

R. J. TRICE.
MUSIC LEAF TURNER.
APPLICATION FILED NOV. 14, 1908.

942,949.

Patented Dec. 14, 1909.

4 SHEETS—SHEET 1.

FIG. 1

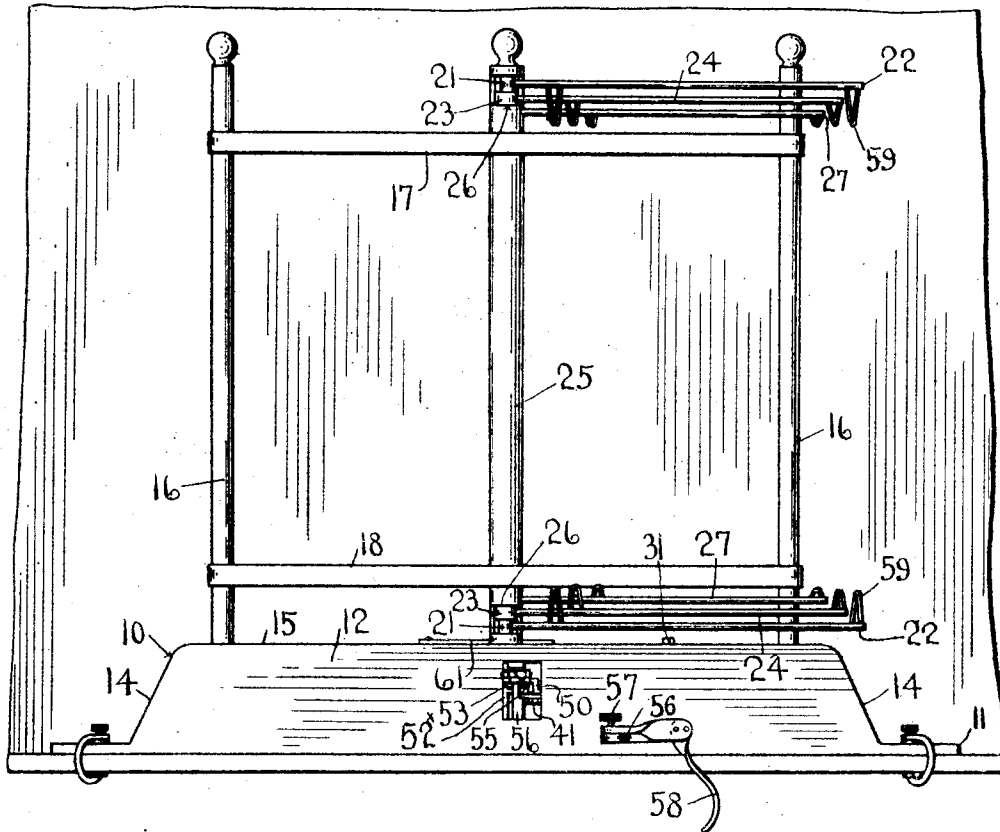
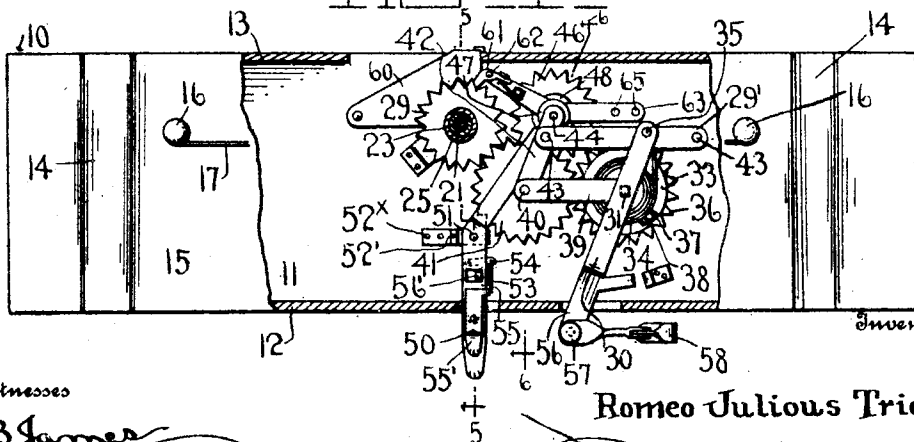


FIG. 4



Witnesses

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4 SHEETS—SHEET 2.

FIG. 2—

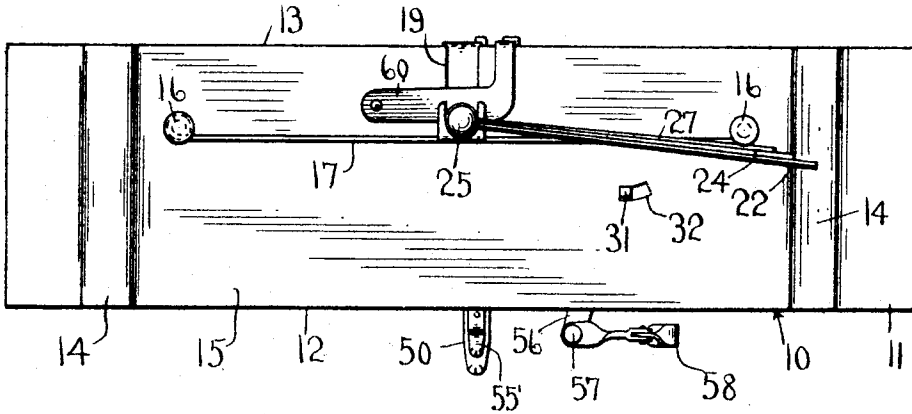
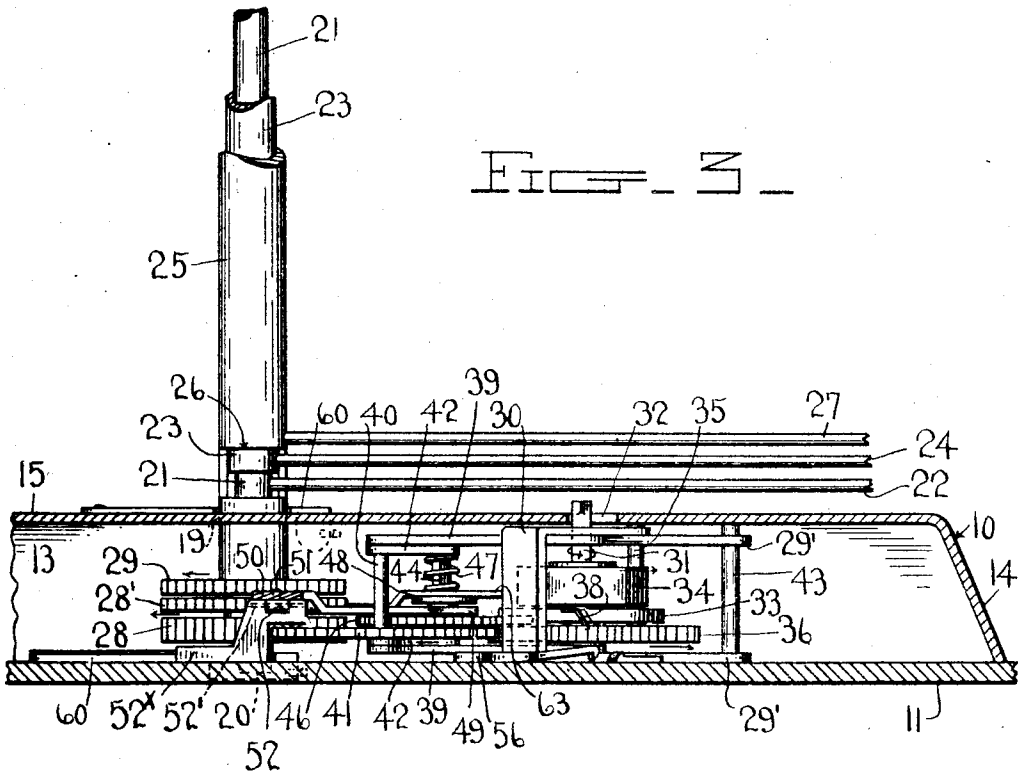


FIG. 3—



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4 SHEETS—SHEET 3.

FIG. 5.

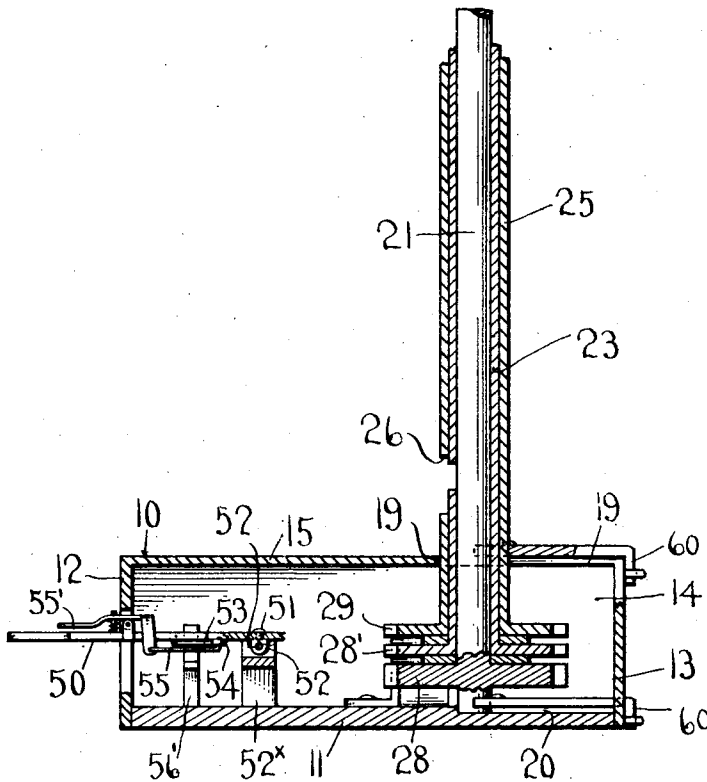
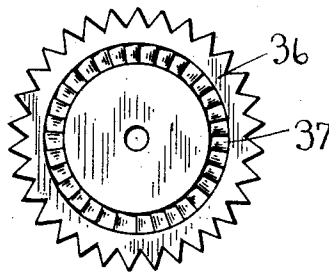


FIG. 8.



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4 SHEETS—SHEET 4.

FIG. 6.

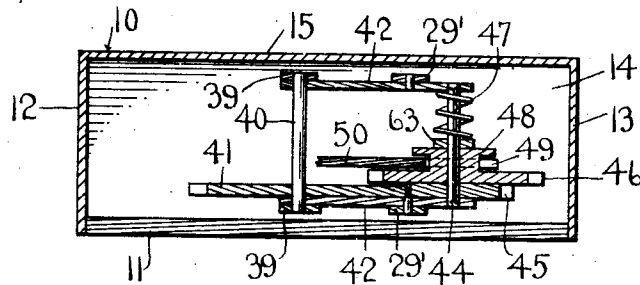
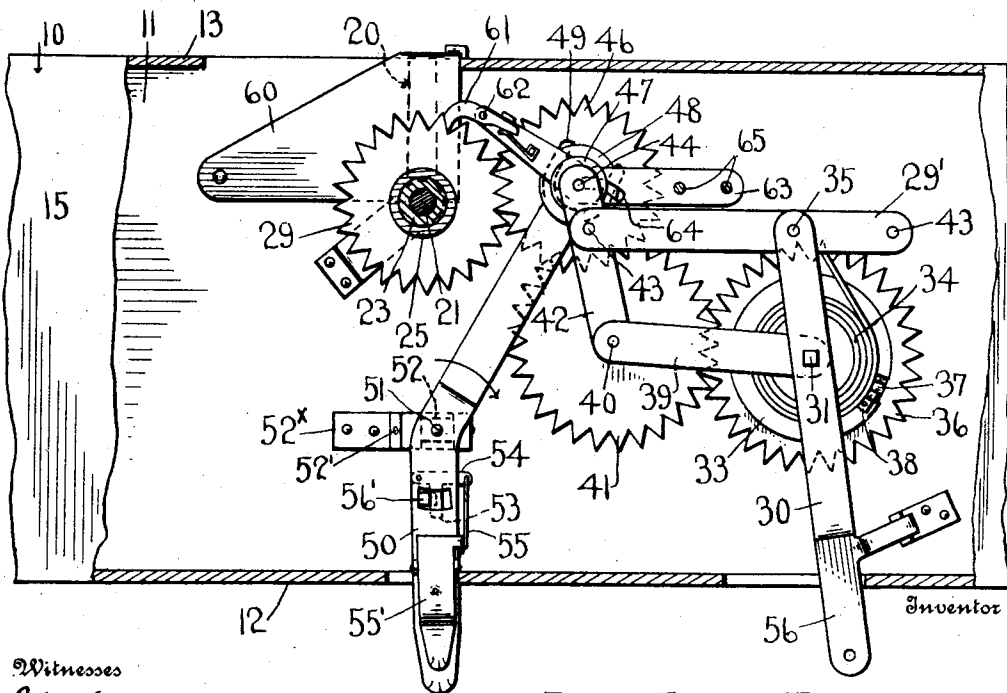


FIG. 7.



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UNITED STATES PATENT OFFICE.

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MUSIC-LEAF TURNER.

942,949.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed November 14, 1908. Serial No. 462,639.

To all whom it may concern:

Be it known that I, ROMEO J. TRICE, a citizen of the United States, residing at Eufaula, in the county of McIntosh, State of Oklahoma, have invented certain new and useful Improvements in Music-Leaf Turners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to a music leaf turner and more particularly to an automatic music leaf turning device.

The primary object of the invention is the provision of a music leaf turner having spring actuated mechanism for automatically turning successively music leaves and means for reversing said mechanism whereby the previously turned music leaves will be reset.

Another object of the invention is the provision of a music leaf turner which is adapted to be mounted at the front of a pianoforte and having mechanism adapted to actuate music leaf supporting arms for turning music leaves connected to said arms said mechanism being controlled by a main winding spring, a manually operable lever to shift the mechanism whereby the arms supporting the leaf music will be successively moved so as to turn one leaf after the other at the will of the operator and means for resetting the said mechanism.

With these and other objects in view the invention for example, consists in the construction, combination and arrangement of parts as will be hereinafter more fully described and as illustrated in the accompanying drawings which disclose the preferred form of embodiment of the invention. It is to be understood however, that changes, variations and modifications may be made such as come properly within the scope of the claims hereunto appended without departing from the spirit of the invention.

In the drawings:—Figure 1 is a front elevation of the invention. Fig. 2 is a top plan view thereof. Fig. 3 is a longitudinal sectional view through the casing to show the position of the interior mechanism. Fig. 4 is a further top plan view with the top of the casing broken away. Fig. 5 is a vertical sectional view on the line 5—5 of Fig. 4. Fig. 6 is a further sectional view on the line

6—6 of Fig. 4. Fig. 7 is a top plan view with the top of the casing removed showing the mechanism reversed. Fig. 8 is a plan view of the combined ratchet and cog gear.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings, the numeral 10 designates generally the casing or housing of the music leaf turner comprising a base plate 11, front and rear walls 12 and 13, end walls 14 and a top plate 15 upon which latter are mounted vertical spaced uprights 16 having upper and lower cross strips 17 and 18 respectively connected thereto and which form a back frame or rest for the music sheet.

Centrally in the top plate 15 and extending from the rear edge thereof is an open slot 19 with which alines a bearing groove 20 formed in the bottom or base plate 11 and mounted in the said groove and passing upwardly vertically through the open slot 19 is a rotary shaft 21 having outwardly projecting parallel upper and lower arms 22 to which is suitably connected a music sheet. Surrounding the said shaft 21 is a hollow shaft 23 the same being cut away and having outwardly projecting parallel arms 24 to which is adapted to be connected a music sheet. Also surrounding the hollow shaft 23 is another hollow shaft 25 the same being cut away as at 26 to permit the movement of the arms 22 and 24 upon the rotation of the shaft carrying the same and which hollow shaft 25 carries outwardly projecting supporting arms 27 to which is adapted to be connected a music sheet.

Fixed to the lower end of the shaft 21 is a broad toothed cog gear or wheel 28 and to the shafts 23 and 25 are fixed toothed gears or cog wheels 28' and 29 respectively.

Within the casing 10 are rigidly mounted parallel plates or arms 29' having pivotally connected thereto the ends of a U-shaped member 30 the same supporting a vertically disposed key winding shaft 31 projecting upwardly through an elongated slot 32 formed in the top plate 15 of the casing.

Fixed to the key winding shaft 31 is a winding drum 33 to which is connected one end of a main spring 34 the opposite end thereof connected to a vertical pin or post 35 carried by the arms 29' and adjacent the winding drum within the casing. Loosely mounted upon the winding shaft 31 below

the winding drum 33 is a cog gear 36 having formed in its upper face ratchet teeth 37 in engagement with a spring pawl 38 carried by the winding drum and which pawl is adapted to ride over the ratchet teeth 37 when the main spring 34 is being wound upon the winding drum by the key winding shaft and during the unwinding of the main spring 34 the winding drum 33 is locked to the cog gear or wheel 36 by the said pawl to automatically turn the music sheet as will be hereinafter more fully described.

Pivotally connected to the U-shaped member 30 are links in the form of flat plates 39 which latter support a vertical short shaft 40 forming a bearing shaft for a rotatable cog gear or wheel 41 meshing with the cog gear or wheel 36 on the key winding shaft. Pivotally connected to the links 39 by engagement with the bearing shaft 40 are rocking plates 42 the latter fulcrumed as at 43 to the rigid arms 29' and carrying at their free ends a squared vertical shaft 44 having fixed thereto a cog gear 45 and above the latter is slidably mounted on the said shaft 44 a gear wheel 46 the latter normally held contiguous with the cog gear 45 by a tension spring 47 and which gear 46 is adapted to be thrown into mesh with the gears 28, 28' and 29 respectively for rotating the same to cause movement to the arms supporting music sheets for turning the latter in successive order. Said cog gear 46 is provided on one side with a collar 48 engaged by a forked extremity 49 of a rocking lever 50 the latter pivoted as at 51 to a bearing 52 which latter is pivoted as at 52' to a bracket 52* mounted on the bottom or base plate of the casing and which lever is adapted to raise and lower the gear wheel 46 into engagement with the gears 28, 28' and 29 fixed to the shafts carrying the arms supporting the music sheets. To lock the rocking lever in its thrown position there is provided a pivotal dog 53 having an extension 54 connected to a rod 55 the latter connected to a spring controlled finger piece 55' pivoted to the shifting lever. This finger piece 55' normally holds the dog 53 in locking engagement with a notched post 56' during the shifting movement of the driving gears. Projecting outwardly from the U-shaped member is an arm 56 carrying a set screw member 57 for locking a manually operable handle 58 in various adjusted positions and which lever is adapted to be actuated by the operator for reversing the gear mechanism by bringing the cog wheel or gear 41 into engagement with the cog gear 28 which will reset the arms supporting the music sheets after being turned.

To connect the music sheets to the arms 22, 24 and 27 there are provided clips 59. To maintain the shafts 21, 25 and 23 remov-

ably connected to the casing there are provided pivotal locking members 60 whereby the said shafts can be easily withdrawn or detached from the casing at the will of the operator.

To prevent the turning of the music sheets supported by the arms 22, 24 and 27 prior to being actuated by the leaf turning mechanism, there is provided a spring controlled pawl 61 which latter is pivoted as at 62 to one end of an angular-shaped arm or piece 63 containing a curved slot 64 centrally thereof in which works the shaft 44 upon the shifting of the gear 45 (see Fig. 6) and this angular arm or piece 63 is vertically slidable upon stationary posts or pins 65 so as to permit the said locking pawl 61 to engage the teeth of the gears 28, 28' and 29 respectively should the shifting lever 50 be actuated to bring the gear 46 in the plane of any one of the said gears 28, 28' and 29 to mesh therewith for the subsequent turning of the music sheets.

In operation, presuming that the spring 34 has been wound and that the supporting arms have been swung to the right of the axis of rotation of the shafts carrying the same and to these arms are connected the leaves of a music book and it now being desired to successively turn the leaves at predetermined intervals, the operator shifts the arm 56 to the right to disengage the gear 41 from the gear 28 and by this gear 41 meshing with the gears 36 and 45, which latter is fixed to the squared shaft 44, the same having slidably mounted thereon the gear 46 which at this moment engages the gear 28, so that by the action of the spring 34, the said train of gears will rotate this gear 28, turning shaft 21 to the left so as to turn the first leaf of the book of music in the same direction. Now should it be desired to turn the second leaf of the book of music, the operator actuates the finger piece 55' to release the pivotal rocking lever 50 and by pressing downwardly upon the same it is caused to rock upon its pivot 52' and in this manner the gear 46 is raised into engagement with the gear 28' and by the action of the spring 34 said gear 28' will turn or rotate the shaft 23, so as to turn the music leaf connected to the supporting arms 24 to the left. When it is desired to turn the last or third leaf of the music book the rocking lever 50, is further depressed to raise the gear 46, into engagement with the gear 29, and in this manner the said last or third leaf is turned to the left upon the rotation of the shaft 25, of the device. When it is necessary to shift the arms to the right the operator shifts the arm 56, to the left, which brings gear 41 into mesh with gear 28 and by the action of the spring 34 the shaft 21 will be caused to turn to the right and by the turning of the supporting arms 22 in

this direction will effect the simultaneous turning of all of the other arms in the same direction.

What is claimed is—

5 1. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said
10 gears of the train into successive engagement with the gears fixed to the shaft, and means for shifting said train of gears to effect alternate meshing of a pair of its gears with one of the shaft gears for reversing the direction of rotation of the shaft.

15 2. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said
20 gears of the train into successive engagement with the gears fixed to the shaft, means for shifting said train of gears to effect alternate meshing of a pair of its gears with one
25 of the shaft gears for reversing the direction of rotation of the shaft, and means for driving said train of gearing.

3. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears
30 fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said gears of the train into successive engagement with the gears fixed to the shaft, means for
35 shifting said train of gears to effect alternate meshing of a pair of its gears with one of the shaft gears for reversing the direction of rotation of the shaft, and spring wound means for driving said train of gearing.

40 4. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said
45 gears of the train into successive engagement

with the gears fixed to the shaft, means for shifting said train of gears to effect alternate meshing of a pair of its gears with one of the shaft gears for reversing the direction of rotation of the shaft, spring wound means
50 for driving said train of gearing, and means for locking said raising means in adjusted position.

5. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears
55 fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said gears of the train into successive engagement with the gears fixed to the shaft means for
60 shifting said train of gears to effect alternate meshing of a pair of its gears with one of the shaft gears for reversing the direction of rotation of the shaft, spring wound means for driving said train of gearing, means for
65 locking said raising means in adjusted position, and supporting arms projecting from said shaft.

6. A music leaf turner comprising a plurality of interfitting rotatable shafts, gears
70 fixed to said shafts and arranged in superposed relation to each other, a shiftable train of gearing, means for raising one of said gears of the train into successive engagement with the gears fixed to the shaft, means for
75 shifting said train of gears to effect alternate meshing of a pair of its gears with one of the shaft gears for reversing the direction of rotation of the shaft, spring wound means for driving said train of gearing, means for
80 locking said raising means in adjusted position, supporting arms projecting from said shaft, and clip means carried by said supporting arms.

In testimony whereof, I affix my signature, in presence of two witnesses.

ROMEO J. TRICE.

Witnesses:

E. G. BAILEY,
JUSTIN CRANE.