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## LONDON, BERRY & ORTON'S BAND SAW MILL.

Our engraving represents one of the patent band saw mills made by Messrs. London, Berry & Orton, of Philadelphia, Pa.

The general construction of this mill will be readily understood from the engraving. The working parts are all mounted on a single cast iron bed plate, so that the whole mill, down to the carriage driving pinion, is complete and self-contained. The driving belt is governed by an "idler" pulley, which, together with the feed works, is arranged so that the operator, without moving from his position, can stop or start the mill, change the feed instantly from 0 to 50 feet per minute, or change the direction of the log carriage.

These mills are built in various sizes to suit the special needs of users, the largest being capable of sawing logs eight feet in diameter. This machine appears to possess as great advantages over the circular saw mills as the latter have over the ordinary reciprocating saw mill. The kerf made by the band saw is but 1-16th instead of 5-16ths inch, as in the case of the ordinary circular saw. The employment of saws of this thickness effects a considerable saving in lumber, and also in the power required to drive the mill.

Further information may be obtained from London, Berry & Orton, successors to Richards, London & Kelley, Twenty-second street, above Arch, Philadelphia, Pa.

## Trade Depression in England.

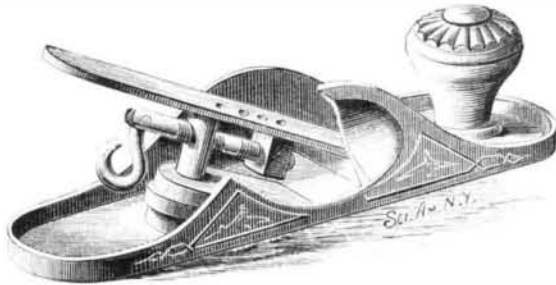
While our manufacturers are mostly busy, and works that have been idle for some time are brushing up, with the intention of early starting their machinery, our English contemporaries tell a sad tale about their home industries.

Taken all round, says the *British Trade Journal*, there appears to be no improvement in the prospects of trade. Cotton mills, ironworks, collieries, and manufactories of all kinds are nearly all working shorter hours, and not a few have stopped entirely. Cotton goods are reported to have been sold lately at lower prices than have ever been known before. The same might almost be said with regard to iron. Under these circumstances a reduction of wages has been a matter of sheer necessity on the part of the masters. Not infrequently it has been that employers have had to study not how to retain a profit, but how to minimize a loss. Generally speaking the laboring classes have submitted to the in-

evitable, but in some parts of the country the men have endeavored to hold out against the reductions.

## A NEW CARPENTER'S PLANE.

The accompanying engraving shows a new adjusting device for plane bits or irons, recently patented by Mr. L. Bailey, of Hartford, Conn. It is especially designed for metallic planes, and consists in a stud which supports the bit, and is adjustable in a socket that is cast with the body of the plane. A differential screw passes through this stud, and engages a nut having a pin or stud projecting from one



BAILEY'S PLANE.

of its sides, which may be inserted in any of the several holes in the bit. The differential screw has a jointed handle which answers the purpose of a lever, by means of which the bit may be nicely adjusted.

## A Practical Application of the Electric Current.

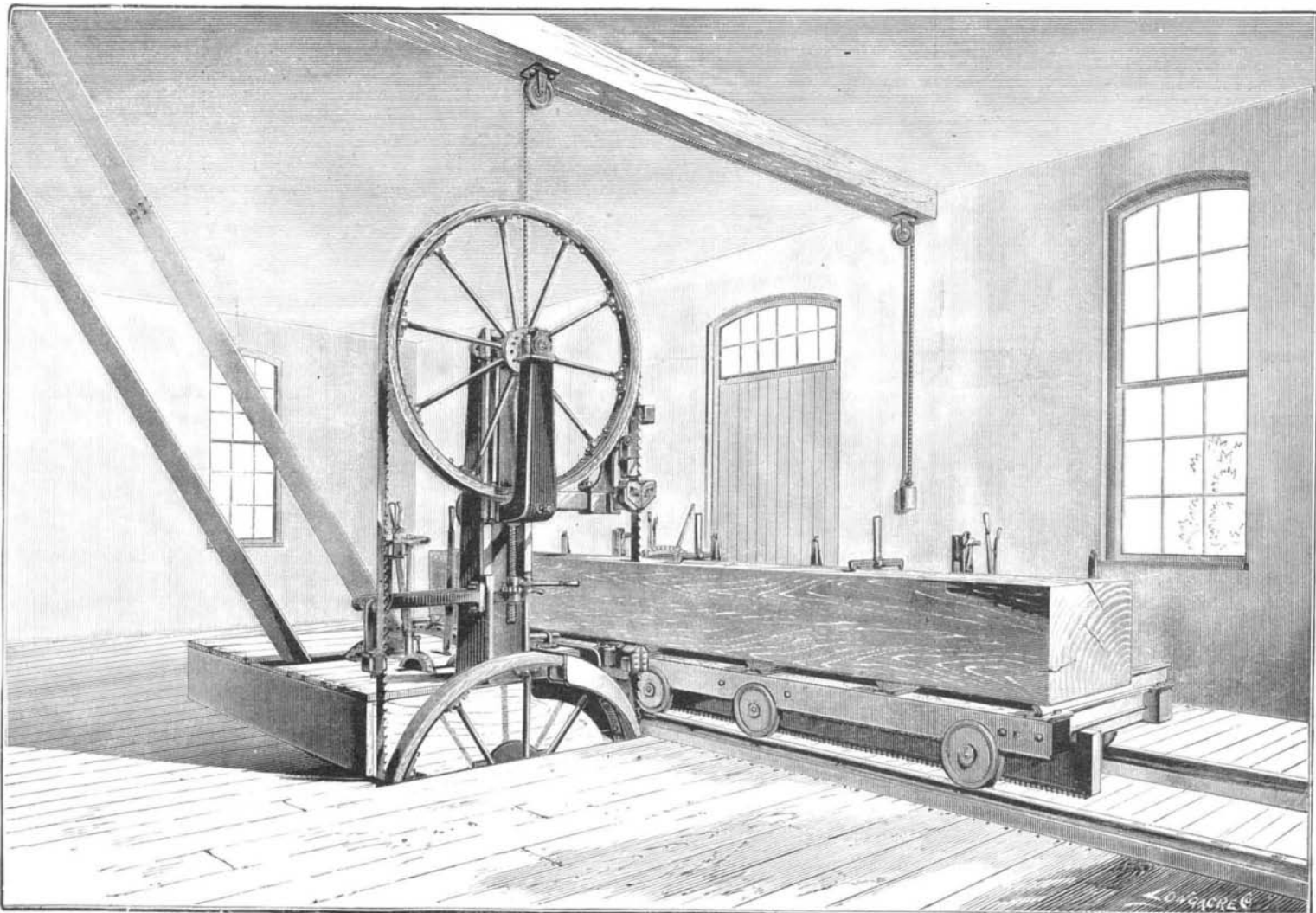
A very important application of the electric current, says the *British Trade Journal*, is now being carried out by Sir William Armstrong on his estate. A volume of water descending at the outfall of a Northumberland lake has been utilized by the interposition of a turbine, by means of which the requisite revolutions are given to a dynamo electric machine. The electric current thus generated is conveyed through a stout copper wire to the private residence of Sir William at Crag-side—a distance of about a mile and a half. The current is there conducted through a lamp, in which the regularity of the light is maintained by clockwork, subject

to the control of an electro-magnet, which magnet reflects the strength or weakness of the current, so as to regulate the distance between the points of the carbon electrodes. It has been found necessary to provide a second wire to take the return current, so that the first cost of the light is somewhat large, but the working expense is very small. In addition to this use of the electric current as a source of light, Sir W. Armstrong intends to avail himself of the power thus brought into his house by applying it to several domestic purposes. This is to be accomplished by means of an electric engine situated in or near the house, and receiving the current transmitted from the machine at the lake outfall. In this way Sir William will be able to make a more constant use of what may be termed his electrical "plant," and thus may look forward to a satisfactory result in an economical respect. This example of the conversion and transmission of power will be viewed with great interest, the distance of a mile and a half being sufficient to indicate a much more extended sphere of action for the electric current than has hitherto been found practicable.

## Toil and be Happy.

The *Christian at Work* thinks Ruskin never said a truer thing than this: "If you want knowledge, you must toil for it; if food, you must toil for it; and if pleasure, you must toil for it." Toil is the law. Pleasure comes through toil, and not by self-indulgence and indolence. When one gets to love work his life is a happy one. Said a poor man in Brooklyn, the other day, with a family of eleven to provide for: "If I were worth a million dollars, I should not wish to do much different than I do now every day, working hour after hour. I love it a thousand times better than to rest." He has for nearly half a century been surrounded by workers, and has caught the spirit of industry. He loves his work better than food or sleep. He is happy who has conquered laziness, once and forever.

A YOUNG man who gets a subordinate situation sometimes thinks it not necessary for him to give it much attention. He will wait until he gets a place of responsibility, and then he will show people what he can do. This is a very great mistake. Whatever his situation may be, he should master it in all its details, and perform all its duties faithfully.



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