United States Food Administrator has pointed out recently that twenty-four cities of over 100,000 inhabitants are not utilizing garbage and are therefore wasting the equivalent of 4,400,000 lbs. of nitroglycerine and 40,-000,000 12-0z. cakes of soap besides enough fertilizer to produce a 3,000,000-bushel wheat crop. Twenty-nine other cities, on the other hand, are saving products worth over \$11,000,000 per annum, and a large percentage of these products are being directly used by the government for munition making; but even in these cities there is still being wasted sufficient grease to produce enough nitroglycerine to furnish the powder charge for about 2,000,000 shells of the famous "75's." Three hundred cities of over 10,000 are disposing of their garbage for pig food, and the estimated yield of pork should be 100,-000,000 lbs.; but owing to bad methods of separation it is actually only 50,000,000 lbs., worth \$8,000,000. On the other hand, 350 cities are not using their garbage and are thus losing 60,000,000 lbs. of pig food annually.

What is France doing? I have seen a report within the last few weeks on the Possible Salvage from Household Waste in Paris. We all know that the Paris "ragpicker" had an European reputation, and he still seems to live up to it, for this report states that with the exception of certain vegetable matter, "nothing escapes from the sorting of a multitude of men, who recover everything that commercial ingenuity enables one to utilize. The intervention of these men begins from the time of the throwing into the streets and is continued up to the incinerator." The problem in Paris thus narrows itself down, says the writer of the report, to the salvage of vegetable waste. So much for our gallant Allies.

Let us turn to a neutral country. In Switzerland the Department of Economics issued in June this year special instructions for the collection of kitchen and garden refuse. The speculative and uncontrolled collection of refuse will be strictly prohibited.

German Methods.

And how about the enemy? Prof. Stephen Leacock, who is the American Lewis Carroll, recently wrote a book in which he described a dream that he was in Germany. In one passage he says: "There were two peasants working beside the road. One was picking up fallen leaves and putting them into neat packets of fifty. The other was cutting off the tops of the late thistles that still stand unwithered in the chill winter air and arranging them according to size and color. In Germany nothing is lost-nothing is wasted. It is perhaps not generally known that from the top of the thistle the Germans obtain picrate of ammonia, the most deadly explosive known to modern chemistry, while from the bulb below. butter, crude rubber and sweet cidar are extracted in large quantities."

This, of course, is a jester's dream, but it is not so very far removed from the grim reality of the waking truth. Although Germany is not putting up her leaves in packets of fifty, it is reported that she is using dried beech leaves as a substitute for tobacco; although she is not using thistledown she is cultivating nettles to obtain textile fibres.

Let us stop for a moment and ask ourselves, "How is it that the Hun, who has been for nearly four years totally—or at least partially—blockaded, who is surrounded by starving peoples, who has cast all his resources, human and material, unreservedly into the business of war, is still able to carry on with vast armies apparently as well equipped as our own, with all the world's markets open to us from which to draw our raw material, and with half the world's factories working overtime on our behalf?

Take the case of clothing, for example. Germany's own production of wool and that of her neighbors is not nearly sufficient for her needs, and possibly of all materials this is one against the import of which Germany has been most effectively blockaded, and yet her armies in the field are nearly, if not quite, as well clad as our own. Quite early in the war optimists predicted that Germany must soon run short of this, that or the other essential, but she is still fighting apparently strong, boastful, and well-equipped as ever. How is it done? By salvage in its widest senses—organized salvage, carefully planned and developed for years as part of her preparations for war.

As the following notes will show, the German is a past master in this science, to which we are only beginning to turn our attention.

In each village in Germany the chief magistrate has the duty to see that the inhabitants of the village bring all their waste material to the official collecting centre; the time at which this has to be done is announced by placards every month or half-month. Every head of a family or head of a household is bound (under pain of punishment) to see that nothing is wasted; everything that seems useless must be collected. The waste material of greatest value is metal-useless cooking utensils of all kinds of metals, worn-out tools and other workmen's implements, ribbons, wire, nails, etc. Among the country people the waste material from the kitchen is used for feeding the animals. The population of the town has, on the contrary, to give up every kind of waste from the kitchen daily. For instance, it is obligatory to remove the grease from plates and dishes by heating them and washing it off with a very little water, which is then collected in pails. Statistics showed that in Berlin 4,000 to 5,000 kilos of fat were obtained daily from the collection of rinsing water (in the town alone). This fat is used for lubricating grease and for the manufacture of soaps.

The skins of all kinds of small animals (hares, rabbits, etc.), every kind of hair, feathers, etc., must all be collected. In the larger towns carts and motors have been organized for this purpose, and these go round to each house every day in the morning at a fixed hour, at which time the inhabitants must bring the waste material down and empty it into the carts. In Berlin and the other big towns the whole business must be finished before 7 a.m.

As the slaughtering is under State control, and takes place in the bigger towns only in big slaughter-houses, special appliances have been invented which catch all the waste, such as blood, hair, etc. The rare home slaughtering which takes place in the country is also under the supervision of the magistrate, and here also all the waste must be collected.

Special arrangements have been made for transporting the corpses of animals which have died of disease to special factories, where they are immediately put into use. The work is done without any smell, as the whole apparatus is heremetically closed. A whole body can be thrown into the dissolving oven. Fat is obtained first of all by this process; then gelatine (glue), and other stuffs which are used in various branches of industry. There is another apparatus which concentrates and utilizes the gases of putrefaction. The remainder of the corpses is used for chemical manures.

In order to obtain oil, all the pips and kernels of fruit, especially peaches, plums, and apricots, are collected and also the pips of apples and pears. The school-children are particularly used for such collections. Not a kernel