No. 662,818.

Patented Nov. 27, 1900.

J. RANDALL.

SHINGLE JOINTER.

(Application filed Aug. 4, 1899.

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

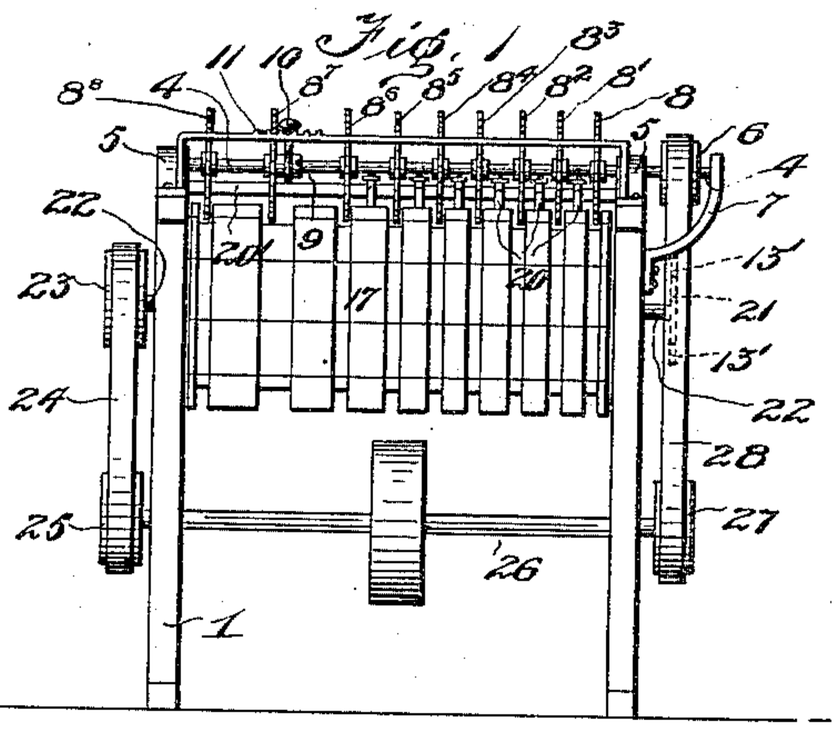

Fig. 2

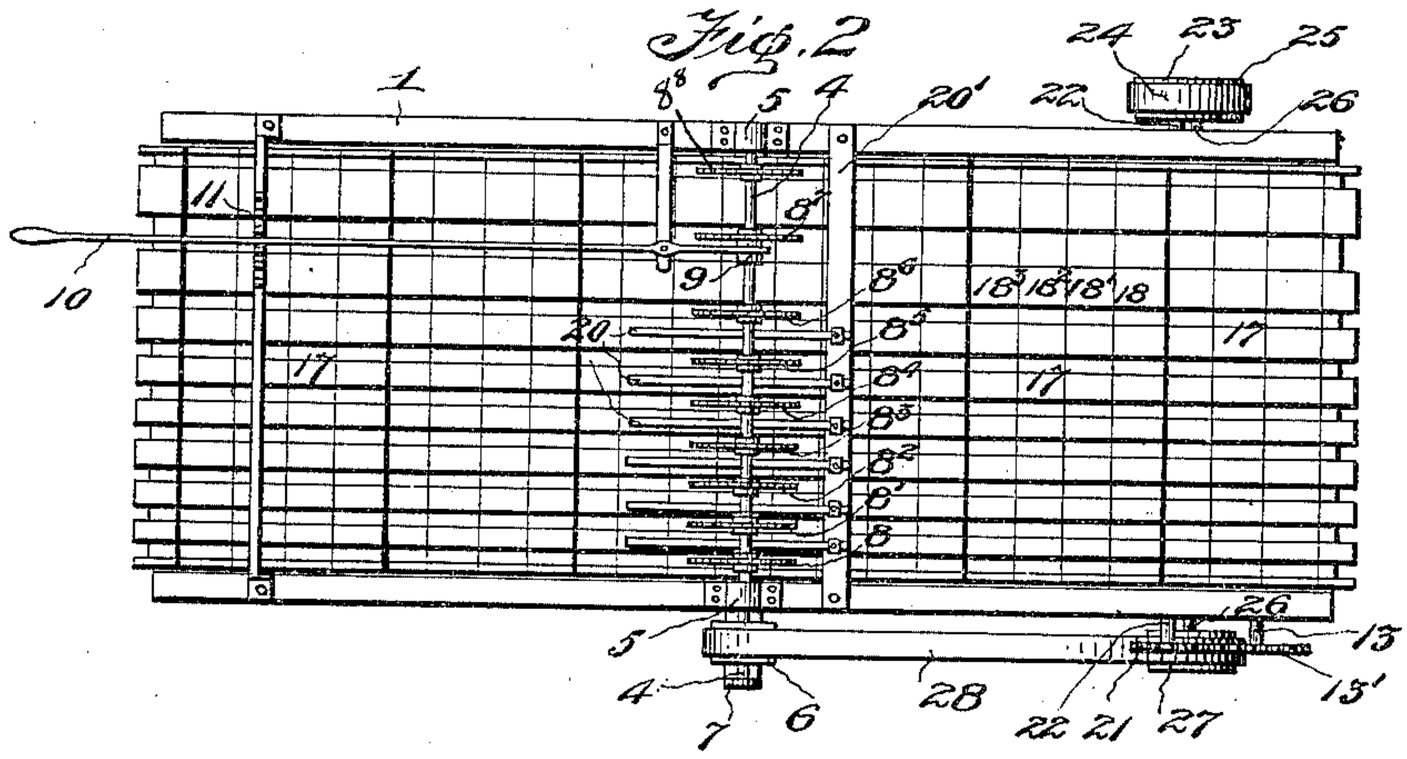

Fig. 3

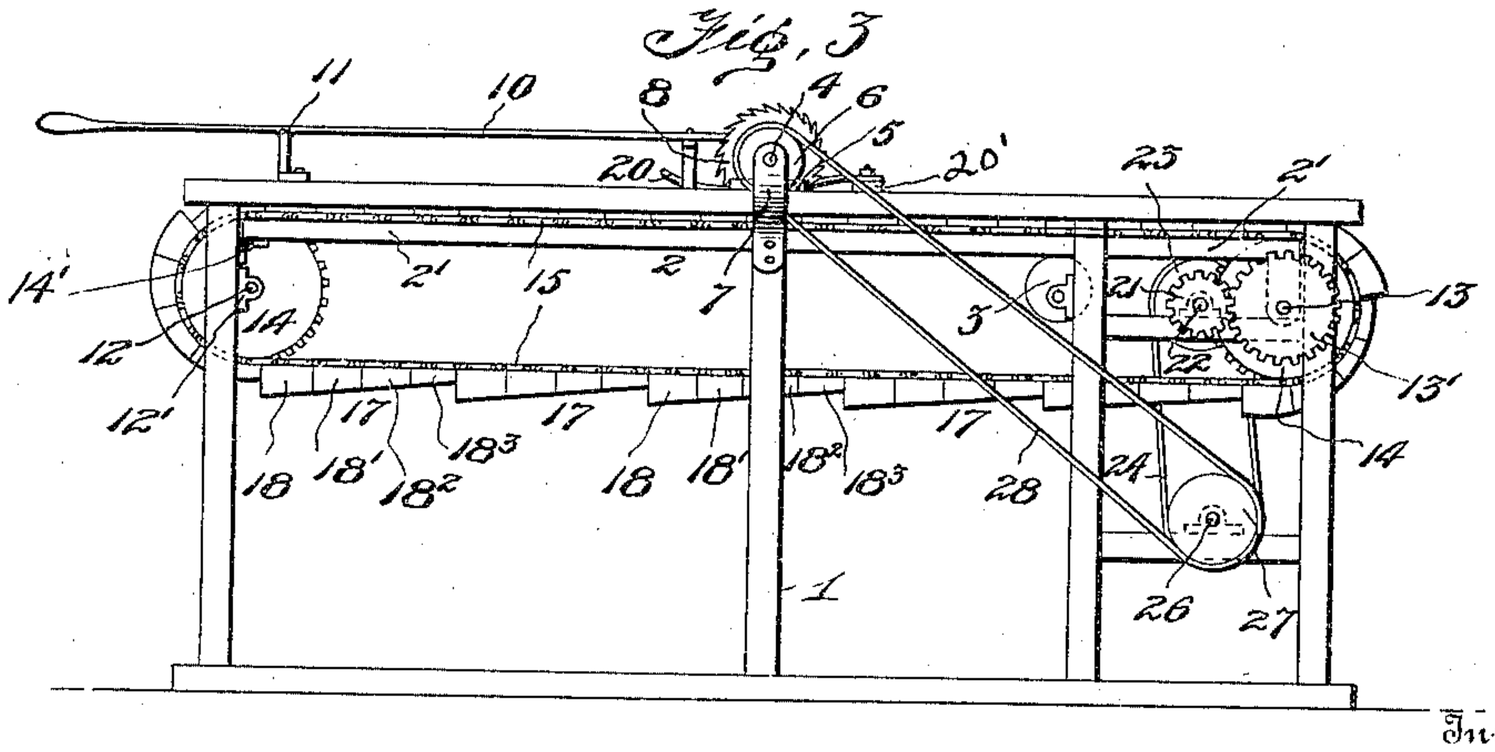

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Fig. 4

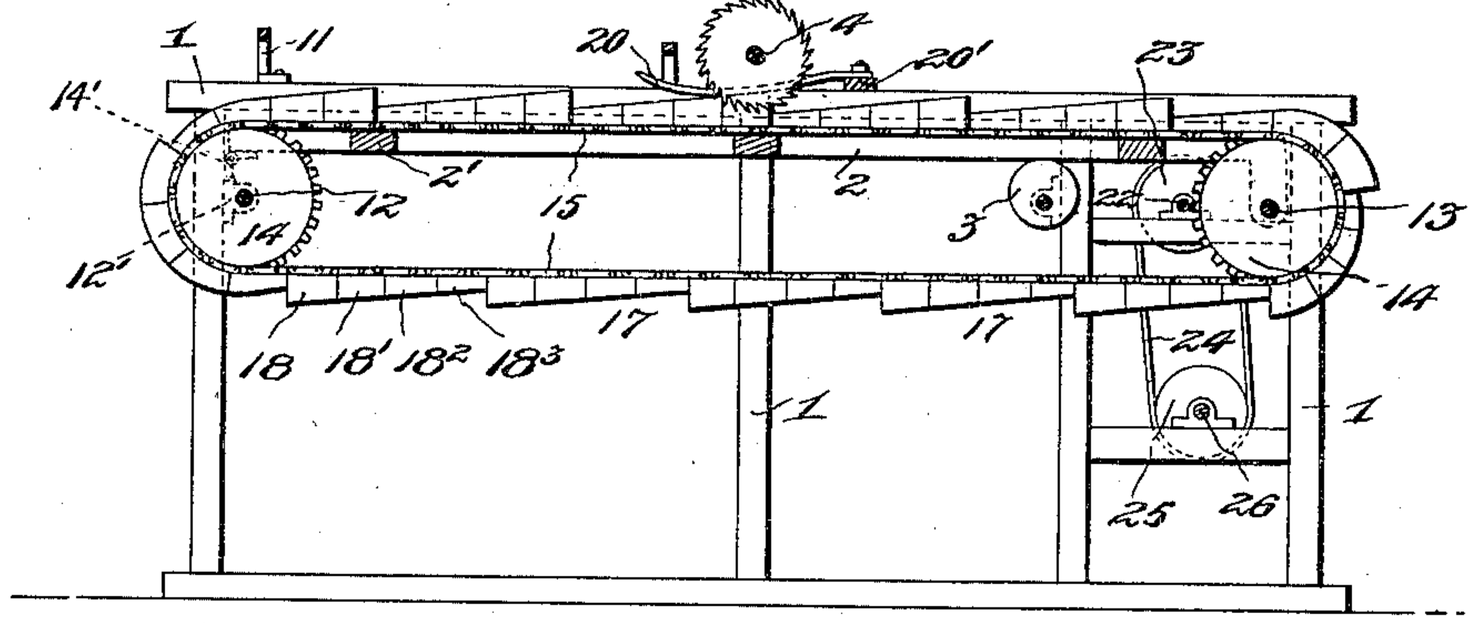


Fig. 5

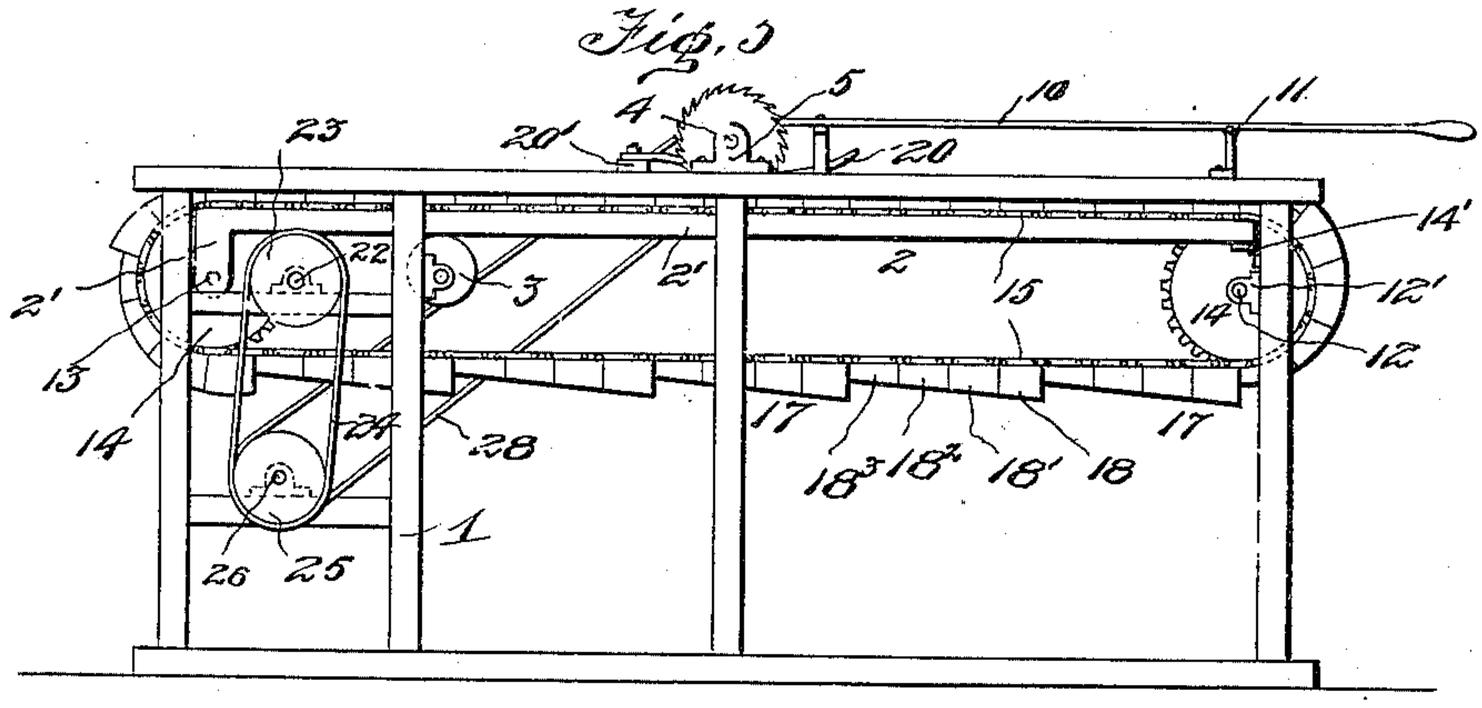
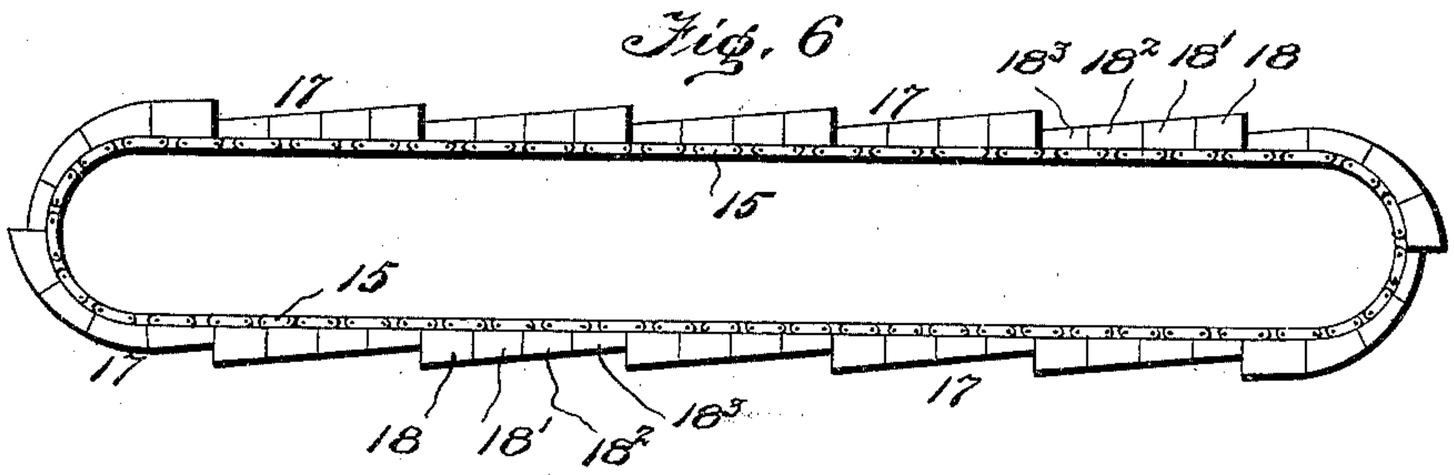


Fig. 6



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UNITED STATES PATENT OFFICE.

JOHN RANDALL, OF GATE, WASHINGTON.

SHINGLE-JOINTER.

SPECIFICATION forming part of Letters Patent No. 662,818, dated November 27, 1900.

Application filed August 4, 1899. Serial No. 726,106. (No model.)

To all whom it may concern:

Be it known that I, JOHN RANDALL, a citizen of the United States, residing at Gate, in the county of Thurston and State of Washington, have invented certain new and useful Improvements in Shingle-Jointers; 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.

My invention has relation to shingle-jointers, and its object is to simplify and improve the construction, increase the capacity and efficiency, and provide a machine that will turn out shingles having a uniform end, parallel edges, and at right angles to the butt.

To this end the invention consists in certain features of construction and combination of parts which will be hereinafter fully described and claimed.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is an end elevation of my improved shingle-jointer. Fig. 2 is a top plan view. Fig. 3 is a side elevation. Fig. 4 is a vertical longitudinal section. Fig. 5 is a view similar to Fig. 3 looking toward the opposite side of the machine. Fig. 6 is a detail view of one of the sections of the endless-carrier bed.

1 in the drawings designates the fixed or stationary main frame, in which is mounted the endless-bed-supporting frame 2, the latter being hinged or pivoted at one end and supported near its opposite end by cams 3, mounted on said main frame, as hereinafter fully described.

4 denotes the gang-saw shaft or mandrel, journaled transversely in suitable bearings 5 5 on the main frame and driven by a pulley 6, fixed on the projecting end of the shaft or mandrel, which is journaled in a step-bracket 7, fixed to the main frame.

8, $8'$, 8^2, 8^3, 8^4, 8^5, 8^6, and 8^8 denote the stationary saws, fixed on the saw-mandrel and spaced two, three, four, five, and six inches apart to correspond to the standard widths of the shingles.

8^7 is an auxiliary saw fixed on the sleeve 9, which has a sliding engagement with the mandrel, and the sleeve and saw may be adjusted longitudinally on the mandrel, as required, by a shipper-bar or hand-lever 10, which is provided at its free end with a fixed pawl or projection to engage a notched rack 11, extending transversely across the frame to retain it in its adjusted position.

The "endless-bed-supporting frame" 2, so called because it carries or supports the endless bed or shingle-conveyer, is located between the sides of the stationary main frame 1 and beneath the saws, and comprises two or more longitudinal bars $2'$, suitably connected together. The shaft 12 is journaled to rotate in bearings $12'$, fixed to the main frame 1, and the adjacent end of the bed-supporting frame is hinged pivotally mounted at $14'$, so that the opposite or free end of said frame carrying the shaft 13 is adapted to swing up and down in the main frame 1 in order that the bed may be raised and lowered to suit different sizes of saws and permit access to the saws for cleaning or sharpening. The shaft 13 has no connection with the main frame 1, but is journaled to rotate in the free end of the bed-supporting frame 2. The frame 2 is supported near its free end by cams 3, mounted on opposite sides of the main frame 1 and bearing upon the bars $2'$, so that by turning said cams the free end of the frame 2 and the endless bed or conveyer carried thereby may be adjusted in the main frame 1 toward and from the saws, as desired.

The shingle-conveyer bed is composed of a series of endless carriers mounted to move in unison and in parallel planes, each consisting of an endless chain 15, mounted upon corresponding sprockets 14, fixed to and rotating with the shafts 12 and 13 and carrying a series of inclined shingle-supports 17. Each of these shingle-supports is formed of four bevel-faced independent blocks 18, $18'$, 18^2, and 18^3, of different sizes and separately fixed to the endless chain, the butt or high end of each support being arranged next to the point or low end of the next adjacent support to form a shoulder for the butt-end of the shingle to rest against. The series of endless carriers thus constructed and mounted to form the endless bed are arranged a suitable distance apart from each other to form between them longitudinal spaces or grooves to receive the saws.

The shaft 13 is driven to impart motion to

the endless bed by means of a gear 13′, fixed thereto and adapted to mesh with a pinion 21 on one end of a counter-shaft 22, mounted in the frame 1 and carrying at its other end a pulley 23, connected by a belt 24 with a corresponding pulley 25 on a drive-shaft 26, also mounted in the frame 1. The drive-shaft also carries a pulley 27, and a belt 28 connects the same with the pulley 6, whereby the saw-mandrel is driven.

20 20 denote a series of tension-springs arranged above the shingle-supports 17 and each fixed at one end to a bar 20′, extending transversely across the main frame 1, the free ends of said springs being adapted to engage and hold the shingles in place on the supports while being cut by the saws.

By raising and lowering the bed-supporting frame 2 in the main frame 1 by means of the cams 3 said frame 2 may be adjusted to a nicety to cause the free ends of the springs to bear with greater or less tension on the shingles, as will be readily understood.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

I hereby disclaim the feature of hinging the carrier-frame at one end, so that its opposite end may be moved to vertically adjust said carrier-frame within the main frame, also the feature of journaling the shaft 13 in the free end of the carrier-frame, as these features are common and are disclosed in the patent to D. A. Greene, No. 337,947, dated March 16, 1896.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a shingle-jointer, the combination of a main frame, a shaft or arbor mounted transversely on the main frame and carrying a series of saws, a bed-supporting frame hinged or pivotally mounted at one end within the main frame beneath the saws and carrying an endless conveyer-bed composed of a series of endless carriers, a transverse series of tension-springs mounted on the main frame one above each carrier and adapted to bear upon the shingles as they pass beneath the saws, and means for supporting and adjusting the free end of the bed-supporting frame, whereby the tension of said springs may be increased or diminished, substantially as set forth.

2. In a shingle-jointer, the combination of a main frame, a shaft or arbor mounted transversely on the main frame and carrying a series of saws, an endless-bed-supporting frame hinged or pivotally mounted at one end within the main frame beneath the saws, transverse shafts at the ends of said bed-supporting frame and carrying sprockets, the transverse shaft at the free end of the frame having also at one end a gear, an endless bed composed of a series of endless carriers passing around said sprockets, a transverse series of tension-springs mounted on the main frame one above each carrier and adapted to bear upon the shingles as they pass beneath the saws, means for adjusting and supporting the free end of the bed-supporting frame, whereby the tension of said springs may be varied, a drive-shaft mounted in the main frame and carrying pulleys at each end, a counter-shaft also mounted in the main frame and carrying at one end a pulley and at the other end a gear adapted to engage the said gear upon the transverse shaft at the free end of the bed-supporting frame, and belts connecting the pulleys of the drive, counter and saw shafts, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN RANDALL.

Witnesses:
GEO. E. RHODES,
C. S. GRAHAM.