed position so that shingled forms may be detached from the body without moving the clamp from the closed position.

In order to move the clamp to a fully open position, the clamp first is moved to a half open position, as previously described, and thereafter pressure to the left is applied to the inner lip 34 of the top plate 32, as illustrated in FIG. 10. Since the enlargement 36 is in engagement with the lifter hinge member 27, the top plate 32 cannot rotate further in a counterclockwise direction and therefore the axis of rotation will automatically be transferred to the lower hinge pin 21 so that the lifter 24 and lifter hinge member will swing in a counterclockwise direction about the lower hinge pin to raise the lifter 24 out of engagement with the baseplate 10. Upward movement of the lifter 24 will automatically strip any accounting forms above the lifter from the pegs 15 and simultaneously will permit ledger sheets or other accounting forms which normally are below the lifter to be removed from or applied to the pegs 15. When the pressure to the lifter is relieved, the torque springs 42 and pressure plates 40 automatically will return the clamp to the half open position with the lifter 24 bearing against the baseplate 10.

I claim:

1. A clamp board for multiple entry accounting systems comprising a base for supporting a plurality of accounting forms, a first hinge means mounted on said base, lifter means swingably connected to said first hinge means, said lifter means having a first portion normally located above at least certain of the accounting forms on said base and a second portion disposed at an angle to said first portion, a second hinge means mounted on the second portion of said lifter means in spaced relation to said first hinge means, an elongated top plate having spaced edges and being swingably mounted on said second hinge means intermediate said edges, one of the edges of said top plate normally located above other of the accounting forms, pressure plate means having first and second portions and being swingably mounted on said base, means for urging said pressure plate means against the other edge of said top plate, the first portion of said pressure plate means normally adapted to engage said other edge of said top plate and exert a force thereon to cause said one edge and the first portion of said lifter means to clamp all of the accounting forms on said base, the second portion of said pressure plate means adapted to selectively engage said other edge of said top plate when the top plate is swung in one direction about said second hinge means to hold said top plate in nonclamping position with said lifting means in clamping position, whereby said other accounting forms are released by swinging said top plate about said second hinge means, and said certain accounting forms are released by swinging said top plate with said lifter means about said first hinge means.

2. The structure of claim 1 including a plurality of pegs mounted on said base, said pegs being in spaced generally parallel relationship with said first hinge means, and the first portion of said lifter means terminating adjacent to said pegs, whereby accounting forms mounted on said pegs and located above said lifter means will be stripped from said pegs when said lifter means is swung about said first hinge means.

3. The structure of claim 1 in which the second portion of said pressure plate means urges said other edge of said top plate against said lifter means when the top plate is swung in the one direction, whereby continued movement of said top plate in the same direction causes said lifter means to swing 5 about said first hinge means.

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