

Dec. 12, 1967

H. NIRENBERG

3,357,271

STAMPING OR FRANKING MACHINE LOCKING ARRANGEMENTS

Filed July 19, 1965

2 Sheets-Sheet 1

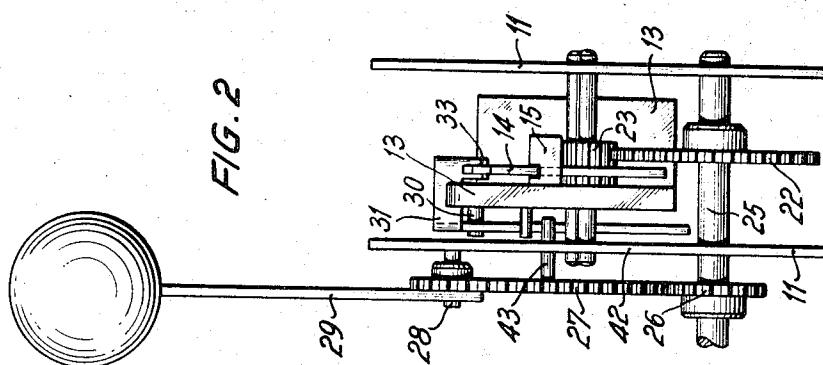


FIG. 2

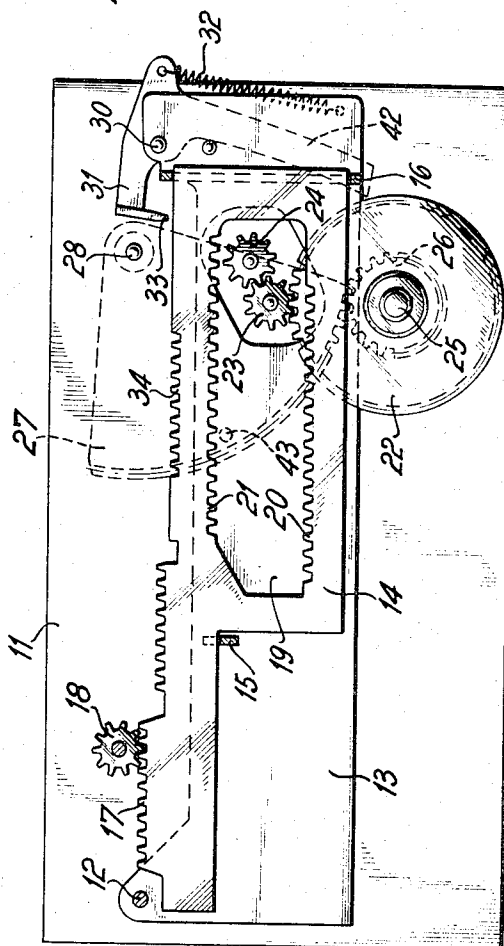


FIG. 1

INVENTOR

HANS NIRENBERG

By: Nolte & Nolte
ATTORNEYS

Dec. 12, 1967

H. NIRENBERG

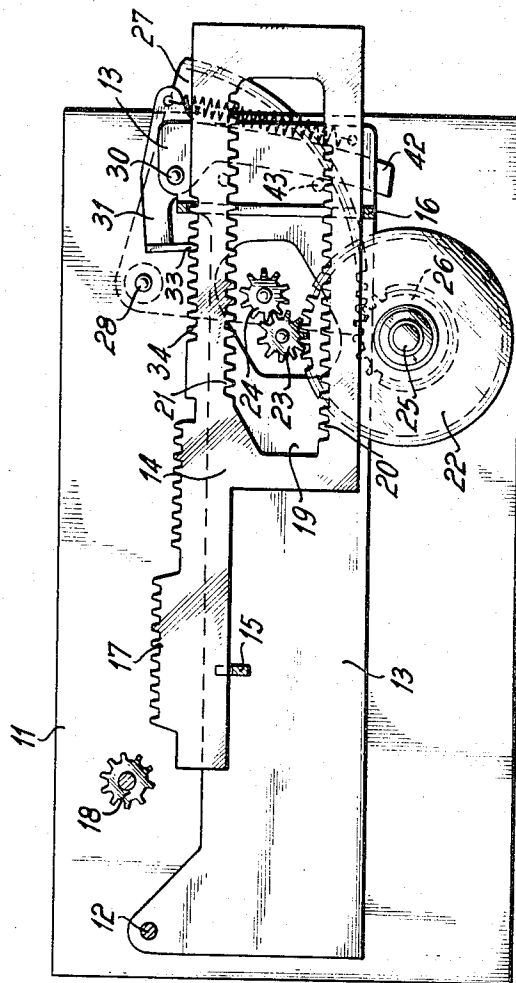
3,357,271

STAMPING OR FRANKING MACHINE LOCKING ARRANGEMENTS

Filed July 19, 1965

2 Sheets-Sheet 2

FIG. 3



INVENTOR
HANS NIRENBERG
By: Nolk & Nolk
ATTORNEYS

1

3,357,271

STAMPING OR FRANKING MACHINE LOCKING ARRANGEMENTS

Hans Nirenberg, Frankfurt am Main, Germany, assignor to Telefonbau und Normalzeit G.m.b.H., Frankfurt am Main, Germany, a joint-stock company

Filed July 19, 1965, Ser. No. 472,795

Claims priority, application Germany, July 23, 1964, T 26,655

4 Claims. (Cl. 74—98)

ABSTRACT OF THE DISCLOSURE

A locking arrangement is described for racks of an actuating mechanism for a franking machine, the arrangement comprising a pivotable support carrying racks engageable by gear wheels. A lever carries a locking latch arranged to engage one of the racks for preventing movement of the racks while not in mesh with any one of the gear wheels, the lever and the latch thereon being turned into rack-engaging position by a projection on drive means when the racks are in an end position.

The present invention relates to locking arrangements for racks of differential actuating mechanisms of franking machines.

In my copending patent application Ser. No. 316,960, filed Oct. 16, 1963, the disclosure of which is incorporated herein by reference, I have disclosed a franking machine having a counting mechanism which is adjusted in accordance with a fee amount stamped by means of a rack which in different positions of pivotation carries out a to and fro reciprocating movement. During each of these movements the rack engages with a corresponding pinion and during the pivoting of the rack from one position into another, the rack moves out of engagement with one of the pinions and then into engagement with another of the pinions. The rack can thus temporarily be completely without any engagement with the pinions. If at this instant the rack is displaced longitudinally, the various elements controlled by the rack in its different positions of pivotation will no longer be adjusted by the correct amount.

It is accordingly an object of the present invention to provide a novel locking arrangement in a franking machine.

A further object of the present invention is to provide, for use in a franking machine, a differential actuating mechanism comprising a longitudinally slidable rack on a pivotable support and a locking arrangement for retaining the rack during pivotation of the support.

A still further object of the present invention is to provide a franking machine with a novel locking arrangement of simple construction for preventing incorrect fee metering.

Further objects and advantages of the present invention will be readily apparent to those skilled in the art from the following description thereof given by way of example, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 shows a diagrammatic side view of parts of a differential actuating mechanism of a franking machine according to the invention;

FIG. 2 shows a side view of the mechanism of FIG. 1; and

FIG. 3 shows a diagrammatic side view of the mechanism of FIGS. 1 and 2 immediately after the pivotation of the rack support.

As shown in FIG. 1, a rack support 13 is pivotably mounted on a shaft 12 on a chassis 11 and has projec-

2

tions 15 and 16 which guide a rack 14 for longitudinal sliding movement relative to the rack support 13. In the rest position illustrated in FIG. 1, a toothing 17 on the rack 14 meshes with a setting gear 18. By rotation of the setting gear 18 the rack 14 can be longitudinally adjusted.

An opening 19 in the rack 14 is provided with two toothings 20 and 21 which can mesh with gear wheels 23 and 24 driven by a gear 22. The gear 22 is coupled by a shaft 25 to a further gear 26 with which a toothed segment 27 is in engagement. The toothed segment 27 is rotatably mounted on a shaft 28 supported in the chassis 11. The toothed segment 27 is provided with a handle 29 by means of which it can be pivoted about the shaft 28.

In the condition in which the rack carrier 13 assumes its rest position, the gear wheel 23 meshes with the toothing 20 of the rack 14. If after presetting of the rack 14 the toothed segment 27 is pivoted in an anti-clockwise direction, as viewed in FIG. 1, about the shaft 28, then the rack 14 is shifted to the right to operate a counting mechanism, not shown, as will be evident by reference to my aforesaid patent application Ser. No. 316,960 filed Oct. 16, 1963. At the end of this movement the toothed segment 27, by means of a spring (not shown) allows the rack support 13 to pivot into a different position so that the gear wheel 23 moves out of engagement with the toothing 20 and the gear wheel 24 moves into engagement with the toothing 21.

In an intermediate position, during the pivotation of the rack, both toothings 20 and 21 are free of engagement with the rack toothing.

The locking device according to the invention has the purpose of preventing an undesired shifting of the rack 14 in this intermediate position. On a pin 30 projecting from the rack support 13, a three-armed lever 31 is rotatably mounted. A spring 32 secured at one end to the rack support 13 and at its other end to the lever 31, tends to draw the lever 31 into the position shown in FIG. 1, in which latch 33 on the lever 31 is located above the rack 14. A projecting lever arm 42 of the lever 31 projects into the path of movement of a pin 43 on the toothed drive segment 27. The pin 43 is arranged on the toothed drive segment 27 so that during the last portion of the pivotation of the drive segment 27 and as the rack 14 reaches its extreme right-hand position, but before the rack carrier 13 is swung, the lever 31 is rotated against the action of the spring 32. The latch 33 is thereby engaged in the toothing 34, and the rack support 14 is then pivoted to engage the gear wheel 24 in the toothing 21. For the duration of the movement of the rack carrier 13 from one position of pivotation into the other position of pivotation the rack 14 is thus locked against shifting longitudinally by the latch 33.

I claim:

1. A locking arrangement for a franking machine having a pivotably mounted support, a rack carried by said support, and drive means for moving said rack relative to said support, said locking arrangement comprising latch means pivotably mounted on said support and movable into an engaged position in which said latch means retains said rack, and actuating means for moving said latch means into said engaged position on movement of said rack into an end position by said drive means, said actuating means comprising abutment means associated with said drive means and movable therewith, and a lever arm pivotably mounted on said support and extending into the path of movement of said abutment means, said lever arm being connected to said latch means.

2. A locking arrangement as set forth in claim 1 wherein said abutment means comprise a projection on said drive means.

3

3. A locking arrangement as set forth in claim 1, wherein said latch means and said lever arm are parts of a lever pivotably mounted on said support.

4. A locking arrangement for a differential actuating mechanism of a franking machine, said actuating mechanism comprising a support pivotable into a first position and a second position, a rack longitudinally slidably movable relative to said support means slidably supporting said rack on said support, toothed drive means for effecting longitudinal reciprocation of said rack relative to said support, first and second gear wheels, first toothing on said rack and engageable with said first gear wheel on pivotation of said support into said first position, second toothing on said rack and engageable with said second gear wheel on pivotation of said support into said second position and said locking arrangement comprising a latch movable into a position of engagement with said rack for retaining said rack relative to said support, lever means carrying said latch, spring means connected to said lever means and said support and urging said latch

4

away from said position of engagement, and a latch actuating projection on said toothed drive member and movable therewith, said lever means comprising a lever arm projecting into the path of movement of said latch actuating projection, whereby said lever means is moved by said latch actuating projection against the action of said spring means to bring said latch into said position of engagement on movement of said rack into an end position by said toothed drive means.

References Cited

UNITED STATES PATENTS

854,314	5/1907	Smith	74—30
1,169,923	2/1916	Cartmell	74—30
2,933,290	4/1960	Ryder	74—422

FRED C. MATTEN, JR., *Primary Examiner*.

W. S. RATLIFF, *Assistant Examiner*.