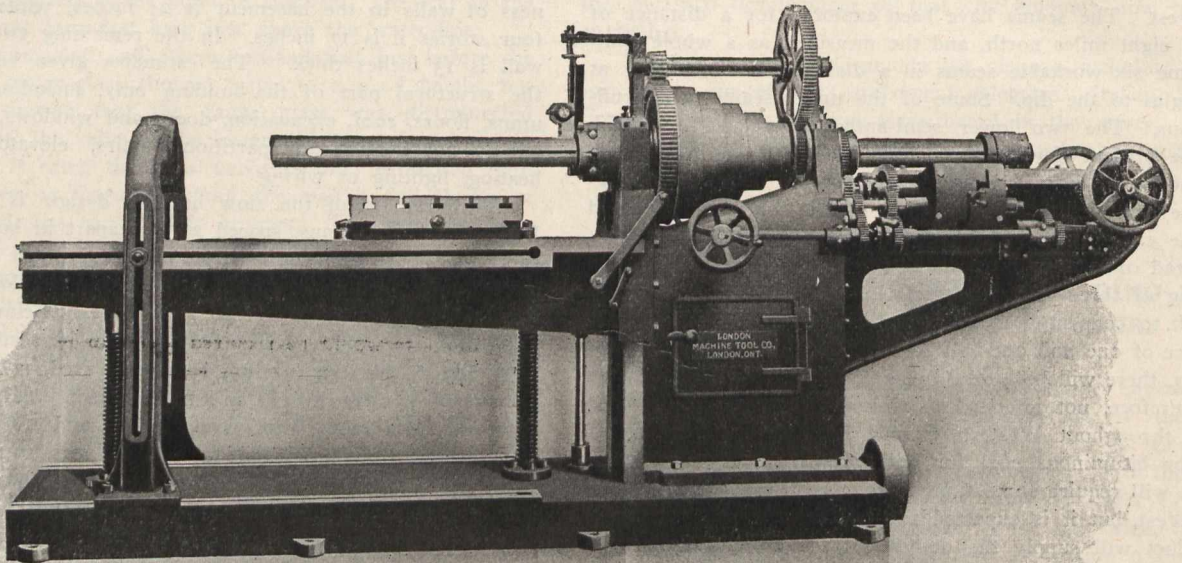


NEW TYPE OF HORIZONTAL BORING MILL.

We herewith present a new type of horizontal boring mill, which has lately been put on the market. The capacity of the machine, as shown in the illustration, will bore up to five feet in diameter and six feet in length. The head is large and massive, having five speeds for four-inch belt, the largest diameter of cone being 23 inches, and being powerfully back geared gives ample power for the heaviest work, and permits of high speed steels being used to the best advantage. The boring bar is four inches in diameter, and has a feed of 36 inches, without shifting the driving pins. The feeds are reversible, are eight in number, ranging in geometrical progression from 1-128 inches per revolution of spindle to 5-16 inches. This provides a variation suitable for any class of work. The feeds can be thrown in and out while the machine is in operation from either side of the machine. Hand-feed and quick return is also provided. The table has movement, both crosswise and in a longitudinal direction. The knee is raised and lowered by power or by hand,

and other cities, and in every case remarkable reports were made. The assays run from 87 to 92 per cent. carbon. The following is the report received of the assay of the four-foot vein: Water, none; volatile matter, four per cent.; fixed carbon, 92 per cent.; sulphur, none; ashes, 4 per cent. The physical description is briefly given in the report: Color of ashes, white; weight per cubic yard, 2,680 pounds; specific gravity, 1.54. What particularly attracts attention is the total absence of rock, and of smoke in burning. The coal ignites easily, and from experience in burning it the assayers feel satisfied that it excels the well-known Pennsylvania variety.

The advantage of working this mine is a great consideration, as practically no machinery is needed for taking water out of the mine. Mr. Burns is highly elated with his purchase, and is of the opinion that it will develop into the largest mining camp in the Dominion. The whole of the country west is one huge bed of coal, but up to the present the soft variety only was in evidence.



as desired, the raising and lowering being accomplished by means of a worm and worm wheel placed underneath knee. A facing up to 26 inches' diameter. The total weight of the machine is 18,000 lbs. It is manufactured by the London Machine Tool Co., London, Ont., who will be pleased to furnish upon application any further information.



AN ANTHRACITE MOUNTAIN IN ALBERTA.

A mountain of hard coal in Alberta has recently been purchased by P. Burns & Co. for \$32,000. From the Wetaskiwin Post we glean the following description of the location:

The property is in the Misty range, 36 miles west of Okotoks, Alta., and comprises 16,000 acres. It was discovered by an explorer, Julius Rickart, an old-time prospector. Mr. Patrick, D.L.S., and a party of surveyors spent several weeks in the district and made a thorough inspection of the coal seams as exposed in many tunnels made by the miners in the pass.

The situation of this phenomenal coal bed is most picturesque. Upon either side there tower huge, precipitous mountains thousands of feet high, and nestling in a valley is this mountain of coal, which is twelve miles long and three miles wide. Its formation differs vastly from that of the surrounding mountains, as it is covered with vegetation, while the others are bare limestone. For some time past miners have been engaged making tunnels into the mountain, and succeeded in exposing twenty-six veins of coal, which varied from four feet up to forty feet. Samples of this coal have been sent to assayers in Denver, Vancouver

—One of the principal difficulties in the economy of steam boiler operation in certain sections is incrustation. Its destructive effects have been the subject of such a wide amount of comment and warning that steam users might be presumed to be constantly on their guard to prevent it, but as a matter of fact, except in localities where the evil is so pronounced as to imperatively demand the adoption of preventive means, this subject is too commonly neglected. Unfortunately, the evils arising from this cause are often insidious, and do not make themselves manifest until substantial injury has occurred by the overheating and weakening of the boiler shell, or by effecting the crystallization, granulation, burning and fracture of the material, while wasting fuel. The extent of this waste is hardly appreciated until it is known that a 1-16-in. of scale in the boilers means an increase in the fuel bill of about 13 per cent. A standard remedy for the removal of scale, already deposited in boilers, as well as preventing its re-formation without injury to the boiler, is Keystone Tri-Sodium Phosphate. The most careful analysis by eminent chemists has shown that it is incapable of injuring the iron of the boiler. Where boilers are already coated with scale, its use gradually converts the stony incrustations of the carbonates of lime and magnesia, and even anhydrous sulphate of lime, into pulverent and flocculent phosphates. It also separates the foreign matter held in solution by the water as a light flocculent precipitate, which will not bake into a crystalline scale, but is easily removed by blowing off, thus preventing the formation of incrustation, and furthermore, it neutralizes acids contained in the water, thus rendering them innocuous. A sufficient quantity for testing this chemical will be sent to any Canadian manufacturer on mentioning the Canadian Engineer. Address: The Keystone Chemical Manufacturing Co., Camden, N.J.