

the rapid fading out of the negro race. Among all the colored people that I have observed in this city and on my way here, I have not seen a single full-blooded negro. I observed this same shading away of the black race many years ago in St. Louis, I noticed it in a trip through the Southern States to Texas just before the war, and I have remarked it very particularly in Boston, Providence, New York, and other Northern cities. It is manifestly rapidly increasing; the children everywhere are lighter colored than their parents. Henry Clay estimated that this process would extinguish all traces of the negro race in this country in the course of two hundred years.

Saturday afternoon I went into the hall of the House of Representatives—a rectangular, frescoed room, with a beautiful white marble pulpit for the speaker's desk, and the seats of the members—looking with their tables like large and handsome school desks—arranged in segments of circles around it. The House was in session, though nearly all the seats were vacant—some twenty members being in their places. One member was standing up reading a speech, and one other member—apparently a personal friend—with his right leg hanging over the arm of his seat, was listening to it. No one else in the room was paying any attention to the speech; the speaker was reading a newspaper, and the several members were either reading, writing, or talking. The conversation of one group was more audible than the reading of the member who was addressing the House, and as I was looking about the room, I was startled by a loud blow at the speaker's desk, which sounded like striking a mallet upon a book; when attention was thus secured, the speaker remarked, "I call the gentlemen upon my left to order." The speech had evidently been written for circulation among the member's constituents, but in order to make it a speech in Congress, it was necessary to read it, whether any person listened to it or not. I would suggest to your ingenious subscribers to devise some plan by which this ridiculous humbug, with its consequent waste of the costly time of Congress, might be overcome.

I have, of course, visited the Patent Office, and have only to remark that from Mr. Theaker, the Commissioner, down, I was very favorably impressed with the *personnel* of the establishment. Among the Examiners, I saw Governor Farwell, of Wisconsin, manifestly a man whose ability and weight of character should place him in a higher position; and the same remark might be made of others of the officers. I suppose the Patent Office has always been managed with more honesty and efficiency, and with less complaint from the people, than any other department of our Government. It has certainly done more than any other to increase the production of wealth and to advance the prosperity of the country.

When I started for Washington I had in view the obtaining of certain interesting information for your columns; I shall make an effort to get this to-day, and, if successful, will forward it in time for your next issue. G. B.

IMPROVED FACILITIES IN RAILROAD FREIGHTS

A novel project has recently been presented through the papers of New York and Brooklyn, designed to increase the freight capacity of railroads. It is as follows:—A double-track railroad, to be owned by a joint stock company, but to be open to free competition in transportation—any one being allowed to put trains on the road and to run them, paying tolls to the company for the privilege of transporting over the road. Also, the adoption of a uniform speed, such as will give the road its greatest freight capacity. ♪

The *Tribune*, in allusion to the plan, says:—

"It is estimated that a road of this character would be equivalent in tonnage capacity to twenty single-track, or ten double-track roads with unequal rates of speed, while nine-tenths of the difficulties of management and liability to accidents would be taken away. The suggestions, to us, appear to be nearly, if not quite, self-evident propositions. They are analogous in principle to the operation of a grain elevator, and we do not see why the principle cannot as well be applied to a railroad as to any other piece of machinery. It is difficult to estimate the tonnage

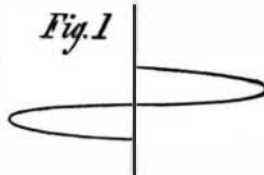
capacity of a road capable of being filled with carts its whole length, moving at a uniform rate of speed, and pouring a stream of commerce that would rival the capacity of all our canals and railroads of the State combined. We do not doubt that a road of this description could be so constructed and operated as to cheapen transportation one-half, and benefit the public in the same ratio. Our railway system, like many other things, is in its infancy, and if we mistake not, public necessity will soon bring it into a state of increased efficiency far beyond the present."



Mechanical Drawing.

Messrs. Editors:—There are many young persons devoting themselves to the study of mechanical drawing who find their skill and patience sorely taxed to execute a neat drawing of a screw, by any rules that are known to the draughtsman. Having overcome the difficulty in my own experience by a simple and, I think, geometrically accurate method, I propose to describe it for the benefit or gratification of your patrons who find pleasure in such things.

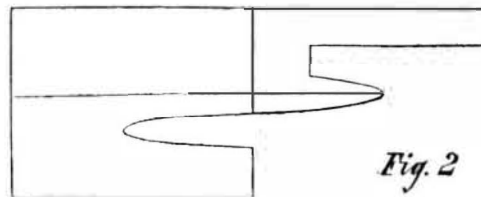
The perspective of any screw may be drawn by the use of a parabola whose base is equal to half the pitch, and whose height is equal to half the diameter of the screw.



The annexed double parabola (Fig. 1) describes the outline of a two-inch screw with a half-inch pitch. Cut this parabola accurately from a card, and set

its base at the center of a two-inch screw with a half-inch pitch, one leg of it at the top of one thread, and the other at the under side of the next thread, and you will see that it exactly coincides with the perspective outline of the screw.

The parabola desired may be cut singly from a common business card, and used to draw the right side of the screw first, and then reversed to draw the left. But I prefer the mode of preparing a card with a double parabola as illustrated in Fig. 2.



After drawing these parabolas on cards or thin pieces of wood, from triangles whose height is just the diameter of the screw, and the breadth of whose base is half the pitch required, carefully cut away, as in Fig. 2, and your card is ready for use.

The practical application of the rule, by this simple instrument, may be described thus: After drawing a center line and two light parallel lines for the diam-

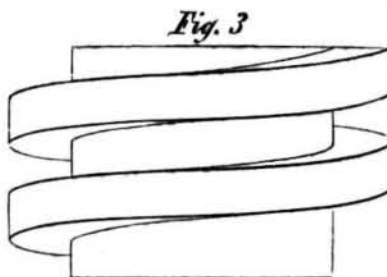


Fig. 3

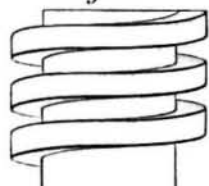


Fig. 4

eter and length of the screw, and two others for the depth of the thread, with dividers, space off the outer lines, or only the center, into divisions equal to half the pitch, and draw light lines across the screw at

right angles to the center. With a proper drawing board the dividers are not needed.

Let the base line of the parabola coincide with the center line of the screw to be drawn, and the center line of the parabola coincide with any one of the half pitch lines, and then draw the under side of the thread first and then the upper, as in Figs. 3 and 4.

These examples are sufficient to illustrate the principle and convince the critic of its correctness. All bodies thrown into the air, out of a line perpendicular to the earth's surface, describe parabolas. In cutting a screw, the force moving the tool corresponds to gravity; that of the screw, to projectile force. The resultant of these two forces, when seen in a line perpendicular to the center of motion, is a parabola.

The perspective line, showing the bottom of the thread in the example, is drawn by another parabola whose height is less than the first by the depth of the thread.

JOHN B. KELLOGG,
Birmingham, Conn., April 6, 1866.

FINANCIAL BREAK-DOWN IN ENGLAND.

Recent news from Europe represents affairs as generally very serious. Austria is arming. Prussia is arming, and Italy is arming, and Napoleon has, in a recent speech, uttered a significant word which has added fuel to the flames. It appears as though Austria was about to be ground between the upper and nether millstones. The effect of all this has been to create a wide spread distrust in financial and business circles. In England it amounted to a very critical panic among the bankers, which resulted in the suspension of several large firms. The old banking house of Overend, Gurney & Co. suspended with liabilities amounting to \$50,000,000, of which sum \$30,000,000 were due to depositors. This firm was doing this immense business on a paid-up capital of only \$7,500,000. We do not wonder that the concern went *over end* or overboard. We are thankful to believe that, with all our varied faults, our bankers do not transact business in this loose manner.

We regret that the firm of Peto & Betts, of which Sir Morton Peto is the senior member, and who cut such a figure in this country, was also compelled to succumb. Their liabilities are some \$15,000,000, which is considered secure.

The effect of the news in Wall street stimulated the shipment of gold, and the consequent advance of 10 per cent in its price. Over \$10,000,000 in gold have been shipped from New York within the past two weeks. The effect of such a large and sudden drain of the precious metal cannot be otherwise than injurious, though we do not anticipate any serious financial trouble in this country as likely to result therefrom.

Napoleon's little speech of a few words, in which he declared that he despised the Treaty of 1815, produced all this sad result. This is the whole of it in a sentence.

FOOD AND ITS ADULTERATIONS.

High prices for food lead to the introduction of injurious substitutes and adulteration. At the present time an unusual number of articles of food in daily use are badly adulterated. Common scandal for years has assigned to the milk vended from the wagons a reputation by no means creditable to the salesmen. Whiting, flour, water and many other things have been found to constitute the ingredients of the produce which confiding persons have supposed to be elaborated by the mammary glands of the cow. Cream is a mythical affair altogether.

Butter has also been found to be extensively adulterated in England. About fifteen years ago the owners of the London *Lancet* employed Arthur Hill, Hassel, and others, to investigate the matter of the adulteration of food, and published the results of their experiments in a series of papers. The scales and test tubes were employed in the endeavors to determine the quality and ingredients of the various staple articles employed in diet by the inhabitants of the British metropolis. Dr. Hassel afterward embodied the results of his labors in a volume, which is declared to be a very cyclopedia of dishonesty. No less than forty-eight samples of butter were examined by these investigators, and their discoveries were recorded at full length. They ascertained that about one-fifth of the whole weight consisted of salt