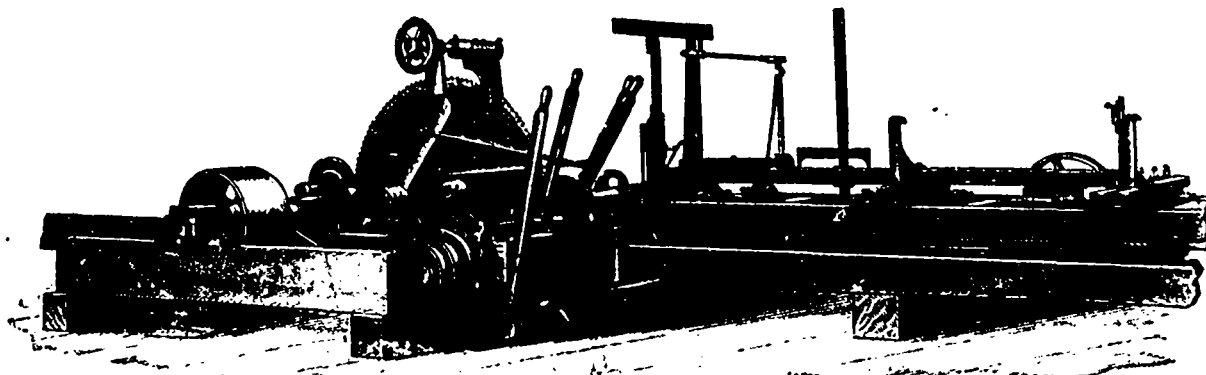


PORTABLE SAW-MILL AND OVER-LOG GUIDE.

Mr. F. J. Drake, of Belleville, Ont., who is well-known to many of our readers, makes a specialty of machinery pertaining to the manufacture of lumber. The accompanying illustration shows one of his portable saw-mills. It is designed throughout for hard and fast work. The arbor is extra large for this class of mill, and runs in three adjustable self-oiling boxes, each one 12 inches long. Each box is also provided with a tallow cup. The friction feed and gig pulleys, both

that when they swing up they spread apart in order to clear the points of the saw teeth. The upper parts of the guide are all steel castings, and are strong and light. The saw shown in cut is 60 inches diameter, 12 gauge, 120 teeth. This saw makes a little less than 3-16 inch saw kerf; a 7 gauge saw makes nearly 5-16 inch of saw kerf, and sometimes more. This would mean a saving in a little mill cutting say 10 thousand feet per day and fair run of logs, of quite 1,000 feet. That is where the profit comes in."



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iron and paper, have 6-inch face. The feed belt is 3 inches wide, and the cone pulleys have three changes of feed.

Mr. Drake thinks the only time a saw-mill pays is when the saw is cutting; he has therefore fitted the mill with a very fast "gig" or reverse movement for the carriage. The carriage is mounted on iron wheels or trucks, with steel axes and iron boxes. The wheels are turned true to fit planed V and flat iron tracks. The set works are generally arranged with lever or handle over the log, so the sawyer can set the desired thickness without leaving his post. A very powerful friction receding gear is also attached, so that it will run the head-blocks either backward or forward, as the sawyer may desire.

The track timbers are framed together in three sections, so designed and constructed that they cannot be put together wrong. The mill is arranged with rope feed, both ends of the rope being above the mill floor.

By far the most important feature about the mill is the over-log saw guide. This is designed for the purpose of saving timber, and there is no doubt of its being a success; in fact, it has been subjected to very severe tests. Every mill man knows that when a big saw gets heated it commences to wobble and run crooked. In this state it is impossible to do good work with it. The saw will enter the log a little out of line and get worse before it is through the cut. A very heavy saw, under these conditions, is not nearly as stiff as a much thinner one in its normal state. Then, why not put in a guide that will control the saw before it enters the log? Make your saw enter the log in perfect line, and stay in line, and you will remove the principle cause of its heating. Two guides are better than one; have one guide below the log as usual and have another one above the log.

The "Canadian" over-log saw guide has now been put on the market and will no doubt fill a long-felt want. Concerning it the manufacturer says: "The guide can be made to fit any ordinary saw frame, and it is adjustable for saws from 36 to 72 inches diameter. A hand wheel makes the lateral adjustment for lining the saw either in or out both safe and positive. When sawing small logs or stocks the sawyer can with the lever bring the guide pins from their normal position, near the top of the saw, down around the periphery of the saw to a point within about 16 inches of the head block level—the upper and lower guides would then be less than 2 feet apart—then let it wobble behind if it wants to, it will come straight before it gets down to the work. The hangers carrying the guide pins are independent of each other, and so constructed that if a knot or other projection on a log strike either one of them it would swing it up clear until the knot, or whatever it is, goes by, when the hanger would drop back to its place and close in on the saw. The hangers are held in place by suitable coil springs and so constructed

INTRODUCTION OF THE SAW-MILL.

Richard Neve, the author of a builders' guide published in England in 1736, refers to an attempt to introduce saw-mills driven by wind and water, as in Holland and other places abroad, but Parliament interposed for the sake of the families that would have been impoverished by the loss of the hand labor. "By this means," says our author, "a useful improvement is not only lost to the kingdom, but foreigners are thereby enabled to under-work and undersell us in all sorts of building materials that require the saw. Much better would it have been, as we humbly presume to think, if the Parliament, at the expense of the public, provided for the poor families some other way that would have yielded them equivalent maintenance for life, and suffered the public to reap the advantage of the improvement; and every builder might have been taxed what he would have saved by the mill-sawing, towards their provision. And as no more than a small limited number should have been brought up to the business for the future, this charge would have soon been over." The price of sawing up oak varied from 2s. 8d. to 3. 6d. per 100 superficial feet. The sawing of ash and beech was rather more in some places, touching 4s. per 100 feet. An experienced sawyer told him they sometimes cut ship-planks for 10s. the load. The lowest rate in Sussex was 6s. the load, but as they built at Tunbridge wells it was 7s. 6d. or 8s.

THE NEW RIVAL ENGINE.

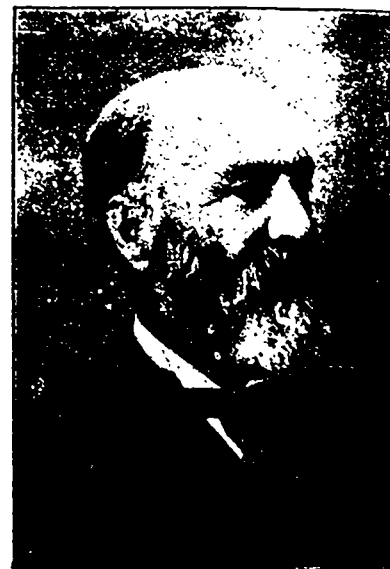
The Laurie Engine Company, of Montreal, have been long and favorably known as the builders of the highest class Corliss engines. Their large engines of many thousand horse power have been at work for years in the largest power houses in the Dominion, and are furnishing as good service to-day as when first installed. Success in the larger field of engine building has prompted the company to use their knowledge and experience in the designing of a small engine for use in small factories, saw mills, planing mills, etc., thus meeting the demand which is at present largely supplied by engines of United States manufacture. To rival all others in quality, and incidentally in price, has been the aim of the designers, and the new "Laurie Rival" engine, herewith in advertisement, after repeated tests and trials, can be confidently declared a perfect success,

a production which will not bring discredit upon the name of the company.

The "Rival" is of the very simplest construction possible, and is claimed to be proportioned in every detail as to be beyond the possibility of accident through breakage. The frame is of a design, of the type known as "self contained," embracing the two main bearings which are in diameter nearly one-half the diameter of the cylinder. The slides or guides are of the circular form, and have a substantial flange at the end to receive the cylinder. The metal used in the frame is of the toughest nature, and is so distributed that all working strains are provided for in such a way that any spring or distortion whatever is rendered impossible. The cylinders are proportioned with mathematical exactness, so as to develop the greatest power with a given amount of steam, and are cast of the finest grained hard charcoal iron, and covered with real cast iron lagging. The valves are of the plain slide type, a type which retains many advantages over others, in clearance; the slide valve port is much shorter than the piston valve, thus reducing loss in clearance; the slide valve always wears tight, whereas the piston valve is always wearing smaller, and casting larger, thus causing leakage which has to be provided for in other ways. The crank shafts, which are made of semi-steel, are very much larger in diameter than what are made by engine builders generally. The crossheads are fitted with bronze slides of large area and hardened steel wrist pins. The piston rod is of mild steel, and is secured to the crosshead by fine threaded screw and lock nut. The connecting rod is of cast steel fitted with adjustable bronze bearings at crosshead end; and the crank pin end is of the marine type, lined with the best quality of babbitt metal. The parts throughout are made to gauge and are interchangeable. These engines will run quietly without jar, vibration or spring, and keep perfectly cool in journals. They are guaranteed as to workmanship and material, and should any breakage occur within a year after sale from defect in either of these points, a duplicate of the broken part will be furnished free of cost, f.o.b. Montreal.

THE LATE MR. GEORGE MUNRO.

The citizens of Peterborough, Ont., were deeply grieved when they learned that Mr. George Munro, vice-president of the William Hamilton Manufacturing Company, of that town, had on the 18th ultimo



THE LATE MR. GEORGE MUNRO.

suddenly stricken with heart failure, from which he succumbed a few minutes afterwards. For some years Mr. Munro had been associated with the management of the William Hamilton Company, one of the leading and most substantial industries of Peterborough. He was widely known and much respected, and his death is a public loss as well as a sad bereavement to his family.

Deceased was born sixty-one years ago, at Glasgow, Scotland, and came to Canada when about thirty years of age. After a short time spent in Montreal he removed to Peterborough and entered the William Hamilton works, where he remained. Unostentatious in his life, he would never take any active part in public affairs. But, while discharging his duties as citizen quietly, he gave the industrial interests of which he was identified his close and experienced attention.

In 1881 Mr. Munro married Miss F. Phenia Hamilton, eldest daughter of Mr. Wm. Hamilton, who, with his children, one daughter and three sons, is left to mourn his loss.

The deceased was a member of St. Paul's Church. He was also a member of Peterborough Lodge No. 155, A. F. & A. M., Corinthian Chapter, Royal Masons, and the funeral took place under Masonic auspices on September 21st.