United States Patent [19]

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[54] **ROLL MEMORANDUM DEVICE**

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[52] **U.S. Cl.** **226/127**, 226/156

[51] **Int. Cl.** **B65h 17/22**

[58] **Field of Search** 226/156, 157, 127, 226/129

[56] **References Cited**

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[57] **ABSTRACT**

A roll memorandum device is shown which is formed with a body having a forwardly disposed table portion thereupon provided with a writing surface. A transversely disposed first shaft is connected to the body and is forwardly spaced and horizontally aligned with the paper roll support. Feed rollers are disposed upon the first feed shaft. A horizontally disposed pivotally movable holding member lies above the writing surface and overlies the feed rollers. A spring is connected to the holding member biasing the same toward the feed rollers. Means are provided to rotate the paper roll support and feed rollers simultaneously. Guide means are also provided within the body to guide selected portions of the paper roll.

17 Claims, 8 Drawing Figures

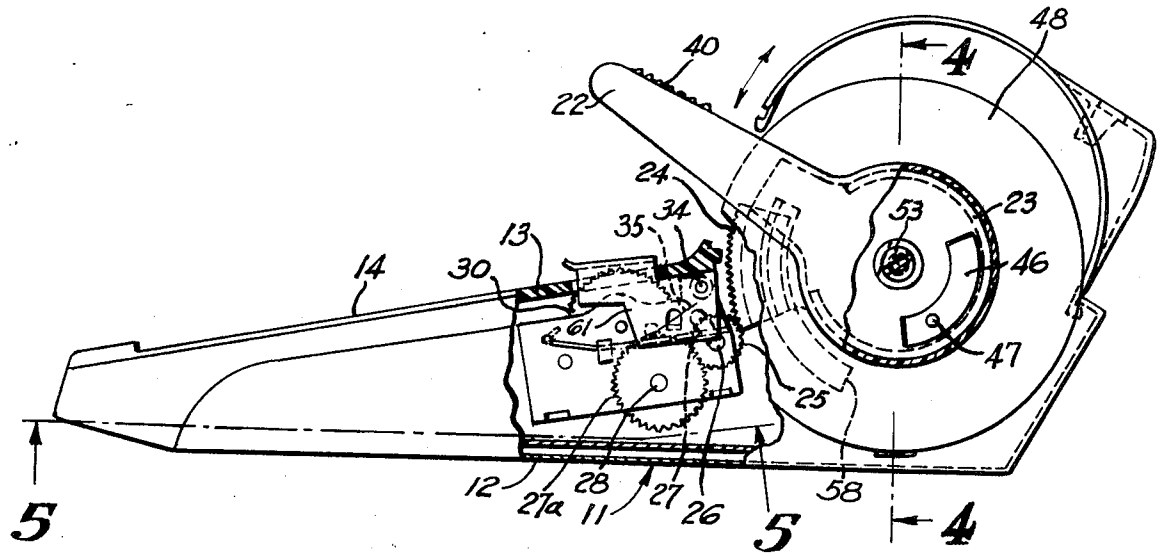


Fig. 1

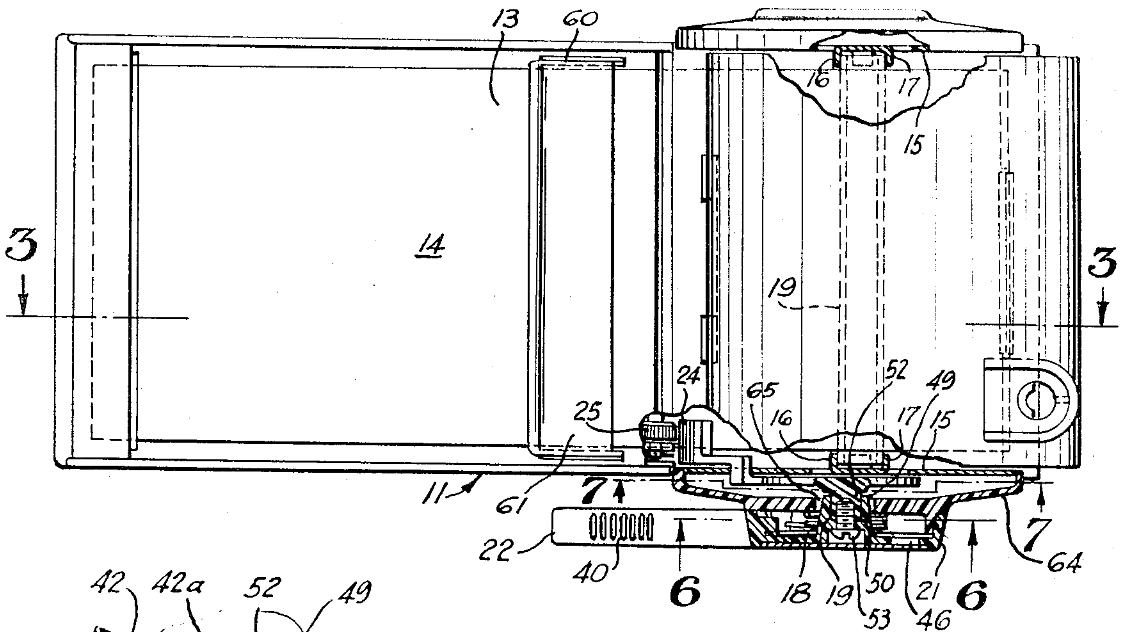


Fig. 6

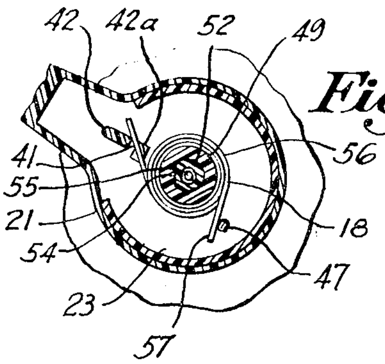
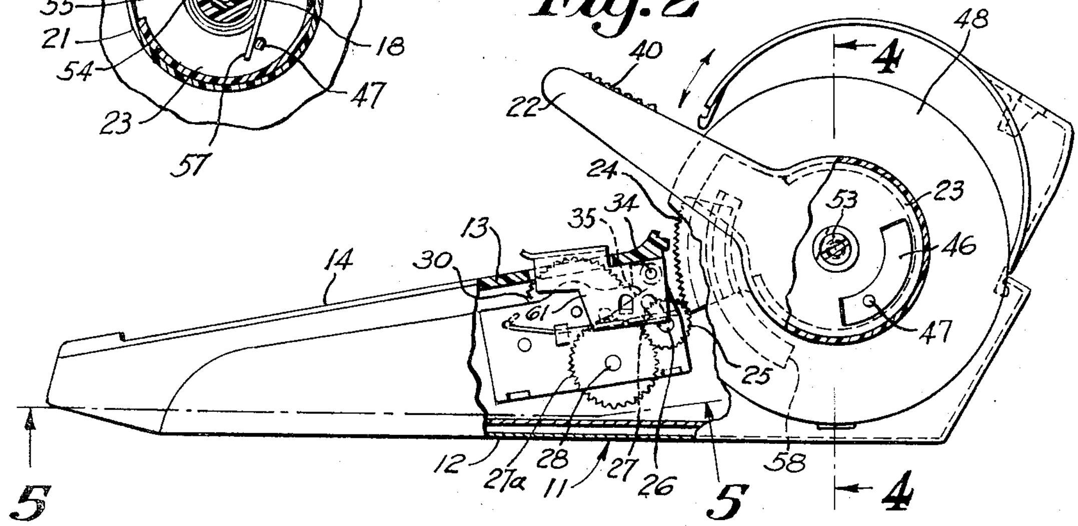


Fig. 2



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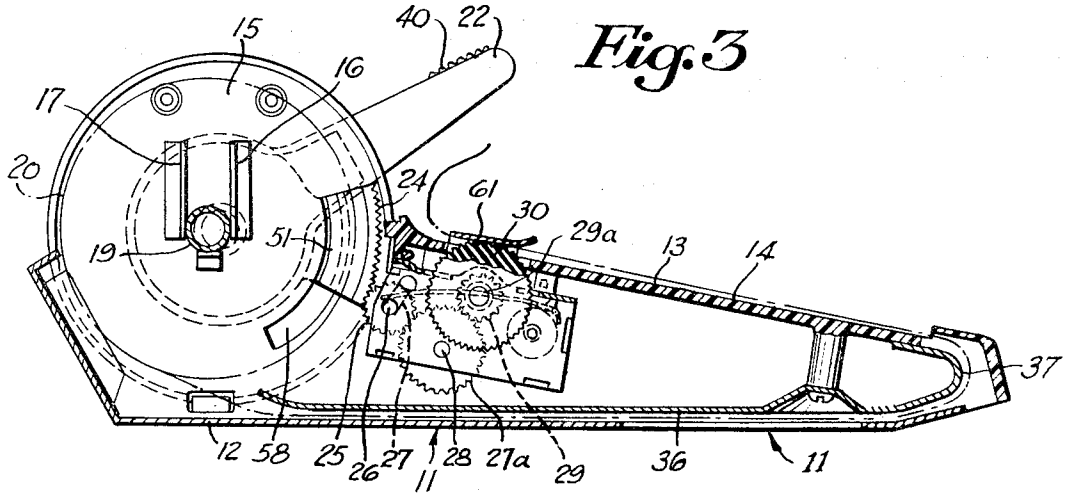

Fig. 3

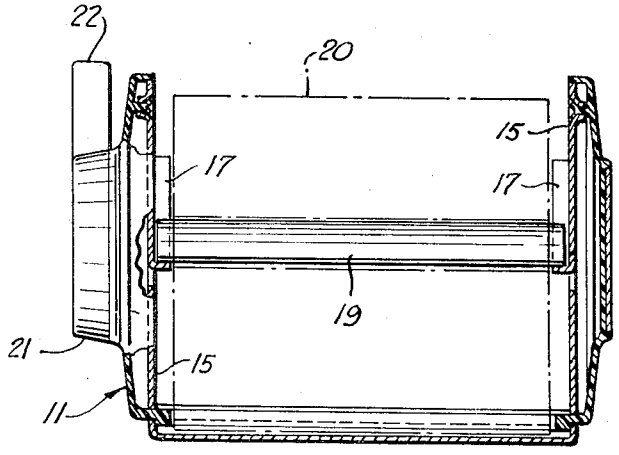

Fig. 4

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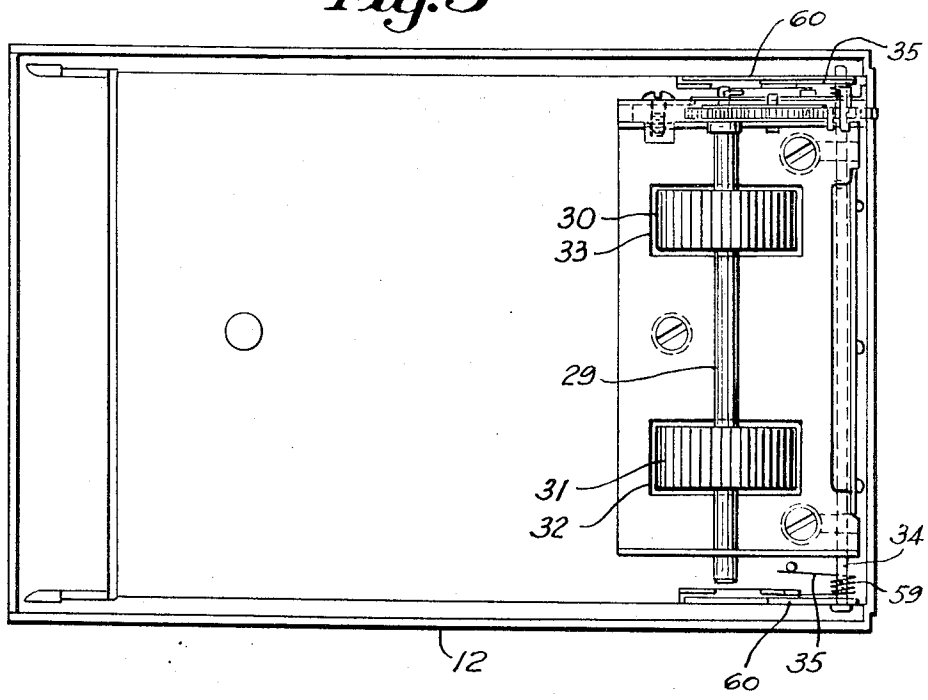
Fig. 5



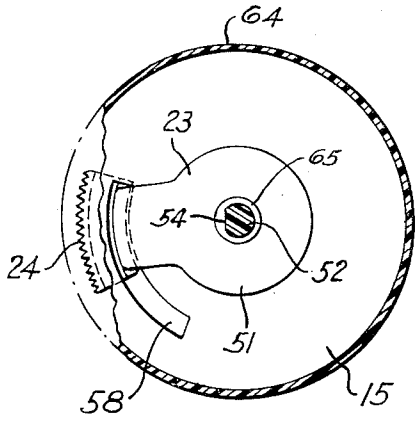


Fig. 7

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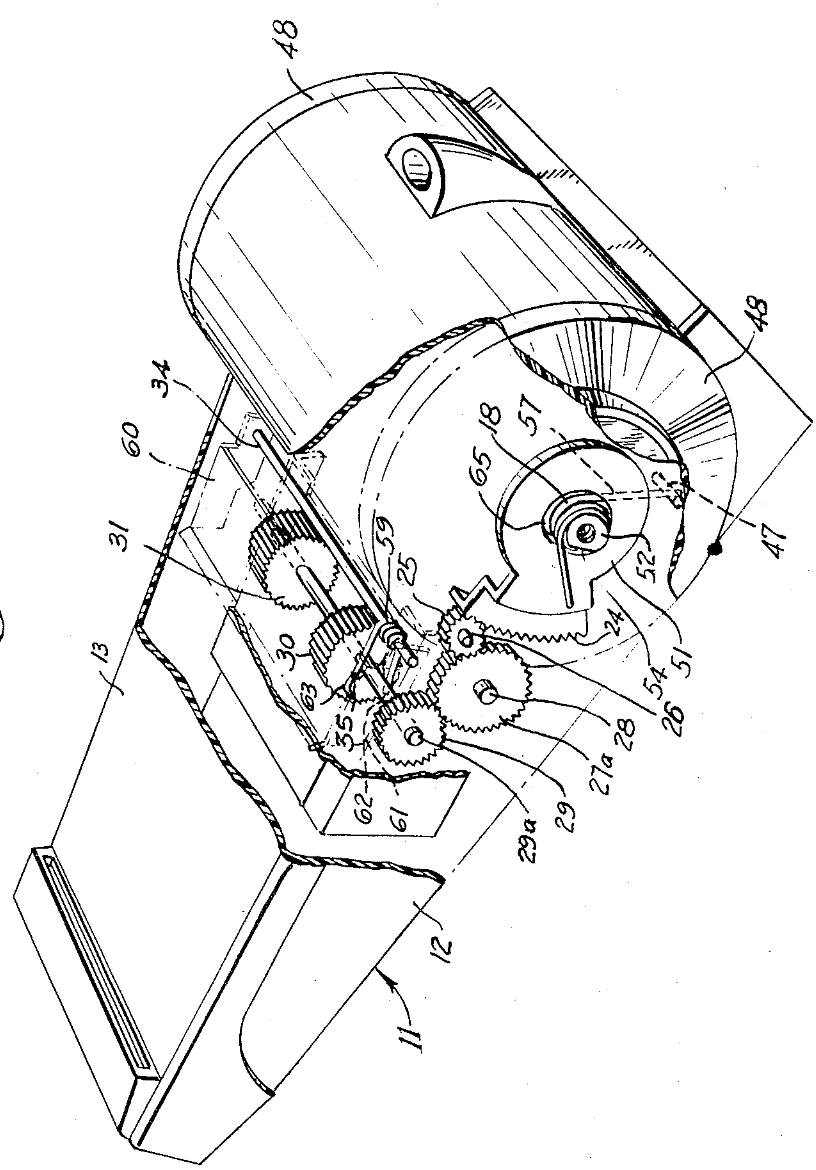

Fig. 8

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ROLL MEMORANDUM DEVICE

BACKGROUND OF THE INVENTION

The invention relates to roll memorandum devices which are devices having a paper feed roll of which portions are selectively disposed upon a writing surface. In devices of this type the portion of the paper feed roll disposed upon the writing surface is written upon with appropriate information. A fresh writing surface can be then provided by merely rotating the paper feed roll which causes the portion of the paper formerly disposed upon the writing surface to be removed therefrom. Also, in devices of this type, the portion of the paper roll written upon can be torn off.

Conventional devices of the above type suffer from certain disadvantages. The principal disadvantage is the fact that the feeding mechanism for the paper from the paper roll to the writing surface is not positive. That is, in many cases, the paper will slip and not feed. This, of course, makes the device inoperative.

The structure of the present invention avoids this disadvantage by providing a horizontally disposed pivotally movable holding member upon the writing surface and above the feed rollers. The holding member is spring biased toward the feed rollers. The paper is disposed between the holding member and the feed rollers and is thus placed in continuing close contact with the feed rollers at all times.

A further disadvantage of conventional devices is the fact that the control between the paper roll shaft and feed roller shaft is not positive and the intermediate driving structure tends to slip. In the present device the means for driving are positively engaged and disengaged when required.

A further disadvantage of conventional devices relates to the manner of guiding the paper from the paper roll to the writing surface. The means utilized in the present invention are simple, foolproof and positive.

A further disadvantage of conventional devices involves the means for placing the paper roll in position upon the paper roll support means. In the present invention a pair of spaced slots are provided at opposite ends of the paper roll support means which can accommodate one end of the paper roll shaft.

BRIEF DESCRIPTION OF THE INVENTION

The invention, in its broadest aspect, constitutes a roll memorandum device which comprises, in combination, a body having a forwardly disposed table portion having a writing surface thereupon. The body also has a paper supply support portion adjacent (preferably behind) the table portion. A feed shaft is disposed beneath the table portion (preferably transversely). Paper feed means (preferably a pair of spaced feed rollers) are connected to the feed shaft. A horizontally disposed spring loaded holding member is disposed above the table portion and is biased toward the paper feed means so that selective portions of the paper supply are disposed between the paper feed means and the holding member so as to produce positive feeding of the paper supply.

Optionally, also, handle means are disposed upon the paper roll support, means are disposed upon the paper roll support which are operatively connected with the first feed shaft so that rotation of the paper roll support will rotate the first feed shaft, and a pair of slots are provided laterally with respect to said paper roll support to provide for a simple and foolproof manner of replacing paper rolls when necessary.

DESCRIPTION OF THE DRAWINGS

The invention will now be further described by reference to the accompanying drawings which are made a part of this specification.

FIG. **1** is a plan view, partly in section, of one form of a roll memorandum device made in accordance with this invention.

FIG. **2** is a side view, partly in section, of the roll memorandum device shown in FIG. **1.**

FIG. **3** is an opposite side view, partly in section of the roll memorandum device shown in FIGS. **1** and **2.**

FIG. **4** is a cross-sectional view of the roll memorandum device shown in FIG. **2** taken along lines **4—4** of FIG. **2.**

FIG. **5** is a cross-sectional view taken of the form of invention shown in FIG. **2** taken along lines **5—5** of FIG. **2.**

FIG. **6** is a fragmentary cross-sectional view of the form of invention shown in FIG. **1** taken along lines **6—6** of FIG. **1.**

FIG. **7** is a cross-sectional view of the form of invention shown in FIG. **1** taken along lines **7—7** of FIG. **1.**

FIG. **8** is a perspective view of the device of this invention.

DETAILED DESCRIPTION OF THE INVENTION BY REFERENCE TO THE DRAWINGS

The roll memorandum device **11** of this invention is formed with a body **12** having a forwardly disposed table portion **13** thereupon. Portion **13** bears a writing surface **14** thereupon. A paper roll support portion **15** is disposed behind the table portion **13.** Paper roll support portion **15** is also formed with two pairs of spaced slots **16–17** at opposite sides thereof. A shaft member **19** is disposed across support portion **15** and a paper roll **20** is carried by shaft **19.**

A handle element **21** is disposed on one side of paper roll support portion **15.** Handle element **21** bears a projecting portion **22** thereupon having grip elements **40.** Handle element **21** also has an arcuate slot **46** therewithin and a projection **47** formed within lower element **48** normally rides within slot **46.** Handle element **21** also bears an inwardly projecting portion **49** (FIG. **1**) which is provided with an opening **50** therewithin. An intermediate member **64** lies beneath handle element **21.** Member **64** is provided with an opening **65** therewithin and an arcuate raceway over which handle element **21** is guided. Ratchet element **51** bears a projecting portion **52** which is adapted to be accommodated within opening **50.** Portion **52** and opening **50** bear mating shoulder portions **54** and **55** (FIG. **6**) so that the turning of members **21** and **51** will be simultaneous.

Members **21** and **51** also bear mating openings within which a screw **53** is disposed to hold the parts together.

Handle element **21** also bears a pair of spaced holding portions **42** and **42*a*** at its inner face. A spring **18** has one end **41** secured between portions **42** and **42*a*** and its center portion **56** is disposed about portion **49** of element **21.** The opposite end **57** of spring **18** is held against member **47.**

Within one end of paper roll support **15** an arcuate slot **58** is provided (FIG. **3**). A portion of ratchet element **51** rides within slot **58.** A ratchet member **24** of

ratchet element **51** is adapted to mesh with gear **25**. Gear **25** is disposed upon shaft **26** which is disposed within slot **27**. Gear **25** in turn is selectively adapted to mesh with gear **27***a* which is in turn carried on shaft **28**. Gear **27***a* in turn meshes with gear **29** which is carried upon shaft **29***a*. A pair of feed rollers **30** and **31** are carried by shaft **29***a* and are disposed within recesses **32** and **33** provided within table portion **13**.

A second shaft **34** is also provided in this structure. Shaft **34** has a spring **35** secured thereto. The central portion **59** of spring **35** is disposed about shaft **34**. Shaft **34** in turn is secured within a pair of opposite downwardly depending portions **60** which are formed in holding member **61**. Holding member **61** is horizontally disposed and overlies table portion **13**. One end portion **62** of spring **35** lies upon shaft **29**a and the opposite end portion **63** of spring **35** is secured to holding member **61**. Thus holding member **61** is spring loaded and biased toward feed rollers **30** and **31**.

The operation of this invention will now be explained.

A paper roll **20** is disposed upon shaft **19**. Shaft **19** is then placed between slots **16-17** at each end of the paper roll support portion of the device into place. The paper issuing from roll **20** is guided through channel **36** over paper support **37** and then over table portion **13**. The paper is then placed below holding member **61** between the lower surface of member **61** and feed rollers **30** and **31**.

The operator of the device can now write a memorandum upon the portion of the paper issuing from the paper roll which is disposed above the writing surface of the table portion.

When a fresh surface of paper is to be exposed the operator moves handle **22** downwardly. This moves gear **25** into contact with gear **26** and thus causes feed rollers **30** and **31** to grip the paper in contact with these rollers and to move it forwardly. Release of handle **22** will cause it to move upwardly because of the pressure of the spring to which it is operatively connected and also will release gear **25** from contact with gear **26**. Thus a new forward movement can be initiated. It is also to be noted that rollers **30** and **31** are constantly urged against the abutting surface of the paper roll while the forward movement takes place. Thus constant and positive feed of the paper is performed.

It is also important to note the optional "offset" position of the paper roll member as shown in FIG. **3** of the drawings. In the preferred modifications of this invention the paper roll shaft **19** is not designed to be placed on the exact center point of the sides of the paper roll support portion but is offset from the center point and slightly behind the true center point. This permits room to be provided within the paper roll support portion for the operating mechanism of ratchet member, etc.

The foregoing sets forth the manner in which the objects of this invention are achieved.

I claim:

1. A roll memorandum device comprising, in combination, a body having a forwardly disposed table portion having a writing surface thereupon, said body also having a paper supply support portion adjacent a rearward end of said table portion, a feed shaft disposed beneath said table portion, paper feed means, including at least one resilient roller, connected to said feed shaft, a paper roll rotatably mounted in said paper supply support portion to have paper thereof extend towards a forward end of said paper feed means and back towards said paper roll on said writing surface, a horizontally disposed spring loaded holding member disposed above said table portion and biased toward the resilient roller of said paper feed means so that selective portions of said paper supply are disposed between the resilient roller of said paper feed means and said holding member so as to produce positive feeding of said paper supply.

2. A roll memorandum device as described in claim **1** further including a second shaft disposed adjacent said feed shaft, a spring means connected to said second shaft and engaging said holding member to bias it towards said paper feed means.

3. A roll device as described in claim **2** further including a handle pivotally mounted on said paper roll support and drive means operatively connected between said handle and said paper feed means for intermittently feeding said paper supply upon actuation of said handle.

4. A roll memorandum device as described in Claim **3** wherein said drive means comprises a segment gear attached to said handle to pivot therewith, a first gear meshing with said segment gear, a second gear meshing with said first gear, and a third gear meshing with said second gear, a shaft carrying said first gear, a slot within said body supporting said shaft and a biasing spring disposed against said shaft, said first gear being adapted to selectively go into and out of engaged position with said segment gear so that the paper roll can be intermittently rotated in one direction only.

5. A roll memorandum device as described in claim **4** wherein said body is provided with a pair of laterally spaced open slots adapted to support opposite ends of a shaft carrying said paper roll.

6. A roll memorandum device as described in claim **5** further including an elongated paper support channel upon the underside of said body, a substantially U-shaped paper support at the front of said body adjacent said channel and a transversely disposed holding member upon the upper side of said body.

7. A roll memorandum device as described in claim **3** wherein said handle has a centrally disposed boss pivotally mounted on said paper roll support an intermediate member disposed between said paper roll support and said handle and having opening pivotally mounting said boss therewithin and an arcuate guide portion supporting said handle member, a coil spring having its opposite ends respectively anchored to said intermediate member and said handle to bias said handle upwardly, said drive means comprising a ratchet element attached to said handle for rotation therewith.

8. A roll memorandum device as described in claim **1** wherein a rotational axis of said paper roll is disposed at a point behind the center point of said paper roll support portion.

9. A roll memorandum device comprising a body having a forwardly disposed table portion having a writing surface thereupon and a paper supply support portion disposed adjacent to said table portion, a paper roll supported for rotation in said paper supply support portion at a point behind a center point of said paper supply support portion, a feed shaft disposed beneath said table portion, paper feed means connected to said feed shaft, a horizontally disposed spring loaded holding member disposed above said table portion and biased toward said paper feed means so that selective portions

of said paper supply are disposed between said paper feed means and said holding member so as to produce positive feeding of said paper supply.

10. A roll memorandum device comprising, a body having a forwardly disposed table portion having a writing surface thereon and a paper supply support portion adjacent to said table portion, a feed shaft disposed beneath said table portion, paper feed means connected to said feed shaft, a horizontally disposed holding member disposed above said table portion and biased toward said paper feed means by spring means so that selective portions of a paper supply are disposed between said paper feed means and said holding member so as to produce positive feeding of said paper supply, a second shaft disposed adjacent said first shaft, said spring means interconnected between said second shaft and said holding member, a handle member having a center portion pivotally mounted on an intermediate member attached to said paper roll support, a coil spring disposed on said center portion and having a first end engaging a stop on said handle member and a second end engaging a stop on said handle member and a second end engaging a stop on said intermediate member, and a ratchet element attached to the center portion of said handle member to pivot therewith and operatively connected to said feed shaft to rotate said feed shaft upon depression of said handle member.

11. A roll memorandum device comprising

a body having a forwardly disposed table portion having a writing surface thereon,

a paper roll rotatably mounted at a rearward end of said body,

guide means in said body for guiding a leading end of said paper roll towards a forward end of said body and then back towards said paper roll on said writing surface,

holding means disposed above said table portion to engage an upper side of the leading end of said paper roll and further disposed longitudinally between said paper roll and said writing surface,

feed means movably mounted on said body, vertically below said holding means, cooperating with said holding means to engage an underside of the leading end of said paper roll to inermittently feed such leading end towards said paper roll and

actuating means for intermittently moving said feed means.

12. The roll memorandum of claim **11** further comprising means for biasing said guide means towards said feed means.

13. The roll memorandum of claim **11** wherein said holding means comprises a plate member, disposed at least generally parallel with respect to said table portion, having a straight edge thereof portioned to face said paper roll and adapted to tear-off the leading end of said paper roll thereat and wherein said feed means comprises at least one resilient roller projecting through a slot formed through said table portion to frictionally engage the underside of the leading end of said paper roll.

14. A roll memorandum device comprising

a body having a forwardly disposed table portion having a writing surface thereon,

mounting means adapted to rotatably mount a paper roll at a rearward end of said body,

holding means disposed above said table portion adapted to engage an upper side of a leading end of a paper roll and further disposed longitudinally between said mounting means and said writing surface,

feed means movably mounted on said body, vertically below said holding means, adapted to cooperate with said holding means to engage an underside of a leading end of a said paper roll to intermittently feed such leading end towards said mounting means and

actuating means for intermittently moving said feed means comprising a handle pivotally mounted on said body, a sector gear attached to said handle to face towards a forward end of said body and intermeshing pinion gears operatively connected between said feed means and said sector gear for actuating said feed means upon depression of said handle.

15. The roll memorandum of claim **14** further comprising a cover releasably connected to said body to normally cover said mounting means.

16. The roll memorandum of claim **14** wherein said holding means comprises a plate member disposed at least generally parallel with respect to said table portion and wherein said feed means comprises at least one resilient roller adapted to frictionally engage an underside of a leading end of a paper roll.

17. The roll memorandum of claim **14** further comprising means movably mounting a pinion gear, normally meshing with said sector gear, in said body to permit such meshing during depression of said handle and for disengaging said pinion gear from said sector gear when said handle is raised.

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