

the creek broke into this mine on the evening of April 10th, and flooded the mine before it was possible to stop the break; after pumping out the water, all the underground plant was removed and the mine closed down; the Illinois River Valley Coal Co., being unable to pay its employes, the plant was sold at auction in December by the sheriff of the county, the workmen purchasing a large portion of the plant to secure their wages; Padmore, Love & Co. abandoned their mine on account of faulty coal: in Livingston county Marshall & Simpkins closed their mine on account of water coming through from Howe & Co.'s abandoned mine, the two being connected.

*Improvements During the Year.*—The most important have been made at the Illinois Valley Coal Co.'s No. 1 mine where it has placed a pair of Litchfield direct hoisting engines, 18x30 inches, drum 7 feet in diameter, with all the latest improvements for speedy hoisting; at the Rockwell mine owned by the LaSalle County Carbon Coal Co., the engines have been changed from geared action to direct action, this alteration was made on rebuilding after the fire of October 24, 1890; at No. 2 mine of the Chicago, Wilmington & Vermilion Coal Co., Streator, the small fan has been replaced by a ten-foot cyclone fan, which had only been running a short time at its No. 1 mine, this change has placed the No. 2 mine among the foremost for ventilation; fans have been put in at the mines of M. J. Barrackman & Son, and Lukins & Cavanaugh; in Livingston county the C., W. & V. C. Co., at its No. 3 mine, have been experimenting with an electric motor for haulage, but up to the end of the fiscal year it was only partially successful.

*Mining Machines.*—Two new machines have been tried during the present year, one by the Star Coal Co., at Coal City; this machine has the cutting tools attached to a chain which passes around a sprocket-wheel and is carried under the coal by a yoke from the frame on which the engine is placed, otherwise it is the same as the Kangley mining machine, on its trial it undercut about 4 square feet per minute; the other machine is driven by electricity, having its cutting tools placed on a wheel carried under the coal also by a yoke, the top side is serrated, which connects with a small geared pinion to the motor; this machine is now under-cutting about 130 square feet per hour, both machines are only adapted for long-wall work. The Union Coal Co., of Peru, have discontinued the use of mining machines at its mine, as have also the Chicago, Wilmington & Vermilion Coal Co., at its mines at Streator.

*Fires.*—Early in July the tower, and surrounding buildings were burned down at the mine owned by Carney Bros., at Marseilles, LaSalle county. In September the blacksmith and carpenter shop and part of the fan house of the Star Coal Co.'s shaft No. 1, Coal City, Grundy Co., was burned down, the fire originated in the blacksmith shop, and but for the efforts of the Coal City fire company, would have burned the engine room, tower, etc., of the hoisting shaft. In the latter part of October, Rockwell mine, belonging to the LaSalle County Carbon Coal Co., of LaSalle,