Jan. 11, 1955 O. W. MARKES 2,699,244

RIBBON PROTECTOR

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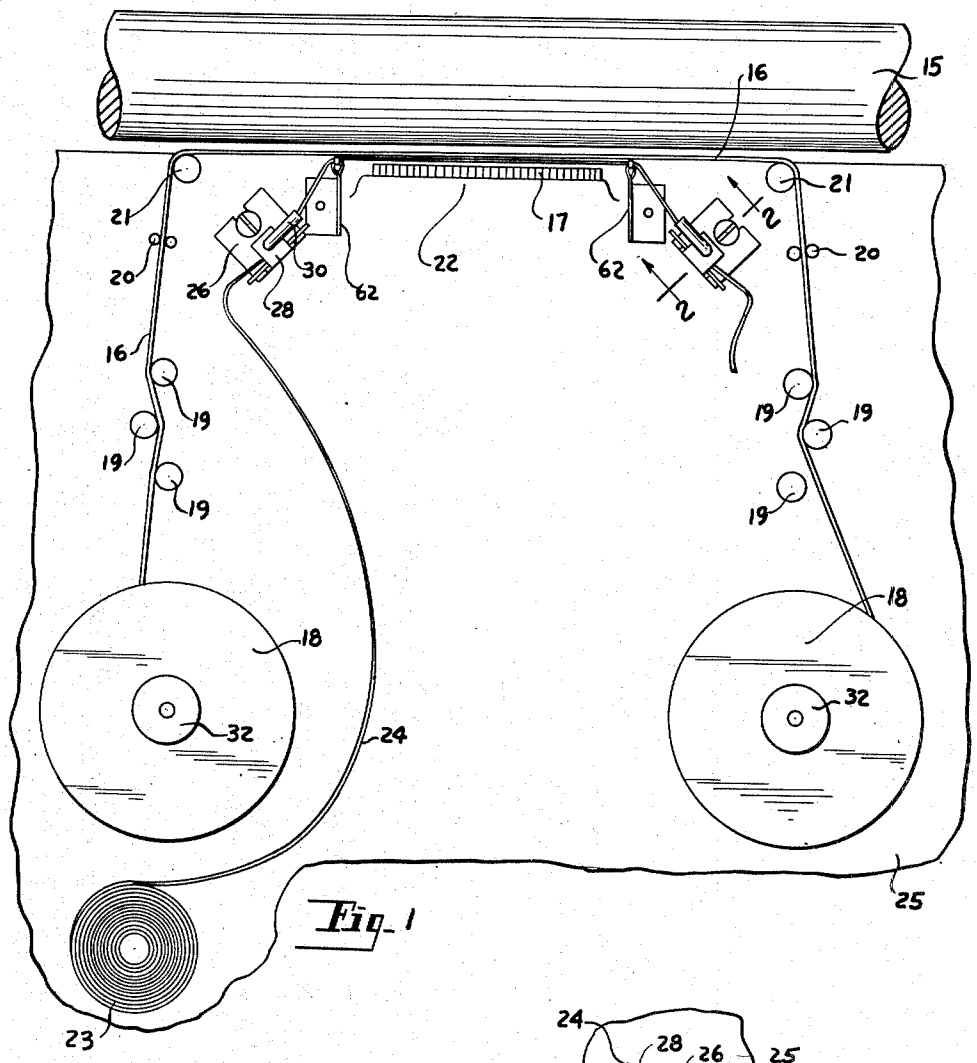


Fig. 1

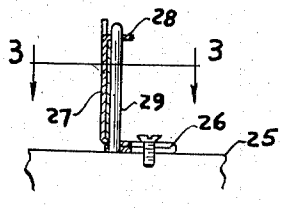


Fig. 2

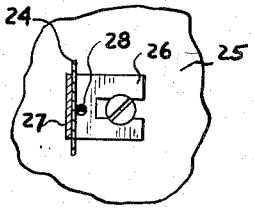


Fig. 3

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Fig. 4

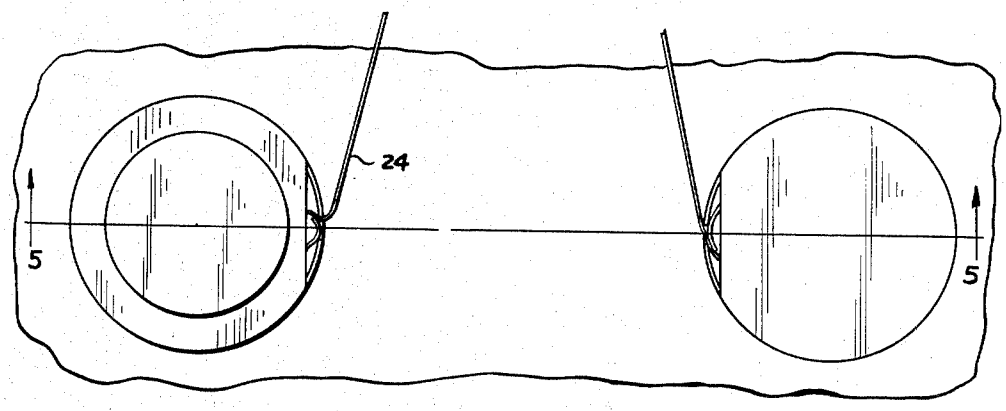
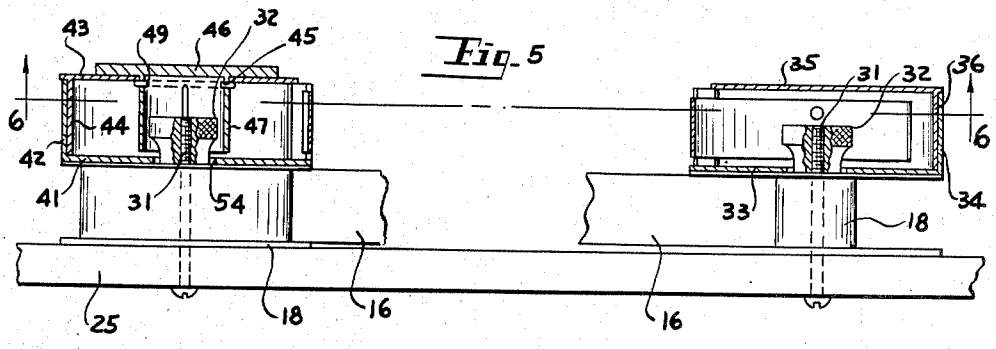


Fig. 5



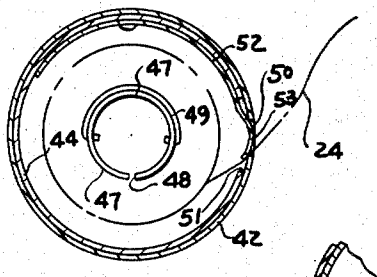


Fig. 6

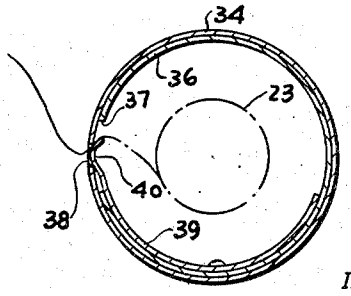


Fig. 7

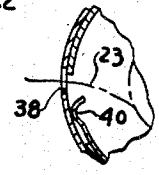


Fig. 8

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United States Patent Office 2,699,244 Patented Jan. 11, 1955

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RIBBON PROTECTOR

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Application March 15, 1950, Serial No. 149,666

2 Claims. (Cl. 197—151)

My invention relates to a new and useful improvement in a ribbon protector and is adapted for that class of machines in which a type bearing bar is used in such a manner that the type strikes the ribbon to make the impression on the paper or other material on which the typing is to be done. The invention is adapted for use on adding machines, calculating machines and so forth in which the ribbon impression is made.

In such types of machines there are several disadvantages. Among these are that the ribbon becomes worn out quite rapidly by being struck by the type. Another is that, particularly on calculating machines, the striking of the type against the ribbon will cause a spreading or splattering of the ink. Another disadvantage is that the type becomes clogged with dust or dirt together with ink thus making it impossible to obtain a clear impression even though the ribbon itself may be a new one.

The present invention has as one of its objects the protection of the type from contact with the ink bearing ribbon reducing to a large extent the dirtying of the type and maintaining a clear impression at all times.

Another object of the invention is the provision in machines of this class of a device whereby the splattering or spreading of the ink will be prevented and whereby the wear on the ribbon will be considerably reduced.

Another object of the invention is the provision of a device adapted for use in machines of this type which will eliminate considerable smeary work in pre-inking ribbons and removing and replacing ribbons as well as cleaning the type when it becomes dirty.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated without departing from the invention and it is intended that the present disclosure shall be considered but the preferred embodiment.

Forming a part of this specification are drawings in which,

Fig. 1 is a top plan schematic view illustrating the invention,

Fig. 2 is a fragmentary sectional view taken on line 2—2 of Fig. 1,

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2,

Fig. 4 is a top plan schematic view illustrating a modification,

Fig. 5 is an elevational view of the structure shown in Fig. 4 with parts being shown in elevation and parts in section,

Fig. 6 and Fig. 7 are sectional views taken on line 6—6 of Fig. 5,

Fig. 8 is a fragmentary sectional view taken on line 6—6 of Fig. 5 showing one of the spools moved to unlocking position.

In the drawings I have illustrated a platen **15** which is a roller of well known type and construction used on typewriters, calculating machines and the like. This platen forms the backstop of the papers, cards or the like upon which the typing is to be done. An inked ribbon **16** is wound upon the spools **18** and in the ordinary operation of the machine winds on the one spool while it unwinds from the other. This ribbon **16** passes around the guide rollers **19**, the pins **20**, the guide plates **21** and thru the retainer **22**.

The ribbon protector is a non-inked body which is placed between the ribbon **16** and the type **17** so that as the type is moved out to strike the ribbon **16** it will first strike the protector **24** which may be unwound from a

suitable roll **23** or it may be formed of individual lengths so that when it is necessary to remove and replace the protector the individual lengths may be removed or replaced. Where a roll is used another section would be unwound from the roll to span the space at which the type are adapted to operate. This protector may be of the same width as the inked ribbon **16** or it may be of a different width. It is necessary, however, that it be of sufficient width to receive the impression from the type whether this type be an individual type or an impression plate such as are used on addressing machines. The protecting members **24** may be made from any suitable material which is sufficiently flexible and which has long wearing qualities. Experience has shown that a ribbon formed from nylon is quite satisfactory for this purpose as it has the necessary thinness, flexibility and durability. This protector, of course, is maintained in a fairly taut condition in front of the inked ribbon **16**, the tautness of the protector corresponding substantially to the tautness of the inked ribbon **16**.

In the drawings I have illustrated a bracket **26** having an upstanding plate **27**, the base of this bracket **26** being mounted upon a suitable support **25** which is customarily found on machines of this nature. An outwardly projected tongue **28** is formed on the upper end of the plate **27** and extended thru this tongue is a pin **29** having the angularly turned portion **30** at its upper end. As shown in Fig. 3, the pin **28** is cut away at one side so that it will serve the purpose of a cam clamp. The ribbon **24** is fed between the plate **27** and the pin **28** while the cut away side of the pin **28** is faced toward the plate **27**. One of the pins **28** is then turned into the position shown in Fig. 3 so that the ribbon is clamped tightly against the plate **27**. The ribbon is then passed around the guide posts **62** and drawn taut in front of the type **17**. The opposite end of the ribbon is similarly drawn into position and clamped on the other clamping bracket. In Fig. 1 I have shown this protector **24** unrolled from a roll **23**. However, the ribbon itself may be cut to various lengths so that it reaches only from one clamping member to the other.

In Fig. 4, Fig. 5, Fig. 6, Fig. 7 and Fig. 8 I have shown a different method of supporting the roll **23** of the protector. The ribbon spools **18** shown in Fig. 1 are mounted on the support **25** by means of the screw **31** on which is threaded a nut **32** which bears against the upper side of the spools **18**. As shown in Fig. 5 I provide a pair of spools, each consisting of a cup shaped member. One of these has a base **41** and the wall **42**. Telescoping with this cup shaped member is a similar cup shaped member having a top **43** and a wall **44**. The top **43** is provided with an opening **45** in which a sleeve **47**, split as at **48**, is adapted to project. This sleeve is formed preferably integral with the disk **46** and held in position by the wire **49**. The wall **42** is provided with a slot as at **50** thru which the protector **24** may be extended. The wall **44** is provided with a slot **51**. When these slots are brought into registration the protector **24** may be fed inwardly and outwardly of this spool. Mounted on the inner surface of the wall **44** adjacent one of its ends is a leaf spring **52** having a bowed out portion **53**. When the walls **44** and **42** are moved relatively to each other, this bowed out portion will serve to clamp the protector **24** and hold it tight so as to prevent its being fed inwardly or outwardly of the spool. This spool is held in position by being placed over the nut **32**, the base **41** having an opening **54** thru which the nut **32** may be extended so that this nut serves as a support to prevent lateral movement of the base **41**. A cooperating spool is provided having a base **33** and a wall **34** and telescoping with this cup shaped member is a similar cup shaped member having the top **35** and the wall **36**. A slot **37** is formed in the wall **36** and a slot **38** is formed in the wall **34**. Mounted at one end on the inner surface of the wall **36** is a leaf spring **39** having the outwardly bowed portion **40** so arranged that when these slots are moved out of registering position this bowed portion will serve to clamp the protector and hold it in position as already described. The protector **24** fed from these spools would, of course, pass around the clamping mechanisms shown clearly in Fig. 1 and the protector brought into taut position in

front of the type. When it is desired to change the protector and move another section to operative position, the clamping mechanisms would be released and the disk **46** could be rotated so as to rotate the sleeve **47**. The ribbon protector would, of course, be inserted in the slit **48** so that as the tube or sleeve **47** is rotated the protector would be wound upon this member.

It is believed obvious that if desired the protector may be moved with each operation of the type as is customary in some machines with the inked ribbon. It is believed obvious that other forms of securing the protector at opposite sides of the type may be resorted to instead of using the clamping mechanism illustrated as it is but necessary that this protector be sufficiently taut to be retained in front of the inked ribbon and not to interfere with the operation of the machine.

A protector of this type has proved quite efficient in use as it does prolong the life of the inked ribbon and prevents the undesirable splattering or spreading of the ink. At the same time the face of the type is kept clean and efficient operation of the type bars becomes possible. Without the use of the protector dirt and foreign material and particularly dust mixed with the ink will interfere with the proper operation of the type bars until eventually these type bars begin to stick resulting in an imperfect operation of the machine. The protector also serves to protect the ribbon from wearing and prevent the platen from hardening and wearing.

What I claim is:

1. In a writing machine embodying an inked ribbon and a plurality of type bearing members arranged in a bank and positioned in straight lineal alignment, normally in spaced relation to the inked ribbon and selectively individually movable into engagement with the inked ribbon for forcing an impression therethrough: a pair of supporting bodies at opposite sides of said bank, a post on each of said supporting bodies at opposite sides of said bank; a pair of clamps each positioned at one side of said bank on said supporting bodies; and a protective ribbon of flexible non-inked material engaging said posts and extending between the inked ribbon and said bank and held in taut condition against said posts by said clamps, said clamps being movable into operative position and inoperative position and each movable independently of the other.

2. In a writing machine embodying an inked ribbon and a plurality of type bearing members arranged in a bank and positioned in straight lineal alignment, normally in spaced relation to the inked ribbon and selectively individually movable into engagement with the inked ribbon for forcing an impression therethrough: a pair of supporting bodies at opposite sides of said bank; a post on each of said supporting bodies at opposite sides of said bank; a pair of engagement members each positioned at one side of said bank on said supporting bodies; and a protective ribbon of flexible non-inked material engaging said posts and having a portion extending between the inked ribbon and said bank and engaged and held in taut condition against said posts by said engagement members, said engagement members being movable to engaging and non-engaging position against said non-inked ribbon whereby said non-inked ribbon, upon movement of said engagement members to non-engaging position, may be moved longitudinally for locating another portion thereof between said inked ribbon and said bank.

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