

BRITISH COLUMBIA LOG SCALING ACT.

to provide for the measurement of timber by official scalers has just been passed by the British Columbia Legislature. The act was first drafted by Mr. H. G. Ross, secretary of the British Columbia Loggers' Association, and was subsequently amended by the government and afterwards by a joint committee of loggers and mill men. The principal clauses of the law are given below.

The Lieutenant-Governor in Council may appoint for the remuneration of a Supervisor of Logging. It shall be the duty of the Supervisor to supervise the work of the Official Scalers appointed under this Act, and to perform such other duties as may be assigned to him by any rules or regulations, or he may be directed by the Chief Commissioner of Lands and Works.

The Supervisor may act as arbitrator in any dispute that may arise between a vendor and a purchaser, or between them and the Official Scaler, as to the measurement and classification of any timber, and his decision shall be final and binding upon all parties without appeal. Whenever the Supervisor acts as arbitrator, he shall collect from the person requiring arbitration the following fees, in addition to all reasonable expenses incurred by him, viz:

For scaling logs and spars, 5 cents per 1,000 feet,

For measuring piles and poles, 5 cents per 200 lineal

feet of 128 cubic feet.

The Supervisor shall immediately transmit such fees to the office of the Chief Commissioner for the Province, to be accounted for as Provincial revenue.

The Chief Commissioner of Lands and Works may, from time to time, appoint Official Scalers, and fix the fees to be paid to them as their remuneration. He shall constitute a lien upon the logs until paid. Official Scalers shall hold office during good behaviour. No person shall be appointed Official Scaler unless he is a British subject, and is duly qualified by experience and has paid to the Chief Commissioner of Lands and Works a licence fee of twenty-five dollars.

The Supervisor shall have the power to suspend any Official Scaler who, in his opinion, is not properly performing the duties of his office.

It shall be the duty of Official Scalers to measure and classify timber correctly, to the best of their skill, knowledge and ability, and to classify when so requested by the vendor and purchaser all timber on which there is any royalty due to the Crown, and enter in their books of record, for the purpose of return to the Supervisor, at the end of each day, the number of logs and other timber, noting the number of saw-logs or other timber rejected as worthless, commonly called "culls." They shall also deliver a copy of the scale to the vendor or owner upon demand, and upon payment of the fees.

It shall also be the duty of an Official Scaler, when called upon by a vendor or owner of timber on which there is no royalty due to the Crown, to measure and classify such timber as in the manner provided by the provisions of this Act, and to furnish such vendor or owner with a copy of scale and classification upon payment of his fees, and which shall be a lien upon such logs until paid.

After measuring any timber as aforesaid, the Official Scaler shall transmit to the Supervisor a copy of the record of said measurement, as entered in his book of record, and shall, when called upon, submit said book of record to the Supervisor. The Supervisor or other officer of the Department of Lands and Works shall give all information asked for, in his power to do so, and shall furnish any statement or copies of statements which the Supervisor or other officer of the said Department may from time to time require.

If any Official Scaler neglect or refuse to carry out the provisions of this Act, or any regulation made under it, the Chief Commissioner of Lands and Works may cancel his license, and such Scaler shall not thereafter be eligible to measure timber upon which there is any royalty due to the

If any Official Scaler wilfully undermeasures, or mis-measures, or wilfully culls and rejects any timber, or makes a false return, for the purpose of deceiving or defrauding, such Official Scaler's license shall be revoked, and he shall not thereafter be permitted to act as Official Scaler under this Act, and in addition he shall be subject to a penalty of not less than fifty dollars, or more than two hundred dollars, to be recovered, with costs, on summary conviction before any stipendiary Magistrate, Police Magistrate or Justice of the Peace, and in default of payment he shall be imprisoned for a period of not less than one month, nor more than three months.

No timber shall be sawn, or caused to be sawn, until the same has been scaled in accordance with the requirements of this Act, and every person violating this provision shall be liable to a penalty not exceeding five hundred dollars (\$500), to be recovered upon summary conviction before a Police Magistrate, Stipendiary Magistrate or Justice of the Peace, and to have such timber seized and forfeited wholly or in part to the Crown, as the Chief Commissioner of Lands and Works may direct.

Nothing in this Act shall debar any Official Scaler from being employed by a mill owner or logger who is the holder of a lease or license from the Provincial Government, but no Official Scaler so employed shall exact fees from a vendor or purchaser or be allowed any compensation as such for services rendered in his capacity as Official Scaler.

In the event of a vendor objecting to the Official Scaler employed by a purchaser, or to his scaling, then on application to the Supervisor, another Official Scaler may be selected to scale the boom in question, and in such case the party requiring such services must pay such remunerations as is fixed under the provisions of section 5 of this Act.

The "British Columbia Log Scale" shall be used for the measurement of all timber on which there is any royalty due to the Crown.

The following is the classification of fir logs for scaling purposes as agreed upon by the Loggers' Association and Lumter and Shingle Manufacturers' Association:

Grade A or First Class—Logs suitable for flooring, and decking planks; reasonably straight; not less than 20 feet long; 30 inches in diameter; clean and free from visible knots.

Grade B, or Second Class—First class merchantable, sound lumber, reasonably straight, free from unsound limb knots; not less than 16 inches in diameter, and if longer than 40 feet of greater diameter in proportion to the length; with half clear timber.

Grade C, or Third Class—Second class merchantable timber, sound, reasonably straight, and free from rotten knots, but too rough to pass as first class.

Culls—All timber not coming up to the standard of second class merchantable.

CARE OF A BOILER.

A writer in the American Electrician cites a case which came under his observation where the boilers of a certain plant were nearly ruined in a short time because the drip from the oil separator was led into the receiver instead of to the sewer, so that the oil passed into the receiver even more directly than it would have done had there been no separator present. Defects are almost certain to appear in the boiler when heavy lubricating oils, or oils of any sort that leave a considerable residue upon evaporation, find admission to a boiler.

The commonest way for oil to get into a boiler is, according to the writer, by being pumped into it together with the drips from a system where exhaust steam is used for heating, and the water of condensation is returned to a receiver. In all systems of this kind an oil separator should be used, and the drip from this should be carried to a sewer. In some cases the exhaust pipe from the engine may be provided with a separator, and yet the receiver may receive the returns from one or more pumps, each of which contributes a certain amount of oil.

Oil also gets into the feed water in connection with condensing engines, when the condenser water taken from the hot well is used as part of the feed. It is impossible to prevent oil from getting into the boiler

when feed water is taken from this source. The importance of excluding oil from boilers can hardly be understood by those who have not seen the damaging effects that may result from the admission of even a small quantity of it.

Pitting in boilers or piping is usually observed where the water is kept for a considerable time at a temperature somewhat between 212°. The boilers that are mostly affected by this sort of trouble are those that are used for heating, and in these it is observed chiefly in the fall and spring, when the boilers are used only a part of the time. At such times pitting is likely to be very marked, and it is nothing unusual to see a set of tubes used up in two or three years.

In one instance a new boiler was put into service, for power, in the month of December, being used in connection with five others. Business becoming slack at this factory about the time the new boiler was installed, only three of the available six boilers were needed at any one time. The practise was to use three of the boilers for two weeks and then to allow these three to stand idle for two weeks without emptying them. In the following August three of the tubes in the new boiler gave way. Upon examination it was found that the tubes in this boiler were all badly pitted. The three that had given out were replaced with new tubes, and the boiler was thoroughly boiled with soda ash. Two more tubes gave way during this process and were replaced.

The battery was then put in use again under the same conditions as before, except that every boiler was now emptied when not in service. This occurred eight years ago, and the tubes are still in good condition. The tubes in the older boilers were not affected, as they were covered with a film of scale which protected them. To protect boilers in which pitting takes place, about ten pounds of lime should be slacked and put in each boiler. This will cause the formation of a thin lime scale which will prevent pitting for a time. When this thin protective coating is dissolved the operation should be repeated. Of course, this treatment is not recommended for a boiler in which there is already a plentiful supply of scale. This would naturally be understood, because it is not in these boilers that pitting occurs. Still, it may be as well to speak of this point explicitly, in order to avoid misunderstanding.

The difficulty attending the stopping up of tubes that may be leaking in a water tube boiler without taking it out of commission, has been overcome, it is reported, by the invention of an engineer in the French navy of a self-acting plug for burst water pipes.

This plug is described as consisting of a hemispherical bulb, about half again as large as the bore of the tube. One of these plugs is located at each end of each tube. The stem is inserted into the end of the tube, allowing the plug to hang down outside, just clear of the opening. These plugs are kept from falling out of the tube entirely by a rod which extends across the ends of the tubes horizontally.

The action of the device is very simple. When a tube bursts the water naturally rushes into the damaged tube at a high velocity. The plugs lying at the end of the tube are picked up by the current, and, guided by the stem, are jammed into the end of the tube and held there by the unbalanced pressure exerted on them.

The body of the plug is made of iron or steel solid with the stem and is coated with a soft layer of lead. When the plug is driven into the tube by the rush of water this lead makes a tight joint between the tube and plug and effectually blocks the opening. In sectional boilers, where the tubes are arranged in separate series, it may be sufficient to put a plug at the end of each series, only instead of at the ends of each tube.

This device has been tried on a torpedo boat boiler and was found to act admirably. The bursting of a tube gave no trouble at all, and the vessel continued her trip, putting to sea again next day unrepaiied, the damaged tube being completely closed by these automatic plugs.

These have been in use, it is said, on tugs and other vessels for many months and have been found to act very satisfactorily. They are made of such shape and proportion and so placed that they cannot block the tubes during the ordinary working of the boiler, and their arrangement can be changed to suit different types of water tube boilers.