Nov. 7, 1950 G. PETTY 2,529,225

INKING DEVICE FOR LAUNDRY MARKING MACHINES

Filed June 21, 1947 2 Sheets-Sheet 1

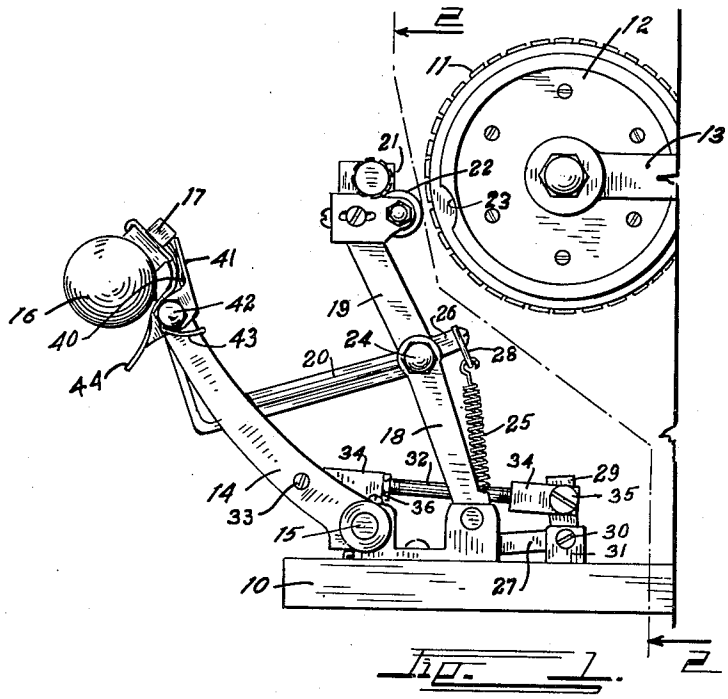

Fig. 1.

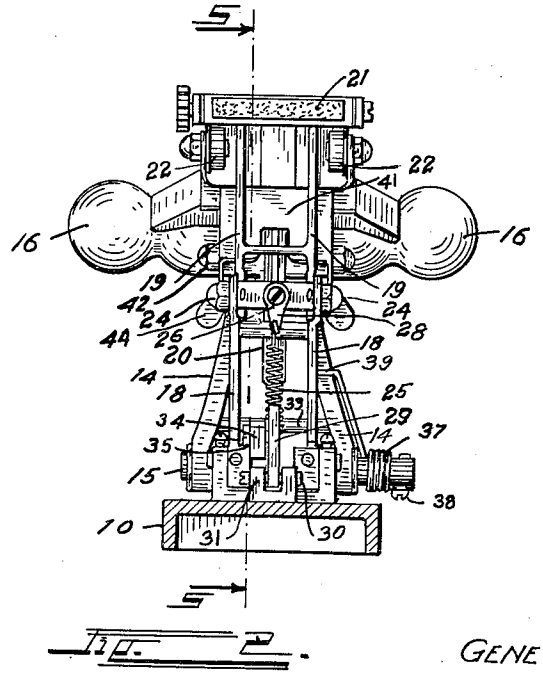

Fig. 2.

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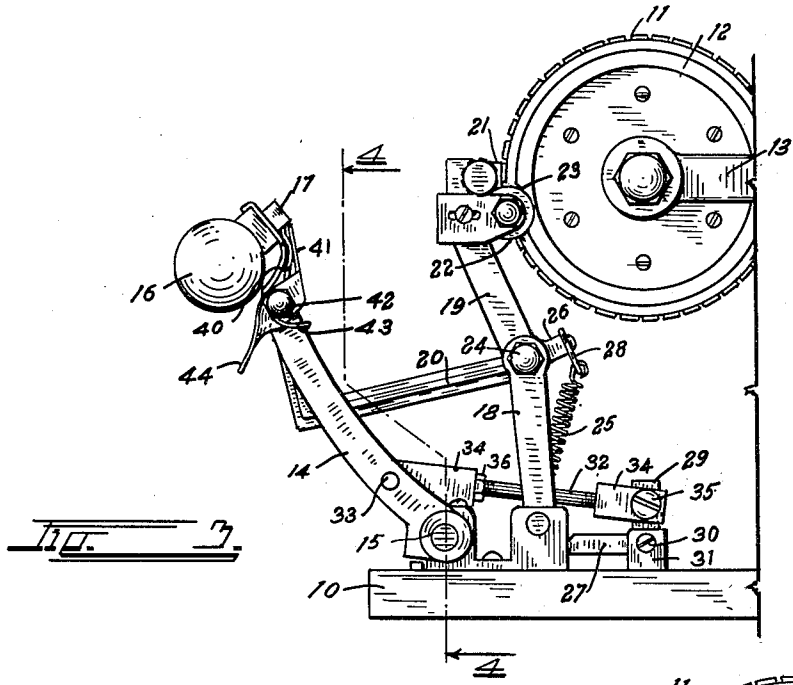

Fig. 3.

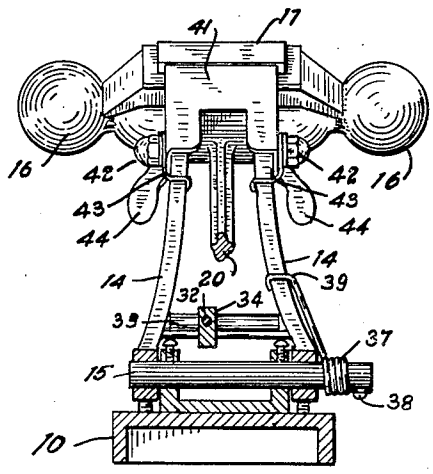

Fig. 4.

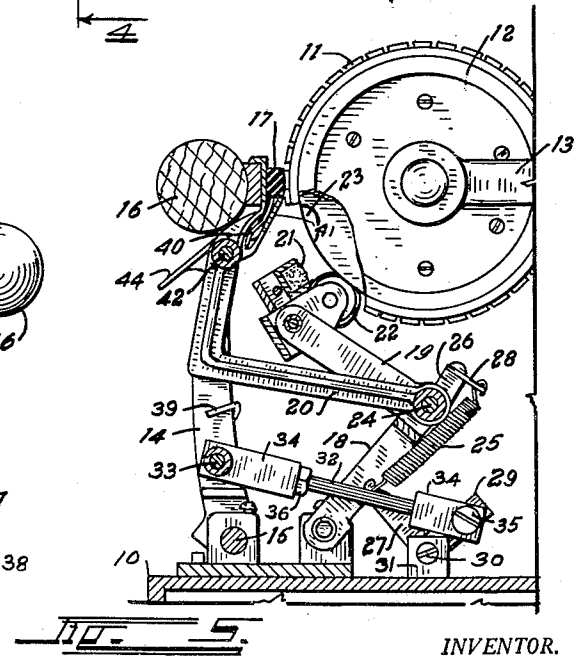

Fig. 5.

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INKING DEVICE FOR LAUNDRY MARKING MACHINES

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Application June 21, 1947, Serial No. 756,155

4 Claims. (Cl. 101—97)

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This invention relates to a laundry marking machine, more particularly of the type illustrated in Patents Nos. 2,136,461 and 2,157,497. The laundry marking machines illustrated in the said patents employ springs for swinging an inking pad into engagement with type wheels. These springs are so arranged that, during the act of printing, the inking pad will be swung away from the type wheels so as to greatly stretch and tension the springs. This constantly repeated and excessive stretching of the inking pad springs so shortens the life of these springs that constant replacements have been necessary.

The principal object of this invention is to provide a spring tension control device for the inking pad springs of laundry marking machines, which will relieve the tension in the springs when the inking pad is swung to the inoperative position, so as to avoid all unnecessary stretching and tensioning of the springs, thereby greatly increasing the life of the latter.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side elevation of the impression and inking portion of a laundry marking machine of the type disclosed in the above patents, illustrating the mechanism at rest;

Fig. 2 is an end view of the impression and inking portion, taken on the line 2—2, Fig. 1;

Fig. 3 is a side view similar to Fig. 1, illustrating the inking pad in the act of inking the type wheels;

Fig. 4 is a vertical cross-section, taken on the line 4—4, Fig. 3; and

Fig. 5 is a longitudinal, vertical section, taken on the line 5—5, Fig. 2, illustrating the mechanism in position to make a marking impression upon an article.

In the drawing, conventional parts of a laundry marking machine of the type illustrated in the said prior patents are indicated by numerals as follows: base plate 10; type wheels 11; type wheel side plates 12; type wheel supporting arms 13; impression frame 14; impression frame pivot 15; impression handle 16; impression pad 17; lower inking toggle frame 18; upper inking toggle frame 19; connecting link 20; ink pad 21;

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ink pad rollers 22; ink pad roller notches 23; toggle hinge bolt 24.

The operation of the conventional device is as follows: an article to be stamped or marked is placed over the impression pad 17 and the handles 16 are forced toward the type wheels 11. The first movement of the impression arms 14 is to cause the connecting link 20 to force the toggle hinge bolt 24 forwardly. This causes the inking pad 21 to swing into contact with the type wheels 11, the rollers 22 entering the notches 23, as shown in Fig. 3.

Further movement of the impression pad 17 toward the type wheels breaks the toggle between the toggle arms 18 and 19, causing the rollers to travel downwardly along the side plates 12, as shown in Fig. 5, and allowing the impression pad 17 to force the article against the type wheels 11.

Spring means must be provided for urging the toggle arms 18 and 19 to their extended position and for swinging the ink pad 21 against the type wheels 11. This is accomplished in this invention by means of a tension spring 25 which extends from a spring arm 26 formed upon the upper toggle frame 19 and a spring lever 27. The spring is attached to the spring arm 26 by means of a spring clip 28 extending at right angles to the spring arm 26.

The spring lever 27 is formed on a bell crank lever, the other lever of which, indicated at 29, extends upwardly at right angles to the lever 27. The bell crank lever 27—29 is mounted on a lever pivot 30 supported in suitable ears 31 from the base 10.

The lever 29 is connected by means of an adjustable length connecting rod 32. The rod 32 is threaded at its extremities into suitable connecting clevises 34 so that its length bar may be varied and be pre-set by means of a lock nut 36. One of the clevises is hingedly mounted on a cross bar 33 extending across the impression frame 14. The other clevis is hingedly connected to the lever 29 by means of a hinge screw 35.

It will be noted that the lever arm between the pivot 30 and the screw 35 is shorter than the length of the spring lever 27 so that the movements of the lever 29 are multiplied at the lower extremity of the spring. It will also be noted that the distance between the connection of the spring on the clip 28 and the axis of the toggle hinge bolt 24 is shorter than the length of the lever arm 27. Therefore, the lower extremity of the spring moves further upward than the upper extremity thereof.

These relative lengths are very important. They operate as follows: the greatest tension is applied to the spring **25** in Fig. 3, at which time the ink pad is in contact with the type wheels **11**. Further movement of the impression frame serves no inking purpose, yet in a conventional machine the tension in the springs continues to increase. In this machine, however, the connecting rod **32** will swing the lever **29** inwardly, as shown in Fig. 5. In so doing, it will swing the lever **27** upwardly a greater distance than the movement of the upper extremity of the spring **25**, as can be seen from Fig. 5. Thus the tension in the spring **25** is decreased instead of increased as the upper toggle frame **19** swings downwardly out of the path of the impression pad **18**.

It is this function that the present invention is designed to accomplish so as to prevent unnecessary stretching of the spring **25**.

Since the spring **25** in Fig. 5 is tending, through the bell crank lever and the connecting rod **32**, to maintain the impression pad **17** in contact with the type wheel **11**, other means must be provided for returning the impression arm to the position of Fig. 1. This is accomplished through the medium of a coil spring **37** which is coiled about the impression arm pivot **15** and connected thereto in any desired manner, such as by means of an attachment screw **38**. The other extremity of the spring **37** is hooked, as shown at **39**, around the impression frame **14**. The action of this spring exceeds the action of the spring **25** and returns the impression frame **14** to its original inoperative position of Fig. 1.

Means are provided for holding small tags, such as used by dry cleaners, on the impression pad **17**. This comprises a fixed, resilient plate **40** positioned adjacent the impression pad **17**. A clamping plate **41** is hinged on a hinge bolt **42** extending across the frame **14** so as to swing against the fixed jaw **40** to clamp a tag therebetween. The clamping plate **41** is constantly urged toward the fixed plate **40** by means of a coil spring **43**, and may be separated from the fixed plate **40** by actuation of finger tabs **44**.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. In a laundry marking machine having a base and an impression frame hingedly mounted on said base for carrying an impression pad forwardly against type wheels, means for inking the type wheels in advance of the contact of said impression pad comprising: a lower lever member hingedly mounted on said base forwardly of said frame; means for transmitting the movements of said impression frame to said lower lever member; an upper lever member hinged to the upper extremity of the lower member and extending upwardly therefrom; an ink pad carried at the upper extremity of the upper lever member to contact the type wheels; a tension spring urging said upper lever member toward said type wheels; and means for relieving the tension in said spring as said impression lever approaches said type wheel.

2. In a laundry marking machine having a base and an impression frame hingedly mounted on said base for carrying an impression pad forwardly against type wheels, means for inking the type wheels in advance of the contact of said impression pad comprising: a lower lever member hingedly mounted on said base forwardly of said frame; means for transmitting the movements of said impression frame to said lower lever member; an upper lever member hinged to the upper extremity of the lower member and extending upwardly therefrom; an ink pad carried at the upper extremity of the upper lever member to contact the type wheels; a spring arm extending forwardly from said upper lever member; a tension spring extending downwardly from said spring arm and acting to urge the upper lever member toward the type wheels; attachment means to which the lower extremity of said spring is secured; and means for moving said attachment means upwardly as said impression arm approaches said type wheels to relieve the tension in said spring.

3. In a laundry marking machine having a base and an impression frame hingedly mounted on said base for carrying an impression pad forwardly against type wheels, means for inking the type wheels in advance of the contact of said impression pad comprising: a lower lever member hingedly mounted on said base forwardly of said frame; means for transmitting the movements of said impression frame to said lower lever member; an upper lever member hinged to the upper extremity of the lower member and extending upwardly therefrom; an ink pad carried at the upper extremity of the upper lever member to contact the type wheels; a spring arm extending forwardly from said upper lever member; a tension spring extending downwardly from said spring arm and acting to urge the upper lever member toward the type wheels; a substantially horizontal spring lever hingedly mounted on said base at its one extremity and being connected to the lower extremity of said spring at its other extremity; and means operable from the movement of said impression frame for swinging said spring lever upwardly as said frame approaches said type wheels to relieve the tension in said spring.

4. In a laundry marking machine having a base and an impression frame hingedly mounted on said base for carrying an impression pad forwardly against type wheels, means for inking the type wheels in advance of the contact of said impression pad comprising: a lower lever member hingedly mounted on said base forwardly of said frame; means for transmitting the movements of said impression frame to said lower lever member; an upper lever member hinged to the upper extremity of the lower member and extending upwardly therefrom; an ink pad carried at the upper extremity of the upper lever member to contact the type wheels; a spring arm extending forwardly from said upper lever member; a tension spring extending downwardly from said spring arm; a substantially horizontal spring lever hingedly mounted on said base at its one extremity and being connected to the lower extremity of said spring at its other extremity; an actuating lever extending upwardly from the hinge point of said spring lever; a connecting member extending from said actuating lever to said impression frame for communicating the movements of the latter to the former for swinging said spring lever upwardly as said frame approaches said type wheels to relieve the tension in said spring.

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