

MINING RECORD

the holder of a first class certificate.

82. Whenever an engine of not more than three hundred horse power is used for lowering persons into or out of a mine, or of moving them therein, the person employed in running such engine shall be the holder of at least a third class certificate. Should the engine be over 300 horse power the person employed in running such engine, shall be the holder of at least a second class certificate.

83. Every person employed as an engineer in charge of an engine of not less than seventy-five horse power, used for the purpose of ventilating a mine, and upon the movement or operation of which the safety of any person or persons depends, shall be the holder of at least a third class certificate.

84. On every steam plant of five hundred horse power or over, there shall be on duty in the fire room, at all times, while all or any part of the plant is under steam, a licensed fireman, or an engineer who holds at least a third class certificate.

V. PENALTIES.

85. (No change.)

86. (No change.)

87. Certificates granted under this Act may be suspended or withdrawn on sufficient cause being shown to the satisfaction of the Commissioner.

RECOMMENDATION.

(It is recommended that provision be made for the establishment of Local Boards constituted as follows: One member to be appointed by the Government, one by the Operator and a third by the engineers in the District. Such Boards to have power to grant second and third class certificates. The Local Boards to meet four times each year. First Class certificates to be granted only by the General Board.)

FAN QUESTION.

(Will some Record reader please answer the following for a "Scottish Laddie"—Ed.)

A mine is ventilated by a Guibal Fan, 36 ft. diameter, which makes 68 revolutions per minute, and the quantity of air passing is 168,000 cubic feet per minute, with a pneumatic pressure equal to 4.6, water gauge, as shown in the fan drift. The downcast shaft is 12 ft. diameter and 1080 ft. deep. The upcast shaft is 12 ft. diam. and 1032 feet deep. The air passages are so arranged as to divide the current into eight equal splits each passage square in section having an area of 50 square feet. The water gauge shown in the partition erected between the two shafts is 3.1065 inches.

(1) What should be the theoretical pressure produced by the Fan.

(2) What is the manometrical efficiency of the Fan.

(3) What is the co-efficient of friction of the shafts.

(4) What is the equivalent orifice of the downcast.

(5) What is the equivalent orifice of the upcast.

(6) What is the equivalent orifice of the two

shafts considered as one.

(7) What is the equivalent orifice of the mine considered by itself.

(8) What is the equivalent orifice of the mine and shafts considered as a whole.

(9) What is the equivalent orifice and length of each split of air in the mine, reckoning the coefficient of friction at .01 lbs. for each square ft. of rubbing surface for a velocity of 1000 feet per minute.

(10) What would be the indicated horse-power in the air.

Some of the papers announced last week that the output of the Allan Shafts for the previous week was some 4,700 tons. This was such a big jump all of a sudden that it startled one. If the Allan Shafts reach an output of 4700 tons weekly by the end of the year they will be doing remarkably well. The output for the month of January was between three and four thousand, and the shipments 2977 tons.

Some mine managers have a hard time of it. We have one in mind who has been frequently requested by the workers, within the past six months, for an increase of wages, and who is being continually nagged by the directors to cut down the cost of production. A reduction in wages would entail a strike; an increase in cost of production would mean a request by the directors for his resignation; so between the two sets of devils, the directors and the men, the poor fellow spends his days agonizing.

From the report of the Geological Survey, we learn that tinstone, one of the rarest of minerals, has been discovered in a solid vein in Canada. The discovery was made near New Ross, Lunenburg County, N. S. An assay proved the mineral to be cassiterite, the most valuable of tin ores. The vein has only been opened twelve feet in depth and it requires to be developed considerably more to prove the economic value of the deposits. Still the fact is established in the mind of geologists that the granites of Nova Scotia contain valuable minerals, and chiefest among them is tinstone. It is urged that more should be done in panning for tinstone along the streams and in developing the numerous pegmatite veins which cut into the granite.

Tin-stone is a rare mineral all the world over, and has been found in paying quantities only in very few places, and generally the pegmatite veins in the granite. The world's output of tin in 1905 was 32,007 tons, produced by only six localities; the Malay peninsula producing 58,517 tons or 60 per cent. of the whole. Bolivia, 12,500 tons, Billiton and Banks Islands in the Dutch East Indies, 12,915; Australia, 5,028, and England, 3,857. The price of tin has increased greatly during the last few years, and as the demand is greater than the supply it will certainly keep on increasing. In 1905 the price per pound increased from twenty-nine cents to thirty-five cents; in April, 1906, it reached 38.6 cents, and at present it is forty-two cents. The high price of tin is naturally stimulating developments in all parts of the world, especially in Australia and Bolivia. The cost of production has increased in the Malay peninsula on account of the exhaustion of the richer and more easily worked alluvial deposits, and also on account of the rise in wages.