

supply of fresh air is 12,400 cubic feet per minute; the air is circulated to the face of the workings by the aid of check doors; the main doors are hung so as to close of their own accord; they have attendants at main doors.

The amount of ventilation has been measured and reported according to law. Ventilation is generally good.

*Machinery.*—There is no machinery connected with this mine except two hand pumps.

*Remarks.*—They have furnished a map of mine; they have no house for men to wash or change their clothes in; there is no inflammable gas evolved in this mine; the mining boss seems to be a practical and competent man; there are no boys working in the mine under 12 years of age; the parties having charge know their duty in case of death or serious accident.

#### DAWSON SHAFT—BROWN'S COLLIERY.

This shaft is located in Pleasant Valley borough, about one and one-half miles south of the Lackawanna river; it is 147 feet deep to the Powder Mill vein; it is 12 feet wide by 16½ feet long; it is operated by the Pennsylvania coal company. William Law is general mine superintendent, James Young is mining boss, and G. M. Snyder is outside foreman.

*Description.*—There is a double breaker connected to the shaft by a trestling 100 feet long; all the coal mined at Brown's colliery tunnel and at this shaft is cleaned and prepared here; they mine about 300 tons of coal per day; they employ 46 miners, 46 laborers, 10 drivers, 4 door boys and 5 company men in the mine; 22 slate pickers, 4 head and plate men, 2 drivers, 2 mechanics and one boss outside; in all 142 men and boys; they are working the Powder Mill vein of coal, average thickness 7 feet; they work headings 10, air-ways 15, and chambers 30 feet wide; they leave pillars from 15 to 21 feet wide to sustain the roof; they leave cross-entrances from 18 to 30 feet apart for the purpose of ventilation; the roof is of very good sandstone rock; the mine is in a good working condition.

*Ventilation.*—Ventilation is produced by the action of the atmosphere; the intake is located in main shaft in summer and the out-cast in Stark shaft, and in winter the in-take is located in Stark shaft and Powder Mill tunnel and the out-cast in Dawson shaft; the area of Dawson shaft equals 192 feet and the area of Stark shaft equals 192 feet and that of Powder Mill tunnel equals 80 feet; the amount of fresh air is 16,800 cubic feet per minute; they have no noxious or poisonous gases evolved in the mine; the main doors are hung so that they will close of their own accord; they have attendants at main doors; the air is circulated to the face of the workings in 2 splits; the amount of ventilation has been measured and reported according to law; ventilation is good.

*Machinery.*—They use 2 hoisting engines of 40-horse power each, and 1 breaker engine of 30-horse power at Dawson shaft; they have a metal speaking-tube in the shaft; they have a safety-carriage with all the modern improvements on it; they have flanges of sufficient strength and dimensions for safety and an adequate brake attached to the hoisting drums; the ropes, links, chains and connections are in good condition; the boilers have been cleaned and examined and reported in good condition according to law; they have a steam gauge to indicate the pressure of steam.

*Remarks.*—They have furnished a map of the mine; they are connected with Stark shaft which can be used as a second opening; they have no house for men to wash or change their clothes in; the mining boss seems to be a practical and competent man; they have no boys working in the mine under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any person to ride on loaded carriages in the shaft; they do not allow more than 10 men to ride on the safety-carriage at one time; the parties having charge know their duty in case of death or serious accident; the shaft-landings are protected by safety-gates; the breaker machinery is fenced and boxed off so that operatives are safe.

## STARK'S COLLIERY.

This colliery is located in Lackawanna township; it is one-half of a mile south of the Lackawanna river; the opening to the coal is a shaft; it is 108 feet deep to what is called the Powder Mill vein; it is 12 feet wide by 16½ feet long; it is operated by the Pennsylvania coal company. William Law is general mine superintendent, Alexander Laird is mining boss, and F. J. Boone is outside foreman.

*Description.*—There is a double breaker connected to the shaft by a trestling 100 feet long; they mine and prepare about 350 tons of coal per day; they employ 64 miners, 33 laborers, 13 drivers, 5 door-boys and 8 company men in the mine; 29 slate packers, 3 head and plate men, 1 driver, 17 company men, 5 mechanics and 1 boss outside, in all 179 men and boys; this mine is operated inside by a plane 500 feet long and a slope 1,000 feet long; they are working the Powder Mill vein; average thickness, 8 feet; they work headings 10, air-ways 15 and chambers 30 feet wide; they leave pillars from 18 to 25 feet wide to sustain the roof; they leave cross-entrances from 18 to 30 feet apart for the purpose of ventilation; the roof is slate and rock; the mine is in a good working condition.

*Ventilation.*—Ventilation is produced by the action of the atmosphere, and assisted by steam when necessary; the intakes are located in the main shaft and Powder Mill tunnel in winter, and in the Dawson shaft in summer; the main shaft contains an area of 192 feet, Powder Mill tunnel 80 feet and Dawson shaft 192 feet; the mines are ventilated right the reverse in summer from what they are in winter; the amount of fresh air is 31,200 cubic feet per minute; the main doors on headings and air-ways are hung so that they will close of their own accord; they have attendants at main doors; the air is circulated to the face of the workings in two splits; the amount of ventilation has been measured and reported according to law; ventilation is good.

*Machinery.*—They use 3 steam engines for hoisting and pumping, 80-horse power, and 1 breaker engine, 300-horse power; they have a metal speaking tube in the shaft; they have a safety carriage, with all the modern improvements. They have flanges of sufficient strength and dimensions for safety, and an adequate brake on the hoisting drums; the ropes, links, chains and connections are in good condition; the boilers have been cleaned and examined and reported in good condition, according to law; they have a steam gauge to indicate the pressure of steam.

*Remarks.*—They have furnished a map of mine; they are connected with the Dawson shaft, which can be used as a second opening; they have no house for men to wash or change their clothes in; the mining boss seems to be a practical and competent man; there are no boys working in the mine under 12 years of age; the engineers seem to be experienced, competent and sober men; they do not allow any persons to ride on loaded cars on the slope or in the shaft; they do not allow more than 10 men to ride on the safety carriage at one time; the parties having charge know their duty in case of death or serious accident; the shaft landings are protected by safety gates; the breaker machinery is fenced and boxed off so that operatives are safe.

## SPRING BROOK COLLIERY.

This colliery is located in Lackawanna township and situated on Spring Brook creek, 1,500 feet south of the Lackawanna river; it was operated by the Glenwood coal company, now in bankruptcy. George Filer is general mine superintendent, John Micklow is mining boss and Josiah Carryl is outside foreman.

*Description.*—The opening to the coal consists of two tunnels, namely, Nos. 1 and 2; No. 1 is located close to the breaker and on the north side of Spring Brook creek, and No. 2 is located one-half of a mile south-east of breaker and on the south side of Spring Brook creek; they mine and prepare 300 tons of coal per day when working; they employ 45 miners, 40 laborers, 8 drivers, 8 door-boys and 5 company men in the mines; 30 slate pickers, 6 head and plate men, 3 drivers, 5 company men, 4 mechanics and 2 bosses outside; in all 151 men and boys; they are working the Spring Brook vein of coal; average thickness six feet. They work headings and air-ways 15 and chambers 25 feet wide; they leave pil-