

The Vivian Collieries Company has greatly increased the efficiency of the engines at its mine, by constructing a partition wall between the hoisting engine, and the electric machinery.

The Glenridge Coal Company is now making extensive improvements in the escapement shaft of its mine in the passageway thereto.

The Litchfield Coal Company has retimbered a portion of the hoisting and escapement shaft of its mine, repaired the cages, and retimbered the bottom of the hoisting shaft. Much improvement has been made in the ventilation of this mine by cleaning out the airway to fan shaft and reframing the fan.

The Montgomery County Coal Company has installed two ten ton electric motors, which will enable the handling of a large output; the ventilation has been greatly improved by a change of the system of firing the shot. It had been customary for the miners to fire shots whenever they got a shot ready, under such a system the mine was constantly smoky at the working face of the return airways. Some difficulty was encountered in securing the change to the firing of shots once a day, but now that it is secured everybody working in the mine is better satisfied.

I desire to call special attention to the improvement of the escapement shafts of the Hillsboro Coal Company's mine, also that of the Burnwell Coal Company No. 24 mine; both escapement shafts of these mines were equipped with small cages and geared engine. After making a trial test of the length of time it would take to hoist all the men from the mines by way of the escapement shaft, it was found advisable to secure some better arrangement with which to get the men more promptly out. After recommending an iron latticed stairway, the Hillsboro Company had one built by the Litchfield Foundry Company and installed in their escapement shaft which is 400 feet in depth. The mining engineer of the Burnwell Coal Company made an inspection of this iron stairway, and at once ordered a similar stairway to be installed at their No. 24 mine located at Witt; both companies are well pleased with the change.

The Shoal Creek Coal Company at Panama has installed a pair of first motion hoisting engines, and two new boilers at its No. 1 mine. This company is contemplating sinking a new shaft in the center of its 17,000 acres coal right; but have been waiting for the opinion of the State Inspector as to what constituted a fire proof shaft. This mine is now what is known as a machine mine.

BENEFIT OF AN AUXILIARY FAN IN COAL MINES.

On one of my inspection visits to the mine of the Hillsboro Coal Company located at Hillsboro, the ventilation was so poor and charged with C O black-damp, in the No. 7 and 8 east entries, and their sub-entries, that it became necessary to remove the men from that section of the mine until such times as the ventilation was improved.

At this examination of the mine, by careful measurement, I could only get 10,260 cubic feet of air per minute at a distance of about 4,000 feet from the main ventilating fan, and 2,200 feet from the working face of the two —7 and 8 east entries. The air current in the return airway of No. 7 entry was charged with C O's blackdamp which came from the abandoned portion of that section of the mine.

After careful consideration Mr. Smith, the mine manager, concluded to install an auxiliary fan. Electric power being available near to where he desired to locate the fan.

For this experiment a 4 foot diameter fan was built, with blades 16 by 22 inches; the fan enclosed with a spiral casing having an outlet of 24 inches. The motor supplying the power is a 5 H. P. electric and runs at 300 revolutions per minute, having belt connections with the fan which makes about 400 revolutions per minute.

After the fan had been started and in operation for a few hours, the black damp, or C O's was removing from the old workings; this continued for