

western young lady his decision would have been just as difficult to make and his chances of blundering just as great. There is a great difference, but he is a very foolish man who will let it be known in whose favor he thinks it lies.

A western young lady is hardly as apt to sing the late operas, paint in half a dozen ways, play the banjo or do any of the dozen airy nothings which mark an "accomplished" girl. If she does any of them, however, she is more apt to do it well, and her whole life is marked by an earnestness entirely foreign to the young lady of the east.

She does not seem so firmly convinced that marriage is the chief end of human existence. Her independence shows itself in her treatment of young gentlemen. If they like her she is satisfied, if not she is equally well satisfied. She makes little or no effort to be especially entertaining, but seems content to be judged just as she is, without the aid of studied superficial graces. Her costumes do not absorb as much of her attention, and consequently she is not apt to dress so fashionably. What she lacks in the butterfly qualities she may be safely said to make up in earnest womanliness.

The same spirit of activity pervades the community. Holidays are not observed as carefully or celebrated as elaborately in the west as in the east. Especially is this true of the Fourth of July and the Christmas holidays. A new church is built or a subscription raised to repair an old one in half the time and western people are as a rule much more regular in attending church services.

There are two classes of people who cumber the earth. One consists of those who are out west, but continually and upon all occasions insist how much better everything is "in the east." The other, of those who are in the east, and who by their loudness and exaggerated independence continually herald the fact that they are "from the west." Which is the most objectionable is a conundrum.

G. W. GERWIG.

A Scientific Discovery.



APPROACHING the city of Lincoln from the west, an observing man will notice to the northwest the big packing house with a tall chimney

belching forth a stream of thick, black smoke, and if the wind is favorable this cloud may be drawn out for a mile, like the tail of a sombre comet. Looking in the opposite direction he will see at the southwest the chimney of the hospital for insane, also vomiting a black cloud. Between these two points, ranged in a semi-circle perhaps five miles in length, is a large number of factories, each with a smokestack and every smokestack with a long black streamer at the masthead. But all the factories of the Capital City cannot be seen from the west. Let the observing man climb to the top of the statehouse and he will see other tall smoking chimneys in every part of the city. He will see sooty clouds arising from many business blocks, and, in a smaller way, from hundreds of residences.

The ordinary man may see in all this only a common unavoidable nuisance. This soot, falling like fine black snow, soils his collars, cuffs and other linen. He sighs when he contemplates his laundry bill, but consoles himself with the thought that it means industrial activity and commercial prosperity for the city. That is about as far as the ordinary man thinks. But the observing man studies deeper. He reasons that the soot carried off in the draft of the chimney and scattered by the winds is a part of the fuel fed to the fires under the big boilers, and on investigation he discovers that it is largely composed of carbon. Being an intelligent man, he knows that it is the carbon of the coal and the oxygen of the air which, when united in combustion, create heat. The conclusion then must be that if a part of the carbon flies out of the chimney it is equivalent to so much fuel wasted. What percentage of the whole is that waste, do you ask? Who can tell! An authority on such matters says that in the fires under ordinary steam boilers not more than ten per cent. of the heating power of coal is utilized. In other words, nine-tenths of the fuel is wasted for the want of proper treatment. Where does it go? The coal is charred by the fire and the dust is carried up the chimney by the strong draft. The burning of the coal releases gasses which ought to produce heat, but they, too, fly up the chimney before they can be caught in the process of combustion. In the case of boilers the soot covers the flues, and, being a poor conductor of calorific, the heat cannot be nearly as effective as it should. That is why engineers are constantly cleaning out the flues of their boilers. These are some of the

causes of the loss of the heat power in coal. In ordinary stoves it is estimated that only one-fourth to one-half of the heat of the coal is utilized.

Any one who knows of the enormous amount of coal used may have a faint realization of the great waste. If some man could discover a method of preventing that waste what a wonderful saving it would be to the land of cold seasons. To state the matter in a more concrete form and bring it home to the reader, there are thousands of families in Lincoln that will spend \$50 for coal this winter and there are many that will use from \$100 to \$200 worth of fuel. Suppose improved stoves and furnaces were offered that would save a part of the wasted fuel and reduce the coal bill one-half. You would want to know all about them, wouldn't you? Well, this article proposes to tell you about a new discovery that will do that very thing. Dr. J. T. Robbins of Newton, Iowa, has invented a down draft stove and the Lincoln Stove and Furnace Company has been incorporated to manufacture it. Thomas Ryan is president and A. C. Ziemer secretary and treasurer. They, with S. W. Burnham, Samuel McClay and George Downing, jr., are the directors. These gentlemen are level-headed business men and not likely to go into an enterprise of this kind without convincing evidence of its merit.

But the stove tells its own story to those who examine it. Just think of the principle of the ordinary stove for a moment. The pipe leaves the stove at the top and connects it with a chimney, making a strong draft. The draft draws the air in at the bottom of the stove, up through the fuel into the chimney. The loose carbon and light gasses are carried upward in the current and lost. The top of the stove is hot while the bottom is cold. The warm air in the room rises to the ceiling, while the air at the floor may be cold. If the draft is not in working order the stove may smoke and the smoke may be driven out into the room. There is an incomplete combustion and clinkers form. All these things are the result of the up-draft principle.

Dr. Robbins has adopted a radically different principle. The pipe is connected with the stove at a point below the grate. There is no other opening below the grate, but there are holes in the top of the stove, and the draft created by the chimney draws the cold air into these holes, down through the fuel and thence outward by the stove pipe. What is the result of this down draft? The soot and smoke and gasses are carried down through

the flames and burned, increasing the heat instead of being wasted. The bottom of the stove is the hottest and the greatest heat is thrown out near the floor, where it is most needed. To make the combustion still more complete a number of small tubes carry cold air to the under surface of the fuel, there to unite with any carbon that may have run the gauntlet. The smoke from the chimney can hardly be seen. Its solid parts have been consumed and turned into heat. The fuel is burned up clean and there are no clinkers.

Like a great many other things it is a simple principle and its application is simple, but the results are marvelous. Dr. Robbins has had a crude stove in use for two years and carefully studied it. He maintains that it will produce as much heat as the ordinary stove from half the fuel. It will give as much heat from cheap slack, coal dust or soft coal as the ordinary stove will from expensive hard coal. These claims he has demonstrated. The down draft may be applied to furnaces and boilers as well as stoves. The stove company is having patterns made and hopes to have its new stoves on the market in a few weeks.

Only "Making Believe."

BY JOSEPHINE D. HILL.

Rocking to and fro, in the twilight dim,
Softly humming an old-fashioned hymn,
Aunt Samantha, with tresses gray,
Was dreaming a dream of a Christmas day.

When robed in seal skin, rich and warm,
Tucked snugly in by her lover's arm;
The spirited team flew over the snow—
Ah! but this happened so long ago!

She hears his voice, in pleading low,
As she makes believe when she answers "No!"
The home ride—he so silent and grim;
The sad good-night—her eyes are dim.

As she thinks of the days she waited in vain,
For the lover who never came again;
For after a battle they found him dead;
Her picture next to his heart—they said.

"Hello, Samantha! What, in tears?
When we've been so happy these fifty years!"
"Well, Joel, I know I ought to grieve
For what never happened—I was only making believe."



Two New Years Calls.



That night he made another call.
He called with three girls—pretty things
He called upon a friend of his—
His friend received him with three kings



On New Year's day he made a call;
He called alone, in proper style
He called upon a maiden fair—
His friend received him with a smile.