

23rd, 25th, 27th. Snow, 1st, 5th, 12th, 13th, 20th, 24th, 26th, 29th. Rain, 2nd, 3rd, 4th, 8th, 9th, 11th. Mill pond free from ice on 4th; frozen the third time, 5th; free, 12th; and frozen, 14th. Mean monthly temperature $+5^{\circ}$ in excess of average December 12 years.

HAMILTON.—Hail, 13th. Wind storms, 3rd, 4th, 5th. Snow, 1st, 12th, 13th, 19th, 24th, 26th, 29th, 30th. Rain, 2nd, 3rd, 4th, 8th, 9th, 11th, 12th, 19th, 26th.

SIMCOE.—Wind storms, 4th, 29th. Snow, 1st, 13th, 26th, 29th. Rain, 2nd—4th, 9th, 11th, 12th.

WINDSOR.—Wind storms, 4th, 27th, 29th. Fog, 18th. Snow, 1st, 13th, 25th. Rain, 2nd—4th, 8th, 11th, 12th. Lunar halo, 4th, 5th, 24th, 25th, 26th, 28th, 29th. Meteor in S. towards H., 23rd. On the lakes, navigation closed about the 1st of the month, and on the Detroit River about 24th.

V. Papers on Practical Education.

1. NO TIME FOR SINGING, ETC.

A hint to teachers worth remembering is given by the *Minnesota Teacher*, thus: "We occasionally hear teachers complain that they can find no time for certain general school exercises, such as language lessons, lessons in natural science, singing, &c., &c. Their pupils are backward, and must spend their time upon the ordinary lessons of the text-books. So they work on conscientiously, patiently, and wonder that they do not, after all, witness a really rapid and satisfactorily thorough progress in their school. They wonder, too, that their neighbour has taken a more backward school, given lessons in language, lessons upon plants, animals and inorganic things, and, to crown all, brought about a good understanding of arithmetic, geography, reading and writing. It was the spirit which led the successful teacher to adopt language lessons, object lessons and composition writing, which found its way into her pupils and bore down all obstacles."

2. JOHNNY BECOMES ACQUAINTED WITH SOMETHING HE CAN'T SEE.

The following, by Adam Stwin, which we find in the Young Folks Department of the *Christian Union* is such an admirable specimen of an object lesson, that we insert it as a model for those who wish to do something with lessons in objects in their schools.

Johnny is a seeker; and like every other little boy who keep his wits about him and watches things, he is continually making discoveries—the best of all ways for getting knowledge.

The other morning he found on my table a small piece of painted steel, shaped like a capital U, only there was a short bar of iron across the top, which made it look like a flattened D.

"What a funny little horseshoe!" said Johnny, picking it up. Why didn't they put some holes in for the nails?"

"That isn't a horseshoe," I said. "It's a magnet."

"Magnet! What's that?"

As Johnny asked the question, he turned the thing over in his hands, and pulled the bar a little to see how it was fastened on. The bar slipped and when he tried to pull it back into place, one end came off, so that the bar hung only by a corner.

"Never mind," I said, as he looked up with a scared expression that plainly said, "I didn't mean to break it!"

"It isn't broken. Put the bar back."

Johnny put it back, and it sprang into place with a sharp click.

"That's funny," he cried again. "What made it jump so? And what makes it stick? It doesn't feel sticky."

"We call it magnetism," I said. "Now take hold of the bar and see if you can pull it straight off."

"I can't. It sticks fast."

"Pull harder."

Johnny braced himself for a strong pull. Suddenly the bar came off and the little fellow went tumbling backward into the middle of the room.

"Well, I never!" he cried good naturedly, picking himself up.

"What did you say makes it hold so hard?"

"Magnetism," I said again.

"But what is magnetism?"

"I couldn't tell you if I tried; but I think you could learn a good deal about it with that magnet."

"Could I? Let me try."

That is one of Johnny's ways of amusing himself. He likes to find out things for himself, as well as most boys like to work at puzzles.

"You will find a lot of things in that box of odds and ends that may help you."

Saying this I went about my business, leaving the young Faraday to pursue his studies as best he might. When I came home in the evening I found him more puzzled than I left him.

"That's the queerest thing I ever saw," he said. "Some things

just jump at it as though they were alive; some things it pulls, and sometimes you can lift a whole string of things with it, holding on to each other just like a swarm of bees; and some things it doesn't pull a bit."

"That's a very long lesson you've learned," I said. "What things does it pull?"

"These," he said, pointing to a pile of things on one side of the box. "And these other things it doesn't pull?"

"Let us see what you have in this pile," I said, looking at the first little heap. "Keys?"

"Trunk keys," said Johnny. "It doesn't pull door keys. I tried ever so many."

"Try this key," said I taking one from my pocket. "This is a trunk key. See if the magnet pulls it."

"No-o," said Johnny, thoughtfully, "it doesn't, but it pulled all the rest of the trunk keys I could find."

"Now try this key to the door of my office,"

Johnny tried it, and to his great amazement, the key stuck fast to the magnet.

"Clearly," said I, "the magnet pulls some door keys, and fails to pull some trunk keys."

Johnny was puzzled more than ever. He looked at one pile of keys, then at the other, thought a moment, then picked up my trunk key, and said, "This key is brass. The rest are iron."

"That's so," I said.

"And all these door keys that the magnet didn't pull," he continued, "are brass too. May be the magnet can't pull brass things."

"Suppose you try. But first see if there are any brass things in your pile of things the magnet pulled."

Johnny looked them over and found not one. In the other pile he found a brass nail, some brass pins, a hinge, and several other articles made of brass, none of which the magnet would pull. Then we tried the castors of my chair, and all the other brass things we could find with the same result.

"There's no use trying any more," said Johnny at last. "The magnet won't pull brass."

"Then, there's another matter settled," I said. "The magnet does not pull brass. Is there anything else that it does not pull?"

"Wood," said Johnny. "I tried lots of pieces."

"Anything else?"

"Stones," said Johnny decidedly.

"What are these?" I asked holding up a couple of heavy stones he had put among the things the magnet pulled.

"I guess I put those there by mistake, said Johnny, testing with the magnet a number of stones in the other pile.

"Try them," I said.

"Oh!" he said, as the magnet lifted them. "I forgot. It does lift some stones."

"Well, what else have you in that pile of things the magnet did not pull?"

"Glass, leather, lead, bone, cloth, tin, zinc, corn, and a lot of things."

"Very well. Now let us see what the magnet does pull."

"Iron keys," said Johnny, "and nails."

"Here's a nail in this other pile."

"That's a brass nail. The magnet only pulls iron nails."

"Is this an iron nail?" I asked, taking a small white nail from the first pile.

"No; that's tin I guess, or zinc. It oughtn't to be in that pile."

"Why not?"

"Because the magnet does not pull tin or zinc."

"See" he added, touching first a bit of tin-foil, then a piece of sheet zinc, with the magnet.

"I handed him the white nail, and said. 'Try this.'"

"That is queer!" he said, as the nail sprang to meet the magnet.

"Try this strip of tin."

"Oh that isn't tin; it is just tinned iron. You showed me that the other day. That'll stick."

"May be the nail is only covered with tin, and is iron inside. Is it?" he concluded, eagerly, as I broke the nail in two to look at its interior.

"I think it is," I said. Try it with the magnet, and then try this white shoe-nail that is white clear through."

The shoe-nail did not stick; the other did, and we classed them accordingly.

"What else have we in this pile?"

"Needles, hairpins, screws, wire—iron wire," Johnny added quickly. "Brass wire doesn't stick, you know."

"How about this?" I asked, taking a small coil of red wire from my desk.

"I guess that won't stick," said Johnny.

"Why so?"