

# Scientific American

A WEEKLY JOURNAL OF PRACTICAL INFORMATION IN ART, SCIENCE, MECHANICS, CHEMISTRY AND MANUFACTURES.

Vol. XI.—No. 20.  
(NEW SERIES.)

NEW YORK, NOVEMBER 12, 1864.

{ \$3 PER ANNUM  
(IN ADVANCE)

### Improved Drilling Machine.

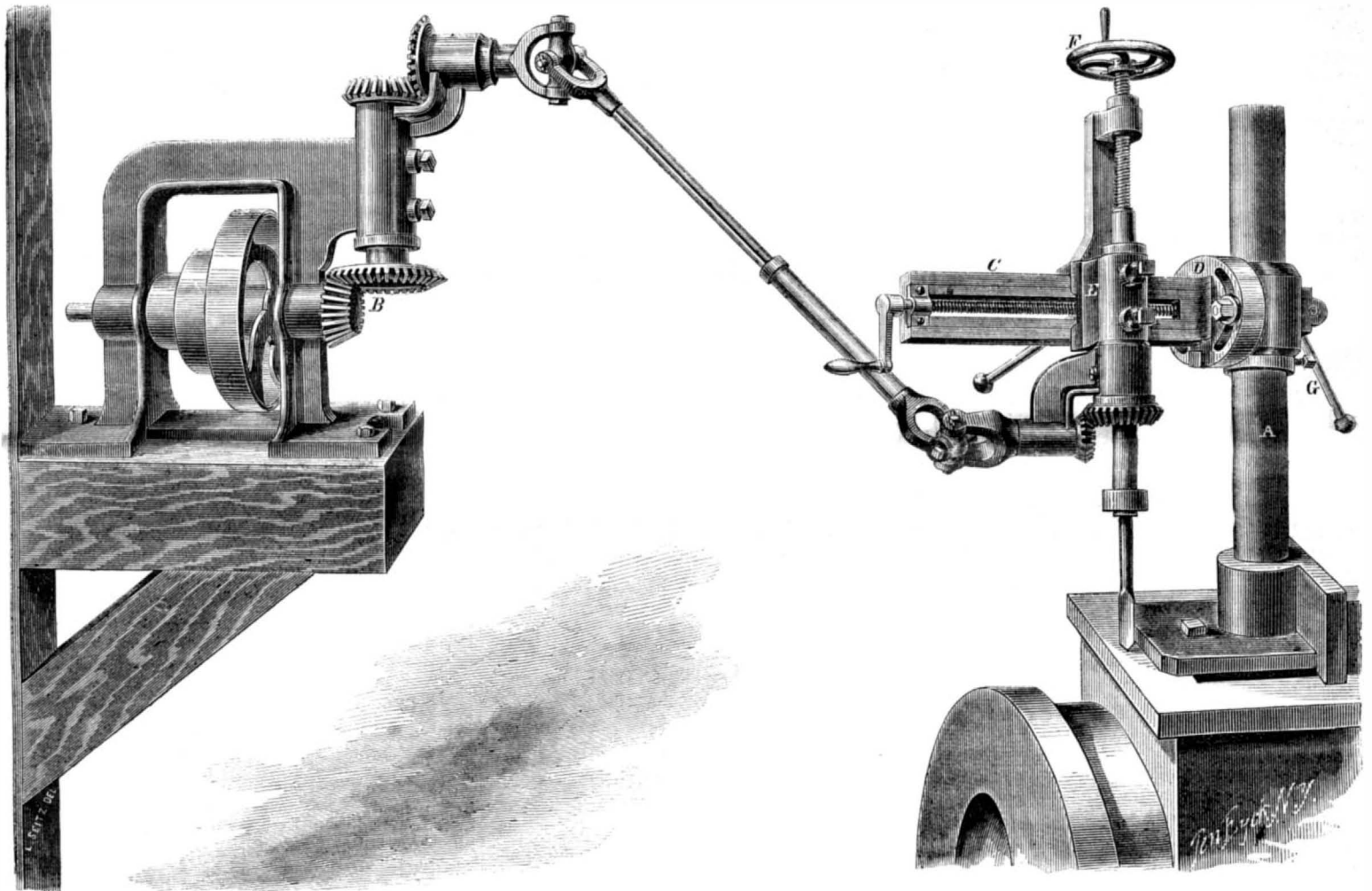
The use of pawl wrenches, for drilling holes, has in a great measure been superseded in the shop by this machine. By the simple adoption of a universal joint, and tumbling shaft, between the drilling crab, A, and the driving gears, B, a rotary motion is imparted to the drill, and the crab is converted into a portable drilling machine, which is light, strong, and efficient. The crab can be carried anywhere, and fastened either horizontally or vertically, as shown, and the arm, C, has a circular slotted

machine is in general use in all of our large machine shops in this city, and is much liked. It was patented on Feb. 9, 1864, by Isaac S. Lauback, of New York city; for further information address Henry Miller, general agent, Box 3,354, New York.

### Carbonization of Illuminating Gas.

The London *Artizan* says:—"The advantages resulting to gas consumers from the carburization of the gas supplied by the companies has now become generally recognized, and the apparatus for effecting

forsaw nothing but ruin in the diminished quantity of gas which would necessarily be consumed for the production of an equal amount of light. Cold water was consequently thrown upon the project, and the invention has only been of benefit to individuals, and not to the public at large, which might have been the case had it been introduced upon a large scale.' Since this opinion was expressed other inventors have been more successful than Mr. Lowe, and there is no reason why the benefits of a rich, pure, and economical light should not be generally diffused.



LAUBACK'S DRILLING MACHINE.

head, D, which permits it to be turned at any angle, while the crab remains upright. This is a most useful feature, as it is difficult to fasten a heavy crab to drill a hole at the proper angle. The head, E, is moved along the arm by a screw, which allows the drill to be set with great accuracy, and prevents careless workmen from bruising and breaking the end of the arm, as is frequently done. The drill is fed down vertically by the hand wheel, F. The driving pulleys are shown set on a bracket, for convenience, but they may be placed anywhere; on the floor, or up against the ceiling; in any of these positions they will work quite as well.

For drilling heavy bed-plates, air-pumps, cylinder nozzles, surface condensers, steam chests, etc., this machine is indispensable, and the crabs are often bolted down on a vice bench and used as drilling machines when the fixed machines are in use. The handle, G, secures the arm at the proper height. This

the thorough mixture of the benzole or naphtha vapor with the gas has now been so simplified, that whatever objections may formerly have existed have been entirely removed, so that it may be hoped Dr. Knapp's observation, as to the discovery being of benefit to individuals only, will no longer apply. Referring to naphthalized gas (as it may here be mentioned that the carburization is always effected with mineral naphtha, benzole, or some other material not widely different from them), Dr. Knapp, in his well-known 'Technology,' observed that 'the illuminating power of gas is very much increased by the presence of volatile hydrocarbons, and many years ago Mr. Lowe introduced, or rather proposed, a plan for saturating inferior qualities, or ordinary coal gas, with naphtha, or the spirit distilled from coal-tar, and thus augmenting its illuminating power nearly one-half. The remarkable increase of light, however, produced by naphthalized gas frightened the gas companies, who

We have examined the improved carbonizer, known as Woodward's Patent Gas Improver and Carbonizer, and the results produced are certainly all that could be desired. In this apparatus the gas is made to pass over the surface of benzole or mineral naphtha, receiving its vapor and obtaining a vastly increased illuminating power. It is claimed that in passing over the surface of the fluid the gas comes into contact only with the amount necessary for its purification, so that the vitality of the spirit is retained until it is all consumed. Dr. Muspratt has reported very favorably upon the invention, and photometric experiments have proved that, taking gas at 4s. 6d. per 1,000 cubic feet, there is a saving of more than one-third, the same amount of light being obtained for 2s. 11d. The apparatus is at present in use in some hundred manufactories, printing offices, etc., and a large number of testimonials of its efficiency have been obtained."