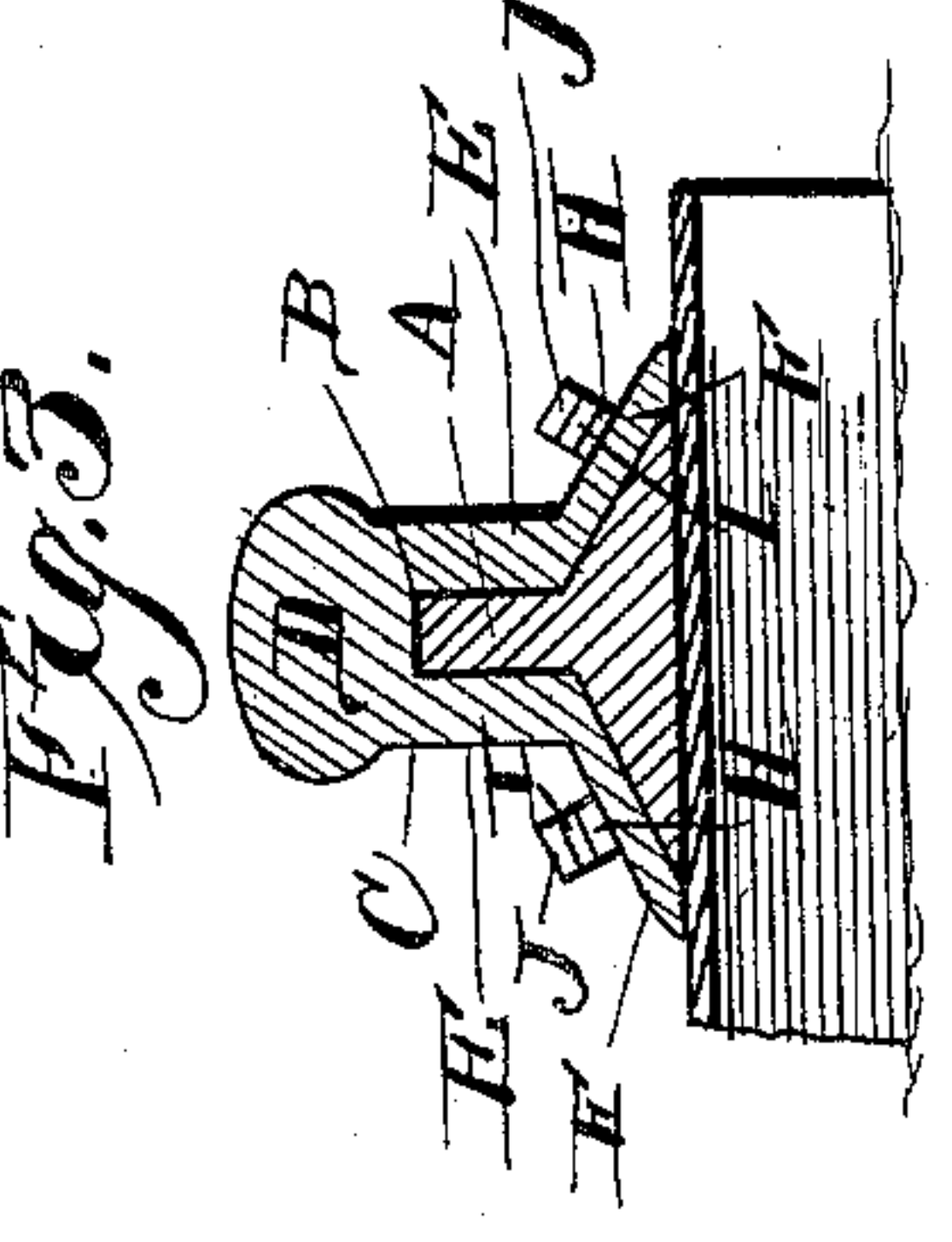
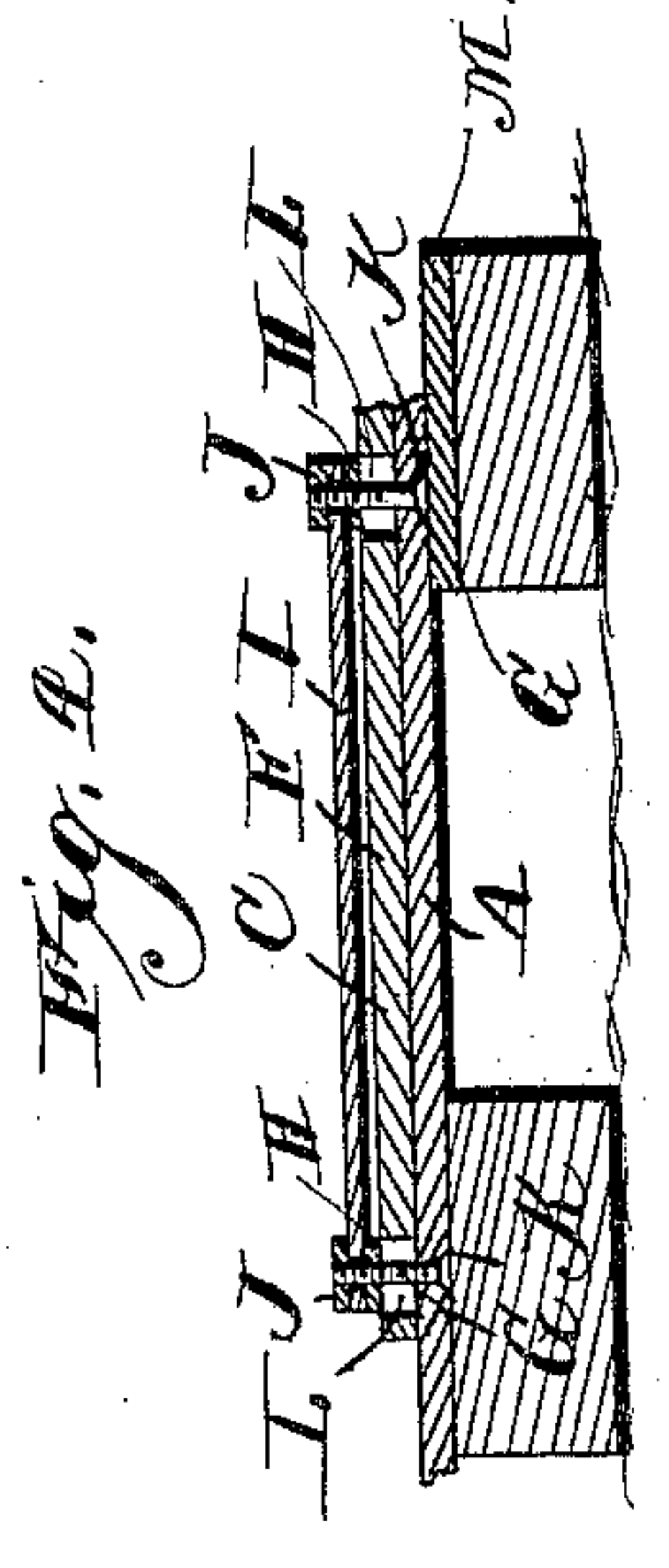
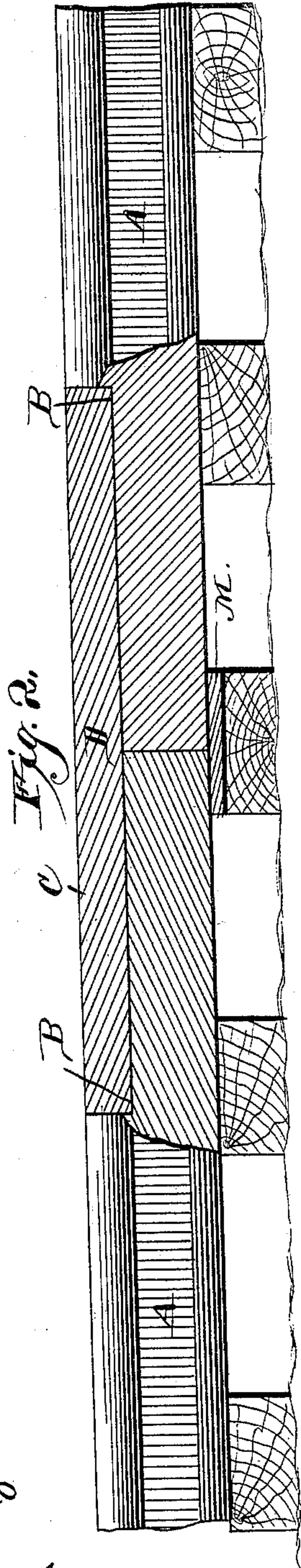
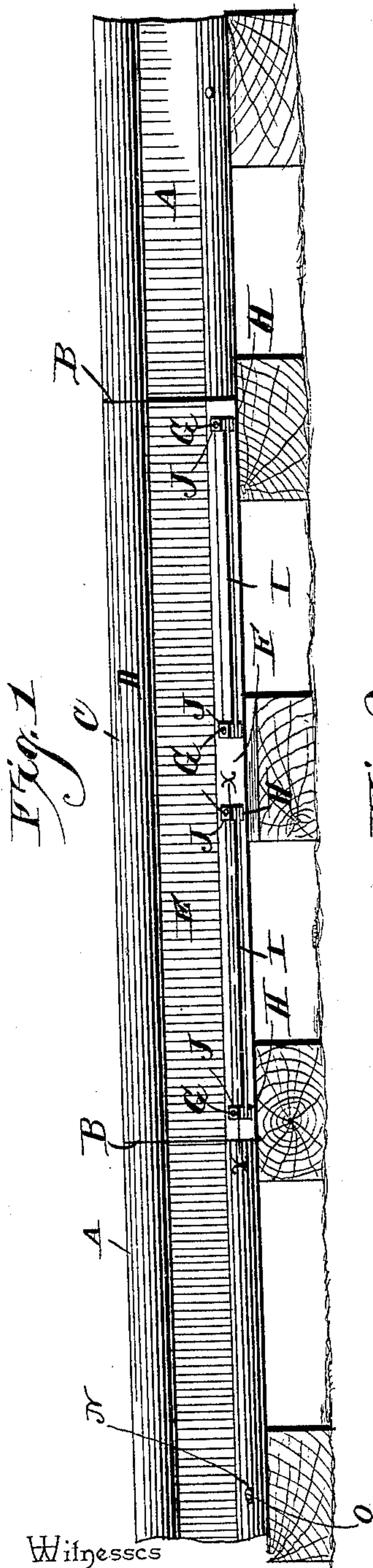


(No Model.)

R. M. AGEE & E. LANE.  
RAIL JOINT.

No. 411,542.

Patented Sept. 24, 1889.



*Henry G. Dietrich*

By their Attorneys,

*R. W. Bishop.*

*CA Snow & Co..*

Inventors  
*Reuben M. Agee, and*  
*Edward Lane.*



# UNITED STATES PATENT OFFICE.

REUBEN M. AGEE AND EDWARD LANE, OF CANTON, MISSOURI.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 411,542, dated September 24, 1889.

Application filed May 31, 1889. Serial No. 312,695. (No model.)

*To all whom it may concern:*

Be it known that we, REUBEN M. AGEE and EDWARD LANE, citizens of the United States, residing at Canton, in the county of Lewis and State of Missouri, have invented a new and useful Rail-Joint, of which the following is a specification.

Our invention relates to improvements in rail-joints; and it consists in certain novel features, hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of our improved rail-joint. Fig. 2 is a view showing the ends of the rails in elevation and the connecting-cap in longitudinal section. Fig. 3 is a transverse vertical section. Fig. 4 is a longitudinal section on the line  $x x$  of Fig. 1.

The rails A A are of the usual size and form, and are provided at their ends with the elongated horizontal notches B B, which are formed by cutting away the heads of the rails the proper distance, as will be readily understood. A cap C is placed over the ends of the rails, and the said cap consists of a metallic body corresponding in cross-sectional outline to the rails and provided with the tread D, the side walls E, and the diverging flanges F, extending from said side walls. The tread D forms practically a continuation of the heads of the rails, the walls E pass downward on opposite sides of the ends of the rails, and the flanges F rest upon the flanges of the rails. The ends of the rails are thus effectually prevented from lateral movement, and at the same time they are permitted to have the necessary longitudinal play due to the contraction and expansion of the rails under changes of temperature.

The cap is secured to the ends of the rails by the bolts G, which are passed upward through the flanges of the rails, and the cap, and are provided with the nuts H, which are adapted to be turned downward against the flanges F, thereby securing the cap to the rails, and in order to guard against the loosening of the bolts we provide the washer-plates I, the ends of which are slipped over the bolts and are held on the bolts by jam-nuts J, as shown. The heads of these bolts fit in angular openings K in the flanges of the

rails, while their shanks pass through elongated openings L in the flanges of the cap.

Under the ends of the rails we arrange a base-plate M, which extends transversely across the joint and is secured on the upper side of one of the ties.

The rails are provided in their flanges at their centers with an opening N, through which a spike O is passed into one of the ties.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that we have provided a very simple device, by which the ends of the rails will be securely fastened, and by which they will be allowed the necessary play and the space between the ends of the joint reduced to a minimum. By providing the base-plate and the several securing-plates as shown and described we secure the ends of the rail in a firm and solid joint, so that the wear thereon will not loosen the several parts and create a liability to derailment.

By providing the opening in the center of the flange the rail is made to expand and contract equally at both ends, so that we overcome the tendency of the rail to expand unequally when one end is secured tighter than the other.

By fitting the heads of the securing-bolts in angular openings in the flanges of the rails the bolts are prevented from rotating while the nuts are being turned home, and by providing the elongated openings in the flange of the coupling-cap the bolts are allowed the play due to the expansion and contraction of the rails.

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

1. The combination of the rails and the cap fitting over the ends thereof, with the bolts passed through the flanges of the rails and the cap, the securing-nuts on the said bolts, the washer-plates slipped over the ends of the bolts, and the jam-nuts on the ends of the bolts adapted to be turned up against the washer-plates, as set forth.

2. The combination of the rails having elongated horizontal notches in their tops at their ends, the cap engaging the said notches and

fitting over the ends of the rails and provided  
with elongated openings in its flanges, the  
bolts rigidly fitted in the flanges of the rails  
and projecting up through the openings in  
5 the flanges of the cap, the securing-nuts on  
the bolts, the washer-plates mounted on the  
bolts above the securing-nuts, and the jam-  
nuts mounted on the bolts above the washer-  
plates, as set forth.

In testimony that we claim the foregoing as to  
our own we have hereto affixed our signatures  
in presence of two witnesses.

REUBEN M. AGEE.  
EDWARD LANE.

Witnesses:

W. A. JACKSON,  
LEANDER T. HENDRICKS.