The warranty clause of the Act works in favour of adulteration. The summons, for an adulterated milk for instance, must be served on the vendor within twenty-eight days of purchasing the sample. If, when summoned, the vendor produces a written warranty, and shows that the sample was in the same state as when he purchased it, he is discharged. But the time limit then usually prevents any action being taken against the farmer or wholesale supplier. So that, by a little collusion between the two, certain street dairymen habitually supply adulterated milk with safety to themselves and the farmer.

Rather than allow certain workmen to contract themselves out of the Act, the present Government abandoned the Employers Liability Act; yet the publicans contract themselves successfully out of the Adulteration Act. A clause of the amended Act of 1879, fixed the legal limits for the dilution of spirits; now most publicans fix up somewhere in the bar a notice that "all spirits are diluted according to price," and the magistrates hold that there the legal limits do not apply. Yet the legal limits seem low enough; for gin it is alcohol 30·8 and water 69·2; for all other spirits, alcohol 35·8 and water 64·2 per cent. by weight.

An attempt will be made to get the Parliamentary Committee to fix standards for certain articles, such as milk, vinegar, etc., but whether the only standards so far fixed, namely, those for spirits, encourage the belief that these will be of much use is an open question. Minor legal difficulties as to the present defective form of certificate of adulteration prescribed by the Act: the place of delivery of an adulterated article: questions as to whether the sender, the receiver, the vendor, or his assistant are liable, help to protect the adulterator, and need revision.

Leaving these legal defects, we find that during the past sixteen years 20½ per cent. of the milk samples, 11½ per cent. of the butters, 4½ per cent. of the spirits, and 6 per cent. of the grocery samples, have been adulterated. Of the groceries, the chief offender has been coffee, no less than 17½ per cent. of the coffee samples having been adulterated.

The forms of adulteration have changed during this sixteen years. At one time most mustard samples contained flour; now it is very rare to meet with such a sample. Lard then was frequently highly watered, while adulterated butter was almost unknown; now this is reversed—lard is usually pure, while butter is much adulterated.

Tea containing exhausted leaves or iron-sand was common; it is very difficult now to get such samples. Cheese was always genuine then; now American cheeses occasionally have their cream replaced by other fats. Alum in bread, injurious colouring matters in sweets and pastry were common once, now they are practically unknown.

Adulteration nowadays is more scientifically

done and is more difficult to detect. The Adulteration Act has done much to reduce the sophistication of food in parishes where like this an active sanitary committee watches over the food supply.

Comparing my first quarter's work (that of Michaelmas, 1878) as your public analyst with my last, I find that in the first quarter of a total of 21 samples analysed 13 were adulterated, that is 62 per cent.; while this quarter, of a total of 105 samples, only 10 samples, or 9½ per cent., were adulterated.

Then 85 per cent. of the milk samples were adulterated; now these have fallen to 12½ per cent.

OUTWORKERS IN ISLINGTON.*

By A. E. HARRIS, L.R.C.P. Edin., etc., M.O.H. for St. Mary, Islington.

ONE inspector continues to devote the whole of his attention to this work, which seems to be of a never-ending character. The method of obtaining the lists of outworkers is wrong, and defeats the object which is desired. The inspector has found in the course of his visits that not only do the shops employ outworkers, but that these outworkers often employ other outworkers. He has also found that the employers are constantly changing their hands, and either adding to or decreasing their staffs according to the requirements of trade. It has been found that by far the larger portion of the outworkers employed by Islington tradesmen live in the parish, although there is a not inconsiderable body who reside in other districts. Day by day lists have been forwarded to the medical officers of health of other places, but very few are received in return. I have no hesitation in saying that if any good is to result from the keeping of the lists of outworkers by the employers, some method other than that ordained by the Home Secretary must be adopted. There are two courses open. The first is that the employers should be compelled to send a list of their outworkers to a central authority, the Home Office, and that it should then distribute the names and addresses to the several London sanitary authorities, or that the same office should forward the lists to the medical officers of health of the several districts, who would in turn forward the names and addresses to the sanitary authorities. In Islington it is impossible for one inspector to complete a round of visits in three months, and consequently he cannot keep an up-to-date record of the outworkers. His experience has been that on a second visit he has found the lists entirely altered, the old hands gone and new ones employed in their places, or else the lists greatly increased in number, the increase having occurred in some instances not long after his preceding visit. To

* From Dr. Harris's Report, first quarter, 1894, St. Mary, Islington.

be of any practical use there must be instant information of the employment of new hands or of changed addresses. To get this in Islington under present conditions is impossible. I am inclined also to think that the good to be obtained by this inspection of lists is not so great as some persons think, and that, so far as infectious diseases are concerned, it is unnecessary, and for the following reason. At the present time the chief infectious diseases are compulsorily notifiable, and, consequently, when disease appears in a house an inspection is immediately made, generally on the day the certificate is received, and the names of the employers of all persons living in the house, whether they be workers or persons engaged in factories, workshops, or commercial houses, are obtained; and these are at once forwarded to their employers. In this way I have been able, very frequently, to stop the manufacture of artificial flowers, mantles, dresses, and other goods, which would most undoubtedly have conveyed infection broadcast, and I have also prevented persons living amidst fever from associating with their fellow-workers in their workshops or places of business.

It is to be distinctly understood I am only speaking of Islington and its requirements, and not of any other districts in London, the needs of which may be very different from those I am acquainted with.

TYPHUS FEVER AND VAGRANTS IN FRANCE.

CONSIDERING the remarkable manner in which vagrancy has been associated recently with the spread of small-pox in this country, it may be of interest to point to the exactly analogous case in France with regard to typhus fever last year, and the means which were suggested by those engaged in the investigation of the outbreaks for checking the spread of the disease. In all there were some 300 cases with about 100 deaths.

Dr. Napias gave an interesting account of the outbreak in the *Revue d'Hygiène* in a paper entitled "L'Epidémie de Typhus, le vagabondage, et la propagation des épidémies." France generally has been remarkably free from typhus, even while neighbouring countries have been suffering severely. Only in Brittany at long intervals have outbreaks occurred. About the middle of March of last year, however, typhus appeared in Paris at a dépôt of the Prefecture of Police, and almost immediately afterwards at the large prison of Nanterre, close by the capital. So rare was the disease that those who were called in to see the first cases did not recognise their nature. In Paris they were first removed to the general wards of the Hôtel Dieu, but later, as the epidemic increased, the *annexe* of this hospital on the other side of the Seine was exclusively devoted to the reception of typhus patients. The remarkably

infectious nature of the disease showed itself. An interne of the Hôtel Dieu contracted the disease and died. At the *annexe* we remember to have seen as one of the patients a porter who had not come in contact with the sick at all, but had been engaged in carrying the infected clothing to the disinfecting apparatus. The disease was worst in Paris, Amiens, and Lille, but more than a dozen towns were effected, and in all a quota of the cases was derived from the nurses or attendants upon the sick. But the most striking feature in all instances was the large proportion of tramps and of those passing their nights in the *asiles de nuit*. Of the 29 who were transferred from the Penitentiary in Lille to the hospital, nine were without any address. At Amiens Professor Netter found that of the 37 who died, seven were without homes, and others had come from lodging-houses. At Mantes, of seven cases, six were tramps, and the remaining one a nurse. At Gisors the eight cases were made up of six tramps, a sister, and a nurse.

The epidemic in Paris was almost certainly traced to a man who had been liberated from the prison at Lille, took the train from there to Amiens, and tramped the remaining distance to Paris, where he was at once re-arrested for theft. In both Lille and Amiens he slept in infected lodging-houses. Eight out of the 40 cases treated at the hospital in Lille came from the house where this man had slept.

The recommendations of Dr. Napias have reference more especially to improving the sanitary condition of the common lodging-houses, etc. They are:—

1. Prisons and penitentiaries to be well supplied with batns and disinfecting stoves for the clothing. Tramps should wear special garments provided by the prison authorities while kept in detention.

2. Common lodging-houses to be regularly inspected from the point of view of hygiene, and the mattresses, etc., to be periodically disinfected at the expense of the sanitary authority, whitewashing also frequently being carried out.

3. In casual wards and *asiles de nuit* a compulsory bath to be taken by every inmate and a special night dress worn, the clothes meanwhile undergoing disinfection.

4. A register to be kept of all making use of the common lodging-houses.

Dr. Netter recommends in addition some sort of supervision over the occupants during the night, and compulsory admission of any serious case of illness to the nearest hospital.

We might add that two of the well-known disinfecting stations of Paris do adjoin *asiles de nuit*, and that in them the clothing of the casuals is passed through the steam disinfector. A bath has to be taken by everyone, and special clothes are provided until their own are returned from the disinfector.