

(No Model.)

G. A. KEITH.
RUNNING GEAR FOR VEHICLES.

No. 539,136.

Patented May 14, 1895.

Fig. 2.

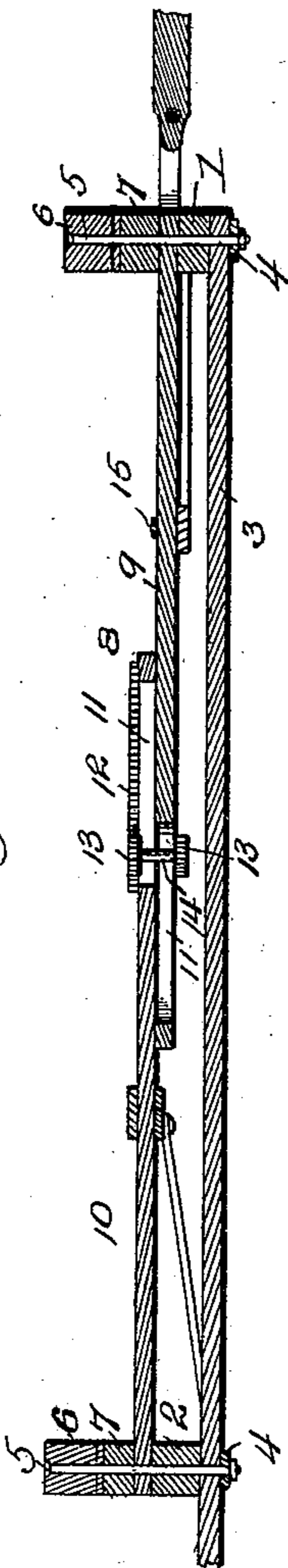


Fig. 3.

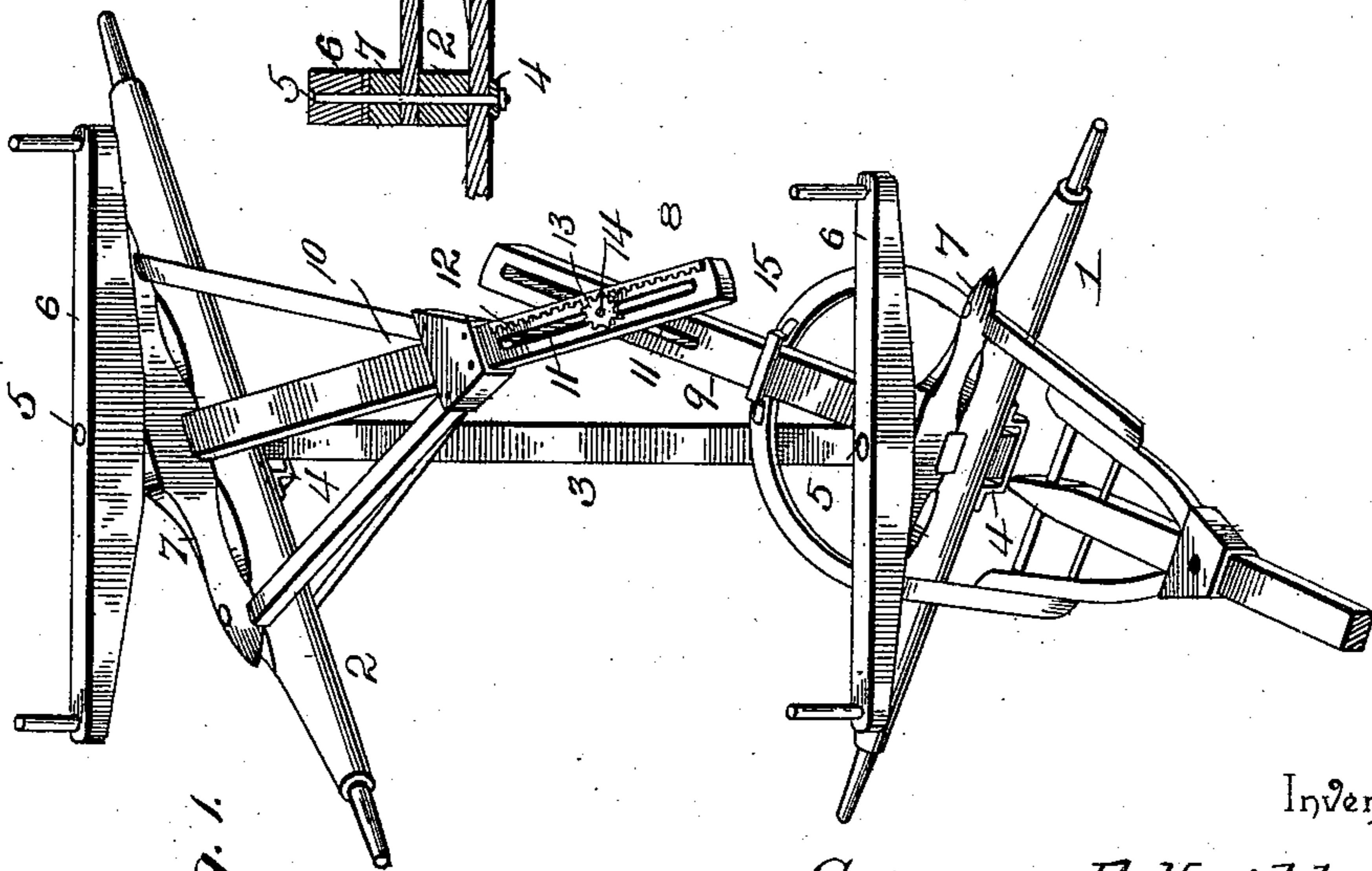
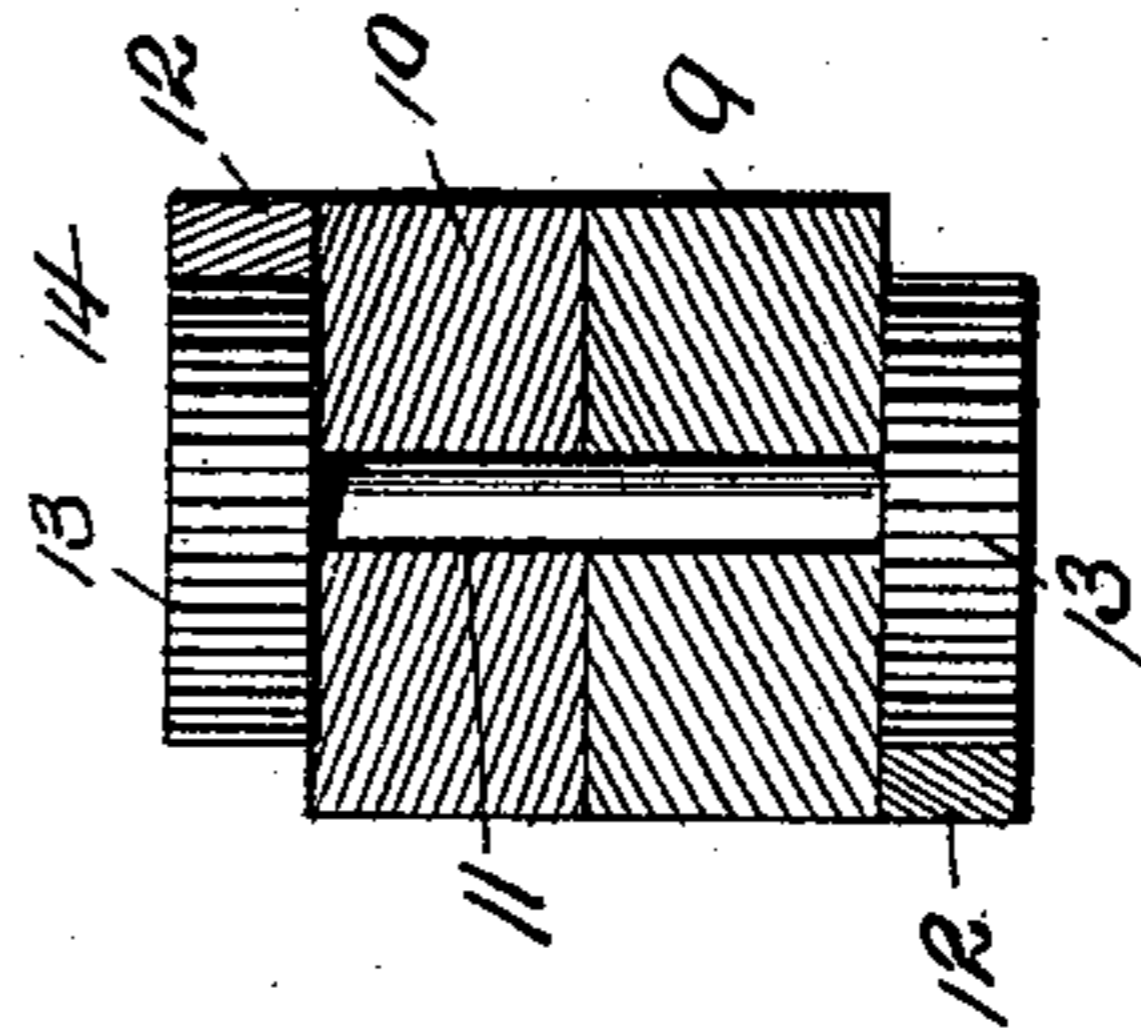


Fig. 1.

Inventor

George A. Keith

Witnesses

Jos. C. Stack
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By *his* Attorneys.

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UNITED STATES PATENT OFFICE.

GEORGE A. KEITH, OF SAGINAW, TEXAS.

RUNNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 539,136, dated May 14, 1895.

Application filed October 23, 1894. Serial No. 526,753. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. KEITH, a citizen of the United States, residing at Saginaw, in the county of Tarrant and State of Texas, have invented a new and useful Running-Gear, of which the following is a specification.

The invention relates to improvements in running gears.

The object of the present invention is to improve the construction of running gear, and to enable a vehicle to be turned or cramped in a small space.

A further object of the invention is to provide a simple and inexpensive attachment, which may be applied without material change to any ordinary construction of running gear, and which will cause the front and rear wheels to track, to facilitate turning or cramping.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a portion of a running-gear provided with my improvements. Fig. 2 is a longitudinal sectional view. Fig. 3 is an enlarged detail sectional view illustrating the construction of the inner ends of the sections of the supplemental reach.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 and 2 designate front and rear axles of a running gear, which may be of any desired form. The axles are connected pivotally to the ends of a reach 3, located below the axle, and arranged in brackets 4. The brackets 4 are substantially rectangular, and are secured to the lower faces of the axles, and are sufficiently greater in length than the width of the reach 3, to permit the latter to have free play when the running gear is turned or cramped.

The ends of the reach 3 are detachably connected with the axle by pins 5, which also pass through front and rear swinging bolsters 6, and sand-boards or bolsters 7, but this latter part of the running gear may be of other form as the improvements are applicable to other vehicles and wagons.

The running gear is provided with a supplemental reach 8, composed of similar front

and rear sections 9 and 10, pivotally, and adjustably connected at their inner adjacent ends, and having their outer ends detachably connected with the front and rear axles by the pins 5. The outer ends of the sections of the supplemental reach are located in openings between the front and rear axles and the sand-boards or bolsters.

The inner adjacent ends of the adjustable sections of the supplemental reach are provided with longitudinal slots 11, and each has, at one side of its slot, a longitudinal rack 12, which meshes with a pinion 13 of a central pivot 14. The rear section 10 of the supplemental reach has its inner end arranged on the upper face of the adjacent end of the front section, and its rack is located on its upper face, while the rack of the front section is located on the lower face of the same; and the said pivot 14 is provided at each end with a pinion 13 to mesh with the racks, but this arrangement may be reversed if desired. The pivot 14 is located centrally between the front and rear axles, and when the front axle is turned the rear one is simultaneously and correspondingly turned, and the wheels track perfectly. This connection causes the rear axle to respond instantly to any movement of the front one.

The front section 9 of the adjustable supplemental reach is connected with the front hounds by a removable clip 15, and the rear section 10 is connected with the rear hounds by a sleeve of any ordinary construction, or the like.

The adjustable reach is readily applicable to all kinds of running gear, and when applied as illustrated in the accompanying drawings, the running gear is susceptible of easy conversion to provide either a tracking vehicle, or one of ordinary construction. By removing the pins 5, and the clip 15, the supplemental reach may be detached, and the main reach can be connected with the axle in a manner similar to that of an ordinary running gear.

It will be seen that the improvements are simple and comparatively inexpensive in construction, that they are applicable to all forms of running gear, and may be readily applied to the same without material change in the construction thereof, and when applied they enable the front and rear wheels to track to

facilitate turning and cramping, and also permit the parts to be readily arranged to form an ordinary vehicle.

It will also be apparent that the slotted ends 5 of the sections, together with the rack and pinion connection, make the adjustable supplemental reach automatic in its operation of adjustment, and that after the pivot pin has 10 once been properly arranged, the sections 9 and 10 may be moved inward or outward to vary the length of the supplemental reach, and the pivot pin will always remain centrally located with reference to the front and rear axles.

15 Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

20 What I claim is—

1. In a running gear, the combination with front and rear axles, of a main reach pivotally connected with the same, a supplemental reach composed of two sections connected at 25 their outer ends with the axles and provided at their inner ends with longitudinal slots and having rack teeth located at sides of the slots, and a centrally arranged pivot provided with pinions meshing with the rack teeth, substantially as described. 30

2. In a running gear, the combination with front and rear axles, of a main reach pivotally connected with the same, a supplemental reach composed of two sections connected at their outer ends with the axles, and provided 35 at their inner ends with longitudinal slots, racks arranged on the upper face of one of the sections and on the lower face of the other section and disposed at opposite sides of the slots, and a central pivot arranged in said 40 slots and provided with upper and lower pinions meshing with the racks, whereby the supplemental reach sections are adjustably and pivotally connected, substantially as described. 45

3. In a running gear, the combination with front and rear axles, of a main reach pivotally connected with the same, a supplemental reach composed of two sections connected at their outer ends with the axles, a pivot ar- 50 ranged at the inner ends of the sections, and gearing adjustably connecting the sections with the pivot, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 55 the presence of two witnesses.

GEORGE A. KEITH.

Witnesses:

JOHN H. SIGGERS,
G. C. SHOEMAKER.