

INARCHING OF OAK TREES. BY JOHN S. WRIGHT.

On the western border of what is known as Cypress Swamp, or Pond, in the "pocket" of Knox county, and at the side of the wagon road, about one-third of a mile east of the locks at the Wabash Rapids, I observed last September an interesting case of natural grafting of forest trees. The united trees were, judging from the leaves, there being no fruit obtainable, specimens of Swamp, Overcup or Post Oak, *Quercus lyrata* Walt.

The trees stood close together, so close in fact that a careful examination only showed that the trunks were actually separate at the ground. The larger of the trees was about eighteen inches in diameter one foot



above the ground, the smaller about nine inches. As shown in the photograph, the trunks were separate to a height of about eight feet, where they were united by a large protuberance which seemed to have its origin in the larger tree, as it partially enveloped its trunk. A section of this connection would be of an irregular oval shape, the longer dimension in line with the axes of the trunks. This longer diameter would measure about two feet. The union seemed to be of a healthy, woody growth, covered with rough bark.

Below the graft the trunks were about seven or eight inches apart and nearly parallel; above they diverged slightly.

The lack of measuring appliances at the time of the examination prevents anything but an approximation of dimensions.

NOTES ON THE CYPRESS SWAMPS OF KNOX COUNTY, INDIANA.

By JOHN S. WRIGHT.

It has been stated frequently that in Knox County, Indiana, are the northernmost cypress swamps. According to the manual of Britton and Brown, the range of the cypress (*Taxodium distichum* (L.) L. C. Rich) is given as "Delaware (possibly in southern New Jersey), Florida, west to Texas, north in the Mississippi Valley region to southern Indiana, Missouri and Arkansas." Gray's Manual also gives this range. The latitude of the swamps of Knox county is about $38^{\circ} 30'$, so that if cypress ranges over any considerable portion of southern Delaware it is in a higher latitude than that of Knox county, since Delaware extends from about $38^{\circ} 28'$ to about $39^{\circ} 50'$. Cypress of New Jersey would also be above this latitude, since Cape May, the most southern point, is about $38^{\circ} 50'$. While it may be that the cypress swamps of Knox county are the most northern characteristic growths of this kind, they certainly do not mark the northern limit of the range of the cypress. The swamps of Knox county are located, so far as I could learn, almost wholly in the townships of Decker and Johnson, both southern townships, and bounded on the south by the White River. Decker Township, forming what is known as the pocket of Knox county, is the triangular tract included by the Wabash and White rivers near their confluence. (See map.) A very large part of this territory is below extreme high-water level. Much of the southern and southwestern portions of Johnson, and a very considerable part of Decker Township, is