REPORT

OF THE

INDUSTRIAL WELFARE COMMISSION

OF THE STATE OF OREGON

ON THE

POWER LAUNDRIES IN PORTLAND

PREPARED BY
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Secretary

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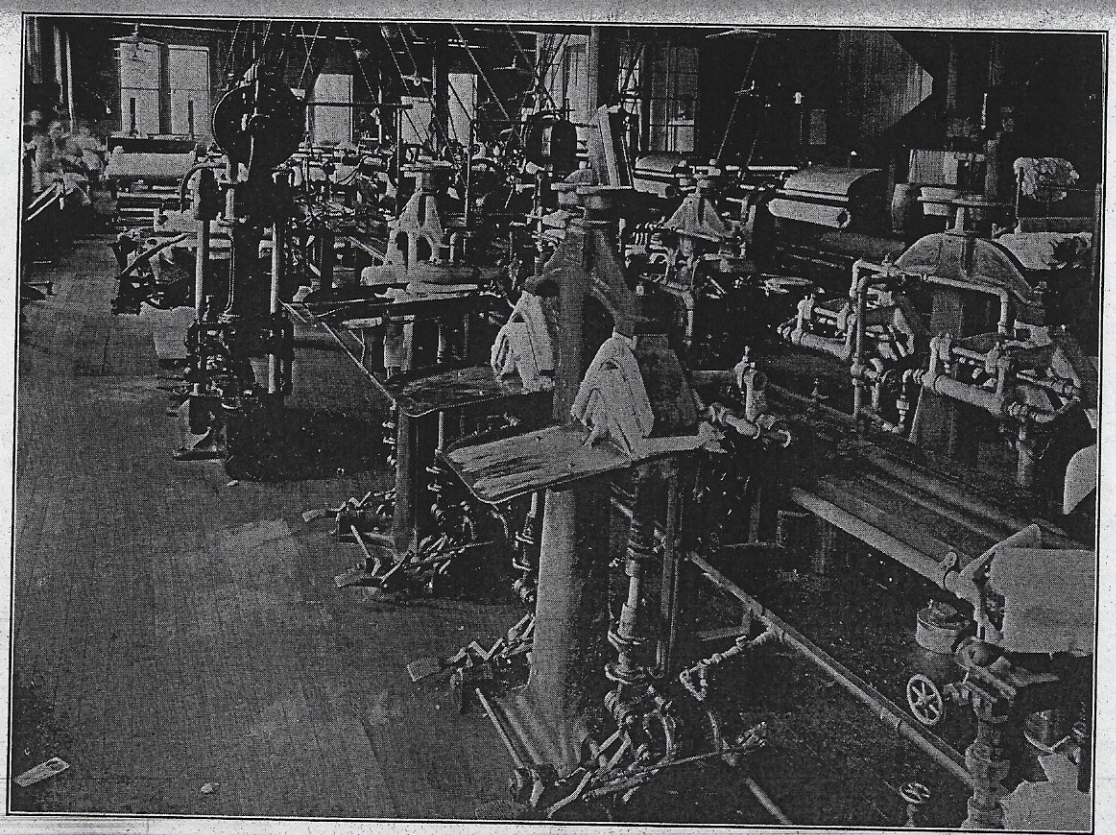

FRONTISPIECE

Body Linen Ironing Room, Showing 14 Press Machines and Body Ironers Equipped with Pneumatic Treadles, Union Laundry, Portland.

TABLE OF CONTENTS

PLATES

STATISTICAL TABLES

Introduction

Laws Regulating Employment of Women in Laundries

By rulings of the Industrial Welfare Commission, effective February 7, 1914, the time of employment of women in laundries was limited to 54 hours a week. This did not interfere with a maximum of 10 hours a day, for part of the week. Night work was forbidden after the hour of 8:30 p. m.; one dollar a day for workers of less than one year's experience and 15 1-3 cents an hour for workers with one or more year's experience were established as minimum wages for that industry.

The investigation was made to learn whether: (1) the physical demands of the work are excessive for the strength of the average woman worker, (2) whether ventilation is sufficient to ensure the reasonable comfort of the employe, (3) whether the nature of the work is such that a learner's period with reduced wage is necessary in all departments, (4) and the extent to which the short week in the laundry industry interferes with the earning of a living wage.

I.—Occupations

The operations necessary in the laundering process are marking and sorting, machine and hand washing, extraction of water (instead of wringing clothes), care of tumbler, shaking and straightening out flat pieces by hand, feeding flat work into ironer, receiving, folding and stacking the same after ironing, starching, attending the hot-air dry rooms, dampening, hand and machine ironing, mending, and sorting and wrapping laundered articles for delivery. Women are engaged in all of these occupations except at the machine-washing and water-extracting machines, which men operate.

Discomforts attached to the work come from:

(1) Infection to markers from soiled clothes. Difference of opinion exists concerning the dangers to markers from the handling of soiled clothing. Physicians questioned by Federal investigators thought that there was danger. Portland physicians and laundrymen minimize the threatened dangers.

(2) Effects of chemicals on health. Clothes which are not sufficiently rinsed carry traces of chemicals used in the bleaches, hence, when they are undergoing the ironing process, fumes and odors rise which affect the eyes and throat of the worker.

(3) Lack of sufficient ventilation and drainage in washrooms. Perfect ventilation is desirable in washrooms, because of the atmosphere which is both heated and rendered humid by clouds of steam, rising from washing machines. In 14 out of 17 laundries, washing and mangle departments are in one room, hence, though few women may be said to work in the washrooms, many are directly affected by conditions there.

(4) Exposure to heat, chiefly at flat work ironer, collar mangle and body ironers.

(5) Accidents on machines. State laws requiring guards on extractors and mangles have reduced the danger of accidents materially. Slight burns on fingers from body ironing machines are not infrequent.

(6) Excessive demands are made on the physical organism of the workers by:

(a) Frequent foot movements necessary in operating the neck and wristband starchers, and, in addition to movements, because of

(b) The weight necessary for the operation of press machines and body ironers.

(c) Constant Standing—Shaking out flat work, feeding this into the flat work ironer, hand ironing, press machine and body ironer operating, are all processes which at present are carried on with the worker standing.

II.—Provisions for Health and Comfort

Apart from the question of ventilation in laundries the question of adequate toilet and dressing room and of drinking water facilities is important, inasmuch as this is an industry in which workers in some departments always change their street clothes for work dresses. With the exception of three laundries, conditions are good.

III.—Wages

Comparison of wages paid to 726 women employes who had worked from four to six days a week, showed that 29 per cent are earning under $8.00 a week; 54.6 per cent are earning under $9.00 a week, and 31.6 per cent are earning over $10.00 a week.

IV.—Hours

The laundry industry is one which may be called seasonal by month and by week. In most sections of this country it is conceded that the rush period by months extends from June through September, during which employes will work the full quota of hours per day and week allowed by law. It is claimed by employers in Portland, that because of the exodus to the seashore, July and August are quiet months, and September, October and November are busy months.

The weekly rush period of the laundries is from Monday noon till Friday noon. Nearly all of the employes lose at least one-half day's work and wages and many of them lose more. Of the 754 whose hours for one week were compared, 18.4 per cent worked less than 45 hours a week; 45.5 per cent worked less than 50 hours that week, and 53.7 per cent worked from 50 to 54 hours. The hours in one representative laundry, giving employment to 52 women averaged 51¾ hours for 20 weeks, including the weeks ending January 4 and May 16, 1914.

V.—The Laundry Employe

The personal characteristics of the laundry employe do not differ materially from the employes in other industries. The per cent of foreigners in the industry in Portland is very small. One fact peculiar to the laundry business, however, is that there are more elderly women engaged in the work than there are in factory or mercantile or other kinds of work. A second fact which stands out prominently is that the per cent of married women employed is large. The experience of the laundry employe in this industry and in other lines of work, the proportion of those living at home and those adrift, are also touched upon in this report. Unemployment is a condition which occurs every week for the majority of the workers, because of the "short" week. There is the slack season during the winter also, which makes this a decidedly seasonal industry.

General Description

The contents of this report are concerned chiefly with the conditions surrounding the employment of women in power laundries in Portland. Before describing them in detail, mention must be made of the wet-wash, the hand laundries, and the business of power laundries as it is affected by laundries of Orientals.

EXTENT OF INDUSTRY

The six "wet-wash" laundries are so named because they wash and wring clothes only and return them to their owners in a damp condition. The machines required are washers and extractors. Two men to wash and one woman to mark the clothes make up the list of employes. Three, and at the most, four days will take care of a week's work. Some of the wet-wash laundries, unlike any others except the Chinese, employ drivers and markers on Sundays. Markers begin at half past six in the morning, but the day is usually a broken one. The four days' work averages from 36 to 40 hours. For this, markers are paid $9.00 and $10.00 a week.

Six "hand" laundries employ a total of 12 women. In three of these, power machines are used for washing and extracting the water, but the other processes, starching and ironing, are hand work.

Thirty-five Chinese laundries and three operated by Japanese compete with the white laundries. Difference of opinion exists among laundrymen as to the inroads which these make on the business. Some laundrymen claim that it is scarcely noticeable, but this may not always be true if the Chinese install machinery, as the Japanese are beginning to do. Only Oriental help is employed.

One "white" laundry, a description of which is not given, is operated in connection with a shirt factory, as the last process in the manufacture of the shirts before they are ready for shipment. Two laundries are operated by hotel companies in hotel buildings. One launders the house linen and the body linen of hotel patrons only. The other launders both classes of work and solicits custom from city residents. Both are included in this report.

Power Laundries—Number Employed

The power laundries with which this report deals number 17.* They employ a total of 1,157 persons, 768 of whom are women and 389 are men. Thirteen of the 768 female employes are minors between 16 and 18 years of age. One hundred women were interviewed for facts concerning their nationality, age, conjugal condition, laundry experience, other occupational training, and the effects of this work upon their health. These women, with the others, later filled in questionnaires on the same subjects, which are compiled under the heading, "The Laundry Employe."

Location

In the older manufacturing districts, two laundries are located near the congregating points of the saloon element and rougher class of men. Three are in a wholesale and manufacturing district which is also a decaying residence district. The tone of the surroundings is good. Six are in outlying business districts, while five are in residence districts. The two hotel laundries are in the heart of the main business section. Thus only two out of the 17 power laundries are located in undesirable sections of the city.

CHARACTER OF BUILDINGS

Laundries built for laundry purposes have the walls and floors constructed to withstand the jar of heavy machinery, to offer resistance to water, and to carry off heat and steam; laundries established in store or other business buildings lack these arrangements and usually have the added disadvantage of low ceilings. Twelve of the laundries are in buildings erected for laundry purposes, five are in buildings erected for other purposes. Two of these five are in the hotel buildings, and are located, one in the basement, the other in the sub-basement. Six of the 17 laundries are in frame buildings; 11 are in brick. Two of the laundries in frame structures erected for other than laundry purposes have occupied these buildings for

* When investigations were being made, 18 laundries were in operation (May, 1914). Since then three firms have combined into one and one new laundry has opened for business, making an actual total of 17. Descriptions in the text take account of this change.

12 and 13 years respectively. Four of the brick buildings erected for laundry purposes have been occupied for three years or less. Seventy-nine per cent of the women employed are in buildings constructed for laundry purposes and 21 per cent are in buildings constructed for other purposes.

I—Occupations

MARKING ROOM

Every article brought to a laundry is turned over first to the markers. Women do most of the marking, but a man as head marker is not unusual. Some arrangement is often made so that the markers do the preliminary sorting of clothes into colors and general classes, but the regular sorters separate the pieces into lots of bed or table linens, shirts, or fine lingerie, etc. The marking department as a rule is placed where there is an abundance of light and air.

As the laundry's business is to cleanse, it might be supposed that extremely soiled bundles would not be refused. The larger number of the laundries, however, do put a ban on bundles which are especially filthy or vermin infested by returning them untouched to the owners or by burning them and paying for the loss. Some markers have the privilege of sending such bundles to the washroom unmarked, letting the customer trust to luck for the safe return of his clothes. Yet some nauseating objects come to the marker's hands. Even the average family's bundle is not pleasant to handle before it has gone through the washing process. Old markers say that they get used to it; yet others claim too, that "getting used to it" does not mean relief from the nausea attendant upon the work. If it could not be done in well aired workrooms, it would be well nigh unbearable. It is an invariable rule that bundles coming from houses infected with a placarded disease be refused.

It is claimed by some students of laundry problems that markers are in danger of infection from non-placarded skin and blood diseases and from typhoid and tuberculosis. This question has been discussed at different times by physicians, who state that certain dangers, and some of these grave ones, cannot be denied. We quote from an address by Dr. Frank Wright, of the health office of New Haven, to the Connecticut Laundrymen's Association on "Inspection of Goods Taken from Houses in Which Are Contagious Diseases." Dr. Wright said:

"There are diseases that are not placarded to announce to any driver the danger, such as consumption, erysipelas, ringworm and itch. Again, there are others, such as are known only to the victims, that endanger other persons and should be guarded against. If by

any chance any of your employes have abrasions upon their hands and handle clothing infected by blood poison, they may easily contract the malady. Any person handling clothing smeared with infectious discharges may readily carry some of the discharges to the eyes and would surely lose his eyesight, unless the nature of his trouble is known at once and properly and correctly treated."

When the Federal Labor Bureau made a study of the working conditions of women in laundries in Milwaukee, Wisconsin, two years ago, this question was submitted to a committee of physicians, who agreed with the opinion of Dr. Mazyck P. Ravenel, director of the State Hygienic Laboratory at the University of Wisconsin. Dr. Ravenel's opinion is quoted below:

"There is no doubt that certain diseases, such as smallpox, scarlet fever and tuberculosis, could be transmitted to the worker under the conditions described. This danger is lessened, of course, by the precautions against receiving work from placarded houses and hospitals, but in most places typhoid fever is not placarded.

"The danger to the public is directly very slight. In fact, I do not see just where any danger to the public comes at all.

"The danger could be entirely avoided by sterilizing by steam heat all bundles of clothes received. This, I imagine, would be a prohibitive expense. It can be greatly lessened by moistening the clothes before sorting, as is done in the Bradford districts of England in sorting wools suspected of having anthrax. The moisture prevents the scales and dry material containing germs from breaking away and rising. However, the danger does not seem to be an excessive one if proper precautions are taken in the collection of material."

The following, as showing the other physicians' attitudes on the question, is quoted also from the Milwaukee report:

"Dr. O. H. Foerster called attention to the fact that because of the short life of the syphilitic germ there is not so much danger from this source as is generally supposed. Therefore, even the body flannels, which are most likely to be infected and which in standard laundries are not subjected to sterilizing heat, are not a material source of danger from this disease, either to the public or to the laundry worker, because in the great majority of cases the garments have not been in contact with the body for many hours before reaching the laundry. In flannels infected with other diseases there would be the same danger to the worker as in the handling of other garments worn next to the body."

Dr. G. Seaman laid stress on the risk of getting gonorrheal discharges in the eyes, such a case of infection from the handling of underwear in the home having come under his personal observation.

Dr. Baer emphasized the danger of contracting tuberculosis from the dust raised by the needless shaking of soiled clothes.

"If the soiled clothes came to the laundries sorted as to color and quality and were always free from stains that would be "set" by heat, the problem of sterilization would be comparatively simple. As it is, many of the obvious solutions are not available to the trade because the prestige of a laundry depends principally upon its record for sending clothes home in a spotless condition. Such sterilizing as is done, therefore, before the clothes are sorted must be done with this necessity in view." (Employment of Women in Power Laundries in Milwaukee, Report of the U. S. Bureau of Labor Statistics, Whole Number 122.)

Portland laundrymen who were asked for their opinions on the dangers of infection to markers, laid stress on the lack of danger to patrons because of the refusal of bundles from placarded houses and because of the certain sterilization of clothes in the washing and ironing processes. None of them seemed to wish to discuss the possibility of the presence of other infectious diseases. The precaution of wearing aprons to protect the workers' dresses was taken more frequently than not, but this was not as a means of prevention of infection. Inquiries as to how far the laundries encouraged this attempt at personal cleanliness brought out the fact that a few laundries furnish the workers with aprons and launder them. Only one marker was seen wearing gloves; yet this practice is one that might easily be enforced by all laundry managers.

The laundry industry is a business the "trade" of which will brook no delays. Hence, the necessity of system and efficiency in the management, of devices for saving time in the transit of work within the plant, and of machinery and processes which will produce the best work in the shortest time. The processes through which an article must go from the time it leaves its owner until it is delivered again are unknown to nine out of every ten housewives, who are depended upon ultimately to keep the industry in existence.

Because of the heat and humidity necessarily connected with the laundering process, too great care and consideration cannot be given to systems and arrangements which minimize these unpleasant features of the work. Not all of the departments have the same draw-

backs; some of those which by nature have the fewest disadvantages become hard, and others which are difficult become unbearable, through want of forethought on the part of those in charge.

WASH ROOM

The location, drainage and ventilation of the washroom are important details to be considered in the arrangement of a laundry, for on these depend much of the comfort of the entire force of employes. Concrete floors are a necessity, as is also a system of forced ventilation for carrying off the clouds of steam unavoidable in the washing operation. Sixteen of the 17 laundries had floors of concrete with gutters running from washing machines to sewers. In addition to gutters, the floor of one sloped toward gutters, and in two others, aisles of wood slightly raised kept the passageways between the machines and in the vicinity of the mangles dry. Only one washroom had a wood floor.

Washrooms in 10 of the 17 laundries form one room with the mangle department, and are ventilated by exhaust systems which ventilate the mangle department also. In an eleventh laundry, in which the washroom is partitioned off from the mangle department, both rooms have one ventilating system. Five laundries have no exhaust systems in the washroom, though in two, natural ventilation is excellent.

Three laundries in Portland have basement washrooms. One of these is in a sub-basement. This one and one other have systems of forced ventilation. In the third basement washroom ventilation is inadequate. Although a dry floor while the washing machines are in operation is often impossible, yet a very wet state of the floors in some plants was due clearly to carelessness on the part of the washmen. As the work of the women sometimes takes them into the washroom, poor drainage may have a noticeable effect upon their health.

As the washing and extraction of water processes are attended to entirely by men, this report need not describe them except where they affect the welfare of women workers. The washing process consists of soaking, sudsing, rinsing, souring and bluing the clothes at successive intervals without removing them from the washing machine. If clothes are not well rinsed, odors and fumes from the

bleaches used affect women workers, particularly at the mangle. To understand how this may be, the following description of the materials used is given:

Water—This base of all laundry operations sometimes requires special care to make its cleansing powers most effective. In localities where the water has a high degree of hardness, chemical or other means must be used to soften it. Portland's supply of water, which is unpolluted rain and melted mountain snow, contains only 2.5 degrees of permanent hardness. Here, too, unlike other localities, the degree of hardness does not increase or decrease at different seasons of the year. The laundryman in Portland has a decided advantage, because he need go to no expense to soften the water and the clothes can be cleansed with less injury to the fabric.

The other materials used in the laundry processes may be described as detergents or cleansers; *i. e.*, soap, bleaches for whitening, "souring" agents which assist in counteracting the bleaches, and finishing compounds such as bluing and starches. The too great use of the bleach, or the lack of thorough rinsing with even a moderate amount of it, is very apparent when the damp clothes reach the ironing room.

THE MANGLE ROOM

The mangle room is the room in which all flat work, such as towels, sheets, etc., and some body pieces, such as aprons, children's wear or colored dresses, are ironed. This room gets its name from

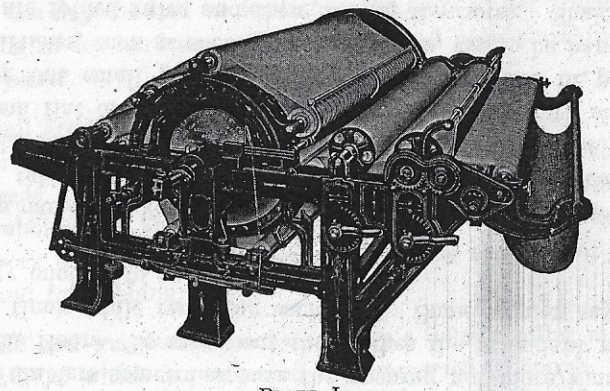

PLATE I.
Combination Steam Chest and Cylinder Mangle, from Feeding Side.

the machine by which the ironing is done. The room itself is frequently one with the washroom, and shares with it the steam, chemical odors and dampness from the floors. Various types of mangles are in use. One design consists of one or more steam-heated, concave iron chests, into each of which a thickly padded iron roll fits. A conveying apron carries the pieces from the feeding roll to the chests, where, passing between the padded rolls and chests, they are ironed. The number of rolls varies from one to six. Another design consists of one large cylindrical steam chest, over which are placed six smaller padded rolls. A third model has a large steam chest over which is stretched a conveyor apron in such a way that the articles are carried over and under the chest twice before leaving the machine. The ordinary mangle crew numbers seven girls—two or three shakers, two feeders, two folders and a stacker. In small plants one shaker and the stacker may be dispensed with. Mangles differ in width; the 100-inch length accommodates two girls at each side, the 120-inch, three girls at each side. For a 120-inch mangle the number of shakers and feeders must be increased. Besides the girls who work at the mangle, this room sometimes has a girl who tends the "tumbler." This is a revolving, reversible-motion cylinder into which clothes are given a preliminary tumbling and untwisting out of the hard-packed condition in which they come from the extractor. Tumbler work is heavy, because armfuls of wet clothes must be lifted from the trays into the machine and removed again when sufficiently shaken

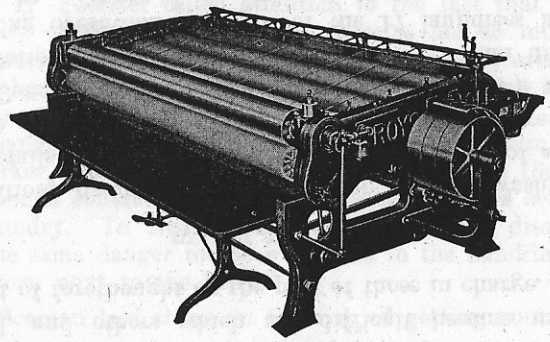

PLATE II.
Steam Cylinder Mangle, from Folding Side.

out. Tumblers sometimes have the opening not more than two feet from the floor. To scoop out the clothes the attendant must stoop several times while removing each load. Some women say that this is heavy enough to be a man's work.

The name "shakers" explains fully the nature of the work on the "shake table." The shakers take the clothes as they come, either from the tumbler or from the extractor, and shake out the folds, then lay them flat on a table or wooden horse. Girls work singly when shaking out small pieces, such as towels, etc., but in pairs, when large articles, such as sheets and tablecloths, are to be handled. The latter are folded twice and then laid on the horse. Shaking clothes is the least skilled work in the laundry, so much so that mentally weak women and 16-year-old girls may be put at it and the work will be done as well as need be. It is a department in which no training whatever is needed, though wage rates for beginners vary from 11 to 14 cents an hour. The physical demands of it are great. The women stand at work. Swollen feet, and backs aching from the constant jerking of their arms are complained of. In practically every case, shakers get the heat from the mangle and sometimes the steam from the washroom. In one laundry they occupy an eight-foot space between two mangles. In some plants where the floor of the mangle room is wood, the shake table stands on the concrete floor of the washroom.

Feeders on the mangle feed the flat pieces into the hot rolls to be ironed. Feeders always stand at work. This occupation was more dangerous than now, before the law requiring guards on machinery was passed; then an article might be put in the rolls unevenly and the feeder, thrusting her hand forward to straighten it, might have her hand caught betwen the hot rolls. Now, a small unheated roll is required in front of the large ones. This is placed so near the feeding apron that a girl cannot get her hand underneath it. A better device is a guard screen which automatically stops the machine when a hand is thrust partly under it. But neither of these devices prevents the feeder from reaching over the guard roll to the heated rolls should she wish to straighten the article being ironed. The latest device is a screen which entirely covers all of the rolls, and the removal of which necessitates the stopping of the machine.

The feeders and shakers are near enough to each other so that the feeders may lift the clothes from the shake table to a "horse" in front of the mangle. When the shakers use a horse the bar may be detachable, in which case the feeders lift the rod with the shaken-out clothes and transfer it to a standard near the mangle. Some firms have standards on wheels, so that the complete arrangement may be wheeled instead of lifted. This is a saving for the girls. Where the shakers lay the clothes on a table it is sometimes placed so near the mangle that the feeders merely reach behind them for the clothes. Sometimes, too, they may sit on the edge or use the table as a brace against which they may lean; this arrangement is a help to tired feet, but it is rarely found. Like the shakers, feeders work singly on small pieces; sheets and table cloths must be fed into the mangle by two girls, one at each side to keep the edges straight. Laundrymen say that this work requires an apprenticeship of several months; some employers claim six, but workers contradict this assertion. Aside from lifting weighty bars of wet clothes from the shake stand and standing on their feet in front of a mangle radiating great heat, the work has but little physical strain attached to it.

Folders are stationed at the side of the machine opposite to the feeders to receive the finished work as it comes from the machine and immediately to fold it. Heat and humidity are greater on the folders' side of the ironer, due to clouds of steam which rise from the wet articles on their course through the rolls, and due also to the heat released from the ironed pieces as they emerge, sometimes too hot to be handled with the bare hands. Placing of machinery so that the folders will receive the benefit of exhaust fans would improve the situation for them. Yet machinery was found so placed that girls at one side of the machinery were in comparative comfort, while those at the other side received the full effects of the heat and steam. In six establishments low ceilings, which do not give the hot air and steam a chance to rise, or lack of adequate exhaust fans and even of ventilators, keep the temperature at an almost unbearable degree.

The odor from the acids in the insufficiently rinsed clothes, and the irritation of eyes and throat and the swelling of the feet from standing, are other causes of complaint.*

*See *Report on Condition of Women and Child Wage Earners* in the U. S. Senate Document No. 645, page 25.

The work of the stacker on the mangle is to arrange and tie the finished articles, according to size and kind, into piles for the distributing room. This work must be done standing, as the stacker moves about at her work.

FINISHING ROOM

Starching

The general name of finishing room is given to the collection of departments which starch, dry and iron body linen. The starch is cooked in the starch room in large kettles which are provided with covers. This kettle stands within easy reach of the starch room machines. Sometimes a man is given charge of making and tending the starch. Kettles are provided with covers, but if not kept on, thick clouds of steam rise to render the air heated and humid.

The appearance and action of one starch machine resembles that of the tumbler. Large pieces, such as women's wear, are starched in this. Care must be taken to have proportions of clothes to starch exact, or the starching will not be a success. This machine is superseding the old method of hand-dipping, which is a difficult occupation. The constant dipping and wringing of clothes out of the hot starch severely blisters some hands. One woman interviewed stated that the tips of her fingers had become so sensitive that she could not take a position as folder, and that after she left her work at the end of the day she had no feeling in the ends of her fingers, or only a feeling of icy hardness. This woman had been starching by hand for a year.*

Small articles, such as collars and cuffs, are starched by machine, the operator of which may be seated while at work. To each girl who feeds a machine there are three or four others who are kept busy rubbing out the excess starch in the articles by hand. These girls work standing at a marble slab and use the base of the thumb and hand for rubbing.

Neck and wristbands are held under a double roller machine, the lower roll of which is perforated and immersed in starch. The oper-

*See *Report on Condition of Women and Child Wage Earners* in the U. S. Senate Document No. 645, page 25.

ation consists in placing the article between the two rolls, which are brought together by pressure on a foot treadle; the starch in the perforated cylinder is rubbed into the neckband by the revolutions of the rolls; a second foot pressure releases the rolls.

Drying and Dampening

Drying starched clothes is accomplished by means of two arrangements. The dry room arrangement contains heated steam coils along the sides, movable racks on which to hang the clothes, and fans to circulate the air. In some cases starchers take care of the driers, and hang the clothes as they starch them; but there are others who do nothing but hang up and take down clothes. In recent designs, racks slide in and out easily, so that the labor is not greater than an ordinary woman can stand, but the workers are subjected to the wave of heat which bursts out during the interval when a rack is being pulled out or shoved in. A dryhouse with a traveling chain which carries articles around the steam coils and drops them automatically into a basket gives out less heat and obviates the pulling out and shoving in of the racks. The second form of drier is known as a vacuum drier. This is larger than a washing machine, somewhat cylindrical in shape, with a stationary shell lined with steam coils, a rotating inner wire basket and a large fan. When loaded and set in motion, the fan draws in warm air and moisture from the room. The newer designs radiate but very little heat and are usually tended by men. For maintaining physical comfort they are a great improvement over the dryroom "driers."

Dampening of large starched pieces is comparatively simple work. Clothes are passed by hand through a fine spray. The worker must stand at her work. This occupation is entirely unskilled and would be monotonous as a continuous task, but the dampener may assist at any one of the other occupations near her during the day.

Body Linen Ironing

Body linen is ironed by hand and by various types of machines. Ironing by hand is the only occupation in the laundry which resembles, in its present form, laundry work as it is known in the home. All of the plants except one small one used electric hand irons. This establishment used gas irons. Middle-aged and elderly women are

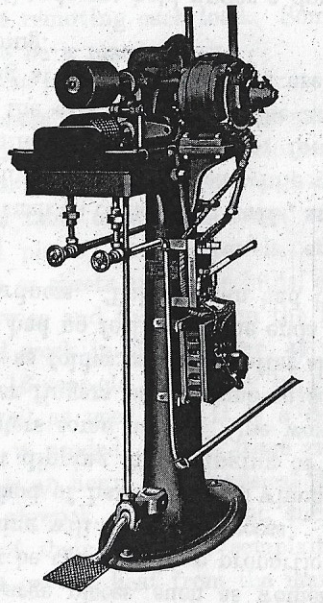

Plate III.
Neck and Wristband Starcher, with Foot Treadle.

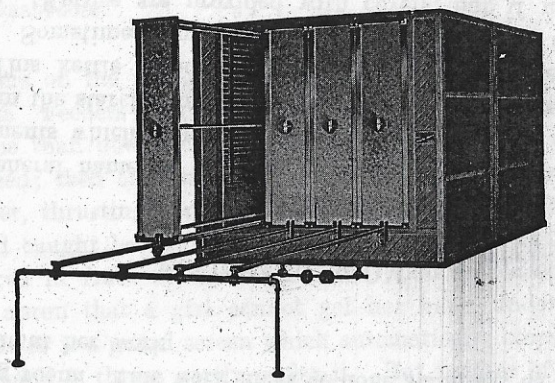

Plate IV.
Dry Room Arrangement Showing Movable Racks.

usually found at the ironing tables. Most of them have seen long service in the laundries. Some have worked in every department until the physical strain of machine work was so great that they had to give it up.

The simplest machines are those which dampen and which give the first pressing to collars and cuffs. These are constructed after the principle of the mangle, with steam chests and padded rolls. Though the steam chests are usually not more than 36 inches long, there is great radiation of heat from them. Only one girl is needed to operate either the dampener or the ironer, for she feeds the collars into the rolls, from which they are received by a basket. The seam dampener is the next process in collar ironing. The seam of the collar is passed under a moistened wheel which dampens it sufficiently to bend it without breaking. Where the work is light a collar finisher may dampen her supply of collars, but usually two girls work together. In this case the dampener may be seated while she works, but only occasionally are collar finishers seen seated, though operating demands do not require them to stand.

The press machines—the cuff, the yoke and neckband, and the bosom presses—and the "body" ironers strain the energy of the women workers to a greater extent than any of those in the laundry business. Cuff, yoke and neckband presses have a steam chest and padded form suspended as an arm, at each side and at the top of an upright iron stand. The padded form or press bed is directly beneath the steam chest and is fashioned to the shape of the cuff or shirt yoke, while the steam chest is molded to cover the press bed exactly. The ironing process is accomplished by fitting the article over the padded form and pressing a foot treadle which raises the form to the steam chest and clamps it there until pressure on a second foot treadle releases it. A Federal report on the "Employment of Women in Power Laundries in Milwaukee"* gathered facts on the subject of operating demands of press machines which are printed in Table I below. It will be noted that the weight both on the clamping and release treadles ranged as high as one hundred pounds.

The pressure necessary to force the clamping treadle over the "knuckle" and the resulting jolt to the operator were frequently complained of in personal interviews with the workers. Yokes require only one pressing, but each cuff is turned once, thus requiring two opera-

*Senate Document 645, whole number 122.

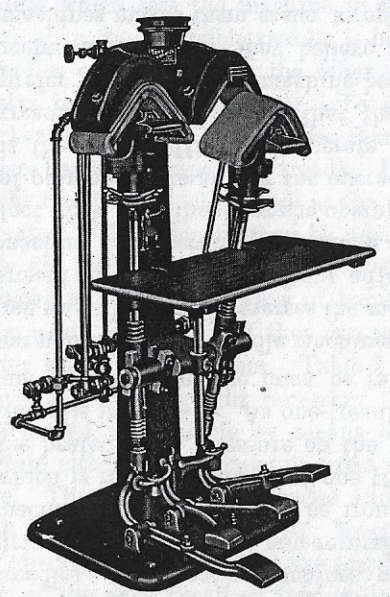

PLATE V.
Cuff Press; 1 press bed in position under steam chest; 1 press bed lowered and in front of steam chest. Note height of treadles from floor on the lowered press bed side.

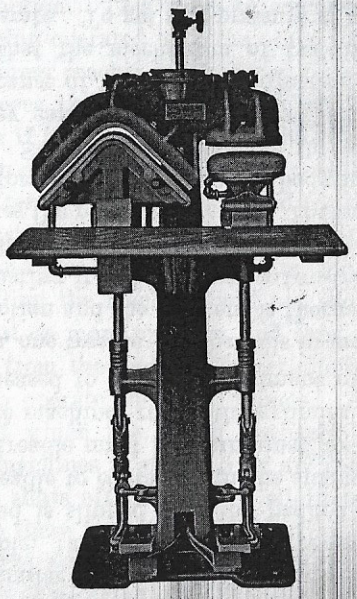

PLATE VI.
Combined Neckband and Yoke Press.

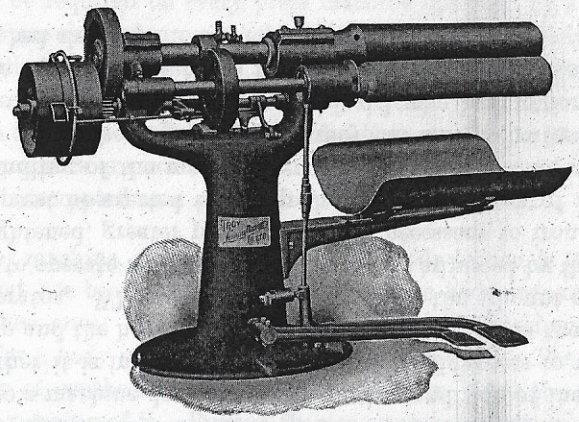

PLATE VII.
Body Ironer, reversible motion, not equipped with pneumatic treadles. Note height of treadles from floor.

TABLE I. Showing operating demands of press machines in 22 Milwaukee power laundries

Type and name of Machine	Number of specified machines	Foot treadles									
		Function of treadle	Height of treadle and distance moved						Pressure required		
			Number of treadle heights reported	Height (Inches)		Distance moved (Inches)			Number of treadle pressures reported	Range (lbs.)	Average (lbs.)
				Range	Average	Range	Average				
Power-driven presses:											
Hand-controlled bosom press	17	None	.....	.....	.....	.....	.....		.....	.....	.....
Foot-controlled bosom press	9	starting	9	2-6	4.0	1-2½	2.2		9	10-60	33.1
		release	8	2-6	4.0	1-6	3.0		8	15-55	26.6
Skirt press	1	starting	1	2	2.0	2	2.0		1	6	6.0
		release	1	2	2.0	2	2.0		1	6	6.0
Total	27		.....	.....	.....	.....	.....		.....	.....	.....
Foot-driven presses:											
Cuff press	54	clamp	52	4-10	7.2	2-10	5.7		52	13-100	66.6
		release	50	1½-8½	4.9	½-7½	3.4		50	5-100	37.7
Neckband press	24	clamp	23	4½-12	7.8	4-10	6.5		23	23-100	83.3
		release	22	1-10	5.1	1-10	3.9		23	10-100	55.5
Yoke press	23	clamp	22	4½-12	8.0	4-10	6.5		19	27-100	81.7
		release	21	1-10	5.0	1-9	3.8		18	13-85	44.4
Sleeve press	2	clamp	2	6½-7	6.8	5½-6½	6.0		2	100	100.0
		release	2	4	4.0	2-3½	2.8		2	90-100	95.0
Wing-collar tipper	4	clamp	4	5½-7½	6.8	2½-4½	3.4		4	18-89	60.5
		release	4	3-7½	4.4	½-5½	2.4		4	24-77	46.3
Collar press	1	clamp	1	5½	5.5	4	4.0		1	85	85.0
		release	1	4½	4.5	2½	2.5		1	10	10.0
Total	108	.....	.....	.....	.....	.....	.....		.....	.....	.....

tions of each treadle to finish one cuff or eight treadle operations for one shirt. The number of times an hour which a woman may clamp and release a machine depends partly on the condition of the machine; *i. e.*, whether it is in good or poor repair, the tightness to which it is screwed up and the heat of the steam chest, as well as on the efficiency of the operator. When a screw which controls the amount of pressure necessary to operate the machine and which is adjusted by the operator is over-tightened, greater pressure than is necessary to iron an article properly must be exerted to clamp the machine. Lack of instruction in the handling of the machine causes some operators to over-tighten this screw under the impression that they can thus do better work. An example of this was a sixteen-year-old girl who had to force down a cuff press treadle three times before she could keep the steam chest and press bed clamped.

A body ironing machine consists of a hollow steel cylinder or a concave steam chest and a padded roll suspended from an iron standard parallel to each other and at right angles to the standard. Set in the interior of the steel cylinder is a gas flame which heats it and around which it revolves. Body ironers are made with one or two foot treadles. One-treadle machines, similar to those in Portland's laundries, are known as non-reversible, the two-treadle as reversible machines. A garment to be ironed is slipped over the padded roll, which is raised by means of one treadle to contact with the surface of the heated roll. Pressure on the treadle must be maintained to keep the rolls in contact. As one-treadle machines rotate the cylinder only one way, the pressure must be released to permit adjustment of the garment. On two-treadle machines, one treadle sets the rolls in motion one way, the second reverses the motion and the garment is thoroughly ironed in one section without adjusting it. To operate a two-treadle machine the operator must leave her weight on one treadle with one foot while with the other she operates the reversing treadle. Difference of opinion exists among the operators as to which type of body ironer is the more difficult to operate. Some operators prefer the single treadle because they say that they can "change their feet." Some prefer the two-treadle machine because of less work in adjusting garments and because they believe that the mechanism of two-treadle machines makes them easier to operate. To get any pressure at all, it is customary not merely to use foot-power, as in pressing a sewing machine treadle, but to throw the weight of the whole body onto the

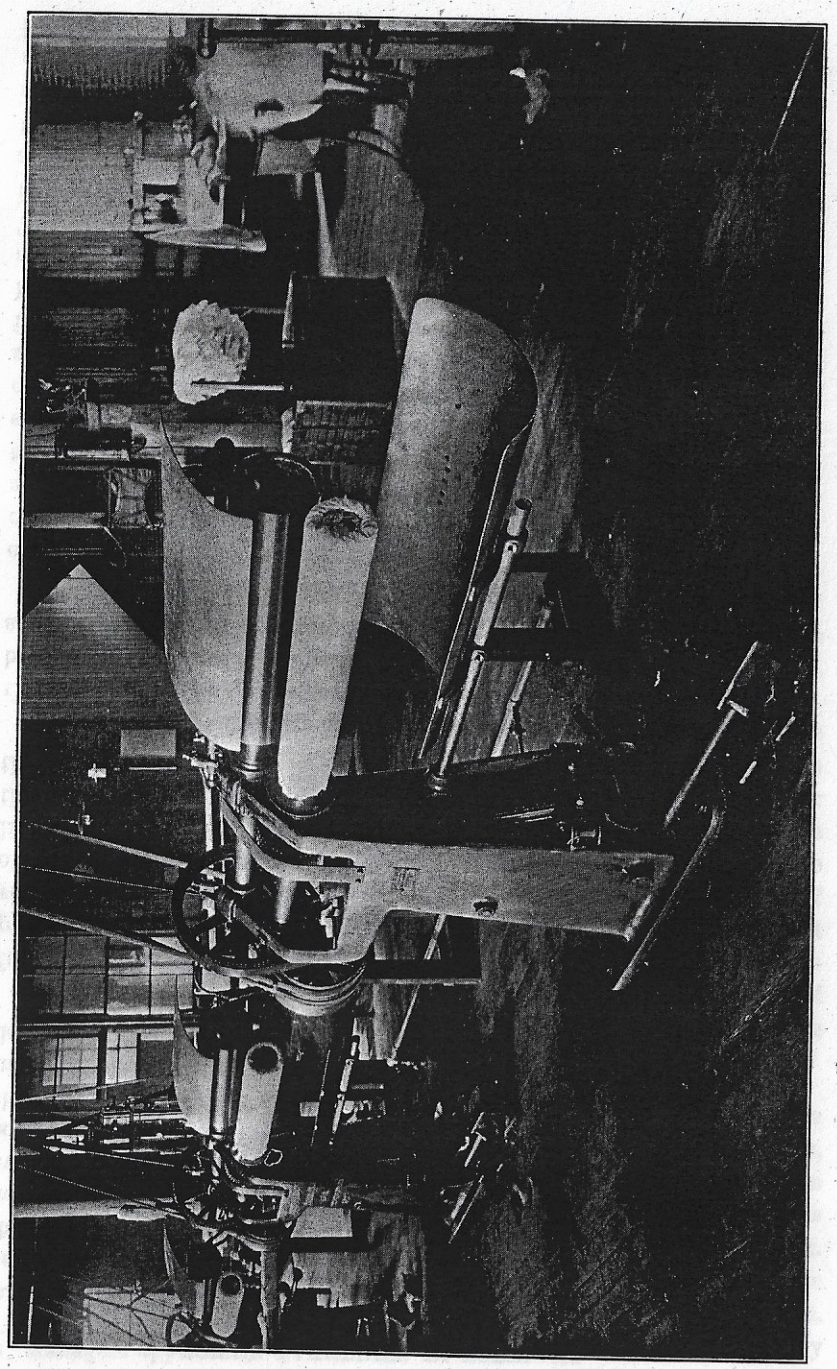

PLATE VIII. Body Ironers in Portland equipped with Pneumatic Treadles.

treadle which sets the machine in motion. This must be continued even when the reversible treadle is being operated with the other foot. Treadles on these, as on the other press machines, are from five to twelve inches from the floor. To force the treadle down, when the worker stands below it, is harder than if the operator stands above and lowers her weight upon the treadle. In order to offset the high position of the treadle, a block as high as the treadle at rest is furnished for the operator. These blocks may be adjustable or stationary. Stationary ones are preferable because firmer and also because operators, uninstructed as to the best ways of handling the machine, will not shove them aside believing that they can put on more pressure, and thus do better work, without them. Table I from the Federal Report, quoted above, shows the weight necessary to operate the body ironers. An attachment is available by means of which the power necessary to operate either body ironers or press machines is supplied by air pressure. The same treadle releases and shuts off the air. A slight tap with the toe will operate this; hence there is an enormous saving of the operator's energy, while the accident risk is negligible. The manager of the only Portland firm which is using this attachment states that he would not be without it. Operators who had formerly worked on machines without it stated that the relief with it is indescribable and that they would not like to go back to the old system. Inasmuch as the expense of installing these attachments is comparatively small, they should be required on every press machine operated by a woman. The frontispiece shows 8 press machines, 2 sleevers, and 4 body ironers equipped with this attachment. A number of other laundrymen who were questioned concerning the feasibility of these attachments either denied that the press machines are difficult to operate or stated that the air compressors are not a success. This latter statement, however, can hardly be accepted as a reason for not adopting them.

A smaller machine, similar in make to the body ironer, is the sleeve ironer. What has been said concerning the large body ironers is true of the smaller ones. Without the compressed air attachment it is impossible for a body ironer operator to sit at her work. There is but little danger of crushed fingers on a body ironer, since the operator controls the running of it. Burned fingers are more common with the new employe than the older ones. Humidity and temperature are greater in the zone of the body ironers than in that of the other press machines, because of the greater radiating surface of the rolls, and the

larger surface of cloth which may be steaming on it. Excessive heat, a hardship out of control of the operator, is prevented by a guard or shield, usually of zinc, lined with asbestos. This is shaped to cover the heated roll to within an inch or two of the padded roll in the front; but at the back of the machine the shield straightens so that the rear edge is slightly below the top edge of the roll. By means of this device the heat is deflected from the operator's face to the space back of the machine. Only three out of thirty-eight body ironers lacked this device, but not more than three of the sleeve ironers had it.

An additional arrangement, which is not used in this city, is a further improvement. The heat, deflected from one operator with the present shield, may be thrown on her neighbor. This could be prevented by making the shield entirely concave, to cover the upper half of the heated roll entirely. By inserting a three or four-inch pipe lined with asbestos in the top of the shield and leading it higher than the operator's head, the heat waves would be carried entirely away from the machine.

Four men are employed in the city to operate body ironers. Under the present conditions this, as well as the other press machines, should be operated by men. The work is entirely too difficult for women of average strength to perform.

The type of shirt bosom machine in use in Portland consists of one steam chest and two press beds on a single standard. As on the cuff and yoke presses, one bosom is ironed while another one is being adjusted. To adjust a shirt bosom and swing it under the steam chest, the following motions are necessary: The neck ring is adjusted to the size of the neck by screwing one nut, the back yoke is tightened by a clamp under the padded bosom form, the body of the shirt is pulled out and held by another clamp in front of the form to prevent wrinkles in the bosom, a narrow, thin strip of steel is put under the button holes; a hand lever swings the bed into a lowered position under the steam chest, to which it is raised and clamped by hydraulic pressure. The operator turns her attention immediately to the second bed, but before she can swing it with its garment into place she must release by a foot pedal the first form and swing it out, the second one is put in, then she removes the metal strip from the first shirt; if there are tucks she raises them with a flat bone blade, takes the shirt from the press and adjusts a third one before removing the second. The work must be done standing; furthermore, considerable reaching and leaning over

the press bed is necessary in the adjustment of the shirt. One woman stated that she had worked at this twelve years and still finds it exhaustive work. She is a robust-looking woman of medium height. Occasionally men operated these machines also, but more generally women were employed.

Physical Hardships of Finishing Room

Excessive heat, excessive demands on physical energy because of the weight necessary to operate press and body ironing machines, and the hardship of continuous standing are the discomforts connected with the machine-operating occupations. At only three duties are women permitted to sit down—collar starching, mangling, and seam dampening. But little thought is given to placing of machines. Some plants have body ironers stationed near windows, but too often hand ironers are given the choicest places, while the machines radiating the greatest heat are placed in the center of the room, farthest away from fans and windows.

Another circumstance which makes machine work extremely difficult is that girls are scarcely ever given thorough instruction concerning the proper and easiest way to operate the machine. Thus, to use an old expression, "they make themselves work," when with slight trouble on the part of their foremen, they could save much needed energy.

II—Provisions for Health and Comfort

All of the power laundries in the city have separate toilets for women employes. The majority of these are clean and well-ventilated. Praiseworthy effort is being made to provide dressing rooms for women employes. These are imperatively necessary, as a large number of the women change their street for work shoes and other women change their dresses regardless of the season of the year Some of the dressing rooms are ample in size; others are not large enough to accommodate more than one or two girls at a time; and in some establishments the toilets were deemed sufficient both for changing clothes and leaving them there, while street garments were hung on the walls near the mangles where they collected steam and odors throughout the day. One of the newer plants has provided commodious, well-arranged toilets, shower baths, dressing rooms and individual lockers. When visited, the shower baths were not yet ready for use. Including this establishment, four in all have set aside space which may be used for lunch rooms. The arrangements in the newer plant mentioned above are as neat and pleasing as in any downtown cafeteria. A matron, paid by the employes, is retained to prepare and serve luncheon. Another establishment has adapted the upper floor of a next door flat for a lunch room, kitchen and rest room. One of the employes is given charge of it to see that the table linen is kept clean. The regular janitress does other necessary cleaning. The hot coffee and tea are taken care of by two other employes chosen by the manager. The situation is a rarely ideal one for the development of a spirit of cooperation between employes and employer. In a third establishment where only chairs and tables are furnished, the employes have conceived the plan of keeping bottles of coffee hot on the fixtures of ironing machines, while potatoes are baked on the steam pipes of the dry room.

As necessary in a laundry as a dressing room is a couch. The great majority of laundry managers seem not to have considered this, in spite of the frequent illnesses which occur. One laundry, located in a sub-basement, which has lately improved its ventilation was reported to have had two or three women fainting at work each week. Possibly the need of the couch does not seem apparent because of the long tables on which a girl may be placed until she can be taken home. Managers apparently are kind about seeing that she gets there quickly

and easily. Yet this does not excuse the embarassment of the helpless employe who may be subjected to the gaze of all her associates, men as well as women.

Especial note was made of drinking-water facilities. Eight establishments have at least one sanitary drinking fountain. In other establishments the workers must depend upon the faucets over the washing tubs or sinks. Sometimes these are placed so far from the workers that, especially if a girl has much work ahead, she does not care to take time to go for a drink. Some sinks were in convenient positions but were dirty.

RECOMMENDATIONS

The following recommendations are suggested for the improvement of the physical conditions of the laundries, the methods and arrangement of work, and the health and efficiency of the employes:

1. Reduce the temperature and humidity of the work rooms to a normal degree by use of exhaust fans, exhaust hoods over machines and any natural or artificial means available.
2. Arrange departments and machinery so that the warmest and most exacting occupations will derive the greatest benefits from the ventilation.
3. Furnish heat-deflecting devices for machines on which they may be used, e. g., body ironers.
4. Install pneumatic attachments on press machines which women are expected to operate.
5. Shift employes at work so that the heat and strain of the difficult occupations may be distributed.
6. Furnish padding or mats for women to stand on, who work on concrete floors.
7. Permit stools at work in many departments where they are not at present supplied.
8. Maintain toilets, dressing rooms, and the laundry as a whole in a clean, well-swept condition.

III—Wages

Wages in laundries are based upon three kinds of service: hourly, weekly, and by the amount of work accomplished, or "piece work." Weekly wage rates are distinct from hourly rates because the women paid by the hour are compensated only for the number of hours actually spent in the establishment. The rate for one or two hours' work may be deducted from the week's pay if the week has amounted to slightly less than 54 hours.

TABLE II

Showing number of women employed in laundries by hour, week, and piece rates, according to departments, for week ending April 25, 1914.

Departments	Total	Hour	Week	Piece
Office	36	.....	36	.....
Markers and Sorters	112	11	101	.....
Foreladies	15	.....	15	.....
Mangle	254	221	33	.....
Starchers	62	41	21	.....
Mach. Operators and Body Ironers	75	41	21	13
Hand Ironers	84	38	.....	46
*Finishing Room	101	88	13	.....
Miscellaneous	21	15	6	.....
Seamstresses	8	.....	8	.....
Totals	768	455	254	59

*NOTE.—"Finishing room" in all includes starchers, dampeners, press machine and body ironer operators, hand ironers and shirt folders, whose work is not differentiated into departments by their employers, though each of the women may perform only one kind of work.

Piece workers are given a certain per cent on every dollar's worth of work accomplished. Table II shows that of the 768 women employed, 455 were paid according to the number of hours employed, 254 were paid by the week, and 59 by piece work.

Of the 254 paid by the week, 137 were office employes, and markers and sorters, who usually are grouped together in discussions of wages. The latter two classes of work, though distinctively laundry work, are clerical in nature and command higher wages than do any of the other departments outside of the office. The number of employes, exclusive of office help and markers and sorters engaged by the week, is 117. Hence we conclude that out of 631 women engaged in laundering processes, 117, or 18.5 per cent, are assured of a fixed weekly wage.

The wages of the remaining 514 vary from week to week, even when a normal week's work of from 48 to 53 hours is put in. The only two departments which are paid by piece rates are the hand ironers and the machine operators. Hand ironers usually receive thirty cents and machine operators fifteen cents for every dollar's worth of ironing accomplished.*

Table III gives definite information concerning the actual wages paid (week ending April 25, 1914), because it shows the average hours which were spent to obtain the week's wage. This table is concerned only with those women who were employed for more than 36 hours that week.

In the office, no one is employed at less than $7.00 a week. Twenty-eight, or 80 per cent, of the office employes earned $10.00 or over a week. Nearly the same is true of the markers and sorters. In that department one apprentice was engaged at $6.00 a week, nine averaged $8.11 for an average of 50 hours, and 85 who averaged $13.00 worked but 49 hours. Foreladies, as might be expected, are found among the better paid employes; the 14 recorded here worked a full week, one at $9.00, the remaining 14 averaged $12.24.

MANGLE ROOM

The mangle or flat work ironing room employs a greater number of girls than any other department. The work is in four divisions—shaking, feeding, folding and stacking—but, as the hours are the same and the wages vary only slightly, no separate classification is made in the wage summary. Two hundred and forty-one were reported who had worked over 36 hours. None of these had worked less than 44 hours, or approximately five full days on a nine-hour day schedule. The four who averaged $5.75 a week are apprentices. Their average hourly rate is 13 cents, but the extremes in wages for apprentices are 11 and 14 cents. (Table V.)

Looking at the other wage divisions on the mangle, we find that receiving between $6.00 and $7.00 were 20 who worked 46 hours; between $7.00 and $8.00 were 91 who worked nearly 5½ days a week

*NOTE.—Since this section of the report was written, plans have been formulated for putting flat work ironers and shakers on piece work. The towel is used as standard of payment, and paid for at the rate of 75 cents per 1,000. A pillow case is rated as equal to two towels, a bedspread to 20, etc. The amount of money earned a day is divided among the crew. This system is in use in a few Washington and California laundries. If successful in increasing the speed and efficiency of the Portland laundry employes it will probably be adopted in the majority of the plants and will increase the number of women paid by piece work notably.

TABLE III

Showing Weekly Wages and Hours of Work of 712 Laundry Employes Working More Than 36 Hours, Week Ending April 25, 1914, Classified by Departments and Wage Groups.

Departments	Total number	Under $6.00 a week			$6.00 to $6.99 a week			$7.00 to $7.99 a week			$8.00 to $8.99 a week			$9.00 to $9.99 a week			$10.00 and over		
		Number	Av. wage	Av. hours	Number	Av. wage	Av. hours	Number	Av. wage	Av. hours	Number	Av. wage	Av. hours	Number	Av. wage	Av. hours	Number	Av. wage	Av. hours
Office	35	....	$	.....	....	$	.....	2	$ 7.25	49½	1	$ 8.00	50	4	$ 9.29	51¼	28	$13.45	53½
Markers	105	....	.....	.....	1	6.00	53	.....	.....	.....	9	8.11	50⅔	10	9.13	49⅔	85	13.00	49½
Mangle	241	4	5.75	44	20	6.52	46	91	7.60	50⅓	97	8.21	52½	21	9.12	52	8	10.84	52¾
Starchers	57	1	5.75	43	5	6.68	45	6	7.60	46½	14	8.29	49	8	9.16	50¾	23	10.98	49
Mach. Op. and Body Ironers	71	....	.....	....	1	6.85	42	10	7.68	47	17	8.36	49	20	9.28	51	23	10.91	50
Hand Ironers	63	....	.....	....	6	6.69	43⅔	13	7.53	46	14	8.27	48	11	9.50	48	19	11.38	49
Finishing Room	96	1	5.95	37	15	6.63	42½	25	7.55	46½	16	8.41	49	13	9.22	48	26	11.23	48
Miscellaneous	21	1	5.00	36	1	6.90	50	4	7.60	48	9	8.29	50	4	9.28	51	2	10.70	48
Seamstresses	8	....	.....	....	....	.....	.....	2	7.75	46½	3	8.37	50⅔	2	9.00	49	1	10.00	47
Foreladies	15	....	.....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	1	9.00	54	14	12.24	53
	712	7	.....	.....	49	.....	.....	153	.....	.....	180	.....	.....	94	.....	.....	229	.....	.....

14 Hand Ironers, paid by piece rates, not here.

(50 hours); between $8.00 and $9.00, 97 worked 52½ hours, nearly the full 6 days, yet did not quite average the present legal minimum of $8.25 a week. Table IV shows that there was a total of 115, or 40

TABLE IV

Cumulative wage table of 726 women employes in laundries in Portland working over 36 hours, classified by wage groups and departments.

Department	Total No.	Under $6.00	Under $7.00	Under $8.00	Under $9.00	Under $10.00	$10.00 and over
Office	35	.....	.....	2	3	7	28
Markers	105	.....	1	1	10	20	85
Foreladies	15	.....	.....	.....	.....	1	14
Mangle	241	4	24	115	212	233	8
Starchers	57	1	6	12	26	34	23
Machine Ops.	71	.....	1	11	28	48	23
Hand Ironers	77	2	10	26	43	56	21
Finishing Room	96	1	16	41	57	70	26
Seamstresses	8	.....	.....	2	5	7	1
Miscellaneous	21	1	2	6	15	19	2
Totals	726	9	60	213	399	495	231
Per Cent	99.4	1.2	8.2	29.0	54.6	67.8	31.6
Under 36 hours	42	42	.....	.....	.....	.....	.....

per cent, in the flat work ironing department whose earnings fall below the minimum wage. Two hundred and twelve, or 80 per cent, averaged less than $9.00 a week. An interesting array of facts concerning wage rates and hours in the mangle room appears in figures for the workers earning between $7.00 and $10.00 a week. The average hours per week for the two groups (Table III), $7.00 to $7.99 and $9.00 to $9.99, differ by one and two-thirds hours, yet the average wages vary $1.52. There is clearly an increase in rates per hour out of proportion to the increase in the number of hours worked a week.

STARCHERS

Though the most important details of the starch work are done by machinery, starchers are paid wages higher than other machine tenders. Out of 57, 12 receive less than $8.00 a week (Table IV). Twenty-three or 40 per cent averaged nearly $11.00 for an average week of 49 hours (Table III). The 6 who earned between $7.00 and $8.00 averaged $7.60 for an average of 46½ hours. This was at the average rate of 16½ cents an hour. In a 54-hour week, this would mean $8.91 a week. The hardship of the short week is plainly visible in this department.

MACHINE OPERATORS

Machine operators include cuff, sleeve, yoke, bosom, collar and body ironing machine operators. Wages are paid by hour, week and piece rates in this department. We find none who are employed at the apprenticeship wage. The one who received less than $7.00 a week worked 42 hours only, at the rate of 16⅓ cents an hour. On a 54-hour week this would have meant $8.82. A few body ironers whose wages were not computed separately are paid by piece rates In only one establishment are press operators paid by piece rates. Hand ironers frequently work by piece rates, hence the hours employed are not always recorded carefully. Table III gives a summary of the wages of 63 hand ironers and the number of hours they worked. Table IV gives in cumulative amount the wages of 77 by wage divisions regardless of the number of hours employed, but does not include 7 who had been recorded as working less than 36 hours. Those paid by the hour among the hand ironers receive more than those paid by piece rates, with the exception of the $8.00 or $9.00 groups. Yet 13 who had averaged 46 hours, the entire 5 days on a 9-hour schedule, averaged only $7.53 for that time (Table III).

The finishing room includes starchers, machine operators and hand ironers, dry room tenders and shirt folders. These are not classed separately because in smaller plants one woman may perform two or three classes of work. The payroll for the finishing room resembles the classified records for the starch and machine operators and hand ironers. A greater number, 88 out of 101, are paid by the hour (Table II); the wages for the week and hour workers average practically the same, and for the different wage groups (Table III) the hours average the same for the finshers as for the other departments. Nearly one-half, or 41, earned less than the minimum wage because of the short week (Table IV). Only 26 earned $10 or over. That these 26 did not go very much above $10.00 is shown by their average of $11.23 (Table III).

"Miscellaneous" are so grouped because there were too few workers in a department to detail separately. Included are "hand" or fine linen washers, of whom there is rarely more than one in a plant and in some plants none; lace curtain stretchers, handkerchief mangle operators. The handkerchief mangles, though located in the machine room, do not require the physical exertion of the other ironing machines nor give off as much heat as the large mangle.

An equal number of workers are found in the $7.00 and $9.00 a week groups, but 9 or nearly one-half of the 21 average $8.29 for a 50-hour week.

Seamstresses numbered 8 and all are paid by the week; 2 averaging $7.75 and 1 at $10.00 show the extremes of the wages paid here.

A saving on living expenses which is offered employes in some laundries is a discount on the cost of the employe's personal washing. Some laundries allow a 33⅓ per cent discount to women employes; other laundries make no charge at all, while still others charge regular laundry rates and allow no discount. Contrasted with the situation of those women who are given 33⅓ per cent or no discount is that of the men employes, who are sometimes given the entire cost of their laundry.

TABLE V

Showing hourly wages of apprentices, according to departments.

Department	Total	Hourly rate				
		11c	12c	13c	14c	15c
Office	3	.....	.....	1	1	1
Markers	3	1	.....	.....	1	1
Mangle	59	5	3	4	25	22
Starchers	1	.....	.....	.....	.....	1
Ironing	4	1	.....	.....	3	.....
Miscellaneous	5	.....	.....	1	3	1
Totals	75	7	3	6	33	26

APPRENTICE WAGES

Some laundrymen have taken advantage of the provision that new workers may be paid $1.00 a day for the first year and have not advanced the wage of workers competent in the unskilled positions. Others have fixed the minimum for all employes at 15⅓ cents an hour, the hourly rate for experienced workers. Seventy-five women and girls were on the payrolls as apprentices in April, 1914. Fifty-nine of these worked at the mangle, at wage rates of from 11 to 15 cents an hour. Table V shows the detail wages in full. It is worth repeating that the shake table (which is classed here as part of the mangle) is one of the hardest departments, yet one which requires the least skilled workers, and that the 11-cent and 12-cent-an-hour girls are in this department.

SUMMARY OF WAGES

The interesting figures in Table IV occur first in the mangle department, where the 115, or nearly one-half of the employes, receive less than $8.00 a week; 91 of this number averaged 50 hours (Table III). Out of 241 mangle workers (Table IV), 212 receive less than $9.00 a week. In other departments receiving less than $9.00 a week are:

Nearly one-half of the starchers.
More than one-third of the machine operators.
More than one-half of the hand ironers.
More than one-half of the finishing room workers.
Three-fourths of the miscellaneous workers.

Of the whole, 29 per cent receive less than $8.00 a week; 54.6 per cent receive less than $9.00 a week.

The adequacy of wages is to be determined partly by the demand which the work makes upon the health of the employe. An investigation by the U. S. Department of Labor* concerning the effect of laundry work on the health of women workers in the United States showed that of 539 employes, 24 per cent suffered ill effects from their work. One hundred women were questioned on this subject during the investigation in Portland.

Statistics of their answers were not compiled because the physical condition of those who complained of ill effects was not verified by a physician. Machines which are most wearing and disastrous to the women operators are described in detail in another part of this report. At this time, mentioning the subject in connection with that of wages, we are able to say that not the work only but work combined with excessive heat and great humidity undoubtedly requires more time and care and expense for recuperation from it, than does work which is physically hard but which is not surrounded with the high temperature and humidity that the laundry worker is.

Eight dollars and twenty-five cents a week was established as a minimum wage for women workers in this industry in Portland by the Commission as a preliminary ruling. Eight dollars and sixty-four cents a week is the minimum wage for experienced women employed in factories, the conditions of whose work as far as modish dress require-

Report on Condition of Women and Child Wage Earners in U. S, Vol. XII.

ments and ability to change street clothes for working clothes correspond with laundry conditions. Yet, according to Table IV, over one-half the women employes in laundries are receiving less than $9.00 a week. That the exact wages of this 54 per cent fell notably below $9.00 is evidenced by the figures in Table III in the $8.00 to $8.99 column, where only one group of sixteen workers out of 180 averaged as much as $8.41. It would seem that the work should be arranged so that the workers could be employed longer each week or that the rates per hour should be raised to bring the average wages a week nearer a living standard.

IV—Hours

TABLE VI

Showing Hours Worked in One Week by 754 Women Laundry Employes Classified by Departments.

Department	Total number	Less than 33 hours		33 to 35 hrs.		36 to 39 hrs.		40 to 45 hrs.		46 to 49 hrs.		50 to 54 hrs.	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Office	36	1	2.7	1	2.7	.....	.....	.....	.....	1	2.7	33	91.4
Markers and Sorters	112	7	6.2	1	.89	.....	.....	9	8.0	26	23.1	69	61.5
Mangle	254	8	3.1	5	1.9	1	.39	17	6.6	45	17.5	178	69.9
Starchers	62	5	8.0	.....	.....	.....	.....	11	17.7	18	29.0	28	45.0
Mach. Op. and Body Ir.	75	3	3.3	1	1.3	.....	.....	8	10.6	25	33.2	38	50.5
*Hand Ironing	70	5	7.1	2	2.8	.....	.....	19	27.0	32	45.4	12	17.0
Finishing Room	101	5	4.9	.....	.....	5	4.9	25	24.7	43	42.5	23	22.7
Seamstresses	8	.....	.....	.....	.....	.....	.....	.....	.....	6	75.0	2	25.0
Foreladies	15	.....	.....	.....	.....	.....	.....	.....	.....	2	13.2	13	85.8
Miscellaneous	21	.....	.....	.....	.....	1	4.7	1	4.7	8	38.0	11	52.3
	754	34	4.4	10	1.3	7	.9	90	11.8	206	27.1	407	53.7

*14 hand ironers paid by piece not included.

The varying length of the working week has been a prevailing characteristic of this industry and a source of great dissatisfaction to laundry employes. Peculiarities of locality such as steamship and railroad work are partly the cause; fashions affect the general volume of work, but too many laundries and lack of organization of the business are other causes. Table VI shows the hours of 754 employes according to departments and the per cent of women working a specified time. There is a decided gap in the table between the 36- and 40-hour classes which shows that those working under 36 hours were either substitutes or women who tried for positions and did not stay. The lowest limit of a normal week's work appears to be from 40 to 45 hours. The hand ironing department has the largest proportion of workers who may work only this length of time. Seventeen per cent, slightly more than one-sixth of the starchers, have this very short week. Of the total 754 workers, 11.8 per cent, nearly one-eighth, on the nine-hour-a-day schedule, work between 4 and 5 days a week. In the flat work ironing or mangle department, the short week is not so evident. Practically 70 per cent work the full week; 17.5 per cent work from 46 to 49 hours. If the loss of 9 hours a week is computed at the rate of 15⅓ cents an hour, this means a loss in income of $1.38 a week or $5.52 a month—an appreciable amount out of a month's wage of $35.75, the total that a woman would earn at this hourly rate if she could work 54 hours every week.

A very small per cent of the markers (8 per cent) is limited to 5 days' work, but there is a sudden increase in the number of those who work 49 hours (23 per cent). A smaller proportion of markers than of mangle operators have a full week, but, as the former are generally paid for 54 hours, the 39 per cent working under 50 hours is not alarming. Just one-half of the machine operators, 38, are able to work nearly the full six days, while one-third is compelled to lose part of the sixth day. Starchers maintain a schedule similar to that of the machine ironers but with a slightly shorter week; 45 per cent work between 40 and 45 hours, 29 per cent work from 46 to 49 hours. The cumulative numbers and per cent (Table VII) of the hours give in brief the story of the "short week." Eighteen and four-tenths per cent, nearly one-fifth, of the laundry workers cannot spend more than 4½ to 5 days at work; 45.5 per cent, or nearly one-half, must lose at least from one-half to a whole day each week.

TABLE VII

Cumulative table showing number and per cent of women laundry employes classified by departments and working specified number of hours, week of April 25, 1914.

	Under 33 hours		Under 36 hours		Under 40 hours		Under 46 hours		Under 50 hours		50 to 54 hours	
Total No.	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
754	34	4.4	44	5.7	51	6.6	141	18.4	347	45.5	407	53.7

V—The Laundry Employe

NATIONALITY

About seven-eighths of the women employed are American born; the remaining one-eighth is made up chiefly of Germans, but there is a sprinkling of Bulgarians, Italians and Poles; one Spanish woman was registered and one negro.

AGE

The ages of 299 women who reported ranged from 16 to 60 years. In Oregon a minor is defined by law as one under 18 years of age. Only 9, or 3 per cent, were minors. This proportion is applicable to the total number of women employed, 768. Table VIII gives the number of women found in specified age groups. Nearly one-half (146) of the total number reporting were between 18 and 25 years. The largest number in any one group is 80, in the 20 to 25 year division. Past 25 years, but not yet 30, the number drops to 45, and after that, though the age divisions advance by ten instead of five years, the number dwindles perceptibly. Yet there are 12 who are between 50 and 60 years, an age surely when a woman might hope to be relieved from hard labor. This is 4 per cent of the 299 reporting and, as in the case of the minors, it may be said safely that 4 per cent of the total 768 engaged in laundry work are women over 50 years of age.

TABLE VIII

Ages of Women in Laundries.

Under 18 years	9	40 to 50 years	31
18 to 20 years	66	50 to 60 years	12
20 to 25 years	80	60 and over	3
		Legal age	4
Total, 18 to 25 years	146		
25 to 30 years	45	Total number reporting	299
30 to 40 years	49		

EXPERIENCE IN LAUNDRY WORK

Table IX, which shows the length of experience of workers according to departments in which they are at present engaged, makes it difficult for us to understand some of the average wages shown in Table II. Office employes receive the best wages. There are none

TABLE IX

Showing length of experience of 294 laundry workers, classified according to departments.

Departments	Under 6 months	Six months to 1 year	One year to 2 years	Two years to 3 years	Three years to 4 years	Four years to 5 years	Five years to 8 years	Eight years to 10 years	Ten years to 15 years	Fifteen years to 20 years	Total
Office	....	....	2	3	4	1	2	....	2	....	14
Markers and Sorters	1	....	2	4	3	6	11	1	4	....	32
Mangle	17	10	18	20	15	7	13	4	....	....	104
Starchers	1	3	6	5	8	1	4	1	5	....	34
Hand Ironers	1	4	3	3	6	3	6	2	5	....	33
Mach. Op. and Body Ir.	1	5	3	5	7	6	6	1	2	....	36
Finishing Room	....	2	4	1	2	1	....	1	4	2	17
Miscellaneous	4	1	4	1	3	1	3	....	3	....	20
Foreladies	....	....	....	1	....	....	1	1	1	....	4
Totals	25	25	42	43	48	26	46	11	26	2	294

who have had less than one year's experience and only two who have had less than two years. Of the remaining 12, 9 had from 3 to 15 years' experience. Markers and sorters, who stand in the wage rank with office employes, had one worker who had had less than 6 months, an apprentice, but of the remaining 31 only 2 had had less than 2 years; 13 ranged from 2 to 5 years and 11 from 5 to 8 years' experience, showing that markers and sorters do not quickly give up their places.

Approximately one-half of the mangle employes, who work a "near" week, reported. The number was 104. Twenty-seven of these had been at the mangle for less than one year. Sixty, or 56 per cent, had been "on" for from 1 to 5 years, yet our cumulative wage table showed that 74½ per cent earned under $8 a week. Forty-two have worked from 2 to 5 years, and 17 from 5 to 8 years, with the mangle crews.

Starchers, machine ironers and hand ironers (workers in the finishing room) show similar characteristics in length of experience. But few "green hands" are put in the finishing room. Of the 120 in these four divisions, only 3 had been in the laundry less than 6 months; 14 had been there from 6 months to 1 year. As there are a few kinds of unskilled work in the finishing room, it is likely that the 16 who had less than one year's service had been given unskilled work to do. Of the remaining 87, 16 had had from 1 to 2 years' and 46 from 2 to 5 years' experience. In the light of the fact that the finishing room demands skilled workers, the wage tables did not show wages paid commensurate with this length of experience.

Foreladies may be expected to be women of mature or at least well-applied experience, good judgment and with ability to handle fellow workers wisely and well. Fifteen were reported on the payrolls; facts as to experience were obtained from only 4, who may not be representative; yet these 4 are interesting. One of the 4 had had between 2 and 3 years' experience. She may be the one on the wage schedule who, though a forelady, draws only $9.00 a week. The average wage for the remaining 14 registered on the payroll was $12.24. This is a step nearer the wage we might expect foreladies who have had, one not less than 5 years', a second not less than 8, and a third not less than 10 years' experience at her work.

EXPERIENCE IN OTHER LINES OF WORK

TABLE X

Employes Reporting Other Work

No other work	74	Music lessons	1
Housework	84	Nurses	3
Waitress	14	Telephone Oprs.	9
Clerks	10	Office	5
Chambermaids	12	Teachers	2
Factory	22	Photo gallery	1
Dressmaking	7	Book binding	1
Millinery	1		
Wholesale house	1		247

Table X details a list of other occupations reported by 173 laundry employes. Seventy-four additional ones reported that they had not had any experience outside of laundry work. Eighty-four of the 173 or practically one-half had been engaged at housework. This may be partly accounted for by the fact that when those who are prepared to do only housework wish to leave it, laundry work, as being the next most closely related to their experience, attracts them. Next to the domestics are 22 former factory operatives, 14 waitresses and 12 chambermaids. The number of professional women is small—three nurses, two teachers, and a sixth "who gives music lessons."

CONJUGAL CONDITION

TABLE XI

Showing Conjugal Condition of 425 Women Employed in Laundries.

	Total	Married	Single	Widowed
Number	425	152	212	57
Per Cent		36.0	50.0	13.0

The most common answer of laundrymen, when protest is made against the short week, is that many of their employes are married women with homes, who work only for pin money or if compelled to work are satisfied with a short week, which permits them to spend Monday morning and Saturday afternoon at home doing their own work. That there are married women who are glad of an opportunity to be at home on a weekday, there is abundant evidence; but for nine out of every ten there is evidence also that if they could choose between the short week with a day at home and six full days with pay they would, from necessity, choose the six days with pay. Table XI shows the proportion of married and single women among 425 employed in laundries. Thirty-six per cent were married, 50 per cent were single, and 13 per cent were widowed. The statement should read 36 per cent married and 63 per cent single, as the widows with children to support are in a more difficult situation than women without encumbrance.

AT HOME AND ADRIFT

TABLE XII

Showing Number of Women Living at Home and Adrift.

Total number	Living at home		Living adrift		Single at home	Single adrift
	Number	Per cent	Number	Per cent		
201	99	49.5	102	50.5	65	69

Two hundred and one women reported concerning residence conditions. Ninety-nine, or 49.5 per cent were living at home. Of these, 65 were single women. One hundred and two, or 50.5 per cent, were away from home. Of these, 69 were single. The 33 who were married, when merely rooming or living in housekeeping rooms, considered

themselves "adrift." Much has been written concerning the struggles of the wage-earning girl away from home to support herself. Situated as the laundries sometimes are in the unwholesome districts, demanding from the girl not only all of her muscular energy to accomplish the work but also her reserve vitality because of the heat surrounding the work, with the district providing her with men ready to take advantage of her fatigue and her economies, the outlook for the laundry girl away from home is not one that is very promising.

EXTENT OF UNEMPLOYMENT

TABLE XIII

Report of Women Out of Work Since April, 1913

Not without work	117	4 months	7
1 week and less	18	6 months	4
2 weeks	15	7 months	1
3 weeks	9	8 months	3
1 month	28	11 months	2
2 months	18		
3 months	20		242

A study of an industry should take into consideration the seasonal character of the industry and the amount of unemployment which a worker is forced to meet. The laundry industry is an all-year industry, with a rush season which extends from May or June through September. The remaining months of the year are quiet, but not to the extent that a plant must close down even for a week. One establishment submitted an average of the number of hours operated a week for 20 weeks beginning with January 5, 1914. This average for that time, "the dead of winter," we might call it, was 51¾ hours. One week, the shortest, averaged 50 hours; the highest was 53¼ hours.

The figures presented in Table XIII barely suggest what the situation was for 242 women in Portland from April, 1913, to April, 1914. Some of the 125 who were unemployed may have been so from choice, from illness not attributable to their employment, or because of slack seasons in other industries. Forty-two had been out of work for from one to three weeks. Three weeks of unemployment is serious for many of the girls, but when the term stretches over a month it may mean a setback from which it takes her a long time to recover. Sixty-six reported out of work for from one to three months, inclusive; 11 lost from four to six months and 6 lost from six months to one year.

Another phase of the unemployment question which continues throughout the year is the short week. Though a woman may be at

work every week during twelve months time, she does not receive the benefit of a full year's work in a full year's pay. Table VI, giving the average hours for one week in the laundries in Portland, showed that 11.8 per cent of the 754 women employes worked between 40 and 45 hours, and 27.1 per cent between 46 and 49 hours. If we take the average hours of these groups, one year's employment with the weeks at these respective lengths would be a working year of nearly 41 weeks for 12 per cent and nearly 46 weeks for 27 per cent.

The losses due to the short week are more apparent when expressed in dollars. The 12 per cent who worked from 40 to 45 hours a week, if receiving a wage of $8.25 a week, would have their annual incomes reduced from $429.00 to $338.75, or $90.75, and 27 per cent would lose $49.50 during the year. This smaller loss might mean the cost of room rent for 5 or 6 months.