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PAPER HOLDER FOR WRITING MACHINES

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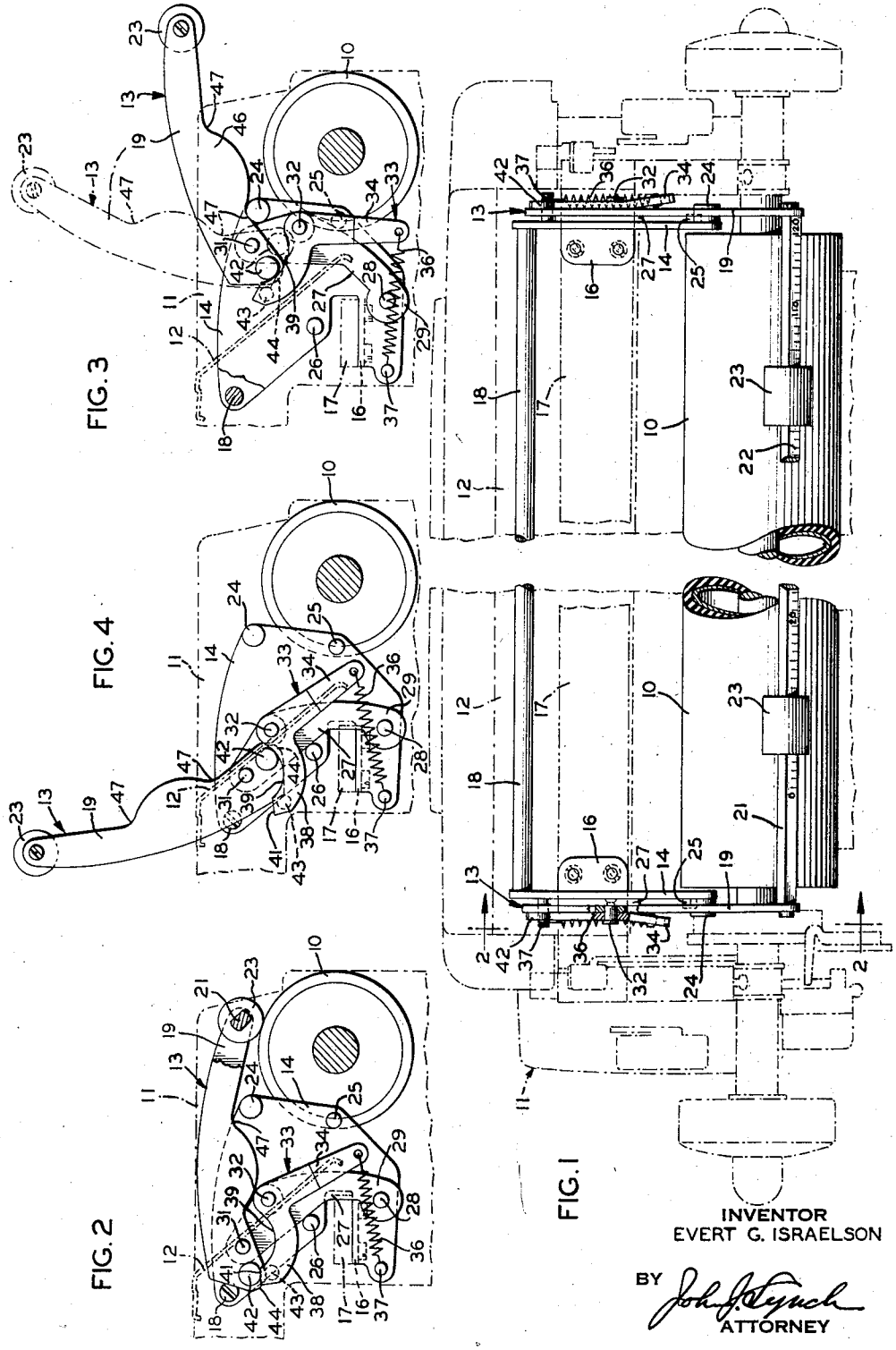


FIG. 1

FIG. 2

FIG. 3

FIG. 4

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PAPER HOLDER FOR WRITING MACHINES

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This invention relates to a paper holding means for the platen carriage of a typewriter or the like, and in particular to bail means that can be adjusted to various positions of use.

The paper holding bail of a typewriter is usually adjustable to a number of different positions by the typist to afford easy and quick access to the platen for the replacement of the paper, the correction of errors in typing and paper positioning and aligning operations.

The objects of the present invention include the provision of a paper bail mechanism that will have a small number of operating parts so that the overall dimensions of the platen carriage can be kept at a minimum and so that the necessary opening in the paper table, through which the bail operating parts swing, can be made as narrow as possible in order not to present obstructions which would interfere with the ready insertion of the paper about the platen, detract from the appearance of the paper carriage, or allow the litter of erasing to fall into the mechanism of the machine.

The novel features which are believed to be characteristic of the invention, both as to its organization and method of operation, together with further objects and advantages thereof, will be better understood from the following description considered in connection with the accompanying drawing in which an embodiment of the invention is illustrated by way of example. It is to be understood, however, that the drawing is for the purpose of illustration and description only and is not intended as a definition of the limits of the invention.

Figure 1 is a top view of the paper bail assembly illustrated in relation to the platen of a writing machine, the associated paper table and carriage structure being shown in outline,

Figure 2 is a view in end elevation taken substantially on the line 2—2 of Figure 1 and showing the paper bail in the normal paper holding position,

Figure 3 is a view similar to Figure 2 showing the paper bail in another adjusted position to allow for paper adjustment and erasure and,

Figure 4 is a view similar to Figure 2 showing the paper bail in one adjusted position to allow full access to the platen.

Referring to the drawing in detail, **10** indicates the platen of a writing machine, such as a typewriter, which is mounted in the usual platen carriage **11** across which extends a paper table **12** disposed rearwardly of the platen. The carriage, the platen rotating shaft and the paper table are all shown in outline as they serve only to illustrate the position of the paper bail with respect thereto. The paper bail, indicated generally as at **13**,

is supported on the carriage **11** by spaced mounting plates **14**, of like shape, which are located adjacent the opposite ends of the platen **10**, are connected by brackets **16** to a cross bar **17** on the carriage, and are also joined to each other by a tie rod **18**.

The bail **13** is of identical construction at its opposite ends and includes bail arms **19** which are connected at their forward ends by a scale bar **21**, of rectangular cross-sectional shape, bearing on one face a suitable type scale **22** and carrying holding rolls **23** which are slidably adjustable lengthwise of said scale bar, for pressure engagement with paper carried on the platen.

The paper table **12**, disposed obliquely behind the platen, is provided with suitable openings or slots through which the operating parts of the paper bail **13** swing during various movements of the bail, as will be later explained. One of the objects of the invention is to keep the openings as small as possible and to this end the assembled parts of the bail have been made as compact as possible. At each end of the platen, the mounting plate **14** is provided with upper, lower and rear limit studs **24**, **25** and **26**, respectively, for limiting the throw of a carrier arm **27** pivoted as at **28** in its lower end **29**, to the plate **14**. The carrier **27** has pivoted thereto at its upper end, as at **31**, the bail arm **19** of the paper bail **13** and adjacent its mid-portion pivotally supports, as at **32**, a latching cam lever **33** of bell-crank shape.

The lower end of the vertical arm **34** of the latch lever **33** is connected by a tension spring **36** with a suitable stud **37** extending from the plate **14** and the horizontal arm **38** is shaped to provide, along its upper edge, a pressure camming surface **39** terminating at the free end of the arm in a dwell **41**, which cam surface and dwell coact with a cam stud or roller **42** on the bail arm **19** to yieldably hold the latter, in different positions of adjustment, by the pressure applied by the spring **36**. The cam lever **33** also carries on the inner face of said free end thereof a detent stud **43** which coacts with the cam shaped end **44** of the bail arm **19** to yieldably hold the latter in various positions of adjustment.

The underside of the bail arm **19** is shaped to provide an arcuate cam projection **46** providing at the inner reach thereof a lock point **47** in which the upper limit stud **24** seats when the bail is drawn forward to the Figure 4 position. This position is further defined by contact of the upper forward edge of the carrier arm **27** with the stud **24**.

In the operation of the device it will be noted that, during typing, the parts will be in the paper holding position depicted in Figure 2 at which position the spring **36** is pulling on lever **33** to exert paper holding pressure on the rollers **23** through the studs **42**, **43** and bail arm **19**. The force applied at pivot pin **32** will maintain the rear edge of the carrier arm **27** against the detent stud **26**.

When it is necessary to adjust the paper about the platen or make an erasure, the scale bar **21** can be pulled forward causing forward swing of the arm **27** about its pivot **28** and against the resistance of the spring until the cam protrusion **46** rides over the stud **24** to raise the arm **19** to unseat the stud **42** from dwell **41** and cause it to ride along the cam surface **39**, under spring pressure, untll the stud **24** seats in the lock point **47** to yieldably retain the bail in the adjusted position shown in Figure 3.

After the adjustment or erasure, a push rearwardly on the bar 21 will ride the projection 45 over the stud 24 and cause the parts to automatically assume their Figure 2 position when the carrier 27 limits against the stud 26.

When typing is finished and the paper is to be replaced, the bar 21 and its bail arms 19 are raised to the Figure 4 position against the resistance offered to the travel of the stud 42 along the cam surface 39 of the latch lever 33 by spring pressure on the latter. The bail will be held in its raised position until it is pulled forward about its pivot 31 to assume the Figure 2 position or may swing with the carrier 27 about the pivot 28 of the latter, as shown in outline in Figure 3, until the carrier abuts the stud 24. A continued pull on the bail will place it in the Figure 3 position or, with a slight rearward push, it will assume the paper holding position of Figure 2.

An important object of the invention is carried out by the relation of the parts 19, 27 and 33 in that the single spring 36, through the force applied by cam surface 39 on cam stud 42 and by detent stud 43 on the edge of bail 19 through the pivot 32 as a fulcrum, serves to hold the bail in any of several positions of adjustment as shown in Figures 2, 3 and 4 without the necessity of providing notched plates, pin-in-a-slot connections of the kind commonly used, or other devices that complicate the structure, make it so bulky as to require a large opening in the paper table, and increase the cost of manufacture.

While I have described what I consider to be a highly desirable embodiment of my invention, it is obvious that changes in form could be made without departing from the spirit of the invention and I therefore do not limit myself to the exact form herein shown or described nor to anything less than the whole of my invention as hereinbefore set forth, and as hereinafter claimed.

What I claim is:

1. The combination with the platen of a typewriter or the like, of plate means mounted at opposite ends of the platen, carrier means pivoted to each plate means, stop means on each plate means for limiting the forward and rearward swing of said carrier means, bail means pivoted to said carrier means, spring biased latch means presenting a cam surface for applying pressure to said bail means at different positions of adjustment of the latter and platen engaging means carried by said bail means.

2. In a writing machine or the like including a platen, support means at opposite ends of the platen, carrier means pivoted on said support means, stop means for limiting pivotal movement of said carrier means, platen engaging bail means pivoted to said carrier means for movement with the carrier means as a unit and for movement relatively to said carrier means when the latter is limited in its movement by said stop means, said relative movement of the bail means providing a plurality of positions of adjustment of the latter with respect to said platen, means on said bail means defining a seat for one of said stop means for detaining said bail means in one position of adjustment, and spring biased latch means for yieldably resisting movement of the bail means to unseat said stop means.

3. In a writing machine or the like including a platen, support means at opposite ends of the platen, carrier means pivoted on said support means, stop means for limiting pivotal movement of said carrier means, platen engaging bail means pivoted to said carrier means for movement with the carrier means as a unit and for movement relatively to said carrier means when the latter is limited in its movement by said stop means, said relative movement of the bail means providing a plurality of positions of adjustment of the latter with respect to said platen, and spring biased latch means associated with said carrier means and said bail means for yieldably holding the latter in contact with said platen in one position of adjustment.

4. In a writing machine or the like including a platen, support means at opposite ends of the platen, carrier means pivoted on said support means, stop means for limiting pivotal movement of said carrier means, platen engaging bail means pivoted to said carrier means for movement with the carrier means as a unit and for movement relatively to said carrier means when the latter is limited in its movement by said stop means, said relative movement of the bail means providing a plurality of positions of adjustment of the latter with respect to said platen, and spring biased latch means associated with said carrier means and said bail means for yieldably holding the carrier means against one of said stop means and for yieldably holding the bail means in contact with the platen in one position of said adjustment.

5. In a writing machine or the like including a platen, support means at opposite ends of the platen, carrier means pivoted to said support means, platen engaging bail means pivoted to said carrier means for adjustable movement toward and away from said platen, latch means associated with the carrier and bail means, cam edges on each of said bail and latch means, studs on each of said bail and latch means for mutual engagement with said cam edges, and spring means for yieldably maintaining said studs and cam edges in contact and thereby yieldably retaining said bail means in various positions of adjustment.

6. The combination with the platen of a writing machine or the like, of supports mounted at opposite ends of the platen, carrier means pivoted to each support, means on said supports for limiting forward and rearward pivotal movement of said carrier means, bail means pivoted on said carrier means for adjustable movement against and away from the platen, spring biased latch means for yieldably retaining the bail means in various positions of adjustment, detent means on said latch means and a cam shaped end on said bail means with which said detent coacts to yieldably hold the bail means in contact with said platen.

7. The combination set forth in claim 6, including a cam stud on said bail means and a cam edge on said latch means engaged by said cam stud for providing a yieldable resistance to the pivotal movement of said bail means.

8. The combination with the platen of a writing machine or the like, of supports mounted at opposite ends of the platen, carrier means pivoted to each support, means on said supports for limiting forward and rearward pivotal movement of said carrier means, bail means pivoted on said carrier means for adjustable movement against and away from the platen, spring biased latch means for yieldably retaining the bail means in various positions of adjustment, a cam stud means on said bail means, and a cam surface on said latch means engaged by said stud means for applying yieldable pressure to the pivotal movement of said bail means.

9. The combination with the platen of a writing machine or the like, of supports mounted at opposite ends of the platen, carrier means pivoted to each support, means on said supports for limiting forward and rearward pivotal movement of said carrier means, bail means pivoted on said carrier means for adjustable movement against and away from the platen, spring biased latch means for yieldably retaining the bail means in various positions of adjustment, a cam projection on said bail means forming a seat for the reception of the forward carrier movement limiting means to support the bail in a raised position above the platen, and said cam projection operating to lower the bail means to contact said platen when the bail means is pushed rearwardly.

10. In a writing machine or the like including a platen, support means at opposite ends of the platen, carrier means pivoted to said support means, platen-en-

gaging bail means pivoted to said carrier means for movement with the carrier means as a unit and for movement relatively to said carrier means to provide a plurality of positions of adjustment with respect to said platen, spring biased latch means associated with the carrier means and the bail means for yieldably resisting movement of the carrier means and the bail means, dwell means on said latch means and stud means on the end of

said bail means with which said dwell means coacts to yieldably hold the bail means in contact with said platen.

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