object. Therefore, in my opinion, we must prepare to a certain extent for the care of soldiers near their homes. Moreover, through the military cases we are likely to discover additional cases of tuberculosis by follow-up in the families of the soldiers. Therefore, you will need additional accommodation in your public institutions. In the private or semi-private sanatoria there will also be a need for development. Officers demanding somewhat better quarters than can be provided in the public institutions will come to you for accommodation. The need of an institution such as the new Crane Sanatorium at Rutland seems to be evident.

Finally, the State of Massachusetts must be certain that the closest possible coöperation between local, state and federal authorities shall be secured. In your State, local health groups have no trouble in coöperating with your most efficient State Health Department. I believe the same thing will hold true in coöperation with Federal authorities. Do not forget, moreover, that for emergency aid in public health work developing in connection with military necessities, the American Red Cross stands back of us ready to help. I wish to bear testimony to the splendid spirit of coöperation which one meets from the Federal authorities at Washington when you ask them to consider the problems that come up in connection with the fight against tuberculosis. For instance, we have been anxious as to the care of men who are discharged on account of tuberculosis from military service without military standing, or who are entitled to compensation and must wait for it. Apparently in all cases where there is emergency due to military conditions, the Red Cross is willing to help. Certainly by taking a broad point of view, by shouldering our own responsibilities and also bringing in on a reasonable basis, State and Federal agencies, we can accomplish the best results.

In closing, I wish to make an earnest appeal for hearty support of the measures taken by authorities in the field of public health. There may be certain details about which we may have differing opinions, and it may be our duty to bring the points of difference to the attention of the men who are at the heads of Departments in Washington. But when a ruling is made that touches us in our public health work, we must give it a whole-hearted and fully developed trial. I can bear tes-

timony to the single-mindedness, the broad-mindedness, and the devotion of most of the officials with whom I have been in contact and who have been planning for the health of the nation under war conditions.

CONSERVATION OF MAN POWER IN INDUSTRY.

BY ANNA M. STAEBLER, BOSTON,

Secretary, Massachusetts Committee on Health in Industry.

THE need for conserving man power in industry has been suddenly forced upon the employer because of the drafting of men into the Army and a cutting off of immigration.

Before this country entered the war there was an almost reckless turnover of help, due largely to the fact that the employer knew there were plenty of men waiting at his gate to replace those who left his employ. The up-to-date employer made a study of the cause of turnover and tried to remedy it, because a frequent turnover was a loss. This has led and is leading to much industrial betterment.

The situation today is very different from that preceding the war. Many manufacturers are feeling keenly a shortage of help, while being pushed to the limit with contract government orders. Under such pressure the temptation has been to lower the labor standards, many of which were hard-won from time to time through legislation.

England and France have sounded a warning for us because of the mistakes they made, early in the war, by lowering their standards in the frantic rush to produce munitions and army supplies. Hours of labor were lengthened; Sunday, as a day of rest, was eliminated; women and minors were pressed into industry, and other such mistakes made, till fatigue and broken-down health had made such an inroad upon the necessary numbers of workers that drastic legislation was passed and rigidly enforced.

Notwithstanding this lesson, learned at such cost by the Allies, there are war industries in this country making the same mistakes with their eyes open, and yet blind to results.

In Massachusetts the maintenance of labor laws is carefully watched. We have a special War Emergency Commission which gives hearings once a week to manufacturers of war supplies, who ask for exemption from certain labor

laws for a limited period in order to fill their contracts on time. Representatives of organizations interested in good working conditions are present to see that standards are not unnecessarily lowered.

Labor conservation was recently given notable recognition in orders issued by the Chief of the Bureau of Ordnance to arsenal commanders and manufacturers filling war contracts, calling for the maintenance of advanced protective standards for the workers. A similar order was issued by the Quartermaster-General.

To quote from a bulletin issued in January, 1918, by the American Association for Labor Legislation: "These orders rank among the most enlightened official human documents ever issued by any government either in peace or in war. Their influence upon the movement to safeguard the health and safety of working men and women, and to protect children, cannot be overestimated."

Since these orders cover only the manufacture of munitions and the filling of war contracts, there are many remaining loop-holes for breaking down labor standards. Let us consider the chief of these; also the safeguards we may employ to combat them.

Hours of Labor.

Overtime is an industrial abuse, which needs unusually close watching at any time, and especially in war-time. It has been proved repeatedly and conclusively that there is an increase in output during the shorter working day. It was found, while making a time study "that women, working on moderately heavy lathe work, whose output was 100 units when working 75 hours a week, increased their output 34% when the hours were reduced to 60 per week, and 58% when the period was reduced to a 50-hour week. Men engaged on heavy munition work increased their hourly output from 100, on a 60-hour week, to 139 on a 50-hour week basis." (BOSTON MEDICAL AND SURGICAL JOURNAL, April 4, 1918.)

The longer working day is, therefore, less economical. It commonly causes fatigue. Most employers and all insurance companies covering accidents and occupational diseases know that fatigue is largely responsible for accidents, sickness, diminished efficiency, loss of time and lessened output. Why, then, work a man, woman or child to the point of fatigue?

We look to the State Board of Labor and

Industries to enforce the laws governing the length of the working day for men, women and minors, the length of the lunch period, the observance of Saturday afternoons, every Sunday and certain days as holidays. In addition to observing such laws, some manufacturers allow rest periods of ten or fifteen minutes during forenoon and afternoon. This results in a greater output. Women and young persons cannot work profitably for more than 5 hours continuously.

Fatigue is lessened by the 8-hour shift. A 24-hour period of two shifts shows greater fatigue and is less profitable.

Night Work. Attempting to turn night into day, especially for a continuous period of considerable length, should be avoided when at all possible.

Women and children should not be employed on night shifts, chiefly for moral reasons. If war conditions force women to do night work, their welfare should be carefully guarded.

Standards in Workrooms.

Standards to provide good light, adequate ventilation, sufficient heat, pure drinking water (supplied through approved and frequent bubblers), proper washing facilities, control of the spitting menace, approved seats, sanitary toilets, and to prevent danger from fire, accident, occupational diseases or other hazards, should be conscientiously observed.

A safe and sanitary workshop is an obligation due the employee by the employer.

Employment of Women.

The health of women workers should be conserved because many of them will be the mothers of our men, who will be the future strength of the nation. Six million women are employed in industry in Great Britain, two million of whom are working on shells, which is exacting, hard work. England and France learned that their health must be cared for or they would certainly break down. Let us profit by their lesson. Orders from the Ordnance Department and the Quartermaster-General read: "Night work for women should be prohibited. Effort should be made to restrict the work of women to 8 hours, even where the law permits a nine or ten-hour day. Special precautions to be taken regarding rest periods and seats, time and place for meals, Saturday half-holidays and lifting heavy weights. When it

is necessary to employ women in work hitherto done by men, care should be taken to make sure that the task is adapted to the strength of women. The standards of wages hitherto prevailing for men in the process, should not be lowered where women render equivalent service." No tenement house work.

Factory Day Nurseries.

At least three manufacturing firms in Massachusetts maintain day nurseries where children whose mothers are employed in the factories are cared for during the day. Is the shortage of men so great that mothers must be drawn into industry? That time may come, but has it arrived?

The place for the mother is in the home, caring for her children. Our child life must be conserved and the mother allowed to remain at home in order to help in this conservation.

The warning note against factory day nurseries has been struck loudly by public health workers.

Minors in Industry.

There are over 50,000 minors between the ages of 14 and 16 employed in Massachusetts. There are 8000 employed in Boston, showing an increase of 2000 in ten months, from Jan. 1 to Nov. 1, 1917.

If we sap or exhaust the vitality of our undeveloped boys and girls of today, we shall surely pay for it in physical, mental and moral weaklings a few years hence, unless they are most carefully guarded by protective laws. Regarding the health of these minors, they should be given a thorough medical examination before employment. I have been told that the present examination usually goes no farther than a glance at the child and the signing of a card. A thorough examination would disclose many opportunities for the treatment of incipient conditions and would, furthermore, enable the physician to designate in what industries and on what particular processes a boy or girl who had a slight physical impairment might safely work. The physician might be a medical vocational guide. He has a wonderful opportunity to do preventive and constructive health work.

These children should be encouraged to take up healthful recreation and they should be informed as to the opportunities open along this line. Between the ages of 14 and 16 these boys

and girls should be compelled to attend continuation schools during the working day—not in the evenings. Boston established a continuation school in 1914, but it is the only city or town in the State making the attendance at such a school compulsory by law.

Prevention of Accidents and Occupational Diseases.

Insurance companies are making it worth while for employers to safeguard their employees against accident and occupational disease. Many plants have organized safety squads.

Effect of Alcoholism on Industrial Workers.

The drinking man is more susceptible to accidents and occupational diseases than the abstainer. He is affected more readily by fatigue, his capacity for skilled work is impaired, his muscular working capacity reduced, and his memory impaired. Alcoholism is a considerable cause of the shifting of labor, lost time and spoiled work.

Among drinkers there is greater frequency of accidents, a longer recovery period and a heavier death rate. Accidents decreased 54% in a Pennsylvania steel plant in the first six months after the town went dry, as compared with the same time in the preceding wet year. Some firms try to combat alcoholism in their men by offering non-alcoholic drinks, including coffee and milk at less than cost. National prohibition only will be the solution of the problem.

A scientific study made by a sick benefit society found that drinkers 25 to 34 years of age lost 372 days in recovering from wounds for every 100 lost by the average insured man, while their death ratio was 4 to 1.

Industrial Nursing.

Approximately 125 factories and stores in Massachusetts have established nursing service, and employ nurses on full or part time. These nurses do first aid work, inspect the sanitation of the plant and tenements, do social service work, and, in the isolated mill towns, often do bedside nursing in the homes, as a visiting nurse would do. Their work is preventive and constructive. Insurance companies consider that the industrial nurse is a safety factor and so allow a reduction in the rating to firms employing nurses. Undoubtedly she is the most potent factor we have in conserving the health

of the employee. Our Committee on Health in Industry has been, for nearly three years, interesting employers in the value of the trained nurse in industry. Last year we helped to establish nursing service in 20 plants. In addition to this important piece of health conservation work, 53 noon health talks were given in factories to approximately 4000 women employees. Three of our largest department stores asked for these talks to be given to their employees. Three thousand leaflets on health subjects were distributed after the talk. Our exhibit on health in industry is sent to any part of the State. Slides are used for illustrated talks on subjects pertaining to health of workers and good working conditions.

We stand ready to help in conserving manpower in industry.

The war has revealed, more than the days of peace, the need for good working conditions and the maintenance of the health of industrial workers.

To maintain health means to maintain working efficiency, while reduction of health means loss of efficiency. Sickness decreases the individual's production and increases the risk of accident. An epidemic of sickness, be it nothing more than grippe, can completely disorganize a department or even an entire plant. Every man is needed on his job these days. Everything possible should be done in the way of legislation and the enforcing of the laws to conserve the safety, health and vitality of the industrial army, on which depends the supply of munitions, food and clothing and, more than all, ships to carry them across.

Original Articles.

IDIOPATHIC EPILEPSY A SYMPATHICOPATHY.

By EDWARD A. TRACY, M.D., BOSTON.

(Continued from page 814.)

The association of pigment spots with vasoconstriction spots, and the constant presence of both in idiopathic epilepsy, is shown by the following observations, copied from the records of fifty-eight patients.

CASE 3. Obs. 1511. Right forearm: dorsal surface shows vasoconstriction spots and one pigment spot. On palmar surface, one vasoconstriction spot; a pigment patch near the wrist.

CASE 2. Obs. 1507. On right forearm, palmar surface, two vasoconstriction spots; one pigment spot near ulnar styloid.

CASE 4. Obs. 1515. Vasoconstriction spots and pigment spots on dorsal surface of right forearm, and on palmar surface of left forearm.

CASE 5. Obs. 1518. Vasoconstriction spots and pigment spots on dorsum of left forearm, and also on plantar surface.

CASE 7. Obs. 1524. Vasoconstriction spots on dorsal surface of right forearm, and a vasoconstriction spot and pigment spots on plantar surface.

CASE 8. Obs. 1528. Vasoconstriction spots and pigment spots on dorsum of right forearm, and on palmar surface a vasoconstriction spot and a few faint pigment spots.

CASE 9. Obs. 1531. Vasoconstriction spots on dorsum of right forearm with pigment spots.

CASE 10. Obs. 1535. On dorsum of left forearm are three vasoconstriction spots and numerous pigment spots.

CASE 11. Obs. 1539. On right forearm, palmar surface, are vasoconstriction spots and a pigment spot.

CASE 12. Obs. 1543. On right forearm—palmar surface—a vasoconstriction patch and one pigment spot. On left forearm—palmar surface—a vasoconstriction spot and a faint pigment spot.

CASE 13. Obs. 1546. On right forearm, dorsal surface, one small vasoconstriction spot and a pigment spot.

CASE 14. Obs. 1550. Vasoconstriction spots and pigment spots on palmar surface of right forearm; on dorsal surface similar conditions.

CASE 15. Obs. 1554. On left forearm, palmar surface, vasoconstriction spots and pigment spots.

CASE 16. Obs. 1557. Vasoconstriction patches and several pigment spots on palmar surface of right forearm. On palmar surface of left forearm, vasoconstriction spots and a few faint pigment spots.

CASE 17. Obs. 1561. On dorsum of right forearm are four pigment spots and a vasoconstriction patch; on the palmar surface are a few vasoconstriction spots and a few faint pigment spots. A similar condition observed on left forearm.