

AN INSTANTANEOUS INTEREST INDICATOR.

A machine by which the interest on any sum from \$10,000 to \$1, from ten years to one day, at any rate per cent, may be determined in thirty seconds, by simply turning a knob, is illustrated herewith, and has been patented by Mr. C. M. Dunham, of St. Joseph, Mo. An interest sheet is wound around the rollers inside the machine, which are rotated by the knobs at the side to stop at the given amount desired, and given rate per cent, as printed on the interest sheet, this portion then appearing in the open space on the left hand margin of the machine. Then the small metal tablets on the face and across the center are thrown up with the point of the pencil, for the time the interest is to be computed. This being done, the required interest is in plain view. By the use of this machine all of the mental and three-fourths of the physical labor is dispensed with. It is quicker than books or charts. It is safer than books or charts, because you cannot see any figures but those you wish to see. It keeps its own time. It does not get on the wrong line, or in the wrong column. It is indorsed by bankers and the business public generally. Parties who never used books or charts have ordered the machine. The machine is designed to be and is a labor saver, mental and physical, and is so constructed as to render it almost impossible to make errors in calculations. The machine is made of brass and nickel-plated, the letters and figures being sunk and filled with black, it being designed to be an ornament to any banker's or broker's desk, and one which is not likely to get lost or misplaced. It is 15 inches in length, 4 inches high, and 4 inches wide. In our illustration the device is shown as indicating the interest on \$7,000 for 1 year, 7 months, and 22 days at 9 per cent, the amount and rate of interest appearing in spaces at the left hand margin, and the several sums of interest for the three periods—\$630, \$367.50, and \$38.50—are exposed under the metal tablets across the center, at the points indicated by the proper figures below for the year, months, and days called for.

[EXPRESS ENGINE, GREAT NORTHERN RAILWAY.

We give an illustration of one of the newest express engines lately completed for the Great Northern Railway, England. It will be interesting to compare this machine with that of the new type of express engines of the New York, New Haven, and Hartford company,

lb.; and the tractive effort, 94½ lb. per lb. cylinder pressure. The boiler is 4 ft. in diameter, and contains 174 tubes, 1¾ in. diameter. The heating surface is: fire box, 109 square feet; tubes, 936 square feet; total, 1,045 square feet. Grate area, 17¼ square feet.

The bogie wheels are 3 ft. 11 in. in diameter, the trailing wheels 4 ft. 7½ in.; the load on the leading bogie wheels is 8 tons 2 cwt., on the trailing wheels 9 tons 9 cwt., driving wheels 17 tons, trailing wheels 10 tons 12 cwt.; total weight, 45 tons 3 cwt. The tender is carried on six wheels, 4 ft. 1½ in. diameter, and holds 2,900 gallons of water—sufficient for a run of 105 miles without a stop, to Grantham—and 5 tons of coal. The total wheel base is 29 ft. 9 in.

only one or two lines per pole. The number of poles passed is the number of miles per hour at which the train is traveling.—*Railway Review.*

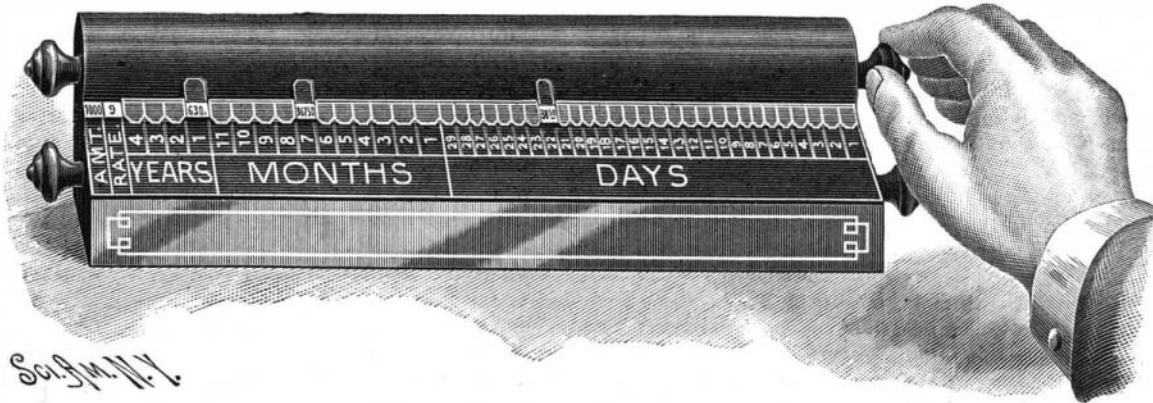
The Farmer's Complaint.

The *Northwestern Lumberman*, which usually confines itself to the price, quality, and quantity of various kinds of lumber in the various markets, and sometimes has a word for builders and contractors as to the future supply, and if the current prices are to be sustained, etc., in a recent issue went out of its way to illustrate the whims and complaints of the ordinary farmer.

"I would prefer being almost anything to being a farmer. He has to take chances on the weather, guess whether every other farmer will put in the same crops he does, and everybody has a dig at him. When he sells his crops he has to look out that he don't get beat on the price, and everybody who sells him anything wants to get big money out of him. It is drought, too much rain, cyclones, hail storms, bugs, worms, poor seed, or something similar all the time, and the farmer never knows whether he owns a cent or not. Besides, he's always in debt, and the storekeepers cuss him because he is such infernally slow pay. Yes; it must be fun to be a farmer. But, after all, the farmers are everlastingly overestimating their adversities, and things never turn out half as bad as their prognostications. The farmer is the arch grumbler, and when he hasn't got enough trouble to make him feel at home, he borrows a supply from his neighbors, and it is the one thing he always manages to pay back."

Chills and Fever.

The sovereign remedy in the treatment of intermittent fever is quinine, and the most common forms in which it is employed are the sulphate and bisulphate, and the *Boston Journal of Health* says that, owing to its greater solubility, the latter is preferable. Several methods are employed in giving quinine. Some advocate the use of a single large dose to ward off an expected attack, others prefer to give the remedy in small doses, repeated at intervals of two or three hours. The weight of evidence is in favor of the latter method, still, in some cases, the former will be more effective. If the disease has existed but for a short time, five grains of quinine should be taken dur-

**DUNHAM'S INSTANTANEOUS INTEREST INDICATOR.**

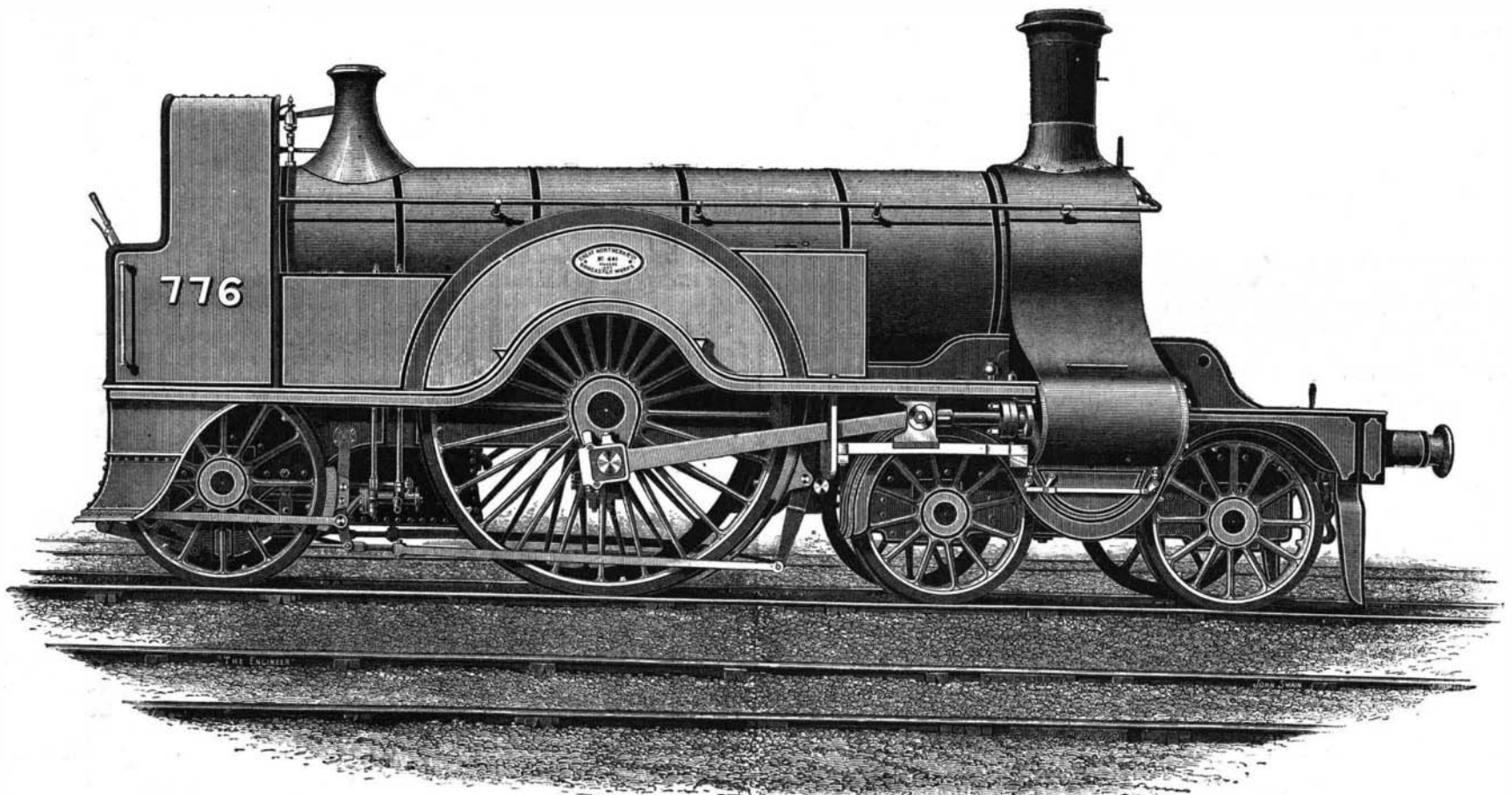
The *London Engineer*, from which we take our illustration, is quite proud of the work. It says:

"The majestic proportions of these engines have always excited the admiration of engineers, and they are as good as they look. They have been built at Doncaster, and their workmanship leaves nothing to be desired. They are, perhaps, the most celebrated locomotives in the world. It would be difficult to name many types which have lived so long, and which comply so fully with the heavy demands of an exceptionally fast traffic."

Speed of Trains.

Inquiry is frequently made as to how the speed of a train may be estimated. The traveler especially is curious about the speed his train is making, and we suggest three methods by which the speed may be guessed with remarkable accuracy, as follows:

1. Watch for the passage of the train by the large white mile posts with black figures upon them, and divide 3,600 by the time in seconds between posts. The result is the speed in miles per hour.
2. Listen attentively until the ear distinguishes the

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of which we publish an example this week. The American locomotive, it will be observed, is a much more powerful specimen of mechanism, and alongside of it No. 776 looks diminutive. The dimensions of the latter are as follows:

The cylinders are 18 in. diameter, 26 in. stroke; the driving wheels, 8 ft. diameter; the boiler pressure, 140

click, click, click of the wheel as it passes a rail joint. The number of clicks upon one side of the car in 20 seconds is the speed in miles per hour, where the rails are 30 feet in length, and this is the case generally.

3. Count the number of telegraph poles passed in two minutes, if there are four or five wires to a pole, and in two minutes and twenty seconds, if there are

ing the sweating stage, or as near as possible to the paroxysm which has passed, and repeated every four hours until ringing noises in the ears are experienced. Even if by this method the second occurrence of a paroxysm is prevented, the use of the drug should for several weeks be persisted in, and be given three or four times daily in decreasing doses.