

for example; specimens have been kept for several days without food of any kind and all the time making light.

—Will Benton,  
Eleventh Grade. East Grand Forks, Minn.

**No More Figuring.**

I should invent a machine of some kind that would work examples correctly. When there are large columns to add, or even when there are short ones, I usually make mistakes, so I wish I could invent a machine that could do my work for me. I guess it would be made by putting down on a large round board all the numbers from one to one quadrillion. Then as I repeat the numbers a little pointer in the center would jump to every number I said, and as soon as I finished it would point to the answer. In this way I could always be perfect in my arithmetic work.

—Martha Wiecking,  
Fifth Grade, 506 Byron Street, Mankato, Minn.  
Pleasant Grove School.

**An International Translator.**

My invention would be a sort of a tube so arranged that no matter what language was spoken into it it would come to my ear in plain English. This done I could go out into the woods and know what the birds and monkeys say. When the baby cries I could learn what he says. It would also be interesting to go to any foreign country that I pleased and be able to understand the natives.

—Belle McIntyre,  
Seventh Grade, Grafton, N. D.  
Central School.

**Is a Hammer Necessary?**

To invent something which has not been invented would be quite a problem, for there are so many inventions. If I were to invent something it would be a machine which would, by some means or another, put knowledge into a pupil's head. It would be a very large machine made of strong material, such as iron, and would have a hammer to pound the knowledge in. It would be a sort of talking machine and would work somewhat like a bicycle pump. The knowledge would enter through the ear, and would, of course, have to be let in by degrees, so that it might penetrate to the brain. Another part of the machine would be a sort of a stopper, put in the other ear, to keep the knowledge from getting away. This invention would be very useful if it could be carried out. It also would be the most popular and useful invention of the age.

—Janet Perkins,  
Tenth Grade. Sauk Center, Minn.

**Sure Cure for the Blues.**

I should invent a machine to cure people of the blues. All there would be to do would be to put them through the machine and they would come out looking bright and cheerful. Sometimes I should have to go through the machine myself. This invention would lead to fame and fortune and would make the world much happier. Women and girls would buy them of me and I should become a millionaire and a very great woman.

—Joy E. Fiero,  
A Seventh Grade, West Mankato School. 803 Bakers Av., Mankato.

**To Help the Farmer.**

It is not very easy to think of anything to invent, as nearly everything useful has been invented. One contrivance that would be very useful to mankind would be an apparatus to be used on a binder for holding the sheaves or bundles of grain after they are tied, until there are about five or six of them, and then to place them on the ground in the form of a shock. This machine could be manipulated by the weight of the sheaves. The apparatus could be put on the outside of a common binder, just under where the bundles are gathered and tied, so it will catch them as they fall out and hold them there. I should make the apparatus that holds them in the shape of a cone, which would separate when the weight of the bundles became great enough and let the bundles fall through to the ground in a kind of shock and then come together again, ready to form another shock in the same manner. If it is possible to make such an invention it would save the farmers a great deal of money which they now have to pay to men to go through the fields and gather the bundles and shock them.

—Ward Patton,  
B Seventh Grade, Third Av. and Washington St.,  
Washington School. Aberdeen, S. D.

**Cushioned Seats in School.**

If I were to invent anything it would benefit the school children, for it would be a school desk and seat. The seat would be a small arm chair covered with strong but inexpensive goods, so that it would be easy and comfortable. Attached to this would be a small waste basket and the usual ink well. The desk would be of some dark wood and this also would be strong, so that it would not yield so easily to the school boy's knife. There would be a large place to put books and part of the desk would be covered with a blotter. This invention would be both useful and comfortable. However, even though the Juniors favor this contrivance I am afraid it never will be invented.

—Margaret Newell,  
Sixth Grade, Longfellow School. Morris, Minn.

**One Less Study.**

If I could invent a machine that would work all kinds of arithmetic problems I should be very glad. Besides, as it is hard to remember all the different methods of working problems, one ought to work them over several times to insure their being right. Now if there were an arithmetical machine it would save all this extra time and take away one of our main school studies, besides being very useful to those whose vocations require much knowledge of arithmetic. I am of the opinion that such a machine would be very useful and valuable.

—Alice J. French,  
Eighth Grade. Fosston, Minn.

**Take the Place of Small Boys.**

My invention would be a machine that would pull and pick up the mustard in the fields. This machine would have to be made so that it would pull up the mustard and leave the wheat. Such a machine would save money and labor. The farmers would not have to hire boys to pick mustard and carry it from the fields. The machine could be drawn by horses or mules and the mustard would soon be cleared away.

—Edwin Thronson,  
Sixth Grade. Benson, Minn.

**A Big Sale Guaranteed.**

I should make a bicycle tire that would prevent any ordinary obstacle, like a tack, pin or nail, from entering it. It is very easy to puncture rubber tires and costs no little amount of money every year to repair them. The covering would necessarily have to contract and relax easily in order to fill it with air.

—T. Ernest Wilde,  
Eighth Grade. 224 State Street, Crookston, Minn.

**The Missing Link.**

I should invent a machine that would harness the gravitation of the earth and cause it to draw an object in any direction that we wished, and in this way we should get the most perfect motor that could be wished for. Great inventors long ago gave up the idea of perpetual motion, but if I were an inventor perhaps I should discover some little point that they have overlooked, and

make perpetual motion possible. If there is one thing that manufacturers need more than another it is a more perfect motor, because the engine that is used wastes so much of its energy and consumes so much fuel that it makes manufacturing very expensive. But if perpetual motion were used the matter of power would be the cheapest part of manufacturing.

—George H. Hoople,  
Tenth Grade. Grafton, N. D.

**Follow the Plow.**

If I were going to invent anything it would be a potato picker. It would be made to pick up the potatoes as fast as a man with a team of horses and a potato plow could turn them out of the ground. I should like to invent it because it is hard work to get down on one's knees or stoop over and pick them up.

—Perley Ellison,  
Seventh Grade. Hooples, N. D.

**The Brain Could Rest.**

There have been many wonderful inventions during the last two centuries which are very useful and valuable. Some of the latest have not yet come into general use, but they will in time. If I could invent something that I consider very useful I should certainly do it. I am pretty sure that neither I nor any one else could invent what I have in mind—a thinking machine. But if I had one that could think correctly I know it would be very useful. It would think out a person's lessons for him. All he would have to do would be to set the machine going. He could pass all the examinations of all kinds of schools and would not need to bother his brain the least particle. He could become smart enough to become president or hold any other office, for he would always know what was best to do, by setting his thinking machine going. A machine like this would be of tremendous value, I am sure, and that is why I would invent it if I could.

—Tolley Hartwick,  
Seventh Grade. Granite Falls, Minn.

**Once Would Be Enough.**

If I were a great inventor I should invent a machine that would make the boys and girls get their lessons. A long rod with two arms, with a pair of pinchers in one hand and a club in the other and an electric button on the teacher's desk, would be a very good plan. If a boy or girl did not get his lesson this pair of pinchers would get hold of his ears and when the teacher pressed the button the club in the other hand would whip him until she took her finger off again. I do not think a boy or girl would be bad again after he had received a whipping with this machine.

—Lanthen Ethel Sultz,  
A Sixth Grade, Red Wing, Minn.  
Central School.

**Buyers Would Be Plentiful.**

A machine to chop wood is the goal of my ambitions. I do not have to saw wood but I have to split it. I do not care to split wood with a clumsy old ax, and that is why I would invent a splitting machine. I would take four pieces of oak, two about five feet long and the other two about two and a half feet long. I would make this machine on something of the same plan as the guillotine, only the blade would be very much heavier than that of the guillotine. I would draw the blade up with a rope to the proper height and after the wood had been placed right I would let the rope go and I would have the stick chopped. Probably I could sell my invention to some lazy fellow like myself who does not like the job of splitting wood.

—Josiah Poppler,  
Seventh Grade. Perham, Minn.

**Glory for the Inventor.**

If I had the talent of some one of the great inventors of the age I should make my inventive genius perfect a machine to take the place of the horse on the farm and road. Although there has been much invented along this line, and we have the automobile, traction engine and electric motor, none of them takes the place of the horse in drawing machinery on the farm and loads on the highway. My machine would plow, harrow, seed, thresh and haul the grain to market. I should prefer an electric motor as being the smallest mechanism with the greatest power. I should attach the motor to the gear under the box of a wagon and have the dynamo inside the motor. On the same principle I should attach it to plows, drills, harvesters and all other machinery. What an effect such an invention would have! What a saving of horse flesh; what a saving of expense to the owner of such a machine, and what glory to the inventor.

—R. D. Pattison,  
Tenth Grade. Crystal, N. D.

**By the Jerk of a Foot.**

If I had a good chance and a little sum of money to experiment with I am positive I could invent an attachment for a binder that would shock the grain in harvest time without making it any harder for the horses. My invention would be a combination of four bundle carriers so arranged that by the jerk of the foot they would collapse in the form of a box without an end and then turn on a pivot and set the bundles down as neatly as any man could do it. I should invent this attachment to do away with that long and tiresome work of shocking; to decrease the farmers' expenses by not having to hire so many men during harvest, and to encourage farming by making it more profitable.

—Tommy Mangan,  
Eighth Grade, Morris, Minn.  
Lincoln School.

**A Powerful Magnet.**

I should invent a magnet, with power strong enough to extract minerals and precious metals from the earth at a distance of one hundred feet. I should fix this magnet in such a form that after it had extracted mineral I could, by pressing a lever, make it lose all power of magnetism. I should make it small enough to put in my overcoat pocket and, to prevent losing it, I should have a steel button in my pocket to which it could be joined. With such an instrument I should be able to locate and open mines. I could give to the world one of the greatest inventions ever shown. In time I should have it arranged so as to run street cars, bundle carriers and to clean grain. With the power of magnetism I should surprise the world.

—John J. Schul,  
Tenth Grade. Winona, Minn.

**Simple, but Useful.**

A few years ago I was only a poor laborer, but to-day I am a millionaire, and it is all because of the invention of the simple little machine, the composition writer. The invention of this machine has saved a great deal of worry and trouble, especially

among the school children. It is so easily managed that it may be handled by any child. It resembles a typewriter in that, as certain buttons are pressed the composition is written in a few minutes. By the pressure of these various buttons, the different kinds of compositions are written, as narrations, descriptions and expositions. The thought of the composition is expressed in a beautiful and expressive manner and in a clearer way than the original thoughts of the writer. This machine is used by the greater portion of the school children, especially by those in the grades, where composition writing is required daily. It is a blessing to the anxious mothers whose children are kept up till a late hour, pondering over the composition for the next day. Although it has become very prominent it is destined to become more so in the future, and the greater number of school children will agree with me that it is as useful an invention as some invented by Edison or Fulton.

—Clara Strate,  
Ninth Grade. Moorhead, Minn.

**Not for Early Risers.**

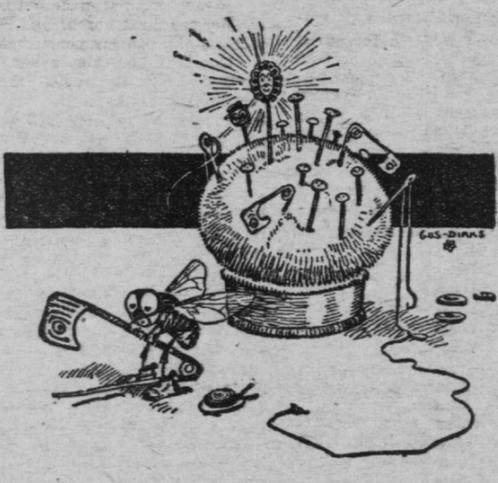
I should like to invent something that would not only be useful to myself, but to all who dread to get out of bed these cold winter mornings and think it much nicer to take a little nap. When I am called in the morning I generally answer with a "Ye-e-es," then roll over and almost go to sleep, then a little later wake with a start, rub my eyes and finally jump out of bed. Now the invention I am going to tell about would be something that would awaken me and pull me out of bed at about 5 o'clock every morning. This, I suppose, would have to be suspended from the ceiling and I would want it to look rather pretty, not rudely put together. The alarm clock is very good, but it lacks an arrangement to pull one out of bed. When my new fangled alarm clock is completed I will gladly recommend it to all who have the bad habit of lying abed mornings.

—Mildred A. Cochrane,  
Eighth and Ninth Grades. Elrod, S. D.

**A Model Assistant.**

I should invent something that would help in doing housework, such as a machine that could dust and sweep all at once and not be too big to push around. I suppose it would be hard to make, but if I were a mechanic I should certainly attempt it. It would run on wheels so it could be set in any room. The top would be flat, so when it is in the box it can serve as either a writing desk or small table. It would have a handle like a baby carriage and could go along easily except that someone would have to guide it. As the machine moves along a broom underneath would sweep the floor, while above would be dusters which could be lowered or raised for the different furniture.

—Florence Watson,  
Sixth Grade. Sauk Rapids, Minn.



Fly—"Gracious! I wonder how people can ride these safeties, anyway."  
—From Judge, copyright 1901.

**HOW INDIGO IS RAISED**

**The Most Beautiful and Expensive of All Dyes, and Highly Prized by the Ancients.**

INDIGO, the most beautiful and expensive of all dyes in common use, has ever been closely related to India, as its name implies, says Pearson's Magazine! From India the ancient Greeks and Romans drew supplies of the blue dye, and although it was lost to Europe during the greater part of the middle ages, enormous quantities have been imported for commercial purposes during the last hundred years.

Indigo is cultivated all over India, giving employment to millions of natives and thousands of foreigners. In three districts alone, in Behar, where some of the finest indigo is grown, European capital is invested to the extent of no less than \$25,000,000. Some 370,000 acres are under cultivation. There are seven hundred Englishmen managing and working on the "concerns"—as the factories and plantations are always called—and 1,500,000 natives.

An indigo concern may occupy anywhere between 1,000 and 10,000 acres, each cultivated acre producing, on an average, about fifteen to twenty pounds of indigo.

The plant grows to a height of between three and five feet. It is in the leaves that the color yielding matter chiefly resides, they being at their fullest at the time when the flower buds are about to bloom; but the leaf, of a yellowish-green color, gives no indication of containing anything which will yield a blue coloring matter.

Towards the end of June, or as soon as the monsoon has set in, the crop is cut, and the work of manufacturing commences. The first manufacturing, called "morhum mahai," lasts generally to the middle of August. By this time the stems which have been cut have shot up again, and in September a second crop is taken from the same plants—sometimes three crops are taken in one season.

In most concerns the simple, primitive processes of manufacture are still adhered to, for planters and old hands are strong believers in the original true blue, and will have nothing to do with new fangled ideas and chemical admixtures.

Every day the vats in which the plants are steeped—the first process of manufacture—are cleaned out by coolies. The plant is stacked upright, to allow air to escape, and is kept in position by long pieces of bamboo. Then water is run into the vat, which, however, is not quite filled, since the plant expands, exerting an enormous pressure that might easily crack the vat's sides.

The plants take a long while to soak. The leaves are not easily wetted.

When the plants have been steeped for about ten hours, the color yielding matter will have been extracted. The liquid is now run off into lower or "beating" vats, and the extracted plant, or "seet," is taken out, to be subsequently employed to fertilize new crops. The running liquid varies in color from bright orange to olive green. It is necessary that it shall now be kept in a state of violent agitation.

The froth is at first blue, then white, and soon disappears. The liquid, after passing through various color changes, turns from green to dark, rich indigo blue. The overseer, to test whether the beating process is sufficient, takes a little liquid and pours it on to a plate—if the grain, or "fecula," readily settles, leaving a clear fluid, the beaters jump from the vat, or the wheel is stopped.

After beating, the fecula is allowed to settle for two or three hours, and then the water is run off. The grain is collected, passed through various strainers, whence it flows to a well, and is elevated by a steam injector to an iron tank. It is now boiled, to prevent any further fermentation, and then the hot concentrated stuff is run through strainers on to a filter table.

The resulting pulpy paste, not unlike colored whipped cream, is pressed and cut into small cakes, each stamped with the mark of the factory, the date, and the number of the days boiling. The cakes are put away to dry on bamboo shelves, being carefully dusted and turned every few days until ready for packing.