

No. 651,191.

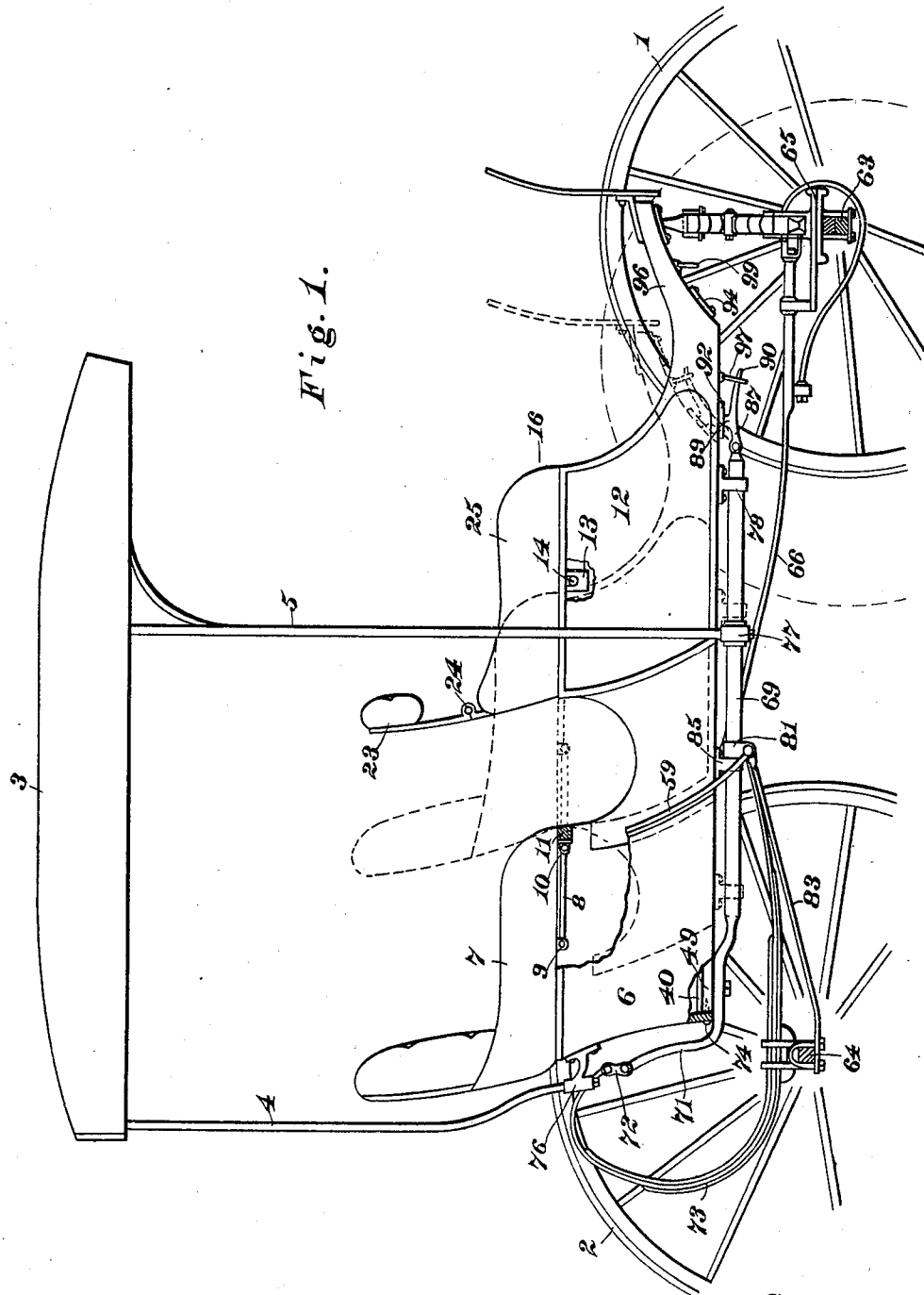
Patented June 5, 1900.

J. H. KOONS.
EXTENSIBLE CARRIAGE.

(Application filed Dec. 8, 1899.)

(No Model.)

3 Sheets—Sheet 1.



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Fig. 2.

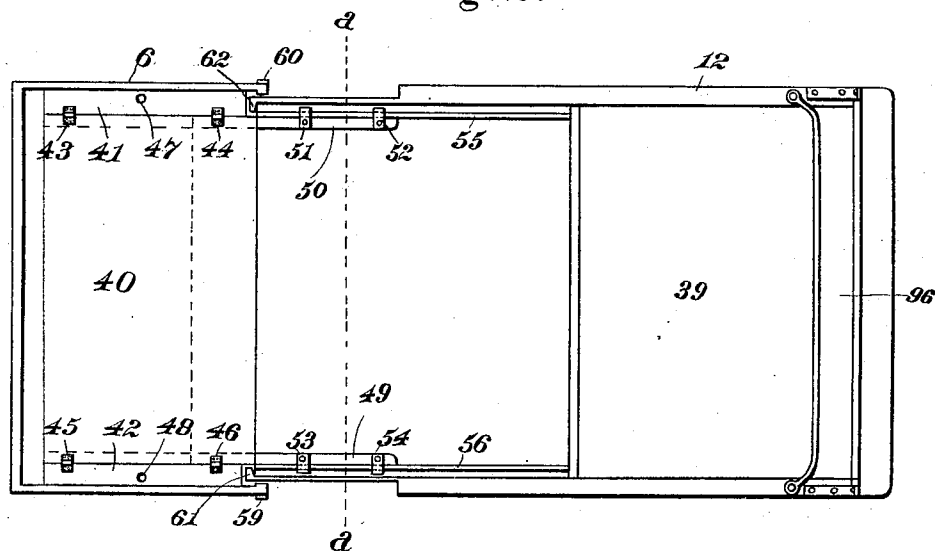
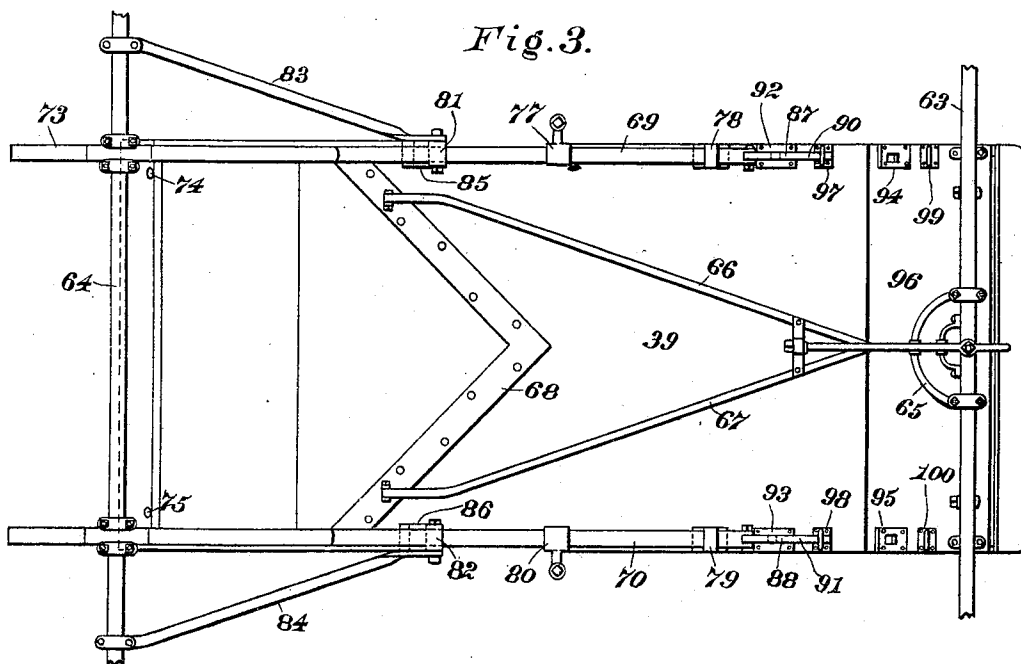


Fig. 3.



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3 Sheets—Sheet 3.

Fig. 4.

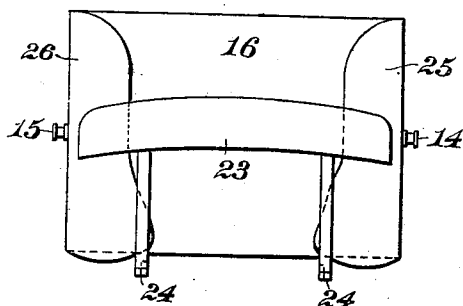


Fig. 6.

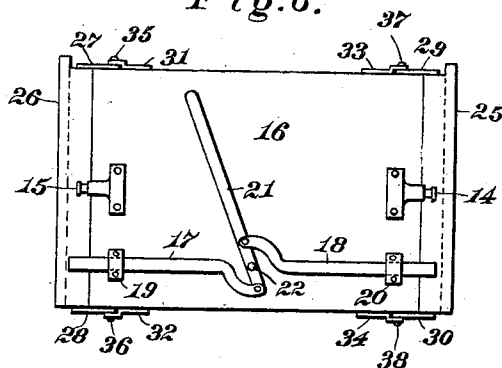


Fig. 5.

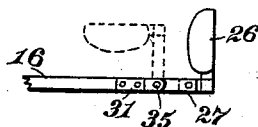
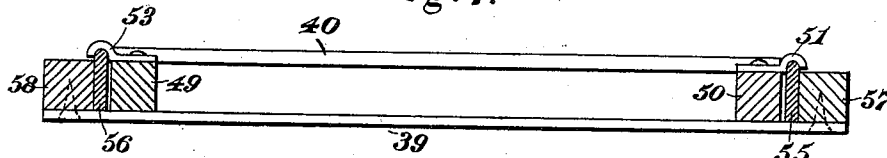


Fig. 7.



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EXTENSIBLE CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 651,191, dated June 5, 1900.

Application filed December 6, 1899. Serial No. 739,397. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY KOONS, a citizen of the United States, residing at Hagerstown, in the county of Washington and State of Maryland, have invented certain new and useful Improvements in Extensible Carriages; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to extensible carriages, and has for its object the production of a vehicle of which both the body and the running-gear may be extended sufficiently to permit the use of two seats, one in rear of the other, or contracted into a single-seat conveyance and preserving in each condition proper proportions and attractive appearance.

I accomplish the above object by a special construction and arrangement, each element being described in detail and its individual office, together with the mode of operation of the whole, fully explained hereinbelow.

Like numerals designate like parts throughout the accompanying drawings.

Figure 1 represents a side view of my invention extended and adapted for two seats. The broken lines in this figure indicate the positions of the single seat, dashboard, front wheels, and attachments when the carriage is contracted, the rear portion and top remaining at rest during the operation. Fig. 2 is a top plan view of the carriage-body floor, showing in full and broken lines the two positions of the sliding or front bottom. Fig. 3 is a plan view from below of the frame of the vehicle, the wheels being omitted. Fig. 4 is a top plan of the front seat, with back and sides or arms folded. Fig. 5 is a detail end view of one of the sides, the broken lines indicating its folded position. Fig. 6 is a bottom plan of the front seat, showing the lever-operated bolts by means of which it is secured in its normal place, the ends of the bolts entering suitable recesses (not shown) provided for the purpose in the sides of the body. Fig. 7 is a section of the floor, taken in a vertical plane marked by broken line *aa*. (See Fig. 2.)

Considering Fig. 1, numerals 1 and 2 mark the far front and rear wheels, 3 the top of the carriage, and 4 and 5 the customary upright rods, supporting the top. Number 6 designates the rear end, for descriptive purposes, the stationary portion of the body. Resting upon this portion is the hind seat 7. It is not necessarily a folding seat, but is movable on an arm 8, having one end pivoted to a stud 9, fixed to the under side of the seat, and the other end pivoted to a similar stud 10, secured to a bracket 11, (shown in section,) fastened to the side of the body. By means of the pivoted arm the hind seat may be "jumped" forward and backward, as further explained hereinafter. Number 12 marks the forward or movable part of the body, and interiorly, upon opposite sides of this part, are fixed trunnion-blocks 13, shown in Fig. 1 through a break in the side, and another, precisely similar, directly opposite, but not shown. In these blocks rest trunnions 14 and 15, (see Fig. 6,) and it will be noted that the front seat 16, supported by the trunnions, is reduced in width in order that it may turn upon them between the sides of part 12 of the body and that seat 16 would so turn were it not locked by the sliding bolts 17 and 18, guided by the straps 19 and 20 and pivoted to the hand-lever 21, which possesses a fulcrum 22. It has not been thought needful to multiply the drawings to show the bolt-holes in the sides, as the construction is obvious. In Fig. 1 may be seen the back-rest of seat 16. It is marked 23 and furnished with a hinge 24, upon which it may be folded inwardly. (See Fig. 4.) The sides or arms of this seat are designated by the numbers 25 and 26. These two arms correspond structurally. Details of arm 26 appear in Fig. 5. The arm, ordinarily a cushion, as delineated, has side irons attached at right angles, (see Figs. 5 and 6, numbers 27 and 28,) arm 25 being similarly provided with side irons, (marked 29 and 30.) These side irons are pivotally connected with the seat by clips 31, 32, 33, and 34 and screws 35, 36, 37, and 38, the latter passing through both clips and side irons, as drawn. In its normal erect position the arm 26 (see Fig. 6) falls over the trunnions and sides of the body, giving the seat the appearance of resting on the side. (See Fig. 1.) When folded, however, (see Figs. 4 and

5,) the trunnions project, and the bolts being withdrawn the seat might be inverted upon them, which is the desired object.

Considering Fig. 2, the plan view of the floor parts of the body, number 39 marks the front or sliding bottom, and number 40 the rear or false bottom beneath the hind seat. Near the sides of the rear body portion 6 of the carriage the false bottom is furnished with end pieces 41 and 42, connected with it by hinges 43 and 44 for the former, and 45 and 46 for the latter. Grasping the little knobs or finger-holds 47 and 48, the end pieces may be turned upwardly upon the hinges out of the way of the sliding bottom. An inspection of Fig. 7 will explain the position of the false bottom 40. It is shown to be raised above the front or main bottom 39 and is supported upon timbers 49 and 50. The manner of supporting the rear end of one of the timbers—say 49—is shown at the left-hand lower corner of the body in Fig. 1, the side being broken away in part. The forward portions of timbers 49 and 50 have secured on their upper surfaces curving guide-plates 51, 52, 53, and 54, that rest on and engage rails 55 and 56, attached to the outer timbers 57 and 58, running parallel with the first-mentioned timbers. To the under surface of timbers 57 and 58 the sliding bottom 39 is screwed, as indicated. The front edges of the sides of rear portion 6 of the carriage-body are bound by inclined curved ribs 59 and 60. The upper ends of these ribs appear in Fig. 2, and the greater part of rib 59 is shown in Fig. 1. The two ribs are identical. The rearward edges of the sides of movable part 12 of the body are likewise bound by inclined curved ribs, the tops of which appear in Fig. 2, numbered 61 and 62. The ribs of the rear portion of the body extend below the level of floor 39—that is, below the carriage—and will be again referred to. The ribs of the front portion of the body extend only to floor 39. It is believed to be within the scope of my invention to vary somewhat, if desired, the construction, including the ribs above described. From Fig. 7 it will also be seen that the front floor may be shoved backward beneath the rear or false bottom.

Considering Figs. 1 and 3, numbers 63 and 64 mark the front and rear axles. From a "fifth-wheel" device 65 of any chosen character braces 66 and 67 diverge rearwardly, their extremities being attached to an angular plate 68, which is screwed to the lower surface of floor or front bottom 39. Connecting braces 66 and 67 at their rear ends to the front bottom is an important feature of my invention, as by the use of this construction it is unnecessary to disconnect these parts when shifting the sections of the carriage. Numbers 69 and 70 mark the tubular side bars of the frame. At the back each bar is extended and bends upwardly, making a pivotal connection with the rear springs. The construction is the same for both bars, al-

though only the extension 71 of bar 69 is illustrated. This extension is connected by link 72 to rear springs 73, as shown; but this particular mechanism may be modified, if required. Through the back of the rear portion of the body a screw 74 is driven into the end of timber 49, and on the opposite side a second screw 75 holds timber 50. I may change this special method of holding the rear ends of the timbers supporting the false bottom. The construction just described is best shown in Fig. 1. Supporting the carriage-top at the rear is rod 4, held in bracket 76, secured to the back, and at the front rod 5 supports the top and is itself held in a bracket 77, that encircles tubular side bar 69. It will be understood that other and exactly-similar uprights support the top on the opposite side of the carriage. The distance between the rear upright 4 and front upright 5 does not vary, and the carriage-top is not extended or contracted. Near the front the tubular side bar 69 passes through the ring of a bracket 78, and bar 70 through a like bracket 79, (see Figs. 1 and 3,) both brackets being secured upon the under surface of front bottom 39. It may here be noted that on shifting the carriage to form a single-seat conveyance brackets 77 and 78 and brackets 79 and 80, the latter being twin to bracket 77 and attached to tubular side bar 70, come together and afford a practical measure and limit to the contractive movements of the body portions. In these two figures will be observed the clamping-rings 81 and 82, encircling the tubular bars in their numerical order, and from these rings will be noticed the braces 83 and 84, joined to the rear axle. To the rear of the clamping-rings the tubular bars pass through the rings of brackets 85 and 86, which are fixed on the under surface of front bottom 39, near its rear end. Attention is here called to the fact that when the carriage is extended brackets 85 and 86 meet the back edges of the clamping-rings 81 and 82, and thus limit the extension or separation of the body portions and other separable elements, as specified.

Further considering Figs. 1 and 3, the next elements to be described are the two latches 87 and 88, which lock the telescoping sections of the carriage together in either of the two positions. A statement of the details of latch 87 will answer for both. It is pivotally connected with the forward end of tubular bar 69. It possesses a laterally-projecting lug 89 and a longitudinally-extended elastic tongue 90. In Fig. 3 the elastic tongue 91 of latch 88 is shown. To receive the lugs of the latches, I provide four recessed plates numbered, respectively, 92, 93, 94, and 95. Plates 92 and 93 are secured to the under surface of front bottom 39, and plates 94 and 95 are fixed to the under surface of the upwardly-curving footboard 96. To engage the elastic tongues, I provide four pendent links 97, 98, 99, and 100. Links 97 and 98 are piv-

otally secured to the under surface of front bottom 39 forward of plates 92 and 93, and links 99 and 100 swing from the under surface of footboard 96. Considering the side view, Fig. 1, if elastic tongue 90 be sprung upwardly link 97 may be freed from engagement with its extremity and latch 87 will fall, there being nothing to hold the lug in the recessed block. Latch 88 being released in the same manner, it is believed to be clear from the foregoing that, assuming the rear portion of the vehicle to be held stationary and the front seat folded and inverted or entirely removed by lifting it from the trunnions, the whole front of the carriage may be telescoped into the rear and the hind seat jumped forward on arm 8 into the position vacated by the front seat. It may be here stated that to make the construction as durable as possible I usually provide two pivoted arms beneath the hind seat, one on either side of the carriage. The form and operation are the same in each instance. Again, referring to rib 59, that binds the forward edge of rear body portion 6, it will be observed, Fig. 1, that the rib extends downwardly and is made fast with brace 83 to the clamping-ring 81. Thus it is that the front of rear portion 6 is adequately supported, it being kept in mind that there is a twin rib 60 supporting the opposite side of portion 6.

I am aware that extensible wagons and carriages have been constructed, and I do not claim that feature broadly.

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In an extensible carriage, the combination of a rear body portion having a movable seat, a front body portion having a removable seat and adapted to telescope with the rear body portion, the front wheels being attached to and movable with the said front body portion, side bars, the said rear body portion secured upon the side bars and maintaining a fixed position with relation to them, guiding-brackets attached to and supporting said front body portion on the side bars, the said brackets sliding along the side bars, devices limiting the extension and contraction of the carriage, and latching mechanism arranged to lock the body portions together in either their extended or contracted position, substantially as described.

2. In an extensible carriage, the combination of extensible running-gear, a telescopic body consisting of a rear portion having a raised floor, a front portion provided with a bottom arranged to pass beneath the said raised bottom when the portions are telescoped, and timbers having rear ends fixed to the rear body portion, said timbers supporting said raised bottom, devices constructed and arranged to support the forward ends of said timbers and to guide the telescoping body portions when approaching or leaving each other, and latching mechanism arranged to lock the body portions and running-gear

together in either their extended or contracted position, substantially as described.

3. In an extensible carriage, the combination of extensible running-gear, a telescopic body consisting of separable front and rear portions, the rear portion having a raised floor, timbers 49 and 50 supporting said raised bottom and having rear ends fixed to the rear body portion, outer timbers 57 and 58, rails 55 and 56 attached to the outer timbers, guide-plates secured on timbers 49 and 50 and constructed to engage and slide upon said rails, the front body portion having a bottom secured on the under edges of said outer timbers and adapted to pass beneath said raised bottom, the outer timbers being connected with the sides of the said front body portion, and latching mechanism arranged to lock the body portions and running-gear together in either their extended or contracted position, substantially as described.

4. In an extensible carriage, the combination of a telescopic body consisting of front and rear separable portions, tubular side bars connected with the hind-wheel springs, the said rear body portion being supported in a fixed position on the side bars, the said front body portion having guiding ringed brackets supporting said front body portion on the side bars, front wheels having a forward connection with the footboard of said front body portion and fifth-wheel mechanism, braces 66 and 67 diverging rearwardly from the fifth-wheel and connected at the rear with said front body portion, devices constructed and arranged to limit the extension and contraction of the carriage, and latches adapted to lock the separable portions together in either their extended or contracted position, substantially as described.

5. In an extensible carriage, the combination of a telescopic body consisting of front and rear separable portions, tubular side bars connected with the hind-wheel springs, the said rear body portion being supported in a fixed position by the side bars, the said front body portion having two pairs of guiding ringed brackets supporting said front body portion on the side bars, the front wheels having a forward connection with the front body portion, fifth-wheel mechanism, braces 66 and 67 diverging rearwardly from the fifth-wheel and connected at the rear with the front body portion, clamping-rings 81 and 82 and brackets 77 and 80 secured on the side bars the rings in rear of the brackets, one pair of said guiding ringed brackets encircling the side bars in rear of said clamping-rings, the remaining pair of guiding ringed brackets encircling the side bars forward of brackets 77 and 80, and latches adapted to lock the separable portions of the carriage in either their extended or contracted position, substantially as described.

6. In an extensible carriage, the combination of a telescopic body consisting of front and rear separable portions, extensible run-

ning-gear, side bars supporting the body portions, latches pivoted to the forward ends of the side bars and provided with projecting lugs and elastic tongues, recessed plates and dependent links suitably located and attached to the said front body portion whereby the separable portions of the carriage may be locked in either their extended or contracted position, substantially as described.

7. In an extensible carriage, the combination of a telescopic body consisting of front and rear separable portions; a reversible and removable front seat, a back seat connected with the rear body portion by pivoted arms, tubular side bars connected with the hind-wheel springs, the said rear body portion being supported in a fixed position by the side bars, the said front body portion having two pairs of guiding ringed brackets supporting said front body portion on the side bars, the front wheels having a forward connection

with the front body portion, fifth-wheel mechanism, braces 66 and 67 diverging rearwardly from the fifth-wheel and connected at the rear with the front body portion, clamping-rings 81 and 82 and brackets 77 and 80 secured on the side bars the rings in rear of the brackets, one pair of said guiding ringed brackets encircling the side bars in rear of said clamping-rings, the remaining pair of guiding ringed brackets encircling the side bars forward of brackets 77 and 80, and latches adapted to lock the separable portions of the carriage in either their extended or contracted position, substantially as described.

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

JOHN HENRY KOONS.

Witnesses:

HARRY E. BURTON,
JOHN ANKENY.