

H. M. GEIGER.
MANUAL RECORDER AND CASH DRAWER.

No. 496,733.

Patented May 2, 1893.

Fig. 1.

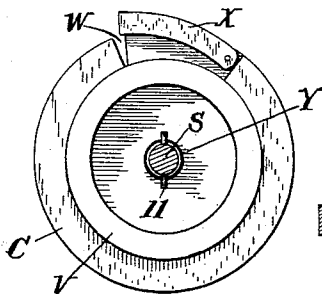
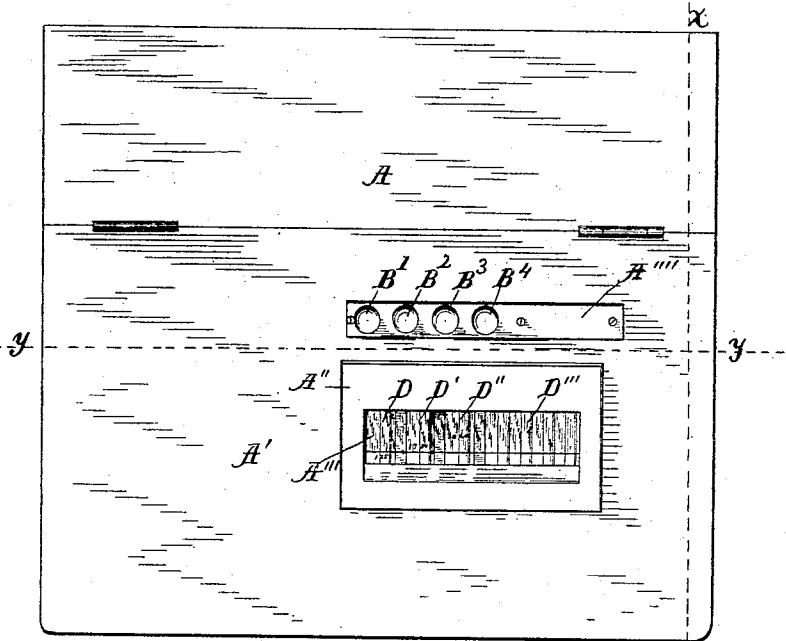


Fig. 8.

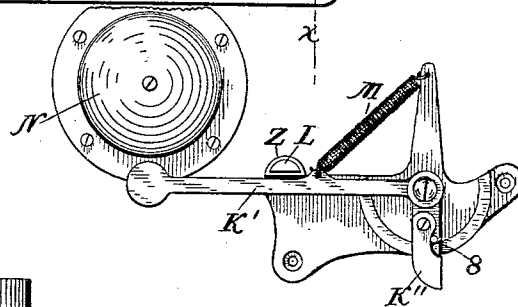


Fig. 9.

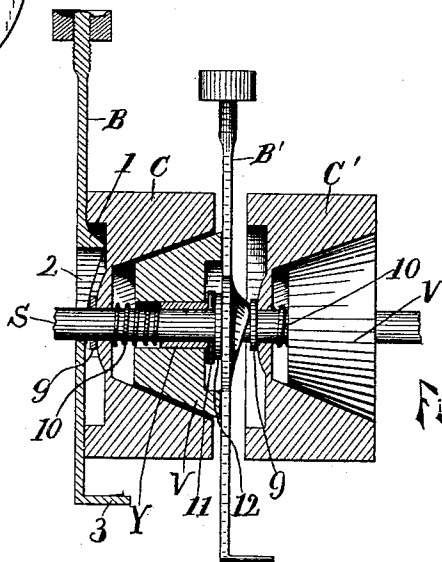


Fig. 7.

WITNESSES:

L. O. Sprout
M. E. Brancy

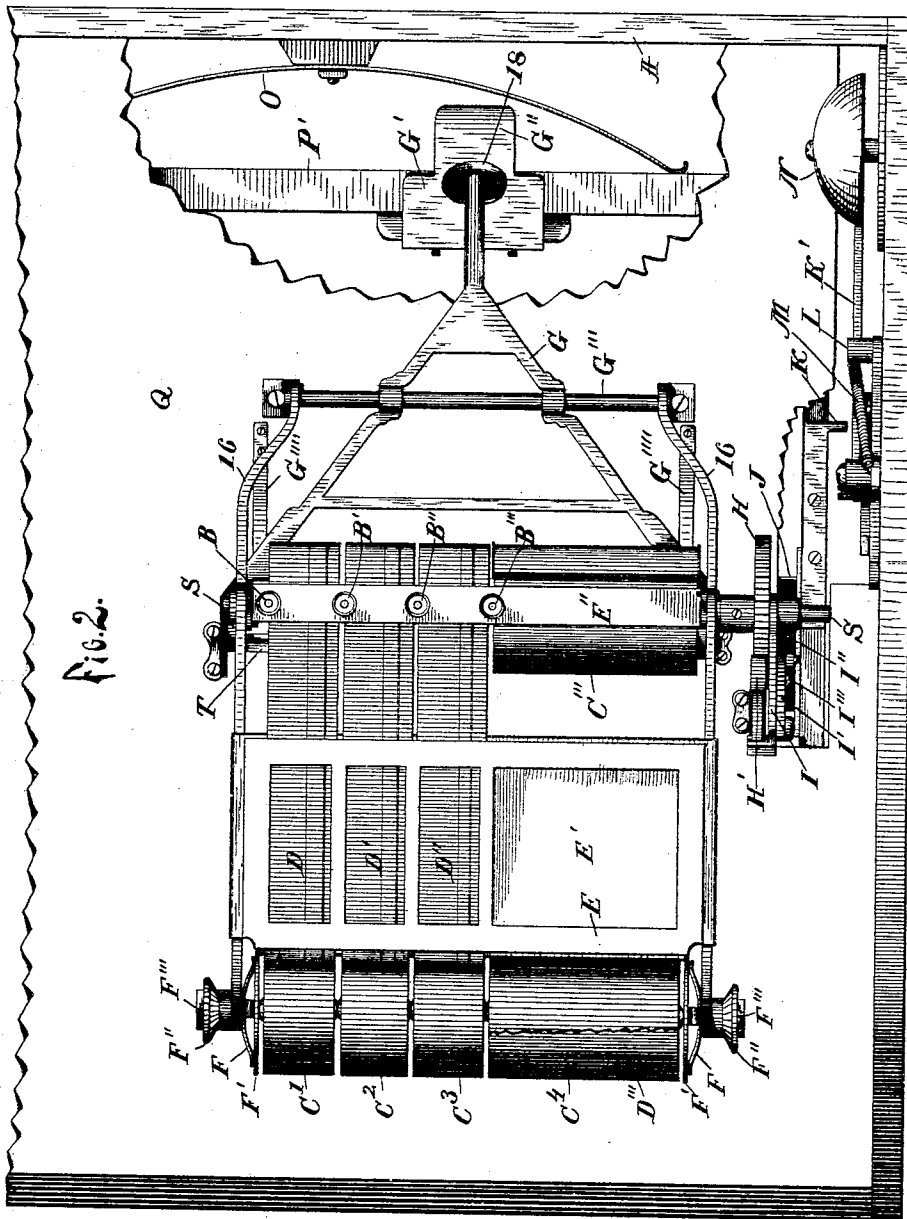
INVENTOR

Harry M. Geiger
BY
Edward Taggart
his ATTORNEY.

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WITNESSES:
S. O. Sproat
M. E. Heaney

INVENTOR
Harry M. Geiger
BY
Edward Taggart
his ATTORNEY.

(No Model.)

3 Sheets—Sheet 3.

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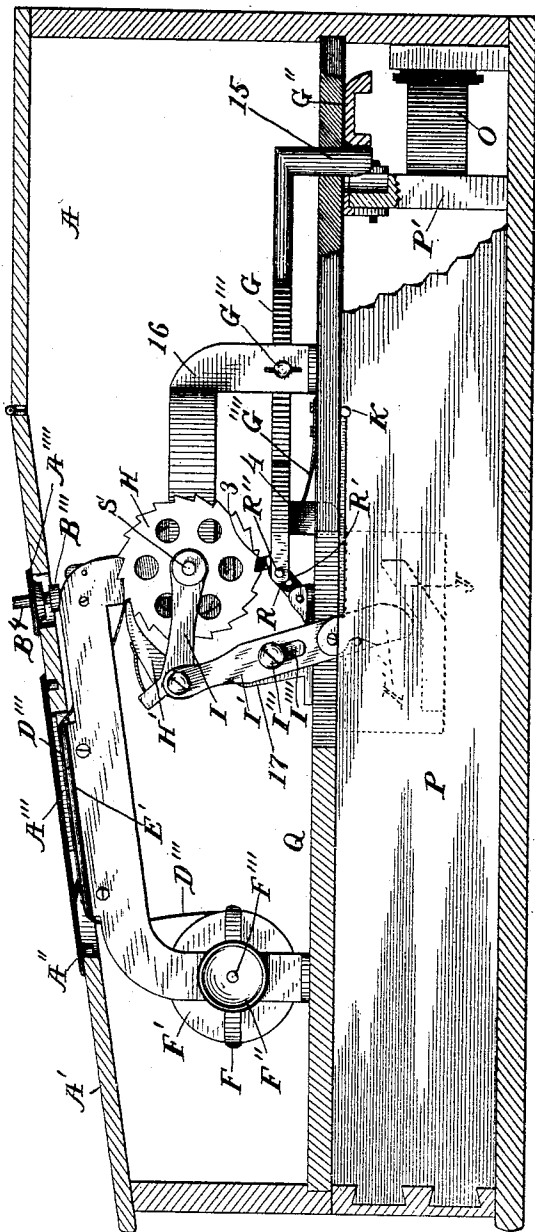


Fig. 3.

WITNESSES:
L. O. Sproat
M. E. Heaney

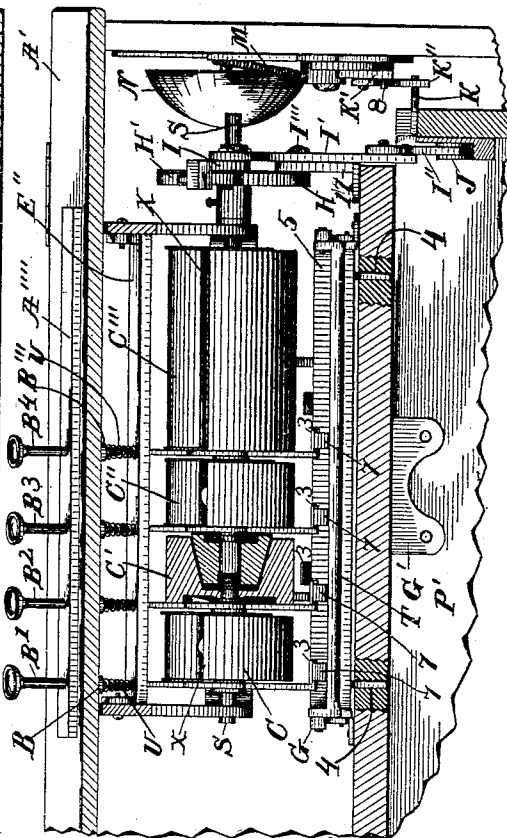


Fig. 6.



Fig. 5.

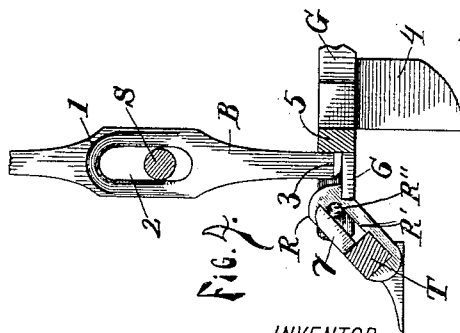


Fig. 4.

INVENTOR
Harry M. Geiger
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UNITED STATES PATENT OFFICE.

HARRY M. GEIGER, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF
TO DANIEL E. CORBITT, OF SAME PLACE.

MANUAL RECORDER AND CASH-DRAWER.

SPECIFICATION forming part of Letters Patent No. 496,733, dated May 2, 1893.

Application filed December 27, 1892. Serial No. 456,403. (No model.)

To all whom it may concern:

Be it known that I, HARRY M. GEIGER, a citizen of the United States, residing in the city of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Cash-Drawers and Recorders, of which the following is a specification.

My invention relates to a new and improved cash drawer and recorder provided with spools containing strips of paper or other suitable material for receiving written words and figures and suitable mechanism for unlocking a cash drawer and revolving the spools separately as hereinafter more fully described; and the objects of my invention are: first, to combine a plurality of spools, each spool containing a roll of paper with a plurality of keys and a cash drawer in such a manner that the depression of any key will unlock the drawer and at the same time advance the spool and roll of paper corresponding to the particular key depressed; second, to provide a cash drawer having a plurality of spools containing paper, and a plurality of keys, each key adapted to advance its corresponding spool of paper without affecting in any manner the other spools; third, to enable the user of the cash drawer to assign to each of several clerks a particular spool of paper upon which he alone is to make his entries thereby making each clerk responsible for the entries made on any one strip of paper; fourth, to prevent the occurrence of blank spaces in the columns of entries by providing means for advancing only the paper upon which the entry has been made; fifth, in using only such amount of paper as may be actually filled with written words or figures; also other objects hereinafter more fully pointed out. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure (1) is a plan view of a case containing my invention, showing the operating keys, and opening with the sections of paper upon which the entries are to be made, exposed. Fig. (2) is a plan view with the cover or lid removed and with a part of the supporting partition cut away, in order to show the mechanism for operating the spools upon which the paper or analogous material is wound.

Fig. (3) is a vertical sectional view on line $x-x$ of Fig. (1) looking toward the spools. Fig. (4) is an end view of a portion of the dog, lower section of the finger bar, and connected mechanism. Fig. (5) is an edge view of one of the lower sections of a finger bar detached. Fig. (6) is a sectional view on line $Y-Y$ of Fig. (1). Fig. (7) is a longitudinal section of two of the spools with means for connecting the spools with and disconnecting the same from the shaft. Fig. (8) is an end view of a spool showing the method of attaching the paper to the spool; and, Fig. (9) shows a detached view of the alarm.

Similar letters and figures refer to similar parts throughout the several views.

A represents a box or case of any suitable form adapted to contain the cash drawer and working mechanism of the machine.

A' represents a lid or cover; A'', a plate in the lid or cover.

A''' is an opening in the plate A'' for exposing a small portion of the paper on each spool in order to allow space for the entry or record of sales. The plate A'' may be dispensed with and the opening made in the lid or cover without a plate. A glass cover is preferably used to partially cover the opening, leaving only a narrow space for the entry of sales, and at the same time exposing to view one or more of the previous entries.

A'''' is a plate for the keyed finger bars, which plate may also be dispensed with. The finger bars I prefer to make in sections, the upper sections being movable with the lid, while the lower sections remain stationary. This construction is merely a matter of convenience. The upper sections are shown by B¹, B², B³, B⁴, and are each preferably provided with an enlargement resembling the key of an ordinary typewriter, and may be properly called keys. The lower sections are shown by B, B', B'', B'''. The upper sections engage with the lower sections so that the depression of B¹ depresses B and the depression of B² depresses B', &c. The upper ends of the lower sections are preferably each provided with an enlarged upper end, as shown in Fig. (7), in order to make a surer engagement between the upper section and the lower section.

By means of the construction above de-

scribed the upper sections of the finger bars are lifted with the lid or cover, and therefore, offer no obstacle in examining the inside of the case.

5 The lower section of the finger bar, in the example of my invention illustrated in the drawings, is provided with a slot 2, through which slot passes the main shaft S., the slot allowing for the longitudinal movement of the finger-bar. Each finger bar is provided with a foot 3, adapted to depress the dog, as hereinafter described, and also, provided with the wedge or cam 1, as shown in Fig. (7) adapted to move the spool into operative connection with the shaft S.

15 C, C', C'', and C''', are the spools upon which the paper strips are rolled after the entries are made; and C¹, C², C³ and C⁴ are paper holding spools.

20 D, D', D'' and D''', represent the paper strips. I have shown four of these strips, but it is evident that the number of spools and the number of strips may be varied. The paper strip is attached at one end to the spool. I have shown in Fig. (8) a convenient method of making such an attachment.

25 W shows a wedge-shaped slot or opening, and X a pivoted latch having a straight side adapted to fit into the slot W, in such a manner as to retain the end of the paper securely in the slot.

E' is a plate beneath the paper supporting the same so that it may be written upon; and E is a guide frame for guiding the paper strips.

35 E'' is a bar extending across frame 16—16, and serves as a stop for the springs U, U', U'', U''', and also as a guide for the finger bars. The springs U, U', &c., serve to raise the finger bars to normal position after being pressed downward.

40 F—F are compression springs serving to press together the paper spools C¹, C², C³, C⁴, in order to create a sufficient tension on the paper to keep it taut.

45 F—F are disks forming abutting surfaces for the action of the springs.

F''—F'' are thumb nuts for adjusting the spools upon the shaft.

50 F''' is the shaft which supports the paper spools.

Beneath the paper spools I place a dog or detent G which is fulcrumed upon the rod G'''. The rear end of the dog G is bent downward as shown by 15, and passes through an opening in the locking plate G' (see Figs. 2 and 3). The plate G' has an opening preferably beveled at its upper part as shown. The bent part 15 of the dog is also preferably beveled near its end; the object of beveling the end of part 15 is to facilitate the removal of the dog from its locking position. The plate G' has a longitudinal surface G'' between the opening and its rear end. The object of this horizontal surface is to hold the front end of the dog down while the plate is passing under the rear end of the dog as the

drawer is moved out of the case, the plate G' being attached to the drawer, preferably to its rear end P'. Above the drawer, which is shown by P, is the horizontal partition Q, 70 which partition supports the dog, the paper spools and their operating mechanism.

G''' are springs which return the dog to its locking position after it has been unlocked by the depression of the finger bars. In order to assist the springs I sometimes use lugs 4—4. The lugs 4—4 are beveled and adapted to engage with the money drawer; the form of the lugs 4—4 and the attachment to the dog are shown in Fig. (4.) 80

O is a spring which pushes the drawer P outwardly as soon as it has been released by the lifting of the rear end of the dog. The shaft has rigid with it the ratchet wheel H, which is operated by means of the pawl H', 85 which pawl is supported upon the pivoted arm I. The arm I is pivoted preferably upon or substantially in a line with the end of shaft S, at one end, and at the other end is pivoted to the push rod I'; the same pivot may be used for attaching the arm I to the push rod I' and to the pawl H'. The push rod is preferably provided with a slot I''', and a bolt or pin I'', passing through the slot into the frame 16. To the lower end of the push rod 95 is a latch I'' which swings freely in one direction, but is made rigid by a pin so that it cannot swing in an opposite direction.

J is a cam attached to the drawer P, which engages with I'' when the drawer is moved outwardly. At the front end of the dog is a transverse bar 5 connecting the forked side pieces of G and provided with one or more lugs 6—6, &c., preferably one for each finger bar, and the foot 3 of the finger bar, when the bar is depressed, comes in contact with one of the lugs 6, as shown in Fig. (4) and depresses the front end of dog G, raising the rear part 15 from its locking position. 100

T is a lock bar supported at either end by suitable journals, and also provided with a slotted arm at either end, shown by R. The arms R are rigid with T, and are each provided with a slot R'. The dog has two projecting arms each provided with a pin R'', 115 moving in the slot. The construction is shown in Fig. (3). The lock-bar T is provided with lugs 7, 7, 7, 7, one for each finger bar. As the front end of the dog turns from G''' as a center, and the lugs 7, 7, 7, 7, turn from T as a center, a much shorter distance, the front end of the dog G is depressed, and the lugs 7, 7, &c., will be carried toward the lugs 6 on the dog, and being above them will be carried over them. Thus, if the finger-bar is depressed, its foot 3 will press downward upon lug 6, as shown in Fig. (4), and depress the lug, and the front end of the dog to the position shown in Fig. 6, when the lug 7 on the lock-bar T will pass above the foot 3, and lock and 120 retain the finger-bar down until the dog is released at its rear end from the surface G''— 125 130

that is, when the foot of the finger-bar has depressed the front end of the dog by pressing upon the lug 6, the pins R'' moving downward in the slots R' turning down the lock bar T with its lugs 7, 7, &c., one of which lugs is brought over the foot 3 of the depressed finger bar. The front end of the dog being depressed its rear end 15 is raised out of its locking position, and as the drawer moves forward the lower end of 15 rests for a moment upon the flat surface G'', which holds the depressed finger bar down until G'' is passed over by the part 15, or more strictly, until the surface G'' has passed beyond 15, when the dog and depressed finger bar return to normal position. The object of this arrangement is to allow the depressed finger-bar to retain the rigid connection between its adjacent paper spool and shaft S, until the dog and ratchet-wheel have moved the spool. As the finger-bar is depressed (see Fig. 7) the cam surface 1 bears against a washer 9, which in turn bears against the spool C, pressing the same into engagement with the cone V, thus temporarily attaching C and V. The cone V is provided with a bushing Y, which is made rigid with the shaft S, by means of a pin or key 11. A washer 12 is preferably used between pin 11 and the finger-bar, and acts as a guide for the bars.

10, 10 are springs, one for each spool, adapted to disconnect the friction clutch when the finger-bar is raised. The form of clutch may be varied without departing from the spirit of my invention.

Attached to and moving with the drawer is a trip K, which, as the drawer is moved outwardly, engages with and operates the alarm. A plate is attached to the case by any suitable means, and a bent arm pivoted at its elbow to the plate forms the striker. This is shown by K'. The swinging latch K'', pivoted to the striker K' engages with a trip K as the drawer is moved outwardly drawing the striker away from the alarm bell N, until the trip K passes a sufficient distance to become disengaged from the pivoted latch K'' with the spring M (see Fig. 9) by its tension brings the striker in contact with the bell and gives the alarm. A stop pin 8 prevents the pivoted latch K'' from moving in any one direction without moving the striking arm, but as the drawer is shoved into the case the latch K'' swings upward and passes over the trip K, and again drops down into position to again operate the alarm mechanism as soon as the drawer is again opened.

L is a stop for limiting the movement of the striking arm, and it is preferably provided with an elastic covering shown by Z.

The drawer being closed and locked, let the operator make his entry upon any one of the paper strips—for example, upon strip D. Then in order to open the drawer, he depresses the finger-bar B, when the cam surface (1) of the finger-bar bearing against the washer 9

moves the spool C into engagement with cone V, thus attaching the spool C through the cone V to the shaft S.

In Fig. (7) B shows the position of the finger-bar before it is depressed, and B' shows one of the finger-bars depressed to a point which completes the coupling between the spool and cone. As the finger-bar is depressed, its foot 3 comes in contact with the lug (6), bearing down the front end of the pivoted dog G and lifting its rear end 15 from its locking position allowing the spring O to open the drawer. The depression of the front end of the dog, turns locking bar T and one of the lugs 7 moves over the foot 3, thereby preventing the depressed finger-bar from again rising until the front end of the dog is again raised. The part 15 of the dog being raised is held up by the horizontal surface G'' until such surface has been carried beyond 15 by the movement of the drawer, when the spring G''' returns the dog to its normal position, and the spring U raises the depressed finger-bar, and the spring 10 disconnects the engagement between the spool and the shaft S. Upon the lifting of the part 15 of the dog G, from its locking position, and as the drawer moves outwardly, cam J is brought in contact with latch I'' of the push rod I', giving it a longitudinal movement, and lifting the arm I with its pawl H' which engages with a ratchet-wheel H, turning H one notch forward, and with it the shaft S, and the paper spool, which has been temporarily connected to the shaft S, by the depression of the finger-bar, thus advancing the paper upon which the entry has been made. This completes the operation of this part of my invention, and the replacement of the drawer in its locking position leaves the parts in normal position to be again used. When the alarm is used the operation of the parts are as above described, and as the drawer is moved outwardly, the trip K comes in contact with the latch K'', turning the striker K' away from the bell until the trip has passed the latch and released the same; whereupon the spring M acts to give the bell a quick stroke from the striking arm as above described. The mechanism composing the alarm is so placed that the alarm is given almost immediately after the drawer is unlocked.

I have described above my preferred form of mechanism, but it will be evident that changes in form may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim to have invented, and desire to secure by Letters Patent, is—

1. The combination of a movable drawer, a frame or case supporting such drawer, and a plurality of spools adapted to contain strips of writing material, each spool moved independently by the movement of the drawer, for the purpose specified.

2. The combination of a drawer, a plurality of spools, a plurality of paper strips adapted

each to receive a column of figures, and suitable mechanism for connecting any one of such spools to the movable drawer whereby it may be moved independently of the other spools, for the purpose specified.

3. The combination of a movable drawer, a plurality of spools for containing paper strips, a plurality of strips, and a plurality of finger-bars, each bar adapted to make suitable mechanism between the drawer and one of the spools, thereby advancing a single strip of paper independently, substantially as described.

4. The combination of a movable drawer, a case supporting said drawer, a plurality of spools bearing paper strips, a plurality of paper strips; a plurality of finger-bars, a locking dog and connecting mechanism whereby the depression of any one of the finger-bars unlocks the dog and allows one of the spools to be advanced with its paper strip independently of the other spools, for the purpose set forth.

5. The combination of a case, a movable drawer, a plurality of spools, a plurality of paper strips supported by the spools, a plurality of finger-bars, a locking dog and mechanism for advancing the spool operated upon by the depressed finger-bar independently of the other spools, for the purpose specified.

6. The combination of a supporting case, a movable drawer, a plurality of spools supported loosely upon the shaft, a shaft supporting such spools, and a plurality of finger-bars, each bar adapted, when depressed, to attach rigidly its corresponding spool to the shaft, for the purpose specified.

7. The combination of a supporting case, a movable drawer, a plurality of spools mounted, when in normal position loosely upon a shaft, a revolving shaft, a plurality of finger-bars, each bar when depressed, attaching its corresponding spool to the shaft so that such spool will revolve with said shaft, and suitable mechanism operated upon by the drawer to give an intermittent movement to the shaft and attached spool, for the purpose specified.

8. The combination of a movable drawer, a plurality of spools, a plurality of strips supported by such spools, a shaft upon which the spools are loosely supported, a locking dog, a plurality of finger-bars, each bar provided with suitable bearing whereby the depression of any one of the finger-bars unlocks the dog allowing the drawer to be opened, and immediately preceding the unlocking of the dog, attaches its corresponding spool to said revolving shaft, whereby the spool is advanced for the purpose specified.

9. The combination of a supporting case, a movable drawer, a plurality of spools normally loosely supported upon a shaft, a pivoted dog, a plurality of finger-bars, each bar

adapted as it is depressed, to unlock the dog and to connect its corresponding spool to the shaft, a ratchet-wheel upon said shaft, a pawl adapted to engage with said ratchet-wheel, a cam on the drawer, and a push rod moved by said cam to give an intermittent movement to the shaft for the purpose of advancing one of the paper strips, substantially as described.

10. In combination with a pivoted dog, substantially as described, a locking bar having a plurality of lugs, a plurality of finger-bars, each bar adapted to depress the front end of the locking dog, a locking plate having a smooth surface, as G'' adapted to hold the dog unlocked, and a depressed finger-bar in its depressed condition while the surface is moved beneath the rear end of the locking dog, substantially as and for the purpose specified.

11. In combination with a pivoted locking dog, a movable drawer, a plurality of spools, a plurality of paper strips, a shaft upon which said spools are loosely supported, mechanism for attaching any one of such spools independently to the said shaft, and mechanism for revolving the shaft by the opening of the drawer, substantially as described.

12. The combination of a movable drawer, a plurality of independently moving spools, each spool supporting a strip of paper, a shaft upon which such spools are loosely supported, means for attaching said spools severally to said shaft, a locking dog, means for locking said dog, a spring adapted to move the drawer outwardly as soon as released by the dog, a ratchet-wheel on said shaft, a pawl engaging with said ratchet-wheel, supporting mechanism for said pawl, and a cam on the moving drawer adapted to operate said pawl mechanism, and give an intermittent movement to the shaft and to the paper spools attached rigid thereto, for the purpose described.

13. The combination of a movable drawer, a supporting case, a pivoted dog, a plurality of paper supporting spools loosely supported on a revolving shaft, a plurality of finger-bars adapted severally to temporarily connect one of the spools rigid with the shaft, and to unlock the locking dog, a locking bar having a plurality of locking lugs, a locking plate, having a surface as G'' adapted to retain the dog out of locking position, and a locking bar in locking position during the movement of the plate G'' beneath the end of the dog G, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

HARRY M. GEIGER. [L. s.]

Witnesses:

EDWARD TAGGART,
ARTHUR C. DENISON.