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Improved Apparatus for Well Boring and Hoisting.

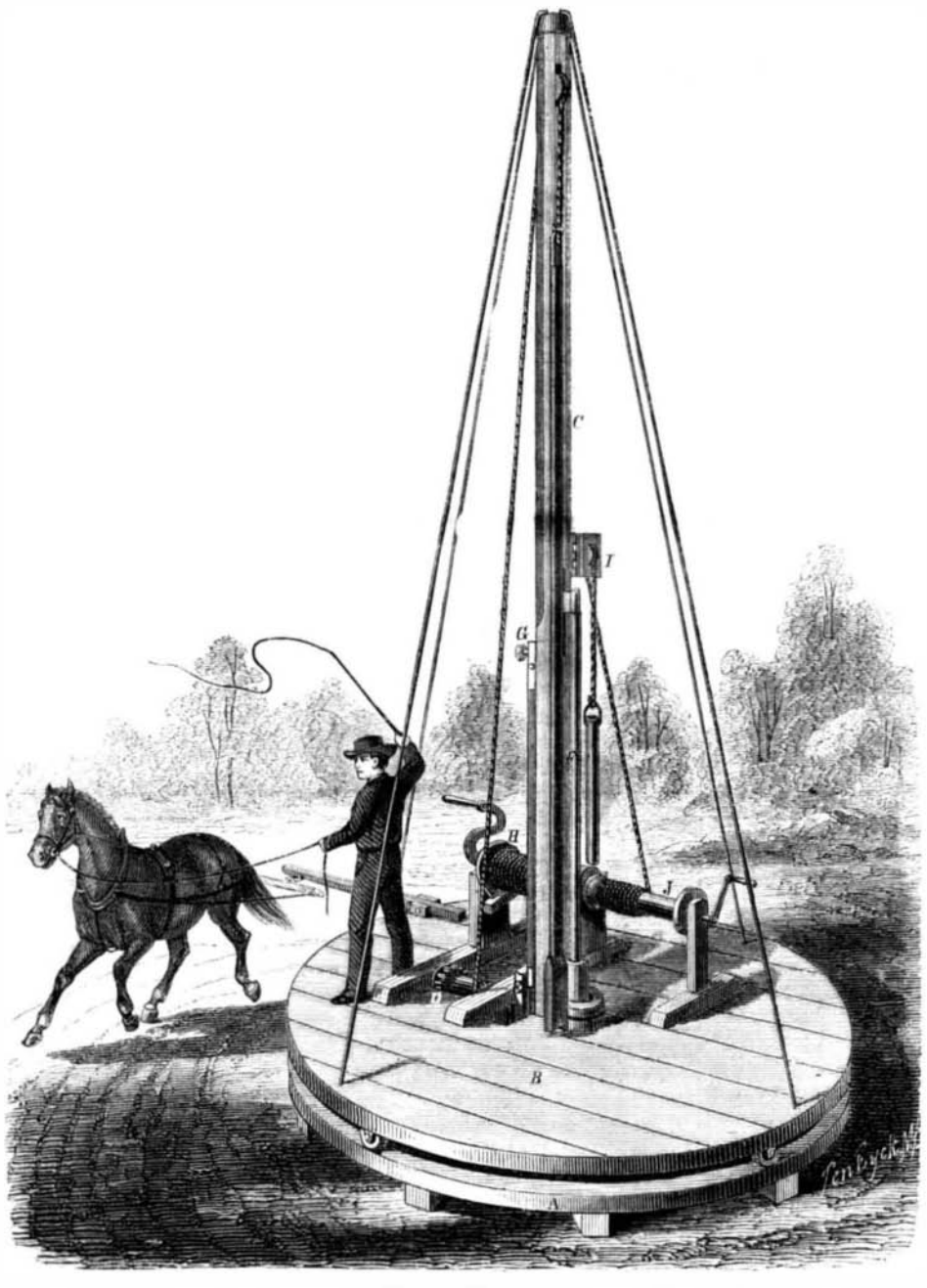
The discovery of the commercial value of mineral oil has greatly stimulated the efforts of inventors to improve upon the crude attempts first made to reach the buried treasures of the earth; yet the old walking beam and samson post are still adhered to, probably because of their simplicity and cheapness. The object of the apparatus herewith illustrated is to provide an improved device for boring wells. It is also adapted for pumping and hoisting purposes. Its operation is easily understood, as the parts are simple in character and few.

A level platform, A, circular in form, and either a disk or a rim, is laid upon the ground, and the platform, B, revolves upon it by means of trucks or rollers. At the center of this platform is a well-hole, and rising from its side is the upright, C. Under the platform, B, is a fixed gear wheel in which the wheel, D, meshes. The platform being rotated, by horse or any other power, its revolution gives motion to the wheel, D. On the same shaft with this gear is a double lever, having circumferential slots in either arm, at equal distances from the center. In front of this is a similar lever or double arm, E, having pins in its rear face which play in the segmental slots, and by which the arm, E, is carried around with the shaft of D. In this arm is a longitudinal slot, in which moves loosely a box to which the connecting rod, F, is pivoted, which is secured at the other end to a box which slides up and down in a corresponding slot in the upright, C.

As the shaft, D, rotates the arm, E, is carried around, and soon after the box carrying the connecting rod has passed the lower center it slides to the upper end of the arm, allowing the drill, F, to fall, when the continued revolution of the shaft again raises it, to fall again at the next half revolution By this means there are two full strokes given to each one revolution of the wheel, D. The drill may be attached to the upper block directly, or after the hole has progressed, to the knob, G, on the box by a rope passing over the pulley at the top of the uprights. The rope passes around the shaft, D, thence on the drum or winch, H, to be let out as demanded by the progress of the work. The sand-pump is always suspended ready for use from the hinged pulley block, I, by a rope winding on the barrel of the winch, J. The drill can easily be removed by the winch, H, and the sand-pump lowered into the well without the trouble of disconnecting the drill.

For pumping purposes this machine appears to be equally efficient. It can be worked very rapidly by having a large wheel under the platform, B, even when the horse or other motive power is traveling slowly. The rotation of the platform insures a gradual rotation of the drill, so that at every stroke it presents its cutting edge at a different angle, and the hole is always bored perfectly round.

A patent was issued March 6, 1866, to W. C. McGill and A. J. Gibson, of Cincinnati, Ohio. For further information address A. V. Stewart, No. 14 Public Landing, Cincinnati, Ohio, or W. C. McGill, No. 277 Walnut street, same city.



McGILL & GIBSON'S DRILLING, PUMPING, AND HOISTING MACHINE.

REDUCTION OF RAILWAY CHARGES.

Hon. Josiah Quincy delivered, last week, an address before the Boston Board of Trade warmly advocating the possession by the several States of all the important railway lines, believing that thereby the charges for passage and transportation of freight would be reduced to correspond with the mere cost of operation. The experience of English roads furnishes the data on which his statements are founded, and the Worcester and Western railways, between Boston and Albany, are those to which his remarks are specially applied.

Quoting from the report of the English Board of Trade, for the year 1863, the average expenditure per train, taking all the railroads in the United Kingdom, is placed at 2s. 7d., or 62 cents per mile. Of this sum the cost of maintaining the way and works, the locomotive power, and the repairs and renewals of cars, amounts to 1s. 2¼d., or 29 cents; the remaining items include the Government tax, compensation for personal injury, legal expenses, and other expenditures which must be paid whether the trains run or not.

In regard to the traction of a locomotive, 1,000 passengers, or 300 tuns of freight, are considered as a fair maximum load on the majority of the English railways. When the track is laid, and the road is fully equipped, the results of full trains at the present prices would be, on the roads under discussion, 10,000 tuns on the five daily freight trains at $7, and 6,000 passengers, in six trains, at $6 each, giving a total of $106,000; but, by the estimate given above, the actual cost is only $124 for each train, yet, to cover all expenditures, call it $159. Then 27 passengers pay the total cost, and 973 are carried free. For freight alone, 23 tuns defray the whole expense, and 177 go free.

A prevalent opinion is that the charges on a railroad must be proportioned to the cost of construction. Now it is found that the English railways on which the greatest amount of capital per mile has been expended, are those on which the fares are the lowest. The Charing Cross Railway cost a million and a-half sterling, or $7,500,000 in gold, per mile, yet passengers are carried at a lower rate than on some roads constructed at a hundredth part of that cost. When the actual fares exceed the expense incurred in the conveyance, it becomes a mere question of numbers as to what fares best pay. English experience also proves that any decrease in price of transportation is immediately followed by a nearly corresponding increase in business.

The effect of reducing fares, on dividends, is seen in the contest between the Edinburgh and Glasgow, and the Caledonian railways, connecting these two cities, which, with their immediate vicinities, have a population of 600,000 inhabitants. During the contest the fares were reduced to one-eighth of the ordinary charges; the loss in dividends, resulting,