# Miscellaneous Reading.

## "MECHANICAL MOLE."

### Invention of Texas Man May be Used to Dig Channel Tunnel.

Should England and France agree upon construction of the proposed tunnel beneath the English channel to connect Dover with Calais and other continental cities, it is possible that "Dana's Mechanical Mole," the invention of Frank L. Dana, chief clerk of the Houston street and bridge department, will figure in the work.

The London Daily Mail, in a recent issue, said Mr. Bonar Law proposed to approach the French government with a view of beginning immediately construction of the channel tunnel to provide work for discharged soldiers. The tunnel will be about thirty-two miles long, including approaches.

When America entered the war in 1917, Mr. Dana, who is of an inventive turn of mind, conceived a machine the use of which would enable the Allies quickly to construct and connect an underground system of tunnels or trenches, and which could also be used in "sapping" under the German trenches in order to blow them up with high explosives. He communicated details of his machine to Newton D. Baker, secretary of war, who acknowledged its practicability. Owing to governmental "red tape" no arrangements for utilization of the machine as a war instrument were concluded.

With the announcement by England of her determination to connect the island with the continent of Europe, Mr. Dana conceived the idea of communicating with Sir Authur Fell, member of the house of commons, and chairman of the committee in charge of preliminary arrangements for the tunnel. He described his machine and submitted tentative outlines of how the work could be accomplished by use of his mechanical mole," application for a patent for which is now pending in the United States office.

Sir Authur Fell responded with interest, and asked for further details of Mr. Dana's machine, and for estimates of cost of the tunnel. They were prepared and sent to Sir Arthur, and Mr. Dana now awaits reply from England announcing whether or not his machine will be used in making the underground boring through a strata of chalk.

The proposal of Mr. Dana was that a prospect of pilot tunnel of about seven and one-half feet diameter be bored from England to France to ascertain the nature of subterranean strata under the channel, and also for later use in transporting materials and men when constructing the main tunnel. It is proposed two of the latter be built, one for traffic from England, the other for traffic from the continent, each to be about twenty feet in diameter. Mr. Dana estimated the pilot tunnel, with power facilities established on both the English and French coasts, could be driven and completed within 100 days, while the English estimate at least one year will be required in the work.

The problem of conveying dirt and rock removed from the tunnel to the surface for disposal, which has long proved a stumbling block in similar projects, is also provided for in Mr. Dana's calculation of the plan. He would construct a series of endless belts, operated by electric motors placed 160 feet apart. The belt is designed to run on concave pulleys, and would be so placed with relation to the boring machine as to automatically pick up and remove the debris as the machine advanced. Mr. Dana estimates the total cost of constructing the pilot tunnel would be approximately $4,809,000, depending largely upon the prices of labor and materials. This cost includes a concrete reinforced lining of one-foot thickness. He estimates a cost of $36,542,000 for the main tunnel.

Mr. Dana also includes in his plans a drainage tunnel to be somewhat lower than the main tunnels, into which all seepage or other moisture would flow. The plans proposed by the English engineers also include the drainage tunnel, but indicate that the latter would be an adaptation of the pilot tunnel.

Mr. Dana has offered to go to England and set his plans before the English engineers, provided his expenses are paid. The practicability of his machine has been repeatedly attested by engineers, two of whom, representing machinery houses, have offered to purchase the patent and provide royalties. Former City Engineer E. F. Sands said if he had had a mapatterned after Mr. Dana's model when the city was boring the several large drainage tubes now in use, one on Austin street, $100,000 could have been saved in the work. One engineer came to Chicago to go over the specifications and offered to negotiate a purchase of the patent.—Houston Post.

## THE TREND OF PRICES.

### Otto Kahn Says There Is No Probability of a Slump.

The department of labor has made public a letter received by Secretary of Labor Wilson from Otto H. Kahn of New York, in which the banker expresses the belief that prices will not be materially lowered for a considerable period of years, if at all, and that for all practical purposes at least the war has brought a new level of prices, the existence of which must be recognized. Mr. Kahn's letter follows:

"Prices are determined in the main by the volume of production, of consumption, and (probably more than by either of these,) of the circulating medium, i. e., currency, bank credits, &c.

"1. Production. After the Civil war, the return of prices to the pre-war level, though it took thirteen years, to accomplish, was immensely, aided by the development of entirely novel methods of production in the shape of new forms of machinery and new kinds of business organizations. No one will seriously contend that the possibilities of the immediate future for increased efficiency of novel methods in production and distribution are likely even to approach those which came between 1865 and 1890—a period which marked the transformation of our entire business structure from hand methods to machine methods from 'pound methods' to 'tonnage methods.'

"2. Consumption. In view of the vast destruction wrought by the war and now to be made good by reconstruction, and in view of the accumulation of the demand for many things which could not be supplied during the war, demand in many fundamental lines is bound to be large and urgent for some time to come.

"3. Circulating medium. The credit expansion and currency inflation of the leading countries of the world, including our own, during the past five years has been on an entirely unprecedented scale. The process of contraction and deflation, to the extent that it is possible and likely to be approved by public opinion, will take many years.

"The conclusion is inevitable that we have arrived at a new price level. This level in the early future my go somewhat lower, or it may go somewhat higher than at present prevailing, but it seems to me certain that there cannot be any immediate and radical recession. Those who hope for or fear materially lower prices will, I am convinced, have to wait a long time.

## CALENDAR REFORMS.

### Room for Better Division of the Weeks and Months.

During the past few years many innovations, proposed long ago, have been accepted. For examples related more or less with astronomy, we have daylight saving, and the unification of the astronomical and civil days which is being put into effect. Considering that the present time affords a good opportunity to get out of ruts, the advocates of calender reform have come to the fore, particularly in France.

Previous efforts to reform the civil calendar led the International Association of Academies, at its meeting in Petrograd during 1913, to pass a resolution relating to the unification and simplification of the calendar, but the outbreak of the war prevented further action. The discussion is now revived by two plans published recently in the Comptes Rendus, the official organ of the French Academy of Sciences. One of these is presented by Guillaume Bigourdan, who received, during the past year, the gold medal of the British Royal Astronomical society in recognition of his observations of nebulae. The other plan, which is the more radical, is urged by H. Deslandres, and is essentially the same which won, in 1887, a prize of 5,000 francs.

**The Proposed Division.**

One of the difficulties with the present calendar carrespondence between remembered correspondence between the days of the week and the day of the month. The proposition is to divide the year into four quarters, each of which shall consist of 13 weeks divided into two months of 30 days each and one month of 31 days. According to the plan of Mr. Deslandres, the first month of each quarter will begin always on Monday, the second month on Friday. Four quarters of 91 days each make 364 days. The additional day required to complete the number of 365 he would insert between June and July with the designation of "Peace Day." "Leap Day" (in leap years) would occur at the end of December. Both of these days would be undated, and stand entirely outside and without name in the week. He claims the advantage for this arrangement that every year would be like every other year, and consequently there would be no need of changing our calendars from year to year.

**Mr. Bigourdan's Plan.**

Mr. Bigourdan does not approve of the rupture of the continuity of the week involved in the above scheme, and as an alternative proposes that each quarter consist of a first month of 31 days followed by two months of 30 days each, except that the last month of the last quarter of the year shall have 31 days. Thus, he would make up 365 days. For leap year he would add the extra day to the last month of the third quarter. According to this plan, each quarter, for at least the first nine months of the year, would have the same days of the week on the same days of the corresponding months. Therefore, the order of the days in the several quarters, with the exception of the last quarter of a leap year, would be duplicated, and this would be accomplished without breaking the continuity of the week.

So much reference to the calendar is made simply to find on what day a given date will fall, it would seem worth while, if some feasible plan could be found of obviating the difficulty. It is suggested by Mr. Deslandres that for a definite solution the matter should be taken in hand by the newly-constituted league of nations.

**Admiral Kolchak.**—News came slowly out of Russia, but what there is of it seems to show that the thought of the world will be that of Admiral Alexander Vassilievitch Kolchak, head of the Omsk government. Admiral Kolchak after the abdication of the Tzar, supported the provisional government of Prince Lvoff, and was nearly lost when that government was overthrown by the revolution. Kolchak was then at Sebastopol, where the sailors of the Russian fleet mutinied in response to the eloquence and promises of Kerensky, and the admiral was arrested on his own flagship. Refusing to surrender his sword, he threw it into the sea, and indignantly withdrew to his cabin. A guard was posted outside the door, and the fate of the imprisoned officer became a serious question. The sailor soviet hesitated, but was finally persuaded by the Bolshevist leaders that Kolchak should be executed. The decision was reversed by the personal appeal of Rear Admiral J. H. Glennon of the United States navy, who was in Russia as one of the members of the Elihu Root embassy, and arrived at Sebastopol just in time to prevent the execution. Kolchak was permitted to return with the American officer to Petrograd, and shortly afterward became the head of the anti-Bolshevist movement when another provisional governmet was set up at Omsk.

—Commencing today and continuing through next Thursday, Denver, Col., expects to entertain 100,000 guests, mostly farmers, in a tent city erected for the purpose and covering 50 acres. It is the occasion of the mountain states tractor demonstration. A tract of 2,500 acres of raw prairie land adjoining the suburbs of Denver, will furnish plowing expanse and exhibition grounds for 150 tractors and the latest notions in power farm machinery. The demonstration is authorized by the National Tractor Manufacturers' Association of America, and will be held under the auspices of the Civic and Commercial association and the Denver Tractor club. It is expected to show what has been accomplished by the farm machinery men since the war began, as well as the possibilities of greater cultivation in the west. Each tractor entered will be assigned severe and extensive plowing tests and its performance will be minutely recorded. It is stated that there will be $3,000,000 worth of tractors, plows, cultivators, harrows, and farm power devices of every sort on display.

## THE BRAINS VS. THE HANDS

### Widespread Manifestation We Are Living in an Age of Machinery

The great war has emphasized the value of machinery in all the industries; in fact, we live in an age of machinery. Yet less than 100 years ago men were opposing the introduction of machinery upon principle. The human hand is still the most wonderful and adaptable machine. But compare the results of the old labor and the new.

A hand brickmaker, assisted by four or five helpers, can mold about 500 bricks an hour. By hard and continuous work through a season of twenty weeks this man would pile up to his credit 500,000 bricks. This record is, however, easily beaten by a brick-making machine, which, even fifty years ago, could press 1,500 bricks an hour.

The best files are still made by hand, but a great many machine-made files are passed off as hand made. The manual worker toilfully and patiently cuts each line of the file with hammer and chisel.

Figures show that in ten working hours an industrious file-cutter delivered 46,000 blows, the majority of them with a hammer weighing seven and a half pounds, so that his total effort for the day was equivalent to moving 142 tons the distance of one hammer's stroke.

The file-cutting machine delivers its powerful cuts almost as rapidly as a sewing machine thrusts its needle up and down—that is, at the rate of 1,000 or more strokes a minute. All manner of nice adjustments can be made to suit the character of the file in the machine. The result has been a great cheapening of the ordinary kinds of files. One of the very earliest successful machines reduced the cost of a file to about one-eighth of that of the earlier handmade ones.

Spinning by hand is now scarcely known. The Australian aborigines twist thread with the fingers and thumb as a shoemaker sometimes twists twine.

A certain Norfolk lady named Pringle spun a pound of wool into 84,000 yards of thread, or nearly 48 miles. But this performance was far excelled by that of Miss Ives of Spalding, who spun, we are told, the same weight of wool into 168,000 yards, or 95½ miles of yarn. These results are very exceptional. Ordinary spinners produced only from 13,000 to 40,000 yards a pound.

The latter results are well within the capacity of modern spinning machines. A medium count of cotton yarn contains, let us say, forty hanks to the pound, a hank being 840 yards. This gives us 33,600 yards to the pound.

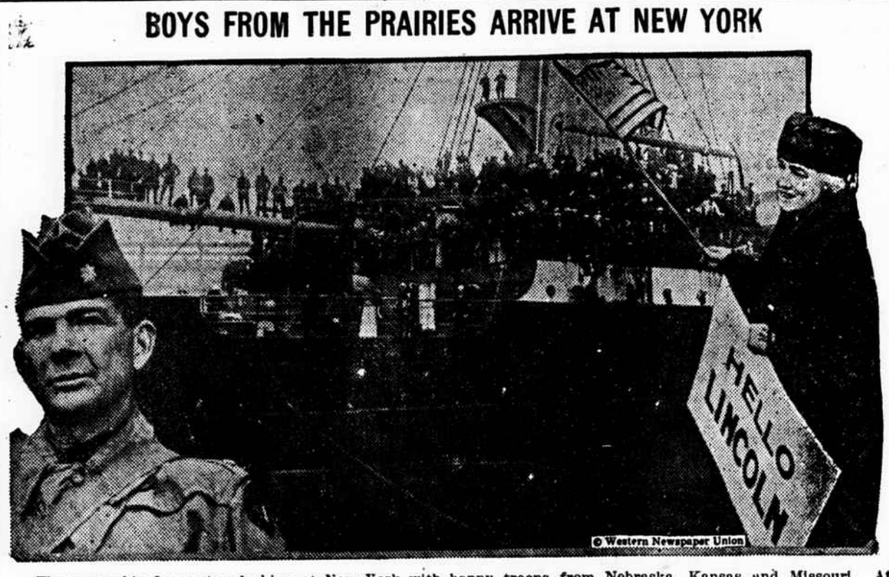
But the great gain of the modern machine results from its multiplied efforts and its speed. Twelve hundred spindles or more are at work at once, and each is spinning and winding five or six feet of thread four times a minute, while a man and two boys will be sufficient to attend to the machine.

Envelopes were at first made by hand, but machinery was soon adapted to the work. The first of these was a cutter, which cut a pile of blank shapes at one operation. These blanks were folded and gummed by hand, the folder using a sort of bone knife. A skillful workman could turn out about 3,000 envelopes a day.

In a comparatively short time, however, a machine was perfected which not only folded and gummed the envelopes but embossed, pressed, counted, and stacked them, and its output was about 3,000 an hour.

At every turn we see the hands and the brain pitted against each other, and the brain is ever taking work from the hands, to the advantage of th world.—Baltimore Sun.

## BOYS FROM THE PRAIRIES ARRIVE AT NEW YORK




The steamship Imperator docking at New York with happy troops from Nebraska, Kansas and Missouri. At the left is Lieut. Col. Levi G. Brown of the Three Hundred and Thirty-fifth infantry, from Nebraska; and at the right a little gray-haired mother who went all the way from Lincoln, Neb., to welcome her son.

**Philosophy of Neat Dressing.**—A very famous American actress once said that no woman of real brains ever cared for dress. She explained that she cared for clothes only because they were an indispensable part of her profession. Dress was really part of her acting and, therefore, she felt justified in putting a deal of thought into the subject.

Well, now, really isn't dress an important part of every woman's calling, whatever it is? Doesn't the housewife do better as a housewife if she takes time to consider the problem of getting becoming and attractive house dresses? No need to say that the girl who works in a store or office not infrequently gets the better position rather than the ordinary position because she is dressed neatly and attractively. With the woman who works usually it is a splendid investment—the money spent in appearing well dressed.

The pleasure and satisfaction a woman feels when she knows she looks well is not vanity—it is good sense. Few women have sufficient poise to speak and act their serenest and best when they know they are untidy or shabby or unbecomingly garbed. But the housewife who is so attractively and neatly dressed that the unexpected caller has no embarrassment for her, the business woman who is sartorially ready for any emergency, is able to forget her appearance and give her entire attention to the business or pleasure at hand. It is probably true that the consciously shabby woman gives more thought to clothes than the consciously well dressed one. All women may not have rich or even very smart clothes, but all can see to it that their clothes are in good repair, well brushed and pressed, and carefully donned. Immaculate grooming with attention to teeth, nails, hair and skin, as well as gloves, shoes, clean neckwear and handkerchiefs, will go far toward imparting that comfortable, "dressed-up" feeling that is such a mental tonic.—New York Sun.

**They Played Hard.**—"Mother, I'm so lonesome. I've no one to play with," complained Albert.

"Well, go and play with Dickey."

"Oh, I played with him this morning an' I don't believe he's well enough to come out yet."—Chicago Tribune.