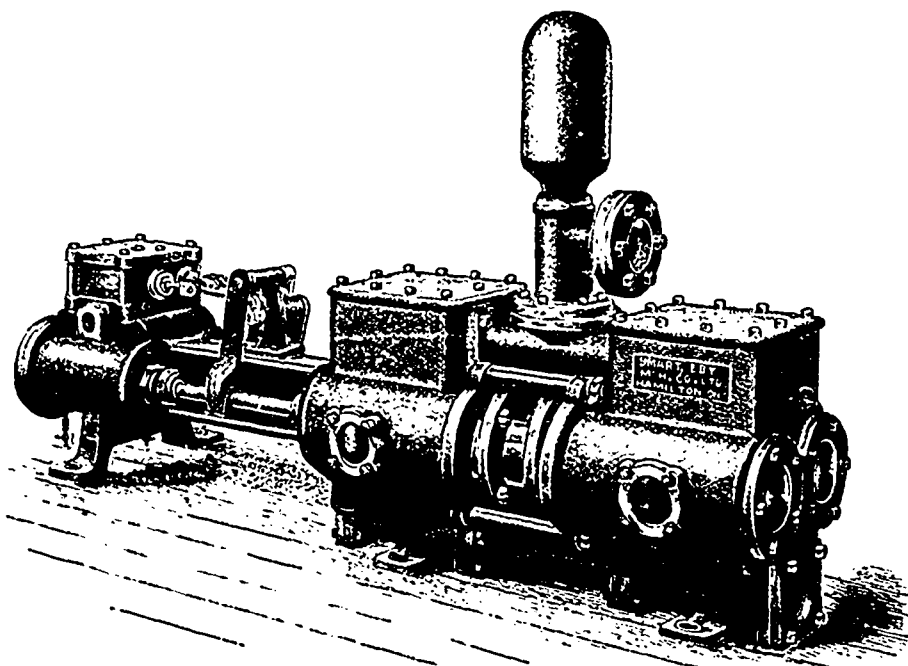


**BOUNDARY'S BIG TONNAGE.**—A local paper figures the Boundary ore tonnage for the first three months of the year as 75 910 tons. Of this amount 65,058 was treated by Boundary smelters. The balance, from the B. C. mine, in Summit camp, was sent to Trail. The total shipments for last year amounted to about 100,000 tons, and for 1921 it is anticipated it will run up to fully 300,000 tons.

**ROPES.**—The importance in raising of the work performed through the application of ropes, demands that the material of which they are made shall be such as to enable them to bear successfully, and for a satisfactory time, the varied and constant strains to which they are daily subject and in order to fill these requirements, steel—such as Bessemer Steel, Lugs Patent Steel, and Plough Steel—is now commonly employed for their manufacture. Mining ropes are always thicker for winding than for haulage purposes, and in order that all ropes shall be sufficiently strong for the work they have to perform, it is common to employ a factor of safety, or safe working load

sufficiently below the breaking strain of the rope, and such factor of safety may be defined as the ratio that the breaking strain bears to the safe working load. The factor of safety varies according to the work the ropes have to perform, and it is common to employ factors of safety for winding ropes varying from  $\frac{1}{4}$  to  $\frac{1}{2}$  of the breaking load, and for haulage ropes it is common to employ as a factor of safety  $\frac{1}{6}$  of the breaking load.

Coal consumption in blast furnaces varies with the amount of moisture in the air. In a discussion before the Pittsburgh Foundrymen's Association it was stated that under normal conditions—with the temperature at 70 Fahr.—1,000 cubic feet of air, equal to 75 pounds, contain one pound of moisture, and that each pound of moisture requires one additional pound of coke. Tests have proved that when the air is charged with moisture, from 200 pounds to 300 pounds more coke are required for producing a ton of iron than when the air is dry and comparatively little moisture is blown into the furnace. Heating the air does not eliminate the moisture.



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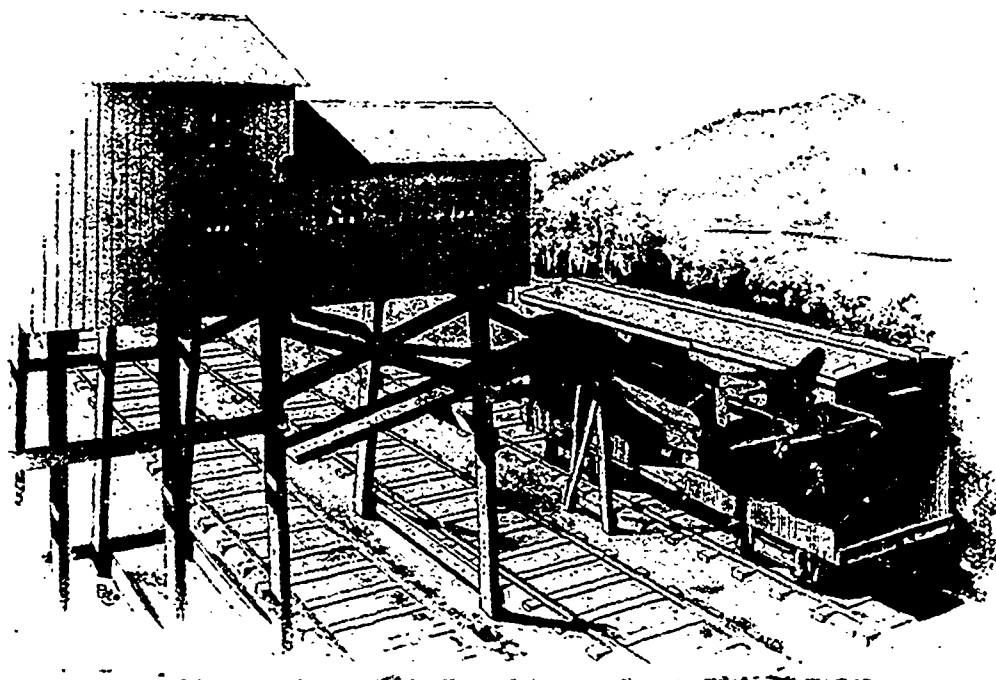
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