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WORK WEB FEEDER FOR TYPEWRITING MACHINES

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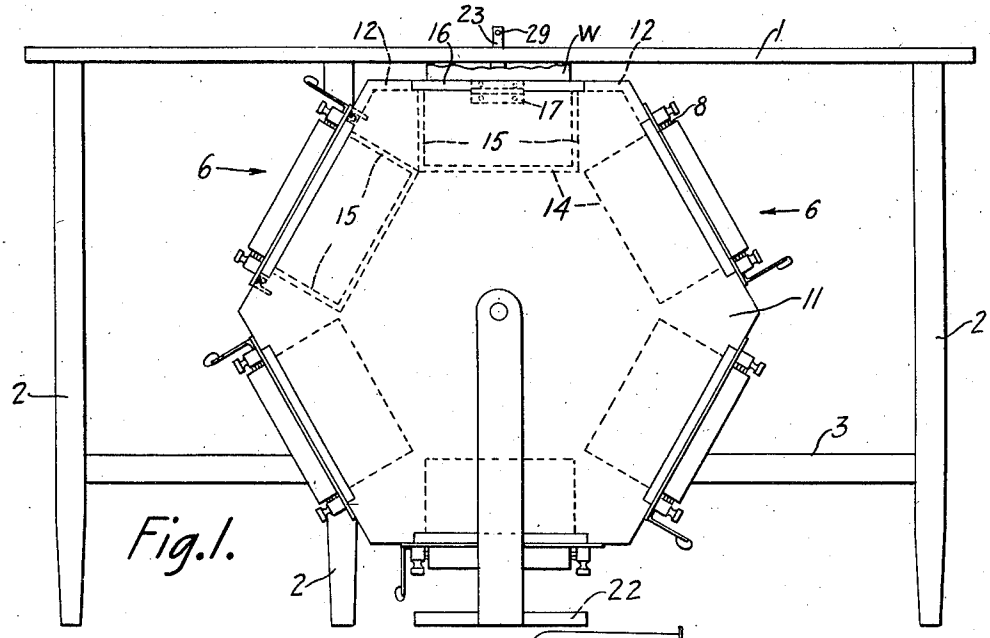


Fig.1.

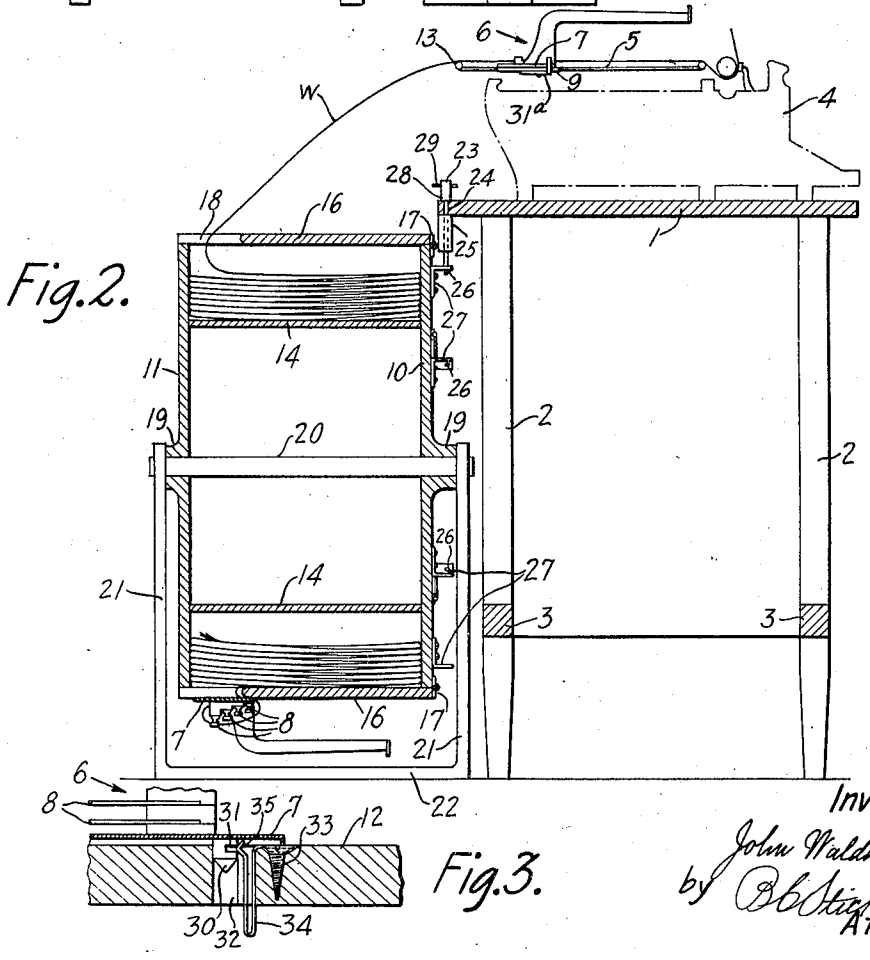


Fig.2.

Fig.3.

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WORK-WEB FEEDER FOR TYPEWRITING MACHINES.

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The present invention relates to an improved work support to be used in connection with continuous billing typewriting machines, one form of which is shown in the patent to Wernery & Smith, No. 1,132,055, granted March 16, 1915.

In a machine of this type, a work web comprises several layers or plies, each provided with printed forms constituting one piece of work, which, when completed, may be torn from the continuous web. Carbon-sheets interleaved between the plies are mounted on a carbon carriage, so as to advance with the web toward the platen while typewriting, and so as to be drawn back by the carbon carriage into the succeeding form-section of the web after the leading form-section has been typed, and prior to detachment from the web of such leading form-section.

To save time and trouble in substituting a work web of one style for that of another, the carbon-sheets, as shown in United States Letters Patent to Fortin, No. 1,237,319, granted August 21, 1917, are not directly attached to the carbon carriage in the machine, but are attached to a plate or holder which is detachably secured to the carbon carriage so that a carbon sheet-holding plate for any web, with the carbon-sheets in place in the folds or plies of that web, may be removed as a unit from the carbon carriage, and another carbon-sheet-holding plate, with carbon-sheets already interleaved with the folds or plies of the desired web, substituted therefor. Containers or cabinets for the several webs and their respective carbon-sheet-holding plates and interleaved carbon-sheets, have heretofore been devised to provide for a feed of the web from its container to the carbon carriage of the typewriting machine, when the sheet holder shall have been placed on the latter. Accessibility, easy manipulation in positioning the container for feed of the web, and large web capacity in small space, are among the principal desiderata of such web-containers.

More particularly the present invention relates to a web-container or magazine comprising a plurality of web receptacles or compartments, preferably adapted to be set as a unit in working position behind the stand or desk for the typewriting machine, and which has its web receptacles disposed around an axis on which the container as a whole may be revolved to bring any compartment thereof to web-feeding position.

A feature of the present invention is a revoluble web-container, one advantage of which is that it may be set snugly to the back of the typewriter stand or desk and may be revolved or moved in a plane parallel thereto. Because it revolves in a plane parallel to the back of the stand, the container may be of large web capacity and yet extend back but little from the stand; it may be set close to the stand without in part projecting thereunder, and may, therefore, be applicable to stands or desks with closed backs as well as to those which are open at the back below the table top. The web may be fed from the topmost compartment of the container, with a minimum of bending and friction, directly over the rear of the stand, to the carbon carriage on the typewriting machine.

Another feature of the invention is the provision of means whereby the web receptacles not in use may be allowed to turn upside down or to any other angle, according to the extent of rotation of the container, without loss of the webs therefrom. In this connection, the invention provides for a closing of the web passages and covers of the receptacles not in use; and, in its preferred form, the invention contemplates the use of the idle sheet-holding plates as the closures for the web passages and covers of their respective web receptacles. Furthermore, since the web receptacles may be turned at all angles, a feature of the invention is the provision of means for holding the idle sheet-holding plates against displacement on the container; and, in this connection, a feature of the invention, in the prefered embodiment thereof, is the use, as the means for holding the idle sheet-holders in place on the container, of the same means which the sheet-holders carry for securing them to the carbon carriage.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a rear view of the web-container or cabinet in operative or effective position at the rear of the typewriter stand or desk.

Figure 2 is a view in central cross-section through the web cabinet and typewriter stand; the typewriter being indicated on top

of the stand with a carbon-holder in position thereon, and the web from one of the compartments being shown connected to the carbon-holder on the typewriter.

Figure 3 is a detail view, showing the attachment of the carbon-holder to the top of its web compartment when not in use.

Referring to the drawings, the typewriter stand is indicated by a top or table piece 1, legs 2 and suitable braces 3. It will be understood that the stand or desk may be of any style which permits feed of the web from the rear thereof to the typewriter.

A typewriter 4 is indicated in dotted lines on the stand. The particular style of typewriter, here intended to be shown as illustrative of the invention, is that disclosed in United States Letters Patent to Fortin, No. 1,237,319, of August 21, 1917, in which the carriage of the typewriting machine has attached thereto a rearward extending table 5 on which a carbon-holder 6 is adapted to move with the carbons and web toward the platen as the carbons and web have their line-feed movements around the platen, and which is adapted to be moved backward with the carbons to draw the carbons into another web-section after the leading web-section has passed around the platen. It is unnecessary here to describe in detail the structure of the table on which the carbon-holder operates, reference being made to the aforesaid Fortin patent for such description thereof as may be desired. It will suffice here to say that the carbon-holder of the Fortin patent comprises a plate 7 carrying a number of clips 8, each of which clips is secured to the plate 7 and adapted to engage and hold the rear end of a carbon-sheet, the several clips being stepped up one from another more conveniently to enter and slide in the folds of the web. The carbon-sheet-holding plate, with the carbons attached thereto and interleaved with the web folds, is detachably secured to a carriage 9, which moves therewith on the table 5 to and from the platen, as above described. This detachability of the carbon-holders permits the same to be interchangeable; that is to say, permits a carbon-holder, with carbons interleaved with a web of one character, to be substituted for any other carbon-holder, or the attached carbons and web, which may be in the machine at the time, thus avoiding the necessity, at the time of substituting one web for another, of interleaving the desired web with a set of carbons and of attaching the latter to the carbon-holder. In other words, each of the manifold webs which the operator may be called upon to use has its carbons interleaved therein and attached to one of the several carbon-holders. The carbon-holder of the selected web is then substituted for the carbon-holder of the web which may be in the machine.

The cabinet or container for the several webs with their carbon-holders is multiplex, there being provided a compartment for each web and means for holding the carbon-holder when not in use. When the carbon-holder for the selected web is in position in the typewriting machine, and as the forms or sections of the webs are successively used in the typewriting machine, the web is fed from its compartment in the cabinet or container, over a guide rail 13 on the table 5 to the carbon-sheet-holder on the carbon carriage 9, and thence to and around the platen, where the written sections are detached as the work progresses.

The multiplex container or cabinet for the webs is shown in the drawings as a drum of hexagonal outline, comprising front and rear plates 10 and 11, and peripherally-arranged corner plates 12, which are set between, and hold together, the plates 10 and 11 between the several web compartments. Each web compartment consists of a box having a bottom 14 and side-pieces 15 set in between the front and rear plates 10 and 11 in such manner that the latter plates form the end walls of the compartment. The top of the compartment consists of a member 16, hinged at 17 to the front plate 10, and set in between the corner pieces 12 on either side thereof. The compartment-covers 16 are preferably flush with the stays or corner pieces 12, as shown in Figure 2, and rest at their free ends on the rear plate 11. Each cover-piece 16 has a slot or opening 18 through which the web may be fed to the typewriting machine. The covers 16 are opened to remove or insert web bundles or packs.

The plates 10 and 11 have centrally-located hubs 19 to serve as bearings for a shaft 20, on which the drum is adapted to rotate. The shaft 20 is supported upon and has bearings in standards 21 which form a yoke with a base-piece 22, upon which the entire web cabinet or container is supported. The standards 21 are preferably integral with the base-piece 22, but may be secured to the latter in any suitable manner, and are shown as substantially flush with the outside faces of the hubs 19, so as to hold the drum against movement lengthwise of the shaft 20, and so as to form external braces for the plates 10 and 11 of the drum. The box-bottoms 14 and side-members 15 are shown as extending from the front plate 10 to the rear plate 11 of the drum, and so assist the corner pieces 12 as braces or stays to prevent collapse of the structure.

As shown in the drawings, the web cabinet, magazine or container, when positioned for use, is set snugly to the back of the stand or desk with its front and rear plates 10 and 11 parallel to the back thereof. Therefore, it occupies little more space to the rear of

the desk than that defined by the length of one of the web-sections or form-pieces. After being properly positioned behind the stand or desk, the drum is held against accidental displacement as a whole and against rotation, by means of a latch or bolt 23, which is passed down through a hole 24 in the rear flange of the top-piece 1 of the stand, and through a guiding sleeve 25 thereon, its distal end being finally passed through an eye 26 in an angle-piece 27, secured to the outside face of the front plate 10 of the drum. The head of the bolt is shouldered at 28, to be held in place by the top of the stand, and is provided with means, such as a cross-pin 29, whereby it may more easily be withdrawn or handled. There is an eye-piece 27 for each of the web compartments or faces of the hexagon formed by the drum, so that any of the six compartments shown may be brought to topmost position on the drum by revolution of the latter, and the drum then locked against rotation by engagement of the bolt 23 with the angle or eye-piece 27 on that particular compartment.

Referring to Figure 2, it will be noted that the carbon-sheet-holder 6 for the web in the uppermost compartment is in position on the carbon carriage 9 of the typewriting machine, and that the uppermost compartment is open at 18 for the passage of the web W. The openings 18 in the covers 16 of the other compartments, that is to say, of the compartments containing webs not in use, are closed, and this closure is effected by the sheet-holding plates 6 of the webs in the respective compartments. It is desirable that the compartments not in use be closed; in fact, since these compartments are disposed at various angles, the lowermost compartment being upside down, the webs might slide out of the compartments not in use unless such closure for the openings 18 were provided. It is also desirable to have the compartments closed when not in use, to prevent dust or other matter from defacing the webs stored within the same.

The manner in which the idle carbon-sheet-holding plates 6 are utilized to serve as closures for the compartment-openings 18 is more particularly shown in Figure 3, and, at the bottom compartment, in Figure 2. In the Fortin patent, above referred to, the sheet-holding plates are provided with studs, such as here indicated at 30 in Figure 3, by means of which the plates are held to the carbon-holder carriage 9 on the typewriting machine when in actual use. These studs are usually grooved, as indicated at 31, so that, when the carbon-holders are set upon their carriage 9, the studs 30 project through the carbon carriage 9, to permit a blade 31^a or other device on the bottom of the carriage to enter the grooves 31 and thereby secure the sheet-holding plates to the carriage. Referring again to Figure 3, it will be seen that the corner pieces 12 have holes 32 therethrough to receive the studs 30 on the sheet-holding plates. Also set into the plates 12 and secured thereto by screws 33 are springs 34 having detents 35 formed thereon to enter the grooves 31 in the studs 30. When, therefore, the plates 7 are set over the openings 18 in the covers 16 and the studs 30 thereon made to register with the holes 32 in the plates 12, the plates 7 are pressed down upon the plates 12 causing the studs 30 to enter the openings 32 until the detents 35 engage in the grooves 31 to hold the plates in place. There is a stud 30 at each end of each plate 7, so that the plates 7 are locked at one end to one plate 12 and at the other end to another plate 12. The plates 7 thus not only close the openings 18 in the covers to prevent the webs from slipping through such openings, but, by actually bridging the covers 16, also hold the latter against swinging movement on their hinges 17, so that no other lock for the cover is required. The covers of all the web-receptacles will therefore be locked down by the sheet-carrying plates 7 except the cover of the topmost receptacle which is the receptacle in use; and the cover of this receptacle will remain in place by gravity so long as the receptacle is in use in this uppermost position.

Since the receptacles need not be held upright when not in use, they may be disposed peripherally around the container drum in the manner described, and this arrangement is favorable for a large number of web-receptacles in a small container. The receptacle need not be hexagonal but may be of other shape, and may have a greater or less number of receptacles. In the form of the invention shown, the length of the receptacles is adapted to the width of the web; and, allowing a proper depth for each receptacle, it is found that a six-receptacle container approximates the height of the usual typewriter stand when proper clearance is provided at the base of the container for its rotation. Any of these dimensions may, however, be modified, and the capacity of the container thereby varied.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In the art of containers for manifold work-webs for continuous billing typewriting machines, a revolubly mounted work-web container including a plurality of work-web receptacles, each having an outer face and constructed to receive a web with interleaved carbon-sheets attached to a sheet

frame provided with means for affixing it to the typewriting machine, disposed around the axis of rotation of the container, whereby, by rotation of the container, any selected web-receptacle may be brought to web-feeding position to the typewriting machine, each of said receptacles having in its outer face an opening through which the web from the selected receptacle may be fed to the sheet frame in the typewriting machine, and means on the web-container for engaging the means aforesaid on the sheet-frame for attaching the sheet frames to the web-container.

2. In the art of continuous billing typewriting, the combination of a revolubly mounted work-web container including a plurality of work-web receptacles constructed to receive manifold work-webs with interleaved carbon-sheets attached to sheet-frames, the latter to be affixed to a continuous billing typewriting machine for the operation of continuous billing typewriting, the receptacles constructed around the axis of rotation of the container in such a manner that when a receptacle is in its web-feeding position the web may be fed from the receptacle in a plane at right angles to the movement of the container to the typewriting machine in alignment with the sheet-frame in the machine during the typewriting operation, and means holding the receptacle stationary in its web-feeding position during the operation of typewriting on the web.

3. A web-container, revolubly mounted, including a plurality of web-receptacles disposed around the axis of rotation of the container, whereby, by rotation of the container, any selected receptacle may be brought to web-feeding position, the web-receptacles being so positioned in the container that the side margins of the webs lie crosswise of the plane of rotation of the container, and each receptacle having a mouth or slot extending lengthwise of the plane of rotation of the container, through which the webs may be fed from the receptacles at right angles to the axis of rotation thereof, and a set of frames for holding carbon-sheets interleaved with folds or plies of webs, one such sheet frame for each web, the sheet frames being interchangeable in a typewriting machine, and each sheet frame when not in use being secured to the receptacle for serving as a closure for the aforesaid web opening in the receptacle of its respective web.

4. A frame arranged to be detachably secured to a typewriting machine for holding carbon-sheets interleaved with folds or plies of a web, a receptacle for such web, an opening in the receptacle through which the web may be fed to the sheet-holding frame when the latter is in the machine, and means for securing the sheet frame to the receptacle to serve as a closure for such web opening when the web is not in use.

5. A frame for holding carbon-sheets interleaved with folds or plies of a web, means on said sheet-holding frame for detachably securing the same, when in use, in a typewriting machine, a receptacle for the web, having an opening through which the web may be fed to the sheet-holding frame when the latter is in the typewriting machine, said means on the frame for securing the same, when in use, to the typewriting machine serving also to secure the frame to the receptacle to close the web opening therein when the web is not in use.

6. The combination of a frame arranged to be detachably secured to a typewriting machine for holding carbon-sheets interleaved with superposed plies of a web, a receptacle for such web, a cover for the receptacle movable to open and closed positions and having a cutout to permit withdrawal of the web while the cover is closed, and co-operating means on the frame and receptacle for securing the frame to the receptacle in a position to hold the cover of the receptacle closed and to close said cutout.

7. The combination with a typewriting machine, of a revoluble web-container comprising a plurality of receptacles, one for each of a set of webs, covers for said receptacles having openings through which the web extends, and means attached to the webs for holding closed the covers of the receptacles for the webs not in use, said means including carbon-holders through which the webs are threaded.

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