

Bellefonte, Pa., January 18, 1918.

Shrapnel.

A short time ago a man was hailed by the police court for having under his arm a package containing a shrapnel shell. It is safe to assume that had passers-by known the contents of the package, at least one side of the street would have been shunned, while had the package dropped to the sidewalk a wild panic might readily have ensued. As a matter of fact the package the man carried was safe as a box of candy, for shrapnel without a fuse is harmless and the fuse is fitted to the shrapnel only on the battle field.

The dictionary defines shrapnel as a shell filled with bullets and having a bursting charge to explode it at any time in its flight." This definition is credited to a British officer, but, while accurate, is somewhat misleading.

So much for what a shrapnel is. What a shrapnel does is clouded by even more general misunderstanding. Consulting the dictionary again, we note that the shrapnel carries a bursting charge to explode it, and the general belief is that this charge, carried in the powder pocket in the base of the casing shatters the steel shell and scatters the charge of shrapnel bullets.

On firing a gun loaded with shrapnel, the cartridge case is left behind, just as is the shell when discharging an ordinary shotgun. The complete shrapnel, with its fuse, etc., is projected at a high rate of velocity, revolving rapidly in its flight, and travels as a unit until such instant as the flash from the fuse reaches the powder pocket. When ignition of the powder charge occurs, the diaphragm, separating the powder pocket from the section containing the shrapnel balls, is driven forward. This strips the fuse body from the end of the shell casing, while the forward travel of the casing is seriously retarded, if not arrested or reversed. On issuing from the casing, the diaphragm plows through the mass of shrapnel balls and scatters them in all directions, the rosin which bound them together having been melted by the heat of the explosion and the friction created in driving the collection of shrapnel and partly melted rosin from the shrapnel casing.

The blast of the gases formed by the explosion of the powder charge on issuing from the open end of the casing scatters the shrapnel still further and imparts to the balls a velocity which makes them very destructive within a radius of about 60 feet of where the shrapnel "breaks." Part of the gases generated in the powder pocket are apt to escape through the powder tube and this strips the fuse cap from its body, or, if the fuse body is stripped from the shell casing before this takes place, the fuse body is pulled from the end of the powder tube. After the break of a shrapnel, the head of the projectile continues in advance, with a certain accelerated speed, followed by the diaphragm, powder tube, etc., and the spread of scattering shrapnel. The casing, having lost much of its momentum, drops to the ground.

Should the force of the explosion within the powder pocket not be sufficient to strip the threaded connection between the fuse body and the shell casing, the steel shell would explode, but only in such a case. To retain the effectiveness of the shrapnel, the fracture would be limited to a section near the mouth of the casing, where its walls are comparatively thin, and the shrapnel would be scattered from the remainder of the casing as before. The shattering of the steel casing takes place only when shrapnel fails to break properly. It is not what shrapnel does ordinarily, but what it may do in the case of an emergency.

A shrapnel which breaks properly during flight simply scatters shrapnel balls, not fragments and pieces of jagged shell such as fell from an exploding high-explosive shell. When a shrapnel, through failure of the time fuse to respond, does not explode until it comes in contact with the ground or some other firm object in its path, then, and only then, the steel shell is fractured and pieces scattered in all directions. Damage frequently described as caused by flying pieces of shrapnel casings, therefore, is more probably correctly to be ascribed to fragments of high-explosive shell.—Popular Mechanics Magazine.

Verdun Field of Wasted Steel.

The enormous quantity of ammunition which has been used by both sides at Verdun has strewn the field with steel and lead to such an extent some statisticians are figuring on the value of the land as a result. Thousands of shells and bullets of all kinds are imbedded in the earth, and a correspondent of the Swedish periodical, *Industritidn Norden*, who went over the ground, contributes an interesting article on the subject. While no exact figures are available as to the number of shells and bullets actually fired in this great battle, this correspondent figures the steel around Verdun as enormous and will be a fruitful source of industry after the war. It is estimated that a million shells a week have been fired by both sides since the beginning of the German offensive at Verdun. The correspondent of the *Industritidn Norden*, therefore, figures 1,350,000 tons of steel are lying in Verdun. To transport this immense quantity of steel, 135,000 freight cars would be required.

He says the entire field is like one great coating of metal. Recently several engineers made an inspection of the ground and they were amazed at the wealth of steel which is lying there and imbedded in the earth. The land has become so valuable as a result that offers have already been made for its purchase, but thus far none of the offers have been accepted.

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Sugar More Plentiful Soon.

Today everybody is interested in sugar. The housewife is eager to know when sugar will be more plentiful. And from a different point of view, the business man is following the sugar situation, interested in the success of the plan adopted as an emergency war measure by the governments of the United States and the Allies to regulate and control supply, demand and price.

These facts lend particular importance to the following interview with Earl D. Babst, head of the American Sugar Refining Company and one of the three United States members of the International Sugar Committee. First he spoke of the prospects of the immediate future, which most concerns the housewife. Said he:

"Sugar will soon be more plentiful, with the new crop of sugar cane being harvested in Cuba and Porto Rico. Everything is favorable to a sufficient supply of our needs, but not enough to use sugar extravagantly or wastefully. There must be no overbuying or hoarding."

"And what about the price?" he was asked.

"Ordinarily, the so-called law of supply and demand is a most important factor in regulating the price of sugar, as of every other commodity. But this law has been more or less, if not entirely, suspended as the result of the control of the sugar situation by the act of six governments, including our own."

After the new supplies are received from Cuba and refined, and prices are lowered under the proposals of the food administration sugar will be one of the cheapest, if not the cheapest, foods to go on the American table."

Mr. Babst agrees with Mr. Hoover that if the Allied nations had not entered into joint agreement to conserve the available sugar supply, the price to the consumer would have soared. Said he in explanation:

"The facts are these: Europe's production of sugar was not only greatly curtailed when the opposing armies swarmed over the sugar beet fields of northern France and Belgium, but England and other foreign countries were forced to turn to other sources for sugar. The logical source was Cuba, from which the United States gets the bulk of its cane sugar."

"This developed competition, which, until the international agreement was reached, caused a serious advance in price, both of raw and refined sugar. But with the international committee acting for the Allies and the food administration in control in this country, the supply will be equitably distributed and prices stabilized."

"Great quantities of raw cane sugar are locked up in far away Java, unavailable because ships cannot be spared to transport it. Hence the European Allies are asking Cuba and the United States as a practical patriotic duty to supply them with sugar. The United States is making every effort to comply with the request for the very interesting reason that if we save the Allies from the necessity of transporting 400,000 tons of sugar from Java, it will release shipping sufficient to carry about 200,000 American soldiers to France."

Among other things he laid emphasis on the value of sugar in packages as an economical means of distribution. In reply to questions, Mr. Babst said:

"Yes, I presume the public, being interested in having the sugar supply conserved, is equally interested in knowing why sugar in packages can be more economically distributed than loose sugar. And this is the reason:

"In the first place package sugars are weighed and packed by machine. This saves the grocer's time and stops his loss by spillage which occurs when sugar has to be scooped up by hand out of a barrel, carried to the scales, weighed and tied in paper bags. And when he counts this saving, plus the value of his time and the cost of paper bags and string, he finds he can handle package sugar more economically."

German Coal Bins Empty. No Relief Given.

The German coal bins are empty. The Berlin government's only reply to the frozen cry of the populace for coal, wood—anything to keep them warm—is a proclamation saying relief is impossible, according to advices in Washington.

The Kaiser has called upon his people to "accept this privation also, in the consciousness that thereby they are giving our soldiers at the front the things they most need—guns and shells." It declared that without civilian sacrifice of coal "the Italian victory would have been impossible." Despite this the Austro-German populace is becoming increasingly restive and angry. The Berlin Landlords' Association has so advised the government and counseled it "to go easy."

The Austro-German coal crisis is just like that in this country—broken down transportation. Most of the coal produced goes to the munitions factories.

Some of these are running only part time for lack of coal. Poor and inefficient food and lack of tools have seriously reduced the miners' output. Eighteen thousand men were withdrawn from the front to help.

Mountains of coal mined lie untouched at the mouths of the shafts for lack of wagons to haul it. Practically every wagon in Germany and Austria-Hungary has been sent to the front. No one is allowed to bathe in warm water more than once a week, the advices state. The Elmsa-Reuttenberg railroad quit running for lack of coal. The Scheunburg town council appropriated \$144,000 to buy coal for the poor "whenever possible."

The Dusseldorf gas supply is so short it is cut off from 8 to 11 a. m., from 1:30 until dusk, and from 11 p. m. until 5:30 a. m. The gas is odorless and dangerous to use. The government is tearing out gas, light and heating fixtures in all but two rooms and the kitchens of private houses to prevent prohibited lighting and heating.

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Home Card

UNITED STATES FOOD ADMINISTRATION

WHAT YOU CAN DO TO HELP WIN THIS WAR.

See other side showing why you should do it.

Our problem is to feed our Allies this winter by sending them as much food as we can of the most concentrated nutritive value in the least shipping space. These foods are wheat, beef, pork, dairy products, and sugar.

Our solution is to eat less of these and more of other foods of which we have an abundance, and to waste less of all foods.

Bread and cereals.—Have at least one wheatless meal a day. Use corn, oat, rye, barley, or mixed cereal rolls, muffins, and breads in place of white bread certainly for one meal and, if possible, for two. Eat less cake and pastry.

As to the white bread, if you buy from a baker, order it a day in advance; then he will not bake beyond his needs. Cut the loaf on the table and only as required. Use stale bread for toast and cooking.

Meat.—Use more poultry, rabbits, and especially fish and sea food in place of beef, mutton, and pork. Do not use either beef, mutton, or pork more than once daily, and then serve smaller portions. Use all left-over meat cold or in made dishes. Use soup more freely. Use beans; they have nearly the same food value as meat.

Milk.—Use all of the milk, waste no part of it. The children must have whole milk; therefore, use less cream. There is a great waste of food by not using all skim and sour milk. Sour milk can be used in cooking and to make cottage cheese. Use buttermilk and cheese freely.

Fats (butter, lard, etc.).—Dairy butter has food values vital to children. Therefore, use it on the table as usual, especially for children. Use as little as possible in cooking. Reduce the use of fried foods to reduce the consumption of lard and other fats. Use vegetable oils, as olive and cottonseed oil. Save daily one-third of an ounce of animal fat. Waste no soap; it contains fat and the glycerine necessary for explosives. You can make scrubbing soap at home, and, in some localities, you can sell your saved fats to the soap maker, who will thus secure our needed glycerine.

Sugar.—Use less candy and sweet drinks. Use less sugar in tea and coffee. Use honey, maple syrup, and dark syrups for hot cakes and waffles without butter or sugar. Do not frost or ice cakes. Do not stint the use of sugar in putting up fruits and jams. They may be used in place of butter.

Vegetables and fruits.—We have a superabundance of vegetables. Double the use of vegetables. They take the place of part of the meat and meat, and, at the same time, are healthy. Use potatoes abundantly. Store potatoes and roots properly and they will keep. Use fruits generously.

Fuel.—Coal comes from a distance, and our railway facilities are needed for war purposes. Burn fewer fires. If you can get wood, use it.

GENERAL SUGGESTION.

Buy less; cook no more than necessary; serve smaller portions. Use local and seasonal supplies. Patronize your local producers and lessen the need of transportation.



Do not limit the plain food of growing children. Do not eat between meals. Watch out for the waste in the community. You can yourself devise other methods of saving if the ends we wish to accomplish. Under various circumstances and with varying conditions you can vary the methods of economizing.

Speaking of Superstition.

A writer in the current number of the Indiana Magazine of History calls attention to the quaint superstitions that prevailed in Southern Indiana during the time that Abraham Lincoln was growing to young manhood in Spencer county. It is recalled, says the Indianapolis News, that many people did not believe it safe to start any sort of important enterprise on Friday. For a dog to cross one's path was considered an ill omen, unless one retraced his steps and began his journey over again. Breaking a mirror was almost certain to bring bad luck. Certain plantings were made in the dark of the moon, while the light of the moon was the proper time for others.

While these old superstitions were quaint in their day and of sufficient importance to be chronicled by the historian now, a great many of them still persist. The average person who breaks a mirror is almost certain to remark that he is in for seven years of bad luck. There are plenty of people who would not think of carrying a rake or hoe through the house, because the old belief is that this means a death in the family. Raising an umbrella in the house means a death within a year. Whenever a little, lonesome hoot owl comes to the city and sings his mournful song in the trees people within the sound of his hoot, move uneasily and announce that a death in that block will occur within a year. There are enlightened people who will retrace their steps and go round the block rather than to keep on in a certain direction after a cat has crossed their paths. The gift of anything with a cutting edge is frowned upon, because a knife is likely to cut one's friendship or love in twain. Many people have the custom of giving a cent in return for such gifts, thus putting the jinx out of business.

Walking under a ladder brings bad luck, so the old saying declared, and this belief still holds. Seeing a new moon through brush is a bad sign, almost as bad as dreaming of muddy water, because when such dreams are experienced, the belief is that the next day will bring trouble. Many are the girls who still chant the "star bright, star light, first star I've seen to-night," then link their little finger in some other little finger—perhaps on a hand that is perfectly willing—after which a wish is made. When two people are walking and one passes on one side of a post while the other on the other side it is still customary to hear one say "bread and butter," in order to prevent "a fuss" resulting. And as for planting in the sign, well, there are many war gardens in Indiana that were planted according to the light and the dark of the moon. Superstition still holds its sway, even though we are ultra modern, and really do not believe in signs.

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Shoes.

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7 until 8 a. m.	Ladies \$9.00 Shoes reduced to	\$5.00
8 " 9 "	Boy's \$3.00 Shoes reduced to	1.98
9 " 10 "	Men's \$5.00 Rubber Boots reduced to	3.48
10 " 11 "	Ladies \$4 Gun Metal Shoes reduced to	2.48
11 " 12 "	Men's 1 Buckle Artics reduced to	1.19
12 " 1 p. m.	Children's 50 cent Rubbers reduced to	.19
1 " 2 "	Ladies \$4.50 Nurse Shoes reduced to	3.25
2 " 3 "	Children's \$2.00 Shoes reduced to	.98
3 " 4 "	Ladies \$1.00 Felt Slippers reduced to	.48
4 " 5 "	Men's \$5.00 Work Shoes reduced to	3.50
5 " 6 "	50c Soft Soled Baby Shoes reduced to	.18
6 " 7 "	Boys' 85 cent Rubbers reduced to	.59
7 " 8 "	Men's \$8 High Cut Shoes reduced to	5.50
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