No. 765,050. PATENTED JULY 12, 1904.

R. R. SPOORE.

RAILWAY TIE.

APPLICATION FILED MAR. 30, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

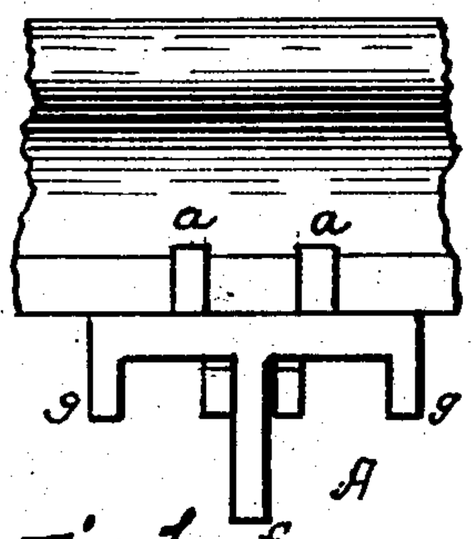


Fig. 1.

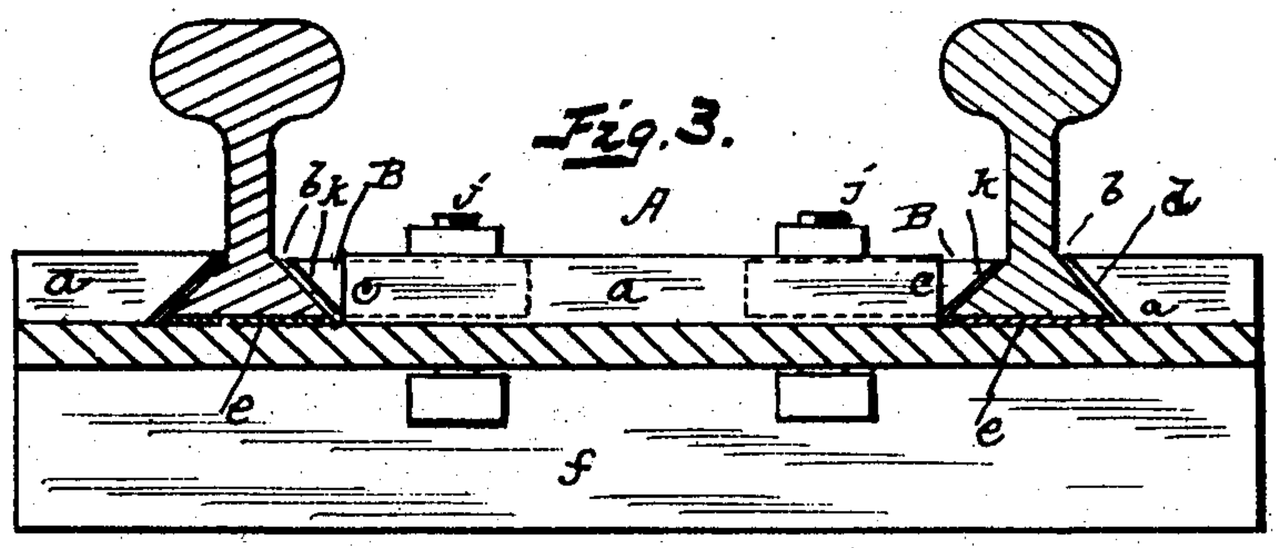


Fig. 3.

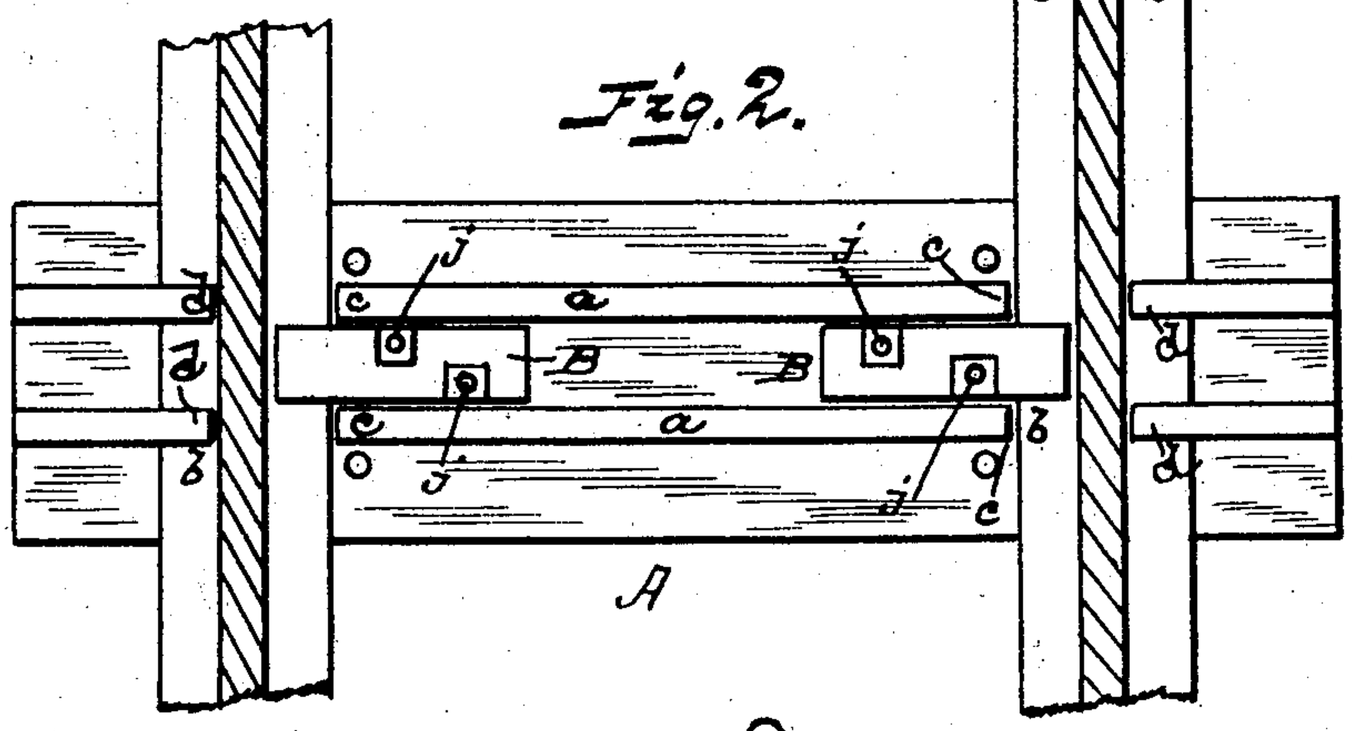


Fig. 2.

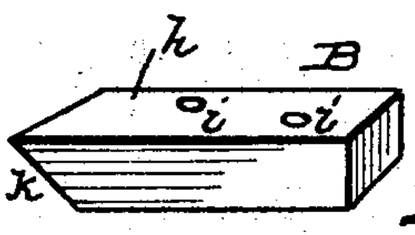


Fig. 4.

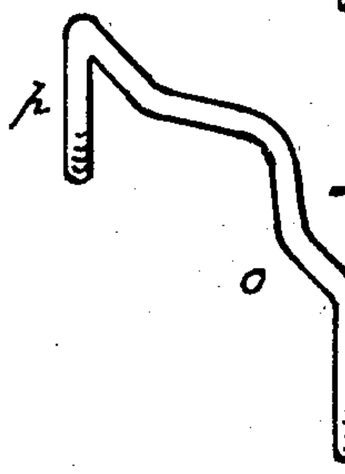


Fig. 5.

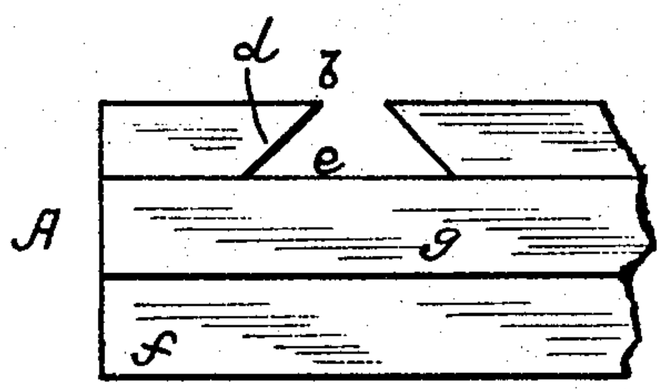


Fig. 6.

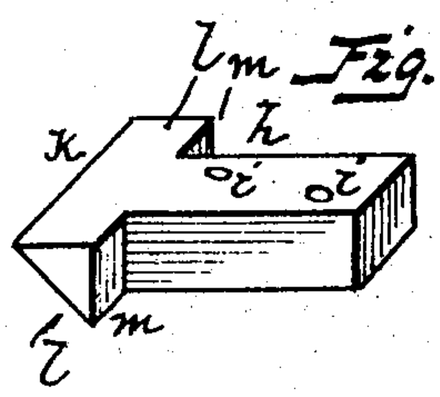


Fig. 7.

WITNESSES

Albert Popkins

John H. Tucker.

INVENTOR

Ransom R. Spoore

By Wm. H. Bates Attorney

No. 765,050. PATENTED JULY 12, 1904.

R. R. SPOORE.

RAILWAY TIE.

APPLICATION FILED MAR. 30, 1904.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 8.

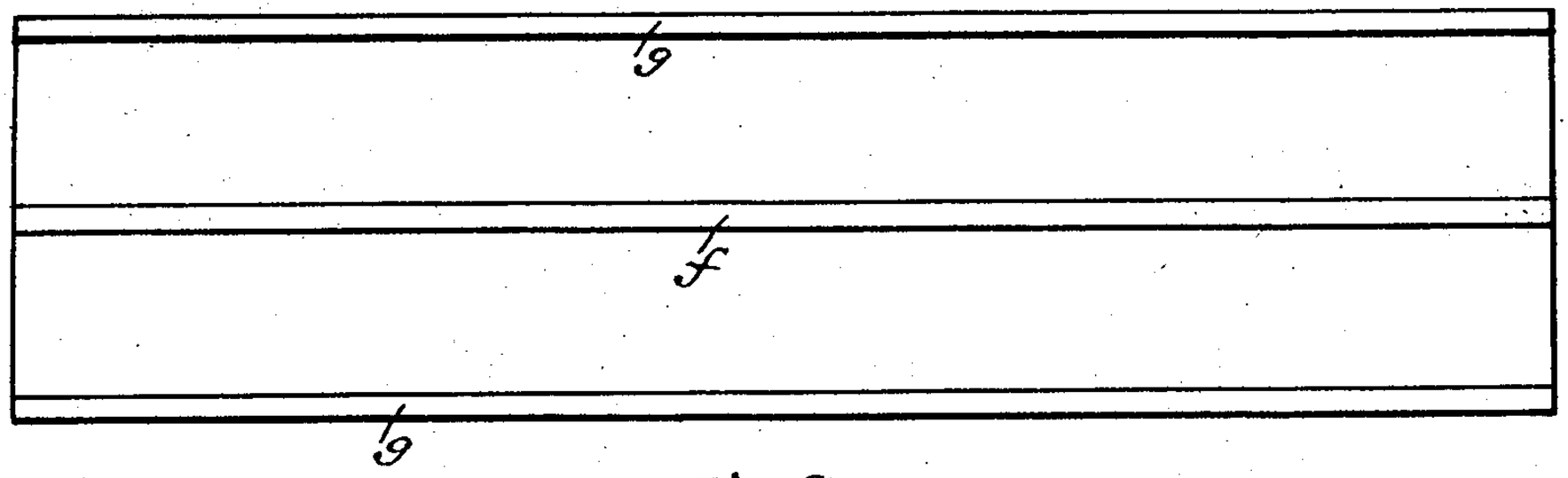


Fig. 9.

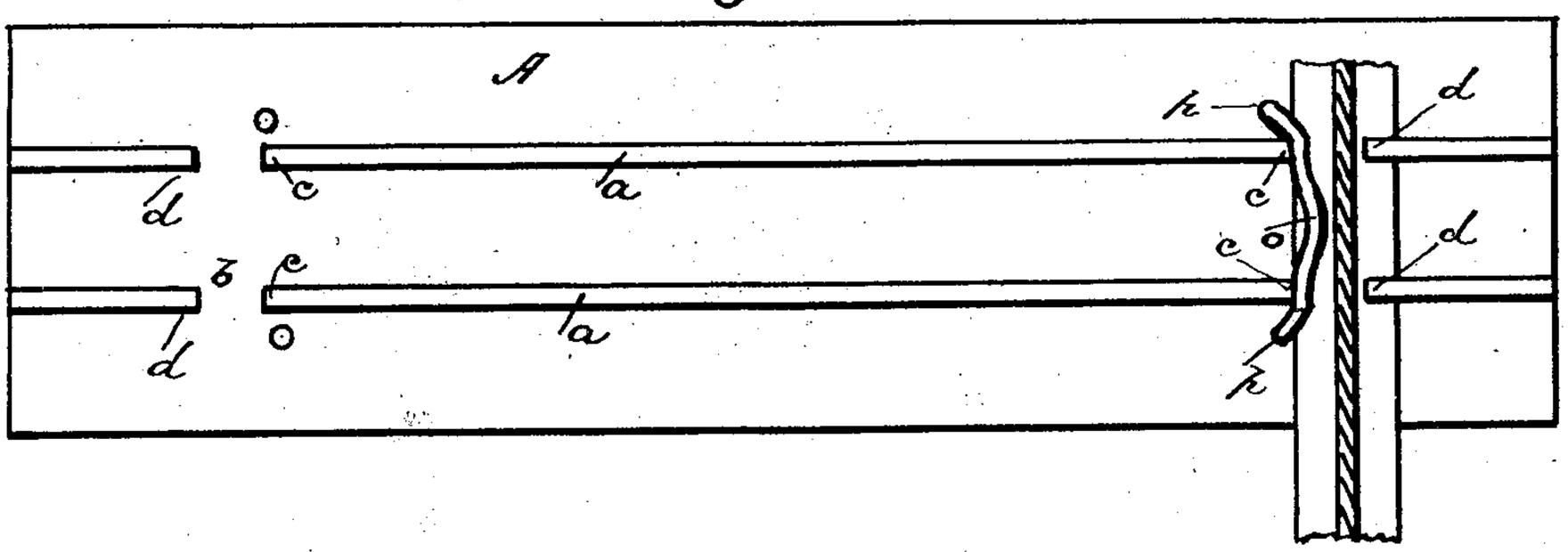
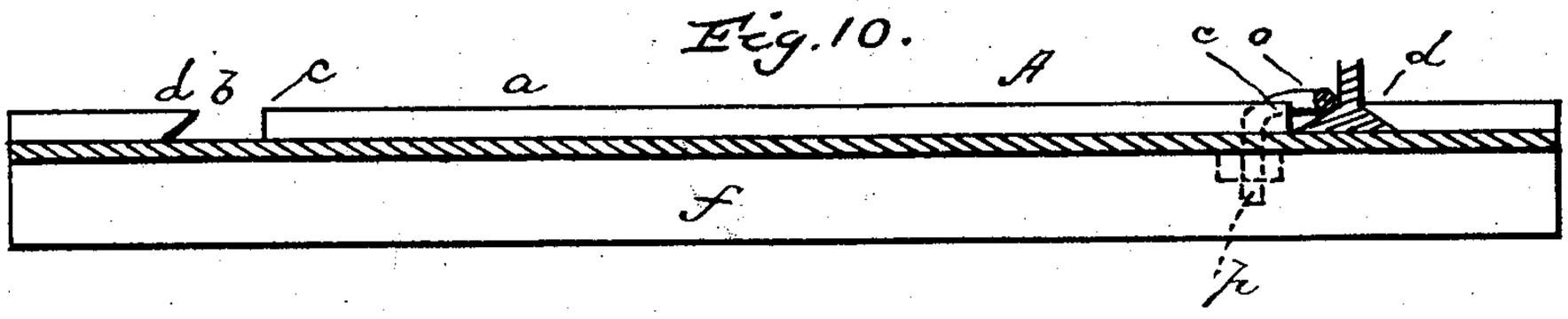


Fig. 10.



WITNESSES

E. H. Bates

Theo. Mungen.

INVENTOR

Ransom R. Spoore

By Wm H. Bates

Attorney.

No. 765,050. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

RANSOM R. SPOORE, OF KENT, OHIO.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 765,050, dated July 12, 1904.

Application filed March 30, 1904. Serial No. 200,751. (No model.)

To all whom it may concern:

Be it known that I, RANSOM R. SPOORE, a citizen of the United States, residing at Kent, in the county of Portage and State of Ohio, have invented new and useful Improvements in Railway-Ties, of which the following is a specification.

My invention relates to improvements in railway-ties wherein I combine and form integral therewith means for locking the rails to the tie, thus dispensing with spikes commonly used for this purpose; and it consists in the novel construction, combination, and arrangement of parts of which it is composed, all as will be hereinafter more fully described, and particularly pointed out in the appended claims.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents an end view of my improved railway-tie. Fig. 2 is a plan view of the same. Fig. 3 is a vertical sectional view. Fig. 4 is a perspective view of the locking-plate detached from the tie. Fig. 5 is a perspective view of the angular locking-bar. Fig. 6 is a side view of one end of the tie, showing the two opposite ends of the rib beveled. Fig. 7 is a perspective view of the locking-plate in modified form. Fig. 8 is a bottom view of the tie. Fig. 9 is a top view of the same, and Fig. 10 is a vertical sectional view of the tie.

Referring by letter to the accompanying drawings, A designates the railway-tie, which is constructed of metal, and B is the locking-plate whereby the two rails are made fast to the tie. This tie is provided with two longitudinal ribs *a a*, arranged on the upper face of the same, which are broken away at *b* to receive the base of the rail. The opposite ends *c* are vertical, while the ends *d*, facing these vertical ends, are inclined upwardly and outward, thus leaving a space *e* for the insertion of the base of the rail. The under side of the tie is provided with a downwardly-projecting longitudinal central rib or flange *f*, which extends from one end of the tie to the other, and at each side thereof are short downwardly-projecting flanges *g g*, that run parallel with the central flange.

B designates the locking-plate of peculiar construction, the same consisting of the broad body *h*, having vertical perforations *i* for the fastening-bolts *j*, and a beveled end *k*, which corresponds to the shape of the upper surface of the base of the rail.

A clamp is provided which consists of an angular bar *o*, having downwardly-projecting ends *p p* and a bent central portion. Said ends are screw-threaded to receive nuts for holding or clamping said angular bar firmly upon the base of the rail, while the two vertical ends of the ribs against which said bar rests serve to reinforce the latter and retain it in place.

In Fig. 6 I show my device slightly modified, wherein both opposite ends of the ribs at the rail-seat are inclined or beveled. These double bevels are used at points where the ends of the rails meet or join, and the base of fish-plate and rails are passed into the opening or seat-slot, after which the extreme ends of the beveled portions are struck and bent down upon, thus firmly holding the fish-plate and rail, and a light shim may be used, if desired. A wooden or fiber shim or cushion can be interposed between the rail and tie to give sufficient elasticity to the rail, and said cushion cannot become displaced, as the seat with its rib ends secures it in position.

The plate shown in Fig. 7 is provided with lateral projections *l*, that form shoulders *m*, that engage the vertical ends *c* of the upper flanges or ribs of the tie when the locking-plate is in place and the same is reinforced thereby.

Having described the construction of my improved railway-tie, I will now proceed and explain its advantages over the ordinary railway-tie now in use. The tie is placed in position upon the surface of the ground in the usual manner, and the downward-projecting central and side ribs or flanges are embedded in the earth, and after the earth is packed solid about the central rib the tie is firmly held from lateral displacement. The short flanges parallel thereto permit of the proper tamping of the central rib, and these ribs, in connection with the upper ribs, serve a two-fold purpose—that of preventing displace-

ment of the tie and also giving it extreme strength. The rail or rails are connected to the tie by inclining said rail and bringing the base into the seat and under the inclined ends of the upper ribs, after which the locking-plates are placed in position and held firmly by the bolts *j*, passing through the perforations therein and those in the tie when the nuts are screwed home. The heads of the bolts engage the central flange and are thus prevented from turning. The locking angular bar passes over the rail-base and the screw-threaded ends thereof passing through perforations in the tie and held by nuts, which latter when screwed home draw the body of said rod or bar tightly upon the base of the rail. When they are used to construct new roads, the rail-seat is cut on a bevel by cutting the top of the seat about one inch narrower at top of rib on outer side and running back with seat and is formed with ends of ribs as a perfect fastener.

It will be readily seen that by the construction of my railway-tie I dispense with the spikes commonly used in securing the rail to the tie and that not only are the rails prevented from becoming disengaged from the tie, but it prevents the track from spreading, and a railway-tie as herein described is durable and inexpensive to manufacture, as the parts, with the exception of the locking-plates, are formed integral.

What I claim, and desire to secure by Letters Patent, is—

1. A railway-tie provided on its under side with a deep central longitudinal flange and narrow lateral side flanges parallel thereto, upper longitudinal ribs broken away to form seats for the rails, and a locking-plate removably secured to the tie, substantially as described.

2. A railway-tie provided with a central longitudinal flange and narrow lateral flanges on its under side, and longitudinal ribs on the upper surface, said ribs cut away, forming a rail-seat, one side of the seat having the beveled end and the opposite side of said seat having the vertical end, in combination with the locking-plate and bolts therefor, said plates having the beveled end to engage the base of the rail and the lateral projections, providing shoulders that engage the vertical ends of the top ribs, substantially as described.

3. The within-described railway-tie, comprising the body, having the deep and narrow longitudinal flanges on its under side and longitudinal ribs on its upper face, said ribs being broken away to form seats for the rails and having at one side the vertical end portion and at the opposite side of the seat an inclined end, the locking-plate provided with the inclined end, lateral shoulders and perforated to receive the securing-bolt, whereby said plate is made fast to the tie, substantially as described.

4. A railway-tie provided with longitudinal anchoring-flanges on its under side, and ribs on its upper face, extending from end to end and broken away to form seats for the rails, said ribs having the holding beveled ends and opposite vertical ends, the whole formed integral, the perforated locking-plates provided with the lateral projections and beveled end, and bolts for securing said plates to the tie, substantially as described.

5. A railway-tie provided with the longitudinal flanges on its under side, and longitudinal ribs on its upper face having the spaces, forming the seat for the rail, in combination with the locking-plates, provided with the beveled end and lateral projections, and the angular bar having the downward-bent ends provided with screw-threads and adapted to pass through perforations in the tie and secured by nuts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RANSOM R. SPOORE.

Witnesses:
A. B. YOUNG,
J. W. LEE.