

Sterling Motor Co.

November 9, 1918.

Mr. Smith, Superintendent,
Sterling Motor Company,
Brockton, Mass.

My dear Mr. Smith:

1. You will recall that both you and Mr. Elton promised to forward to me statement giving list of operations on which women are at work in your plant, as well as an itemized list of wages. This has not been received at present writing and I am, therefore, writing to request of you that you send them at an early date.

2. I shall also appreciate having a statement in addition to this of your exact wages paid the women on each operation at this time.

3. In looking over my notes I find that you made reference to the adjustment of your wage scale but nothing definite was said as to what such adjustment would be.

Appreciating an early reply, I am

Very truly yours,

Agnes Peterson,
Woman in Industry Service.

AP:EFH

November 9, 1918.

Mr. Smith:

The enclosed letter was dictated by Miss Peterson yesterday and written today. Since transcribing the letter I find your letter to her in which you enclose list of operations. As she is at home, ill, I can not confer with her even by telephone but am mailing it to you with this note of explanation.

You will note, however, that you do not have at hand all the information which she is expecting to receive from you concerning this application.

Very truly yours,

Secretary to
Agnes Peterson,
Woman in Industry Service.

STERLING MOTOR CAR CO.

SPECIALISTS IN AUTO PARTS AND SCREW MACHINE PRODUCTS

ALSO
PATTERN WORK
JIGS AND FIXTURES
DIES, TOOLS AND GAUGES

BROCKTON, MASS., U.S.A.

November 6th, 1918.

Miss Agnes L. Peterson,
Woman's Industry Service,
U. S. Department Labor,
Washington, D. C.

Dear Miss Peterson:-

With this word of apology for delay,
I am sending three lists of gauging directions which will
assist you in explaining the work for which we need Women
Inspectors on our night shift.

Since you were here I have been before
the State Board of Labor & Industries of Boston, who are now
awaiting word from the Secretary of War's Office.

As you probably know, Mr. Mulready,
Chairman of the Board is in favor of granting the permit
for six months. His Board cannot act however, until some
word is received from Washington.

Will you kindly assist us in this
matter and get word to Mr. Mulready at the earliest possible
moment.

Very sincerely yours,

STERLING MOTOR CAR COMPANY,

By Frederick G. Elton

F.G.E./B.L.T

November 19, 1918.

Mr. T. G. Elton,
Sterling Motor Car Company,
Brockton, Mass.

Dear Mr. Elton:

I wish to thank you for your letter of November 13th, giving me information in regard to wages paid women employed upon the Sterling Motor Car Company's plant.

I note your statement to the effect that women receive, when employed, a wage of \$.35 an hour which is advanced after four weeks of service to \$.37¹/₂ cents per hour. Am I to understand from this that no women receive \$.25 an hour when first employed but that all are given \$.35 an hour.

In regard to your request that I do what I can to assist you in obtaining assistance of the permit to be granted by the Industrial Commission of Massachusetts, will explain that the Women in Industry Service can make no recommendation in as much as the plan which was considered for the control of night work was not adopted.

Appreciating your co-operation, I am

Very truly yours,

AP:EPH

Agnes Peterson,
Woman in Industry Service.

STERLING MOTOR CAR CO.
SPECIALISTS IN AUTO PARTS AND SCREW MACHINE PRODUCTS
ALSO
PATTERN WORK
JIGS AND FIXTURES
DIES, TOOLS AND GAUGES

BROCKTON, MASS., U.S.A.

November 15th, 1918.

Miss Agnes Peterson,
U. S. Department of Labor,
Woman in Industry Service,
Washington, D. C.

My Dear Miss Peterson:-

Supplementing our letter of November 6th.
in regard to the employment of women at night as Inspectors.
These women receive when employed, a wage of thirty-five cents
an hour, which is advanced after four weeks of service to thirty-
seven and one-half cents per hour. They are employed only as Ins-
pectors, and do not work on piece work.

We regret that we failed to send this inform-
ation before, and hope that you will let us know if there is any-
thing further we can do.

As the two weeks extension granted by Mr.
Mulready expires November 15th, will you kindly do what you can
to assist us in obtaining extension immediately.

Very truly yours,

STERLING MOTOR CAR COMPANY,

FGE/BLT

BY J. G. Elton

per. B.R.D.

November 1, 1918.

From: Mary Van Kleeck, Director, Woman in Industry Service.
To: Clara M. Tead, Director, Woman's Branch, Ordnance Department.
Subject: Request of the Sterling Motors Company, Brockton, Mass. for permission to employ women on inspection on a night shift.

In accordance with our suggestion to the office of the Secretary of War in our memorandum of Oct. 21, we have sent Miss Agnes Peterson to Massachusetts to secure information from sources other than those mentioned in Mr. Beiser's report regarding the availability of a labor supply of men for the night shift at this Company. This is in no way a duplication of the investigation already made by the Women's Branch but supplements it. This supplementary inquiry from an independent point of view seems desirable both because of the importance of this case as setting a precedent for continued night work and because it was desirable for this office to have first-hand information about conditions affecting the labor supply in Massachusetts as they obtain outside the plants. This will of course be a background enabling us to reach wiser decisions.

On October 28th Miss Peterson and I conferred with Mrs. Rantoul and Colonel Lyford in the Boston District Ordnance office and arrangements were made for a representative of the Women's Branch there to visit the plant with Miss Peterson. We shall send you Miss Peterson's report as soon as she returns.

MVK/ALL

Mary Van Kleeck, Director
Woman in Industry Service.

October 21, 1918.

From: Mary Van Kleeck, Director, Woman in Industry Service.
To: Major Tully, War Department
Subject: Request of Sterling Motor Car Company to employ women
at night.

We note that the Women's Branch of the Ordnance Department on the basis of a recent investigation, recommend that women be employed as inspectors at night. In view of the fact that under the temporary permit granted by the War Emergency Industrial Commission of Massachusetts, the plant has built up a satisfactory night shift of women. The recommendation is that they be allowed to employ women eight hours at night with a lunch period of one-half hour and a rest period between the lunch period and the end of the shift.

The Woman in Industry Service is not convinced that it is not possible and desirable to make an effort at once to secure men for this night shift. To accept the other recommendation on the ground stated for it would to imply permanent permission to this Company to employ women at night on these war contracts. Information has reached us that the satisfactory production on the night shift is due to the placing of a more competent man in charge of the work at night and that it does not mean that production would fall off if women were replaced by men, especially if the replacement were gradual.

There is no satisfactory evidence as to the wage standards maintained in this plant in their relation to rates paid the men.

The Woman in Industry Service therefore recommends that this permit be extended for two weeks only in order that a representative of this Service may have an opportunity to visit the plant and the community and determine the feasibility of employing men at night.

In granting the permit for two weeks, it should be stipulated that the night shift shall be limited to eight hours with three-quarters of a hour for lunch and with ten minute rest periods in both working periods before and after the luncheon recess.

Papers in this case are returned herewith.

Enc.
MVK/AL

Mary Van Kleeck, Director,
Woman in Industry Service.

Please wire

~~M.~~ D. R. Denoren Denoren
44 Prescott Street
Taunton Mass.

& Machinists Union

Will arrive Boston Monday
morning. ~~will try~~ ^{would like} see
you late afternoon or
early evening reference
matter of importance,
women in ~~woods~~ industry.

Agnes L. Peterson
War Labor Adm.

October 21, 1918.

From: Mary Van Kleeck

To: File

Subject: Sterling Motor Car Company - interview with the International Association of Machinists.

Miss Anderson and I interviewed Mr. Johnson and Mr. Fechner of the International Association of Machinists regarding several cases of requests for employment of women at night, especially the request of this Company. They were not convinced that it was not entirely possible to secure men for the night shift, provided the wages were made adequate. Mr. Fechner stated that he understood that a new manager had been placed in charge of the night shift and that conditions had been more satisfactory since that time. This may account for the more satisfactory work of the women as shown in fewer rejections and may not prove that the work of the men on the night shift would be less efficient. Gave us the name of Mr. D. R. Donovan, 44 Prescott Street, Taunton, Mass. as a local representative of the Machinists' Union who would give us useful information.

October 21, 1918.

From: Mary Van Kleeck

To: File

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Mrs Peterson - Please reply M73P

NOV 7 - A.M.

To insure prompt attention,
in replying refer to

ORDNANCE DEPARTMENT
OFFICE OF ORDNANCE DISTRICT CHIEF
19 PORTLAND ST., BOSTON
PRODUCTION DIVISION

November 4, 1918.

Miss Mary VanKleeck,
Chief, Women in Industry Service,
Department of Labor,
Washington, D. C.

My dear Miss Van Kleeck:

1. I was extremely sorry not to see Miss Peterson after her visit to the Sterling Motor Car Company, in order that I might hear her impressions. Will you send me a copy of her report, as I think it will be of great help to us.

2. I enjoyed seeing you here so much and was very glad of the opportunity to have you meet Colonel Lyford, and explain to him the viewpoint of your service. An explanation given by a third person is never as effective as if given by the one who establishes the policies.

3. Everyone has told me how beautifully you handled Mrs. Dewey at the meeting, and how extremely difficult she made herself. We all think that the war has rather affected her mind in some way.

Hoping to see you on here again before long, I am

Very sincerely yours,

L. B. Rantoul

LOIS B. RANTOUL, DIRECTOR,
WOMEN IN INDUSTRY SECTION,
BOSTON DISTRICT ORDNANCE OFFICE.

November 4, 1918.

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Chief, Women in Industry Service,
Department of Labor,
Washington, D. C.

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WOMEN IN INDUSTRY SECTION,
BOSTON DISTRICT ORDNANCE OFFICE.

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Washington, D. C.

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Very sincerely yours,

LOIS B. RANTOUL, DIRECTOR,
WOMEN IN INDUSTRY SECTION,
BOSTON DISTRICT ORDNANCE OFFICE.

November 7, 1918.

Memorandum

To: Miss Van Kleeck
From: Miss Agnes Peterson
Subject: Application, Sterling Motor Company,
Brockton, Massachusetts,
for permission to employ women at night.

1. Date of visit, October 29.
 - (a) Afternoon in company with Miss Pope, Woman's Section, Ordnance Department.
 - (b) At night.
2. Interviewed:
 - (a) In company with Miss Pope, Mr. Mahayne, Employment Manager.
 - (b) At night:
 1. Mr. Smith, Superintendent of Plant,
 2. Mr. Mahayne, Employment Manager.
 3. Mr. Elton, Shop Superintendent.
 4. Several women.
 - (c) On question of labor supply, etc.
 1. Mr. D. R. Donavan, Organizer, Machinists Union, Taunton, Massachusetts.
 2. a. Mr. Cohen, Boot & Shoe Workers Union
b. Mr. Harrington, " " "
c. Miss Alice Carr, woman on community board representing women workers.
d. Mr. W.E. McNamara, U. S. Employment Service.
e. Mr. Fechner, Machinists, A. F. of L., Washington
3. Afternoon visit:
 - (a) Mr. Smith and Mr. Elton were not at the plant during the afternoon. Was taken through the plant by Mr. Mahaney. Mr. Mahaney stated that the firm could get men but that the work was such that men should not be asked to do it.

because it was more suitable for women. Miss Pope was of the same opinion. Both made statements to the effect that night work was not more injurious to women than to men. Both stated that the work of inspection was a "woman's job". There attention was called to the fact that it has been considered to be so but very recently and that without question the inspection work in the past has been done almost exclusively by men. They agreed that it had perhaps been considered a man's job in the past but did not think it would be so in the future. Mr. Mahayne stated that the "firm has no trouble in getting help but every man who could be put at such work at night is needed for other work which could not be done by women". Stated that it was not a question of wages.

Mr. Mahayne's last statement to the representative of the Woman in Industry Service was to the effect that Miss Pope looked at the question from the standpoint of production while the representative of the Woman in Industry Service looked at it purely from the standpoint of labor.

(b)

Night visit:

1.

1. Mr. Smith stated that it was impossible to use men for the inspection "off the automatics" because of the fact that the work entails the utmost care to the details of several gagings on each piece, one piece as many as eight gagings. He stated that men would either go to sleep on the job or be so careless as to be useless. That asternmen had inspected a number and found that they were correct that they would slide along and pass up others without carefully gaging them and in that way allow imperfect pieces to pass by unnoticed, to be found later on the final inspection and assigned to the waste heap. That the inspection off the automatics by women has brought proof of the possibility of eliminating waste almost entirely, and so increasing production to the maximum under present conditions. Claimed that men have been used as inspectors off the automatics. This is doubtful, however, for at times he boasted of the fact that he had worked out the present system of gagings and inspections, thereby eliminating much waste formerly believed to be unavoidable. Referred

to the fact that "when no one in this country knew what a real gage was". The operator does a certain amount of inspection work, from four to seven per cent, but when the new machines are in operation Mr. Smith expects that two men can run a battery of six machines, if one and sometimes two women are at hand to inspect off each machine, in this way relieving the operator of all inspection work.

The compressed air machine was out of order and several machines were idle. Mr. Smith explained in reference to the compressed air machine that it was just one of the things which will happen in any shop. In reference to the fact that machines were idle, Mr. Smith explained that many of their people had been ill and that they were handicapped because of this.

In reference to the fact that machines were idle on the night visit explained that he would not try to fill up a complete night shift until he had some assurance that he could operate on that kind of a schedule for at least six months. He told Mr. Elton to see that the day shift was filled up and that all machines were kept going on the day shift. He said that the influenza had unbalanced the day shift for them but the workers were expected to return very soon. Stated that the firm had never had any labor troubles and that replacement of men by women was not being practiced because women were willing to work cheaper than were men but because their men were needed at other and heavier work and that every available man was needed in some other plant, perhaps even more than in his plant.

4. 2. Mr. Elton took the representative of the Woman in Industry Service through the plant. He promised to forward to this office a detailed list of each operation on which women work, as well as an itemized list of the component parts and the number of gagings on each. This has not been received up to date.

- (c) 1. Labor supply.

Mr. D. R. Donawan stated that he was so new in the district he was not in position to give much information. His child was ill so could not go to Brockton until October 31st, and asked that the representative of Women in Industry Service meet him in Brockton on that evening. Said he knew that the Sterling Motor Company had a bad record as far as organized labor was concerned. Advised

c consulting Mr. Cohen and Mr. Harrington at Brockton.

2. a. Mr. Cohen, member of the Community Board, representing labor: Mr. Cohen repeated about what Mr. Donawan had said about the ~~the company's~~ policy stated most emphatically that women should not be employed at night. However, he doubted very much that men were available for that kind of work and he supposed if the emergency really existed the women would have to work at night. He thought, however, the Sterling Motor Car Company Company should be compelled to pay better wages than they were paying.

b. Mr. Harrington knew people who had worked in the plant. Was of the opinion that male help for inspection work was not available at the present time. Believed, however, that it should be declared that an emergency really existed before night work for women was permitted. Stated that the standard of wages in Brockton was perhaps lower than in other parts of New England but that the standard of wages at the Sterling plant was lower than any other. That the Sterling Motor Company seem to get along without skilled mechanics. That the wages of skilled mechanics in Brockton was \$.60 and \$.70 an hour. Stated that the wages for inspection work at night should be not less than \$.55 an hour. Thought that perhaps it would be well to insist that time and a half be paid for all night work. Suggested that the Woman in Industry Service recommend an increase of wages for women .

3. Mr. McNamara, W.H. S. Employment Service. (in company with Miss Pope) stated that he comes up from Boston each day and knows very little about local conditions. He is just keeping the office open until the local man can take charge. Stated that women should not be employed at night under any circumstances, that he was quite confident that it was a question of wages and that men could be supplied. When asked if an order for women to do inspection work at the Sterling Motor Company were placed with him, could he find the men, replied that he did not know but would try to do so. Advised consulting with Mr. Cohen and Mr. Harrington and was present at the first interview with Mr. Harrington.

4. Miss Alice Carr. Miss Carr is a shoe worker and appointed to represent women workers on the Community Board. The fuse manufactured at the Sterling plant was

was shown to her and the work of inspection explained. She was of the opinion that as long as men were needed to do other work, this work should be done by women. Believed there was a shortage of male labor in Brockton. Stated that the shoe workers' union had agreed to do overtime work on an English and Italian shoe contract about a year ago, which lasted for about three months and women worked until ten o'clock at night three times a week. But if an emergency really existed it was her opinion that women should be permitted to work at night. Suggested, however, Mr. Cohen be interviewed even though it meant remaining over another day.

5. Mr. Fechtner. Mr. Fechtner believes that the Sterling Motor Company prefer women to men because they have discovered that women can do the work and will work for a smaller wage. Mr. Fechtner worked as an inspector for the U. S. Shoe Machinery Company, stated that he inspected pieces fully as small and smaller than those being manufactured by the Sterling company, that in 1915 he was receiving \$.50 an hour for this work. That men at that time never thought it too monotonous or work which should not be done by men. He is writing to this company and to the Boston Electric Company and as well as to the ~~the~~ make inquiry as to whether or not men still do this inspection work, and to ascertain the wages being paid for such work at this time. Stated that the wages of the Brockton company for this kind of work should at least be as high as that ordered in the award of the War Labor Board's reference to unskilled labor, \$442 an hour with a bonus for night work. He thought that a bonus of ten per cent for night work was sufficient but that when inspectors had mastered the details of inspection work that they be paid at least \$.55 an hour.

4.

Working Conditions:

Working conditions, generally speaking, seem to be good. Cordial relations exist between the management and employees as evidenced by the greetings extended to Mr. Elton and Mr. Mahayne. As it was agreed that the investigation of the Woman's Branch of the Ordnance Department was not to be duplicated, a regular inspection of this plant was not made. Miss Pope and Mrs. Rantoul both made the statement that the Ordnance Department considered this firm one of its best. That all suggestions made are met with ready response. Miss Pope suggested that no reference be made to her report on the management of the lunch room for as far as she knew no action had been taken by the Ordnance Department in

reference to her report in this matter. However, suggestions were made in regard to seating and lighting.

- a. Seating: Adjusting of seats to suit the height of the worker was suggested. Good chairs and footrests have been provided but no attention has been given to the adjusting of the height of the chair to the height of the worker and the table. Mr. Smith and Mr. Elton said that this matter would be attended to at once.
- b. Lighting at night can be much improved. There should be more general lighting. Local lights shaded with dark green shades now prevent the light from the bulb shining directly into the workers' eyes but the reflection from the brass pieces especially the parts of the fuge are very strong and must be very trying to the eyes of the worker because the lights are adjusted so as to shine directly on the brass piece. The local light should be so adjusted that there is no reflection. This matter was taken up with Mr. Mulready who said that he would send some one to Brockton to attend to it right away.

5.

Shifts:

Women: 6:30 a. m. to 2:00 p. m.
2:00 p. m. to 10: p. m.
10:00 p. m. to 6: 30 p. m.

One shift doing final inspection work, 7 a. m. to 5 p. m. All allowed one-half hour for lunch. Those working only seven and one-half hours allowed eight hours' pay.

6.

Wages:

- (a) Women, \$.25 an hour for first month, \$.30 an hour after the first month. Piece rate \$3.50 a day and up. Afternoon and night shift, ten per cent bonus and night shift may be raised if one is put on permanently. According to Mr. Smith, some of the women are receiving \$.35 an hour after they have worked there for a month. He said that their wage scale was to be adjusted and some changes made.
- (b) Men,--wages gradually raised for first eight weeks from \$.30 to \$.37; an hour; \$.40 after that.

7.

Transportation:

Not a problem. Car passes factory. Fare from Brockton, six cents.

8. Summary:

- a. Consensus of opinion of local people is to the effect that male labor is not available and that the work should be done by women.
- b. That night work of women should be permitted only when the Secretary of War declares that an emergency exists.
- c. All work on which women are employed now is suitable to women.
- d. General working conditions good excepting lighting and seating which are to be taken care of.
- e. The others, #stopnowedplibedexpressed themselves as being interested in their work and very much satisfied with their employment. The women employed seem to be of a high type. One girl who was interviewed was formerly employed as clerk in government work in Washington. Stated that inspection was perhaps monotonous but that surroundings were pleasant and that she felt she was doing her bit in this way.
- f. Wages low. Discrepancy between wages paid men and women.
- g. Transportation adequate.

9. Recommendations:

That the application of the Sterling Motor Car Company for permission to employ women at night if an emergency is declared to exist and the plan for the control of night work under consideration is adopted,

Provided that,--the firm change its policy in the matter of wages:

- a. By adopting standards of equal pay for equal work, by including agricultural wages in wages for women as is done in the case of men.

Order of Gauging

F-2 Body

Machine Inspection

1st Operation

Name	No		Reject
Go Dia. large neck	F2-1-63	High	Large neck large
No Go Dia. large neck	F2-1-63	Low	Large neck small
Go Dia. small neck	F2-W-26	High	Small neck large
No Go Dia. small neck	F2-W-26	Low	Small neck small
Go Dia. small hole	F2-1-29	High	Small hole large
No Go Dia. small hole	F2-1-29	Low	Small hole small
No Go Dia. small thread	F2-W-14	Low	Dia. small thr'd small
No Go Dia. plain part	F2-1-27	Low	Dia. plain part
No Go Dia. large thread	F2-1-36	Low	Dia. large thr'd small
Go Dia. plain part	F2-1-28	High	Dia. plain part large
Go Dia. large thread	F2-1-35	High	Dia. large thread
Depth of Counter Bore	F2-1-30	High	C. B. not deep enough
Profile of Head*	F2-W-24		

Visual: Follows all gauges. The Inspector should notice the visual defects as she gauges the work, and be ready to place it if it is O.K. on all gauges.

Watch for:-

Bad threads:

Large thread finishing on the side of the one before it,
First thread split or torn badly,
Chattered threads,
Ragged edges.

Marks under head flange,
Marks on plain part,
Marks on head,
Heavy burr on upper end of head,
No bevel on small thread part,
Too much bevel on small thread part,
No counter bore.

All O.K. work is packed fifty in a tray.

Rejects and O.K. work are all to be stamped before chucking operation.

*Do not reject on profile but notify machine operator immediately if not right.

Order of GaugingF-13 Percussion Plunger

(57 KP)

Machine Inspection

Name	No.		Reject
No Go Dia. Body	F13 - 1 - 14	Low	Small Body
No Go Plain Part	F13 - 1 - 16	Low	Small Pl. Part
Go Plain Part	F13 - 1 - 15	High	Large Pl. Part
Go Dia. Body	F13 - 1 - 13	High	Large Body
No Go Thickness Head	F13 - 1 - 23	Low	Too thin
Go Taper	F13 - 1 - 12	High	Large 1-Large Body Taper 2- " Head Tapers 3- " Taper(both)
No Go Taper	F13 - 1 - 12	Low	Too small
No Go Dia. Cap Recess	F13 - 1 - 1	High	Too large
No Go Fire Hole	F13 - 1 - 4	High	Too large
No Go Between Flanges	F13 - 1 - 11	High	Too long
Go Overall	F13 - 1 - 10	High	Too high
No Go Overall	F13 - 1 - 10	Low	Too short
No Go End Taper	F13 - 1 - 24	Low	Too small
Go End Taper	F13 - 1 - 24	High	Too large
Go Fire Hole	F13 - 1 - 4	Low	Too small 1-not deep enough
Go Cap Recess	F13 - 1 - 1	Low	Too small 1-too deep 2-not deep enough
Go Thickness Head	F13 - 1 - 23	High	Too thick

Visual--Follows the Gauges

The Inspector should notice the visual defects as she gauges the work, and be ready to place it if it is O.K. on all the gauges.

- 1- Rough on plain part
- 2- Square body flange
- 3- Flat between tapers
- 4- Shoulder between Body Flange and plain part
- 5- Burr on End Taper
- 6- Marks in Cap Recess
- 7- Rough edge of Cap Recess
- 8- Marks on Taper

Rejects are made in order of gauging. A piece rejected upon any gauge is repaired for that defect and then gauged on all gauges following the one it was rejected on, until another defect is found or the piece passes O.K.

Visual rejects are O.K. on all gauges.

Order of GaugingF-1 SocketMachine Inspection

Name	No.		Reject
No Go Ring Dia. Head	F - 1 - 2	Low	Small Head
Go Body	F - 1 -	High	Large Body
No Go Body	F - 1 -	Low	Small Body
No Go Length of Head -	F - 1 - 11	Low	Short Head
No Go Dia. Small Hole	F - 1 - 6	High	Large Dia.
No Go Dia.Counter Bore	F - 1 - 7	High	Large Dia.
Go Overall - (Pieces must not go into Go on this Gauge)			
No Go Overall	F - 1 - 5	Low	Too Short
Go Dia.Counter Bore	F - 1 - 7	Low	Small Dia.
Go Dia.Small Hole	F - 1 - 6	Low	Small Dia.
Go Ring Dia. Head	F - 1 - 1	High	Large Head
Depth of Small Hole and Counter Bore	F - W - 4	High	Not deep enough
		Low	Too deep

Visual: Follows the Gauges: The Inspector should notice the visual defects as she gauges the work, and be ready to place it if it is O.K. on all the gauges.

- 1 - Counter sink too deep
(This should not extend more than half-way across the rim)
- 2 - No Counter sink
- 3 - Rough Body
- 4 - Marked Head
- 5 - End Concave
(These may be passed if overall length is enough to allow for squaring the end)
- 6 - Inside bottom small hole - pitted
Burr
Shoulder
- 7 - Shoulder between base of Counter Bore & Small Hole
- 8 - Generally damaged by breaks, cracks or marks.
- 9 - Junk. Do not put the pieces so badly damaged as to be useless, in the reject boxes.

Rejects are made in order of gauging. A piece rejected upon any gauge is repaired for that defect and then gauged on all gauges following the one it was rejected on, until another defect is found, or the piece passes O.K. Visual rejects are O.K. on all gauges.

11

November 1, 1918.

From: Mary Van Kleeck, Director, Woman in Industry Service.
To: Clara M. Tead, Director, Woman's Branch, Ordnance Department.
Subject: Request of the Sterling Motors Company, Brockton, Mass. for permission to employ women on inspection on a night shift.

In accordance with our suggestion to the office of the Secretary of War in our memorandum of Oct. 21, we have sent Miss Agnes Peterson to Massachusetts to secure information from sources other than those mentioned in Mr. Beiser's report regarding the availability of a labor supply of men for the night shift at this Company. This is in no way a duplication of the investigation already made by the Women's Branch but supplements it. This supplementary inquiry from an independent point of view seems desirable both because of the importance of this case as setting a precedent for continued night work and because it was desirable for this office to have first-hand information about conditions affecting the labor supply in Massachusetts as they obtain outside the plants. This will of course be a background enabling us to reach wiser decisions.

On October 28th Miss Peterson and I conferred with Mrs. Rantoul and Colonel Lyford in the Boston District Ordnance office and arrangements were made for a representative of the Women's Branch there to visit the plant with Miss Peterson. We shall send you Miss Peterson's report as soon as she returns.

MVK/ALL

Mary Van Kleeck, Director
Woman in Industry Service.

11.74.1

September 30, 1918.

From: Paul T. Beisser, Women's Branch, Industrial Service Section, Ordnance Dept., Washington, D. C.

To: Mrs. Clara M. Tead, Director, Women's Branch, Industrial Service Section, Ordnance Dept., 6th & B Sts., Washington, D. C.

Subject: Report on the Situation at the Sterling Motor Car Co., Brockton, Massachusetts.

I. REASON FOR VISIT

The trip was made for the purpose of assisting the plant to change over its night shift of women inspectors to a shift of men inspectors, in view of the fact that the permit to work women at night had been revoked by the Massachusetts War Emergency Industrial Commission, at the request of the Secretary of War's office.

II. RESULTS OF THE VISIT

This purpose was not achieved chiefly because Mr. Smith, Manager of the Fuse Dept. of the Company, felt that the disorganization which would result from any change, justified him in attempting to reopen this case. He decided to send the Company's representative to Washington to follow the matter through the Production Division and the Secretary of War's office, in an effort to have the night shift permit continued.

III. ALTERNATIVES IN THE CASE AND REASONS AGAINST THEM

A. Night shift of men inspectors.

1. Before the Company will use men for the night shift of inspection, they will use them elsewhere.

(a) On the twenty-five new automatics on the new Marsh fuse job.

(b) To train as mechanics for the tool room, or as fixers for the automatics and finishing operation machines.

(c) On the shell work.

- 2 -

2. There will be a need of probably from thirty to forty mechanics, and on the night shift from sixty to seventy inspectors, making a total demand for additional men of approximately one hundred.

3. Men will not take the inspection jobs on the night or day shifts because -

(a) They can work only eight hours, while on the machines they work $11\frac{1}{2}$ hours.

(b) The inspection does not pay as much as the machine work per hour.

(c) With as many as ten gauges, requiring fourteen gauging movements on one small piece, the task is too tedious and monotonous to interest the men.

B. Night checking and day inspection.

With a night shift for men out of the question, the other alternative is a return to the former arrangement of checking by the inspectors at night and final inspection by women the following day. The following figures are submitted to prove the contention that the operators do not check carefully enough, even when supervised by traveling inspectors. The figures were secured for the period of a week prior to the investigator's visit and the week prior to the installation of a night shift of women inspectors:

Percentage of Rejected Pieces

<u>Week of</u>	<u>Percussion Plungers</u>	<u>Safety Head Support</u>	<u>Firing Pin Plug</u>
Sept. 17-24	1.7	1.2	.06
Aug. 22-29	50	15.1	6.4

For complete figures, see separate sheet.

IV. SUMMARY

Because of the unwillingness of men to do the inspection either by day or night, because of the difficulty of getting men, and the need for all available men on mechanical jobs, the Company does not feel able, nor does it wish, to attempt to do much with a night shift of men inspectors. This throws them back to the arrangement prior to the granting of the permit, and as the figures have shown, it is not possible to achieve the same net production under this plan.

11.74.1

- 3 -

Although up to August 17th the plant had shipped a total of 25,000 fuses, during the month of September alone they have shipped 250,000 fuses. On this basis they will soon have reached their required production of 10,000 per day.

The choice now lies between granting the continuance of the night shift, or having a lowered rate of production.

PAUL T. BEISSER.

Enclosure.

11.74.1

INSPECTION OF FUSE PARTS OFF THE AUTOMATIC SICKLE MACHINESPERCUSSION PLUNGER

<u>DATE</u>	<u>TOTAL PIECES PRODUCED</u>	<u>NO. PIECES REJECTED</u>	<u>PERCENT REJECTIONS</u>
Sept. 17	7,400	354	4.7
" 18	39,684	719	1.7
" 19	33,370	461	1.3
" 20	32,579	342	1.0
" 21	22,684	281	1.2
" 23	23,864	550	2.4
" 24	1300	74	5.6
Total	159,881	2781	1.7
Aug. 22	16,397	9,299	56
" 23	14,561	5,402	37
" 24	11,915	8,030	67
" 26	13,229	6,422	63
" 27	16,393	1,691	29
" 28	11,587	6,198	53
" 29	13,465	7,162	53
Total	97,547	49,304	50

SAFETY HEAD SUPPORT

Sept. 17	7,726	66	.8
" 18	9,406	51	.5
" 19	9,417	149	1.5
" 20	6,907	133	2.0
" 21	8,832	57	.9
" 23	7374	90	1.2
" 24	5414	106	1.9
Total	55,076	687	1.2
Aug. 22	4,753	1,402	29
" 23	4,888	483	9.8
" 24	2,644	400	15
" 26	4,753	691	14
" 27	4,315	664	15
" 28	5,255	604	11
" 29	4,111	403	9.8
Total	30,719	4,647	15.1

INSPECTION OF FUSE PARTS OFF THE AUTOMATIC SCREW MACHINES

FIRING PIN PLUGS

<u>DATE</u>	<u>TOTAL PIECES PRODUCED</u>	<u>NO. OF PIECES REJECTED</u>	<u>PERCENT REJECTIONS</u>
Sept. 17	12,576	4	
" 18	19,411	27	
" 19	14,268	4	
" 20	17,569	2	
" 21	15,415	12	
" 23	8,089	11	
" 24	8,165	0	
Total	95,491	60	.06
Aug. 22	8,720	1794	2.0
" 23	9,003	598	6.6
" 24	11,249	582	5.1
" 26	16,960	538	3.1
" 27	13,190	971	7.3
" 28	18,835	913	4.8
" 29	15,389	573	3.7
Total	93,346	5,969	6.4

NOTED

NOV 8 1918

October 19, 1918.

From: Miss Dorothy Pope, Women's Branch Boston District Production Office.

To: Lieut. Col. O. S. Lyford, Production Manager, Boston District Ordnance Production Office.

Subject: Sterling Motor Car Co., Brockton, Mass.

Notes made as result of seven days' work in the shop itself, between October 2-11.

1. NIGHT WORK FOR WOMEN

a. At the time of visit, only about six women were working on night shift. Small number due to two reasons: Sickness, and no women being hired because of uncertainty of continuance of night work.

b. The report of discontinuance of night shift was prevalent in the shop itself. Mr. Smith, Supt., said he was considering its discontinuance Nov. 1st unless his new permit was granted, and did not feel it worth while to bother much more to get a permit. He added that the shortage of women on the night shift at present was costing them at least \$100. a night, due to the inability of machinists to accurately gauge his work.

c. As a substitution for night work, the plant is considering two shifts of men machinists working from 6:30 A.M. to 10:00 P.M., with no work between 10:00 P.M. and 6:00 A.M. Mr. Smith suggests these shifts overlap, the overlapping period giving an opportunity for repairs on the machine. Mr. Elton, Supt., of the Fuse Shop, believes as much work would be accomplished with two 8-hour shifts of men comparable to the girls on two day shifts without overlapping, but with the same rate of pay given the men as for the present 11-hour shifts. He states that at present he feels sure the machines are only in use 12-14 hours, owing to breakdowns and consequent repairs. Breakdowns occur more frequently on the night shifts and not only stop production on that shift, but delay the day shift men sometimes two hours at the beginning of the day when production should be highest.

d. Figures of comparison of production by the women at night and in the daytime were not obtained. As the production of the women depends entirely upon the production turned out by the men, the production records

of the women offer no basis of comparison for the relative efficiency of the day and night shifts. Mr. Elton's impression is that production of the night shift men is lower than that of the day shift.

II. Notes on two shifts per day system - i. e., Shift 1-
6:30 A.M. - 2:00 P.M. Shift 2 - 2:00 P.M.-10:00 P.M.
(Saturdays - 2:00 P.M. to 7:00 P.M.)

a. Work was done on both shifts during the seven days' stay at the factory.

b. There was a waste of about 10 minutes between shifts, mostly coming out of the time of the first shift. The afternoon operatives usually begin work fairly promptly, at 2:00 o'clock. There is also a waste of about ten minutes at the beginning of the morning shift. A docking system was being instituted to prevent this. The majority of the women seem to come at least from the center of Brockton and must leave the center of Brockton at 6:15 in order to reach the factory at 6:25 A.M. As it is practically pitch dark at this hour, from Oct. 1st until spring, there is some tendency for the women to take a later car and lost fifteen minutes or half hour at the beginning of the day.

c. The morning shift was found less fatiguing than the afternoon shift, it being found difficult to maintain the same rate of production from 8-10 P.M. These last two hours seemed to drag interminably. Apparently, however, according to the production records noticed, the output of the afternoon shift is on the whole about the same as with the morning shift.

d. According to a few casual observations of the hourly records kept for each operation, the highest production seemed to come in the morning shift between 8 and 10 and in the afternoon shift between 2 and 4.

e. With as short shifts as these and the light work done by the women at the Sterling Motor Co., rest periods seem unnecessary. It would seem, however, better to place the supper period given the women on the afternoon shift at present from 5 to 5:30 at a later hour,- possibly 6:00 to 6:30, in order to shorten the evening period. The longest stretch of work time without a rest period is from 5:30 to 10:30, the present evening stretch.

f. The machine operatives get a change from their constant sitting postures by having to walk anywhere from three to twelve feet for additional boxes of parts. The small parts, which are kept in boxes containing 200 each, are usually brought over by the women, five boxes at a time.

They can in many operations complete about 1000 pieces an hour.

g. The class of women on the morning shift seemed rather higher than on the evening shift on the whole, and the average age considerably younger.

III. SYSTEMS OF INSPECTION

a. Inspection off the machine is being more and more generally adopted in the plant and is a great means of saving money and material.

b. Inspectors off the machines do all the gauging necessary to be done, sometimes using as many as seven or eight gauges on one part. Inspectors at the benches inspect with only one gauge.

c. Having one woman use all the gauges necessary on the part to be inspected, makes the work more interesting to the inspector herself and relieves the inspection work of some of the deadly monotony incident to using one simple gauge possibly six thousand times in the day. It is Mr. Elton's purpose to introduce the complete inspection by one woman throughout the plant, as soon as new gauges have been made for this purpose.

IV. SYSTEM OF INSTRUCTION

a. Experience both in inspecting and running machines led to the conclusion that accurate and minute instruction on each operation would be of the greatest help in saving motion and thus increasing output. The instruction to women starting new work is given by the forewomen or their assistants, who often have no clear idea themselves of the most efficient way to perform a given operation. Written instructions on each operation furnished to forewomen, would enable them to give much more valuable instruction and would probably more than save the value of the time consumed in making up the original set of instructions. The value of minute instructions, suggesting to a new operative the saving effected by taking up several pieces in her hand at once and of using both hands in the most efficient way, was clearly demonstrated by doing the work.

b. The Instruction School, which Mr. Elton is just starting, consists at present of two benches with room for three girls, who are taught to inspect on the rejects, thus finding all sorts of defects in the pieces. They try to have every new girl put in the Instruction School for at least half a day. All gauges are taught which are used on

the one particular piece inspected in the Instruction School. As yet instruction is given only on this one piece. No instruction is given in the school on machine work, as new operatives are never assigned to machines, the machine work being held out as an inducement to a bright girl. In consequence, instruction on the running of machines rests entirely with the forewoman, and is not always adequately given. Instructions for running the machines should be added as quickly as possible to the Instruction School, as minute instructions on how to run a machine are more necessary than minute instructions on inspecting.

c. The Instruction School gives an opportunity to explain to the girls the importance of the work and the necessity for particular inspection. This is a very important factor in the obtaining of good inspection. Instructions should always contain reference to what are the most important points to be watched in any particular operation, judged from the standpoint of the fitting of particular pieces being made into the whole fuse.

V. METHOD OF FIXING THE PIECE RATE

a. The method used by Mr. Smith to fix the piece rate on a new machine, as related by him, is rather amusing. His usual custom is to select one of the smartest operatives he has to run a new machine, and then bet her a box of candy that she cannot produce a certain amount in two days. He then judges the amount she produces as a basis for setting his piece rate.

VI. LABOR TURNOVER

a. The office of the Sterling Motor Co. seems much weaker than the factory, especially in the matter of keeping records. No account is kept of the number of people at work each day. Consequently, no account is kept of the number of people who are at work at any one given time. The only figures obtained, therefore, to determine the labor turnover, were the number on the payroll at the beginning and the end of the month, or, rather at the first and last pay day. The following labor turnover figures were obtained for September:

Total No. Employes on Payroll Sept. 23-28	1347
Total No. Men	829
Total No. Women.....	518
Total No. Employes on Payroll Sept. 3-7	1190
Total No. Men	717
Total No. Women	473

- 5 -

Total No. Hired from Sept. 3-28th inc. 369
Total No. Men 173
Total No. Women 196

Total No. Employes Leaving Sept. 3-28th 123
Total No. Men 62
Total No. Women 61

Figures by week: (Employes Leaving)

September	3 - 7	.....	17 men	.....	18 women
"	9 - 14	.....	23 "	.....	13 "
"	16 - 21	.....	7 "	.....	26 "
"	23 - 28	.....	15 "	.....	4 "

Percentage Labor Turnover for Whole Plant for September:

$\frac{123}{1268}$ - 9.7% or 116.4% Annually

Percentage Labor Turnover Among the Men Employes for September:

$\frac{62}{773}$ - 7.9% or 94.8% Annually

Percentage Labor Turnover among the Women:

$\frac{61}{450}$ - 13.6% or 163.2% Annually

VII. METHOD OF KEEPING PRODUCTION RECORDS

a. Attached to this report is a sample of the hourly production record used by the Sterling Company. This is kept for every operation on the fuses and complete daily records are transmitted to the Superintendent's office. The record enables the Superintendent to see at once where work is slowing up and to locate and remedy at once any difficulty in the regular routing of material from one operation to the next. It also forms a complete record of each individual operative's output and a means of comparing the output of the three shifts.

b. A yellow work record card, is kept with each box of parts following the box through the whole series of operations performed on that particular part.

c. An hour work card, is filled out at the end of each day by each operative. On time work at present at least five minutes is wasted at the end of shifts in filling out these cards. Regulations posted in the factory state that cards are not to be filled out until after the first bell rings at 1:57 on the morning shift, but this rule is

not adhered to. A card was given me to fill out by 1:45 on three different days. It seems that they should be able to devise some way or method of consuming less time in filling out these cards, and thus wasting less time at the change of shifts.

VIII. LUNCH ROOM

a. Several complaints were heard among the employes regarding the prices of the food in Lunch Room.

b. The chief difficulty both in regard to running the Lunch Room and in regard to recommendations made by us on the Lunch Room, is that it is run by Mrs. Smith, sister of Mr. Marsh, and apparently run by her for profit. This, in itself, would be a cause for dissatisfaction among the employes.

c. The following figures are offered as evidence that the restaurant must be run at a profit, prices actually paid at a clean and decent lunch room downtown, serving as a basis of comparison.

Prices Paid at the Plant Lunch Room

Meat Loaf with Tomato Sauce, Scalloped Potatoes
and two slices of Bread 25¢

(This is about the average price for substantial course).

Oyster Stew . . . . .	.30¢
Ham Sandwich with Small Slices of Bread, cut $\frac{1}{2}$ " thick and no butter . . . . .	.10¢
Salmon Sandwich, similarly made up . . . . .	.07¢
Mug of Milk . . . . .	.05
Mug of Coffee . . . . .	.06
Doughnuts - Three for . . . . .	.10
Ice Cream Cone . . . . .	.06
Serving of Ice Cream . . . . .	.12
One-fifth Cut of Pie . . . . .	.10

Prices in the Downtown Lunch Room

Substantial Meat Courses, Range from	25-.35
Sandwiches with Butter . . . . .	.10
Mug of Milk . . . . .	.05
Mug of Coffee . . . . .	.05
Serving of Ice Cream . . . . .	.10
One-fifth Cut of Pie . . . . .	.10
(Considerably Larger in Size than at the plant)	
Two Doughnuts . . . . .	.05

d. The chief criticisms made of the Lunch Room are as follows:

1. The service is very slow at the short and rushed lunch periods.
2. No menu for the day and absolutely no prices are posted anywhere. This undoubtedly delays the service.
3. No napkins and no water served.
4. There is no way of keeping the food hot. At the beginning of lunch period large kettles are brought from the kitchen.
5. There is little variety of food and the substantial course was only fairly good. No soup of any kind is served.
6. The sandwiches were extremely poorly made, altho the bread was good. Bread served with substantial course was buttered with one little spot in the middle only and was often taken by the patron himself, by reaching his hands in a large kettle containing many bread and butter sandwiches.
7. Personal observation of the kitchen was not made - it was reported as being at times rather dirty.

e. Recommendations on the Lunch Room

It was deemed advisable to make no recommendations in regard to the Lunch Room, but the following suggestions are made with the recommendation that they be transmitted to the plant:

1. That the menu for the day, together with prices of the various articles be written on a blackboard conveniently located, so as to be visible to those entering the Lunch Room.
2. That some adequate supply of water with individual cups be provided.

IX. GENERAL RECOMMENDATIONS

a. Elimination of the waste of time both at the beginning and end of shifts. It is recommended that a representative of the Women's Branch study with a representative of the Plant:

1. The advisability of docking girls who arrive late on the morning shift or finding some other means of making sure they are at work promptly at 6:30.

2. A system of making up the individual daily record cards in order that the operatives themselves will not lose the time at present used to fill out these cards at the end of a shift.

NOTE: These recommendations will be taken up with the Plant on the next visit of a representative of the Women's Branch to the Plant.

b. More Careful Instructions. The following recommendations were made:

1. A small very simply written account of the work as a whole with an explanation of how fuse is used and its importance, also containing notes on the lunch room, first-aid for the women, etc., to be placed in the hands of every new woman employed.

2. A simply written detailed instruction sheet for each operation to be placed in the hands of the forelady and her assistants, and the Instruction school teacher, so that they may intelligently instruct the women how to save time and motion even on the simple operations. It is suggested that this be started as an experiment with the operations to be carried on in making the Marsh Fuse, the following outline of simple instructions for the slotting machine on the Marsh Fuse is offered as an example:

INSTRUCTIONS ON THE OPERATION OF SLOTTING MACHINE, MARSH FUSE.

1. The important things for the operator to watch are that the fuse is inserted as far as it will go; that the holes are bored to the required depth, and that both holes are bored to the same depth. The gauger will notify the operator as soon as there is any difference in depth.

2. In carrying on the operation, take three or four fuse bodies in right hand, insert the fuse with the right hand, after the operation is completed remove the fuse with the left hand, almost instantly inserting another fuse with the right hand. Collect three or four fuses in the left hand before passing them to the gauger. Judge the number of fuses to be taken up and put down at the same time by the number you can easily hold in your hand without dropping any.

GENERAL RECOMMENDATIONS - Continued

3. Remove your foot from the pedal between every operation. This is extremely important and must be observed even when you have become thoroughly proficient. An accident to the finger caused by pushing down the pedal too soon is more apt to happen to a thoroughly trained operative than to a new operative, because the operation has become mechanical.

(These instructions are based on my own experience running the machine. Other things to be included may very likely occur to those thoroughly familiar with the machine and its operation. I believe, however, that it is very important to include in any instructions detailed suggestions as to the saving of motion such as I have outlined above. A piece work operator will undoubtedly discover those things for herself in the course of a day or two, but it is worth while to show her how to do the operation with the least motion in the beginning. It is especially important to show the women on time work, who have not the incentive of making more money, just how they can do their work with the least number of motions).

NOTE: These recommendations were made at the conclusion of visit to the Plant, and left with Mr. Smith, the Superintendent, and Mr. Elton, Superintendent of the Fuse Shop.

LOIS B. RANTOUL, DIRECTOR,
WOMEN IN INDUSTRY SECTION,
BOSTON DISTRICT ORDNANCE OFFICE,

BY _____

Dorothy Pope.

October 19, 1918.

From:- Miss Dorothy Pope, Women's Branch Boston District Production Office.

To:- Lieut. Col. O. S. Lyford, Production Manager, Boston District Ordnance Production Office.

Subject:- Sterling Motor Car Company, Brockton, Mass.
Notes made as result of seven (7) days' work in the shop itself, between October 2-11.

I. NIGHT WORK FOR WOMEN.

a. At the time of visit, only about six women were working on night shift. Small number due to two reasons: Sickness, and no women being hired because of uncertainty of continuance of night work.

b. The report of discontinuance of night shift was prevalent in the shop itself. Mr. Smith, superintendent, said he was considering its discontinuance Nov. 1st unless his new permit was granted, and did not feel it worth while to bother much more to get a permit. He added that the shortage of women on the night shift at present was costing them at least \$100. a night, due to the inability of machinists to accurately gauge his work.

c. As a substitution for night work, the plant is considering two shifts of men machinists working from 6:30 A.M. to 10 P.M. with no work between 10 P.M. and 6 A.M. Mr. Smith suggests these shifts overlap, the overlapping period giving an opportunity for repairs on the machine. Mr. Elton, Superintendent of the Fuse Shop, believes as much work would be accomplished with two 8-hour shifts of men comparable to the girls on two day shifts without overlapping, but with the same rate of pay given the men as for the present 11-hour shifts. He states that at present he feels sure the machines are only in use 12-14 hours, owing to break-downs and consequent repairs. Break-downs occur more frequently on the night shifts and not only stop production on that shift, but delay the day shift men sometimes two hours at the beginning of the day when production should be highest.

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(Saturdays - 2 P.M. to 7 P.M.)

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a. The method used by Mr. Smith to fix the piece rate on a new machine, as related by him, is rather amusing. His usual custom is to select one of the smartest operatives he has to run a new machine, and then bet her a box of candy that she cannot produce a certain amount in two days. He then judges the amount she produces as a basis for setting his piece rate.

VI. LABOR TURNOVER

a. The office of the Sterling Meter Co. seems much weaker than the factory, especially in the matter of keeping records. No account is kept of the number of people at work each day. Consequently, no account is kept of the number of people who are at work at any one given time. The only figures obtained, therefore, to determine the labor turnover, were the number on the payroll at the beginning and the end of the month, or, rather at the first and last pay day. The following labor turnover figures were obtained for September:-

Total number of employees on the payroll Sept. 23-28
- 1347

Total men - 829
Total women - 518

Total number of employees on the payroll Sept. 3-7
- 1190

Total men - 717
Total women - 473

Total number hired from Sept. 3 - 28 inc. - 369

Total men - 173
Total women - 196

Total number employees leaving Sept. 3 - 28 - 123

Total men - 62
Total women - 61

Figures week by week: (employees leaving)

Sept. 3 - 7	17 men	18 women
" 9 - 14	23 "	13 "
" 16 - 21	7 "	26 "
" 23 - 28	15 "	4 "

Percentage Labor Turnover for the whole plant for September:-

$\frac{123}{1268}$ - 9.7% or 116.4% annually.

Percentage Labor Turnover among the men employees for month of September:-

$\frac{62}{773}$ - 7.9% or 94.8% annually.

Percentage Labor Turnover among the women:-

$\frac{61}{450}$ - 13.6% or 163.2% annually.

VII. METHOD OF KEEPING PRODUCTION RECORDS

a. Attached to this report is a sample of the hourly production record used by the Sterling Co. This is kept for every operation on the fuses and complete daily records are transmitted to the superintendent's office. The record enables the superintendent to see at once where work is slowing up and to locate and remedy at once any difficulty in the regular routing of material from one operation to the next. It also forms a complete record of each individual operative's output and a means of comparing the output of the three shifts.

b. A yellow work record card, is kept with each box of parts following the box through the whole series of operations performed on that particular part.

c. An hour work card, is filled out at the end of each day by each operative. On time work at present, at least five minutes is wasted at the end of shifts in filling out these cards. Regulations posted in the factory state that cards are not to be filled out

until after the first bell rings at 1:57 on the morning shift, but this rule is not adhered to. A card was given me to fill out by 1:45 on three different days. It seems that they should be able to devise some way or method of consuming less time in filling out these cards, and thus wasting less time at the change of shifts.

VIII. LUNCH ROOM

a. Several complaints were heard among the employees regarding the prices of the food in Lunch Room.

b. The chief difficulty both in regard to running the Lunch room and in regard to recommendations made by us on the lunch room, is that it is run by Mrs. Smith, sister of Mr. Marsh, and apparently run by her for profit. This, in itself, would be a cause for dissatisfaction among the employees.

c. The following figures are offered as evidence that the restaurant must be run at a profit, prices actually paid at a clean and decent lunch room down town, serving as a basis of comparison.

Prices paid at the Plant Lunch Room ---

Meat loaf with tomato sauce, scalloped potatoes and two slices of bread-----\$.25
(This is about the average price for substantial course.)

Oyster Stew-----	.30
Ham Sandwich with small slices of bread, cut 1/2" thick and no butter.	.10
Salmon Sandwich, similarly made up	.07
Mug of Milk-----	.05
" of Coffee-----	.06
Doughnuts 3 for-----	.10
Ice Cream cone-----	.06
Serving of Ice Cream-----	.12
1/5 cut of pie-----	.10

Prices in the down town Lunch Room:-

Substantial meat courses range from 25¢ to 35¢
Sandwiches with butter----- .10
Mug of Milk----- .05
" " Coffee----- .05
Serving of Ice Cream----- .10
1/5 cut of pie----- .10
(considerably larger in size than at the plant)
2 Doughnuts----- .05

d. The chief criticisms made of the Lunch Room are as follows:-

1. The service is very slow at the short and rushed lunch periods.
2. No menu for the day and absolutely no prices are posted anywhere. This undoubtedly delays the service.
3. No napkins and no water served.
4. There is no way of keeping the food hot. At the beginning of lunch period large kettles are brought from the kitchen.
5. There is little variety of food and the substantial course was only fairly good. No soup of any kind is served.
6. The sandwiches were extremely poorly made, although the bread was good. Bread served with substantial course was buttered with one little spot in the middle only and was often taken by the patron himself, by reaching his hands in a large kettle containing many bread and butter sandwiches.
7. Personal observation of the kitchen was not made - it was reported as being at times rather dirty.

e. Recommendations on the Lunch Room.

It was deemed advisable to make no recommendations in regard to the Lunch Room but the following suggestions are made with the recommendation that they be transmitted to the Plant.

1. That the menu for the day together with prices of the various articles be written on a blackboard conveniently located so as to be visible to those entering the Lunch Room.
2. That some adequate supply of water with individual cups be provided.

IX. GENERAL RECOMMENDATIONS

a. Elimination of the waste of time both at the beginning and end of shifts. It is recommended that a representative of the Women's Branch study with a representative of the Plant:-

- (1) The advisability of docking girls who arrive late on the morning shift or finding some other means of making sure they are at work promptly at 6:30.

- (2) A system of making up the individual daily record cards in order that the operatives themselves will not lose the time at present used to fill out these cards at the end of a shift.

(Note:- These recommendations will be taken up with the Plant on the next visit of a representative of the Women's Branch to the Plant)

b. More careful instructions. The following recommendations were made:-

- (1) A small very simply written account of the work as a whole with an explanation of how fuze is used and its importance, also containing notes on the lunch room, first aid for the women, etc. to be placed in the hands of every new woman employed.

- (2) A simply written detailed instruction sheet for each operation to be placed in the hands of the forelady and her assistants, and the Instruction School teacher, so that they may intelligently instruct the women how to save time and motion even on the simple operations. It is suggested that this be started as an experiment with the operations to be carried on in making the Marsh fuze, the following outline of simple instructions for the slotting machine on the Marsh fuze is offered as an example:-

INSTRUCTIONS ON THE OPERATION OF SLOTTING MACHINE, MARSH FUZE.

1. The important things for the operator to watch are that the fuze is inserted as far as it will go; that the holes are bored to the required depth, and that both holes are bored to the same depth. The gauger will notify the operator as soon as there is any difference in depth.

2. In carrying on the operation, take three or four fuse bodies in right hand, insert the fuze with the right hand, after the operation is completed remove the fuze with the left hand, almost instantly inserting another fuze with the right hand. Collect three or four fuzes in the left hand before passing them to the gauger. Judge the number of fuzes to be taken up and put down at the same time by the number you can easily hold in your hand without dropping any.

GENERAL RECOMMENDATIONS, Cont'd

3. Remove your foot from the pedal between every operation. This is extremely important and must be observed even when you have become thoroughly proficient. An accident to the finger caused by pushing down the pedal too soon is more apt to happen to a thoroughly trained operative than to a new operative because the operation has become mechanical.

(These instructions are based on my own experience running the machine. Other things to be included may very likely occur to those thoroughly familiar with the machine and its operation. I believe, however, that it is very important to include in any instructions detailed suggestions as to the saving of motion such as I have outlined above. A piece work operator will undoubtedly discover those things for herself in the course of a day or two, but it is worth while to show her how to do the operation with the least motion in the beginning. It is especially important to show the women on time work, who have not the incentive of making more money, just how they can do their work with the least number of motions.)

(NOTE:- These recommendations were made at the conclusion of visit to the plant and left with Mr. Smith, the superintendent and Mr. Elton, Superintendent of the Fuze Shop.)

LOIS B. RANTOUL
WOMEN IN INDUSTRY SECTION.
BOSTON DISTRICT ORDNANCE.

BY _____
Dorothy Pope.

October 16, 1918.

From: Mary Van Kleeck, Director, Woman in Industry Service.
To: Major F. W. Tully, War Department.
Subject: Request of the Sterling Motors Company, Brockton, Mass.
for permission to employ women on inspection on a night
shift.

This is to acknowledge receipt in our office on
October 14th of the papers in this case, which will receive
our immediate attention.

MVK/AL

Mary Van Kleeck, Director
Woman in Industry Service.

WAR DEPARTMENT,

WASHINGTON.

October 10, 1918.

OCT 14 A.M.

From: War Department, Major F. W. Tully.
To: Miss Mary Van Kleeck, Director, Women in Industry Service.
Subject: Request of the Sterling Motors Company, Brockton, Massachusetts for permission to employ women on inspection on a night shift.

I am forwarding herewith supplementary recommendation from the Ordnance Department, Industrial Service Section, Womens Branch, recommending that the Sterling Motors Company, Brockton, Massachusetts, be given permission to employ women at night. Will you kindly advise this office if this request has your approval.

F.W.Tully
F. W. Tully,
Major, Ordn. U. S. A.,
Detailed to Office of Secretary of War.

October 10, 1918.

From: War Department, Major F. W. Tully.
To: Miss Mary Van Kleeck, Director, Women in Industry Service.
Subject: Request of the Sterling Motors Company, Brockton, Massachusetts for permission to employ women on inspection on a night shift.

I am forwarding herewith supplementary recommendation from the Ordnance Department, Industrial Service Section, Womens Branch, recommending that the Sterling Motors Company, Brockton, Massachusetts, be given permission to employ women at night. Will you kindly advise this office if this request has your approval.

F. W. Tully,
Major, Ordn. U. S. A.,
Detailed to Office of Secretary of War.

October 5, 1918.

From: Womens Branch, Industrial Service Section, Ordnance Department.

To: Major F. W. Tully, Office of the Secretary of War,
Through Major H. H. Gitchell, Chief, Industrial Service Section.

Subject:

REQUEST OF THE STERLING MOTORS COMPANY, BROCKTON,
MASSACHUSETTS FOR PERMISSION TO EMPLOY WOMEN ON
INSPECTION ON A NIGHT SHIFT.

1. On August 21 a report by the Womens Branch was sent to the Women in Industry Service of the Dept. of Labor, in regard to the request of the Sterling Motor Car Company, for a permit to employ women on inspection on a night shift.
2. In this report it was recommended -
 - (a) that there should be made an effort to secure men for the necessary force of off-the-automatics inspectors.
 - (b) "that a person be assigned by the Industrial Service Section to advise with and assist the firm in this very urgent matter of securing an adequate and effective group of men inspectors on the night shift.
3. The report of the Womens Branch, Ordnance Department was transmitted by the Women in Industry Service on August 30, to the office of the Secretary of War, with endorsement and the recommendations made by the Womens Branch.
4. The Office of the Secretary of War, on the basis of this report, advised the War Emergency Industrial Commission of Massachusetts that steps should be taken to revoke the temporary permit which had already been granted to the Company, giving permission to employ women on inspection on a night shift.
5. In accordance with the recommendations of the Womens Branch that a person be assigned from the Industrial Service Section, to advise with the Company in securing an adequate shift of men on inspection to replace women working on night shift, under temporary permit,

Mr. Paul T. Beisser was assigned for this work on September 23.

6. Mr. Beisser's report of the present situation there, as he found it, is herewith attached.
7. Attention is invited to the following factors, as noted in his report:
- (A) During the period that women have been employed on off-the-automatic inspection on the night shift, production has been greatly increased, and the percentage of rejections has been greatly decreased (See paragraph 5 of the attached report).
 - (B) The Company has trained a group of women for off-the-automatics inspection, who are performing this work in a most satisfactory manner, as indicated by the production figures herewith attached.
 - (C) It is difficult to secure men for inspection for various reasons (See paragraph 5, note 3)
 - (D) The new Marsh fuse, invented by this firm, has been accepted by the Army Ordnance officials. This will necessitate the increased use of men on machine work on the production of the Marsh fuse contracts.
 - (E) Attention is invited to the conclusions of the investigator with which the Womens Branch concurs,-
 - (1) that the firm is building up a good inspection organization, which is speeding up production and eliminating waste of material on the night shift, and therefore improving quantity and quality of the total output of the plant.
 - (2) that the plant is willing to carry out the suggestions made by the Production Officers, and representatives of the Womens Branch for the maintaining of adequate working conditions.
 - (3) that the choice now seems to lie between granting a continuance of the temporary permit already granted by the Industrial Commission, and the probability of a lowered production of both French fuse and Marsh fuse contracts.
8. The Womens Branch therefore recommends -
 - (1) that the War Department take steps to enable the Sterling Motor Car Company to employ women on off-the-automatics inspection on the night shift.
 - (2) that the women on inspection on the night shift should

not work more than 8 hours, with $\frac{1}{2}$ hour lunch period.

(3) that a rest period be introduced in the middle of the second part of the shift, that is, between the lunch period and the end of the shift.

(4) that a representative of the Womens Branch of the Boston District Ordnance Office, be detailed at the end of thirty days, to make an inspection and report on the use of women on inspection on the night shift, and its effect upon production and upon the health of the workers and upon labor turnover.

CLARA M. TEAD, DIRECTOR,
WOMENS BRANCH.

WAR EMERGENCY INDUSTRIAL COMMISSION

New Albion Building

1 Beacon Street

Boston, September 18, 1918.

Major Samuel J. Rosensohn,
Office of the Sec. of War,
Washington, D.C.

Dear Sir:

file
Following my letter of the 13th instant, we were advised by Mrs. Lois B. Rantoul, Supervisor of the Women's Branch, Industrial Service Section, Boston, District Ordnance Office, that there might be some change relative to the permit granted The Sterling Motor Car Company of Brockton, Mass., by the War Emergency Industrial Commission, and asking to delay action temporarily, upon your request, until the matter might be again considered in Washington.

At the meeting of the War Emergency Industrial Commission held yesterday, it was voted that further action be delayed until the next meeting of the Board, when, in the absence of your further advice, the permit will be revoked.

Yours very truly,

(Signed) Edwin Mulready,
CHAIRMAN

EM: AR

exempt twice

September 15, 1918.

My dear Major Rosensohn:

We are informed that the Sterling Motor Company has been granted an exemption from the state laws of Massachusetts for another period of thirty days. We have already forwarded to you a recommendation that this request be denied, but it is probable that delays in transmission resulted in action by the State Commission before having heard from the War Department. It is hoped that this matter may be taken up now with the Massachusetts War Emergency Commission so that this plant will not be granted a further extension of its permit.

Very truly yours,

Mary Van Kleeck, Director,
Woman in Industry Service.

Major Samuel J. Rosensohn, J. A. C.,
Office of the Secretary of War,
Washington, D. C.

WAR DEPARTMENT.
OFFICE OF THE SECRETARY.

MEMORANDUM.

Referred to Miss Van Kleeck for
her information.

S.J. Rosensohn

Major S. J. Rosensohn

Send copy of
this letter to
Mrs. Tread

(TELEGRAPH COMPANY)

Send copy to Mrs Teas

DEPARTMENT OF LABOR AND INDUSTRY

HARRISBURG, PA.

TELEGRAM

Western Union

Postal

DAY LETTER'Phoned
Messenger

Date

Sept. 13, 1918.

Time sent

3:45 P. M.

Mr. George Satterthwaite,
Vice President and Gen. Manager,
Tacony Ordnance Corp.,
Philadelphia, Penna.

Plan for granting permits employment women at night in Pennsylvania establishments held up at Washington.

For that reason and also as ordinance has no record of definite authorization to Tacony ^{Ordnance} covering employment of women contrary to Pennsylvania Labor Law request that you immediately place such employment within Pennsylvania statutes. Appreciate Co-operation.

Low R. Palmer,
Pa. Commissioner of Labor and Industry.

CC: Miss Mary Van Kleeck,
Mr. Quincy Bent.

WAR EMERGENCY INDUSTRIAL COMMISSION

1 Beacon Street

Boston, September 13, 1918.

Major Samuel J. Rosensohn,
War Department,
Office of Secretary of War,
Washington, D. C.

Dear Sir:

Your letter of the 5th instant received and we
thank you for the information contained therein.

The Sterling Motor Car Company is now working
on a night shift, and in view of your communication, action
will be taken looking toward the termination of this permit
at the next meeting of the War Emergency Industrial Commis-
sion.

Yours very truly,

Edwin Mulready
CHAIRMAN

EM:AR

Exemptions

August 30, 1918.

MEMORANDUM

FOR: Women's Branch, Industrial Service Section, Ordnance Department.
FROM: Miss Van Kleeck, Director, Woman in Industry Service.

Your report on the request of the Sterling Motor Car Company of Brockton, Massachusetts for permission to employ women at night has been received, and its recommendation endorsed as the enclosed letter to the office of the Secretary of War indicates.

We shall be glad if you will arrange to have some one assigned by the Industrial Service Section to assist the firm to secure an adequate and effective group of men inspectors on the night shift, and to test out by this method the availability and value of men for inspection work.

Mary Van Kleeck,
Director, Woman in Industry Service.

Exemption

August 30, 1918.

MEMORANDUM

FOR: Major Samuel J. Rosensohn, J.A.G., R.C., Office of the
Secretary of War.

FROM: Miss Van Kleeck, Director, Woman in Industry Service.

SUBJECT: Sterling Motor Car Company, Brockton, Mass.
Request to employ women at night.

In accordance with your request for a recommendation from the Woman in Industry Service on the desirability of renewing the permit for night employment of women for the Sterling Motor Car Company of Brockton, Massachusetts, we have referred the matter to the Women's Branch of the Ordnance Department for investigation and have today received a report from them.

Attention is called to the following salient facts in the situation.

The schedule of hours proposed for night employment is from 9:30 P.M. to 6:00 A.M., 30 minutes for lunch, five nights a week, Monday to Friday inclusive. Daily working hours-8 hours. Weekly-40 hours.

A temporary permit for 30 days was granted by the War Emergency Industrial Commission after hearin the petition, pending investigation by the War Department.

It is understood that women are now being trained for off- the- automatic inspection on a night shift, but that to date the firm has not utilized the temporary permit granted on July 25th for 30 days.

The necessity for off-the-automatic inspection at night as well as during the day would seem to be urgent, as shown by statistics of the Ordnance Department.

The introduction of a force of off-the-machine inspectors at night will enable each male operator to run three or four automatics, instead of one as at present when the operator is also supposed to gauge the machined parts. This will release a considerable number of automatic operators for the operation of newly installed machines or for the day shift or for a grading-up for other work in the plant.

The management feels from its past experience that men are not as efficient on this inspection work as women; and that it will be difficult if not impossible to secure and maintain a staff of 50 men for this work, because of shortage of male labor and difficulty of keeping men on inspection of small parts.

The nature of the work is such that it can be done by unskilled labor which has received specific training for a short time.

The investigators, however, were not convinced that it would not be possible to secure men for the night shift, and therefore it is recommended that the necessary force of "off-the-automatic" inspectors, about fifty in number, for the night shift should under present circumstances be made up of men who have been especially selected and trained for the work. To make this possible we are requesting the Industrial Service Section of the Ordnance Department to assign a competent person to advise and assist the firm in the urgent matter of securing an adequate and effective group of men inspectors on the night shift to test out in actual practise and in terms of the production results, the availability and value of men for the inspection work in question.

Mary Van Kleeck,
Director, Woman in Industry Service.

August 30, 1918.

MEMORANDUM

FOR: Women's Branch, Industrial Service Section, Ordnance Department.
FROM: Miss Van Kleeck, Director, Woman in Industry Service.

Your report on the request of the Sterling Motor Car Company of Brockton, Massachusetts for permission to employ women at night has been received, and its recommendation endorsed as the enclosed letter to ~~the Chairman of the Massachusetts~~ ^{Office of the Secretary of War} ~~War Emergency Industrial Commission~~ indicates.

We shall be glad if you will arrange to have some one assigned by the Industrial Service Section to assist the firm to secure adequate and effective group of men inspectors on the night shift, and to test out by this method the availability and value of men for inspection work.

Mary Van Kleeck,
Director, Woman in Industry Service.

All communications should be accompanied by carbon copy and addressed to

WAR DEPARTMENT
OFFICE OF THE CHIEF OF ORDNANCE
PRODUCTION DIVISION
WASHINGTON

To insure prompt attention,
in replying refer to

No. _____
Attention of _____

August 21, 1918

03-5845

FROM: Women's Branch, Industrial Service Section,
Ordnance Department.

TO: Woman in Industry Service, Department of Labor.

SUBJECT: Request of Sterling Motor Car Company, Brockton,
Mass., for permit to employ women at night.

1. The Women's Branch of the Industrial Service Section has, in accordance with your request of August 5th, made an investigation of the situation regarding the request of the Sterling Motor Car Company of Brockton, Mass., for permit to employ women at night.

2. A visit to this plant has been made by Mr. Beisser of the Women's Branch in the Boston District office, prior to your request for investigation. The attached report is a condensation of the data gathered by him on his two visits July 19th and August 10th.

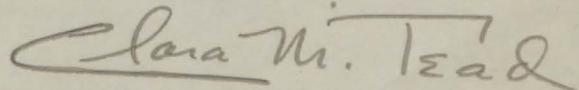
3. Attention is called to the following salient facts in the situation:

- (a) "The schedule of hours proposed for said night employment is from 9:30 P.M. to 6:00 A.M., 30 minutes for lunch, five nights a week, Monday to Friday inclusive." Daily working hours - 8 hours. Weekly - 40 hours.
- (b) A temporary permit for 30 days was granted by the War Emergency Industrial Commission after hearing the petition, pending investigation by the War Dept. (See attached letter from Mr. Mulready of July 26)
- (c) It is understood that women are now being trained for off-the-automatic inspection on a night shift, but that to date the firm has not utilized the temporary permit granted on July 25th for 30 days.

- (d) The necessity for off-the-automatic inspection at night as well as during the day would seem to be urgent, as shown by [the figures given in paragraph 5 of Mr. Beisser's report.]
- Leopardus*
- (e) The introduction of a force of off-the-machine inspectors at night will enable each male operator to run three or four automatics, instead of one as at present when the operator is also supposed to gauge the machined parts. This will release a considerable number of automatic operators for the operation of newly installed machines or for the day shift or for a grading-up for other work in the plant.
- (f) The management feels from its past experience that men are not as efficient on this inspection work as women; and that it will be difficult if not impossible to secure and maintain a staff of 50 men for this work, because of shortage of male labor and difficulty of keeping men on inspection of small parts.
- (g) The nature of the work is such that it can be done by unskilled labor which has received specific training for a short time.

4. On the basis of the facts presented in the report, the Women's Branch recommends:

- (a) That the necessary force of off-the-automatic inspectors (about 50) for the night shift should under present circumstances be made up of men, who have been specially selected and trained for the work. (For instance, special effort could be made to secure men in the limited service class, men with relatives in the service, men now in non-essential industries.)
- (b) That upon the request of the firm or of the Boston District Production Office, a competent person be assigned by the Industrial Service Section to advise with and assist the firm in this very urgent matter of securing an adequate and effective group of men inspectors on the night shift; and to test out in actual practice and in terms of the production records, the availability and value of men for the inspection work in question.



CLARA M. TEAD
Acting Director, Women's Branch
Industrial Service Section

machine - but except on a small
percentage basis while also
operating - Mr. Lucht disputed
his statement & claimed that
men did inspect of machine -
Not in position to know

PTB:MOT

August 17, 1918.

From: Women in Industry Section, Boston District Ordnance Office.

To: Major O. S. Lyford, Production Manager.

Subject: Visit to Sterling Motor Company, Brockton, Mass., Condensed Reports of July 19th and August 10th, 1918.

1. ORGANIZATION

The Company is run by a family of father and three brothers. Has been doing munition work for two years, first for the British Navy, and Russian Government, and now makes shells and fuses for the War Department. Evidently they work on a narrow margin of capital having even been supplied with \$200,000 worth of capital by the government.

2. CONTRACTS

2,000,000 37 m/m shells. 1,000,000 detonating fuses.

3. PRODUCTION

On shells. -- Satisfactory production rate has been reached.

On fuses. -- About 6,000 per day. Soon to be 10,000.

4. SALIENT FEATURES

(A) Working Force -- Men: About 400
Women: -- 365 Two shifts.

(B) Labor Supply - Skilled - Great shortage.
Unskilled- Plentiful, especially women.

(C) Employment Management.

Hiring done by Mr. A. L. Marsh, Superintendent. Miss Lewis, Supervisor of Women hires and places all women. Handles all complaints, makes all discharges.

Forelady in each shift, and one in each room.

Wage rates: Set by Mr. Marsh and Mr. Smith, production man.

Treatment of employees seems to be very democratic, friendly and generous.

Mr. Marsh and Miss Lewis both fine personalities. Miss Lewis was previously stenographer and then forewoman.

(D) Hours.

Shifts.

Women:	6:30 A.M. - - -	2:00 P.M.
	2:00 P.M. - - -	9:30 P.M.
	9:30 P.M. - - -	

Men: 9½ per day.

Brass automatics have night shift.

Lunch hour - 30 minutes.

(E) Wages

Women

1. Time rate -25¢ hr. for first month.
30¢ from that time on.

2. Piece rate Daily wage \$3.50 and upward.
Afternoon shift gets 10% bonus.
Night shift will probably get 25% bonus.

Men

1. Time rate 30¢ per hour first 2 weeks,
32¢ per hour next 2 weeks,
35¢ per hour next 4 weeks,
37½¢ per hour next 8 weeks,
40¢ per hour thereafter.

2. Piece rate Only on semi-automatics and
finishing machines.
Men earn as high as \$50.00 and
\$60.00 a week.

(F) Replacement of Men by Women.

At present there is no intention of substituting women on occupations where men are now employed. Experience in this plant has been rather the opposite. They did have women working on the automatic boring machines for counterboring shells, but took them off because in the opinion of Mr. Marsh, the Superintendent, the work seemed to be too dirty, unpleasant and heavy.

(G) Occupations of Women.

Shells. Inspecting. High back chairs provided.
Shells are 1-pounders.

Fuses - Inspection off Automatics.

Chairs with backs provided.

Machining of Fuse Parts.

Done on semi-automatic spindle.

Machines, drill presses and light lathes. Seats have no backs, but are adjustable as to height.

Machines have pneumatic chuck, eliminating hand chucking.

(NOTE):

Women on night work to be used on inspection off the automatics.

(H) Training

By foremen and forewomen, aided by tool-setters.
Inspectors trained by Mr. Smith and a high school teacher who assists him.

(I) Trade Unions.

None. Mr. Marsh opposed to them. Wants direct dealing with individuals.

(J) Accident Hazards.

The machinery on which women work is very light, free from dangerous gears, and there seems to be very little danger connected with the operation of these light machines. There is only one feature which apparently might be better taken care of, that is, a guard on the going-in side of the driving belt. In one or two cases, a board had been set up directly in front of the belt and pulley, preventing the girl from getting in contact with the belt.

(K) Workroom Conditions.

The majority of the women work in the Brass Shop on the second floor of the new extension. The place is light and clean and at present fairly well ventilated by the windows. Skylights are being cut to add to the light and ventilation. Lighting at night is done by electricity.

All of the women sit at their work, being provided either with stools or saddle seats attached to the machines. These workers work at high speed and are

enabled to do so particularly by the pneumatic chuck on the machines which permits probably of 50% more speed than the hand chuck type of machines. Since, however, it is a matter of choice with the girls whether they work on piece work or not, there does not seem to be a definite attempt at speeding up of the process, and to the observer the work seems to be going fairly leisurely, considering the fact, especially, that it was just after 2 o'clock when the fresh shift had come on, and the fact that the girls work only 7 hours. The machines are arranged in two long rows, not too close together and with a large aisle between the rows. Have light machinery, therefore, comparatively little noise and vibration.

The women will work at night in the room where the automatics are located. The conditions here are the same as elsewhere in the factory, ventilation fairly well provided for, and subarrangements for lighting, in addition to existing arrangements, are being made. The main difference between the work here and that in the other rooms is the noise from the automatics. During the daytime this is very great because of the steel automatics, but at night will be less since the steel automatics will not be running.

(L) Health and Sanitary Conditions.

All women now using new cloak and toilet room in ell off the second floor.

Hooks provided for clothing.

Three sets of faucets, hot and cold, in long sink.

Five toilet bowls.

Matron present in room to watch clothes.

Couch is being purchased.

NOTE: If all the women must use this one room, the facilities are below those required by law.

Drinking water furnished by bubbler tanks, ice-cooled.

(M) Restaurant.

Restaurant is provided which is run by Miss Marsh, a sister of the Superintendent. The firm provides her with the building, heat and light, with the stipulation that she shall supply the food at a reasonable price.

The building is a newly erected, one story frame building about 30 to 40 feet from the main building of the plant. The service is cafeteria style. Long benches or tables are provided, seating probably

150. The room is to be steam-heated in the winter. All the food is cooked in the restaurant. Judging from the number of workers in the restaurant, while the investigator was there, a considerable number of people must be served. The girls can go in there and have the use of the tables, and get a hot drink if they have brought their own lunches. Mr. Marsh said that some seemed to prefer eating their lunches at their own benches.

While the investigator was talking with Mrs. Lewis, and the Superintendent, Mrs. Lewis confided to the Superintendent the plan which "the girls" had for a piano or phonograph in the rest room, in order to provide a little music and fun for the shift going on at 2 and the one going off at 2 P.M. She also made mention of the fact that the Y.W.C.A. Secretary had been down there and intended coming down again to take a part in some of the activities they had in mind.

5. CONCLUSION --

The particular problem regarding the night work of women is concerned only with inspection from the automatics as follows:

Present Arrangement

During the daytime they have begun to check the production of the automatics pretty closely by immediate inspection. This resulted in the case of one piece of having on one day only 62 rejects out of 36,000 pieces. At night there is no inspection, the product having to be checked up the following day with the result, such as occurred the night before the investigator's visit, that 1,000 pieces, costing 18¢ a piece, were found upon inspection to be no good. This was only one of the various pieces which make up the fuse.

At present there is one man operating each automatic. He is supposed to keep check on his own product by gauging it from time to time. In addition, there are 2 checkers who go about helping to gauge the product, and check up the machines. The fact that the man must do his own gauging prevents him from running more than one machine, and yet experience has proven that his gauging is not accurate enough, and there must be a second inspection by the girls.

Proposed Arrangement.

The proposed arrangement is to take all gauging out of the hands of the operators, enabling each operator to run from 3 to 4 automatics. One girl inspector will be assigned to each automatic, so that she can check up within a few pieces of the actual production of the machine. She will be provided with an arrangement for stopping the machine as soon as

the number of rejections exceeds the reasonable percentage. When she has stopped the machine, the operator and Supervisor of Inspection, the Supervisor of machines and the inspector can confer on the matter and have the difficulty with the machine remedied immediately. In this way it is expected to cut down the waste of material, and the expense of labor connected with the present large number of rejections. It is figured that one man will operate the machines now operated by 4 men, and hundreds of dollars worth of material and labor will be saved, also the time previously wasted in producing parts that would not pass inspection. The only additional expense would be the women inspectors. It practically means replacing every 3 men operators on the automatics with 4 women inspectors, since each man will be able to operate about 4 automatics instead of the one now operated.

The questions presented in this problem, are as follows:

1. Whether any inspection at night is needed.
2. Whether men or women should do the night inspection.

The first has been answered by the facts given to show that a saving of time and material can be achieved through checking closely the product from the automatics.

The second question is answered by Mr. Smith of the Company in this way. It has been found that the operators are not capable of inspecting the work as it comes off their own machines. Previous experience with men inspectors has proven to Mr. Smith's satisfaction that they are not able to inspect, especially these small parts, as accurately or as quickly as the women. A second point is the difficulty of securing men, either for day or night work, and the third difficulty that of persuading men to take this kind of work.

These objections of Mr. Smith's are not conclusive, as there is no evidence to prove that men could not be secured for this work; with the possibility that a number of shoe workers may be idle in Brockton, the labor supply is likely to be plentiful. There is also nothing to prove that if the right men were chosen, possibly elderly men, who had done careful and accurate work of some kind and trained as carefully as Mr. Smith is now training women that they would not make as good inspectors as the women.

Mr. Smith is decidedly not of this opinion, as he feels that his experience has proved that the women are far superior in their inspecting ability, and he holds to this idea more firmly because originally he was opposed to women in the factory.

The number of inspectors which will be required at night will be about the same as the number of automatics, which is at present 47, but is being added to gradually. There is one significant point which will have to be watched if women are employed here at night, called to my attention by the fact that Mrs. Lewis admitted that 4 married women now working on the afternoon shift had applied for the night work, since this would allow them to be at home with the children during the day. There have been a number of other applications for the night work by outside people.

Signed Clara M. Trad
by - P.T. Bussey

COPY

WAR EMERGENCY INDUSTRIAL COMMISSION

New Albion Building

1 Beacon Street,

Boston, July 26, 1918.

Hon. Stanley King,
War Department,
Washington, D. C.

Dear Sir:

This Commission heard a petition yesterday from the Sterling Motor Car Company, Brockton, Mass. for night employment of women, and has granted a temporary permit for thirty days as the statement of their representative seemed to show that the production was of a character urgently needed by the government. Before granting a permit for any longer period than the temporary one above mentioned, the Commission felt that advice from you should be received as to whether or not this is one of the munition plants that you desire to recommend for a permit allowing night employment of women.

The schedule of hours proposed for said night employment is from 9.30 P.M. to 6.00 A.M., thirty minutes to be allowed for lunch, five nights a week, Monday to Friday inclusive.

Awaiting your early advice, I am

Yours very truly,

(Signed) Edwin Mulready,

Chairman.

November 7, 1918.

Memorandum

To: Miss Van Kleeck
From: Miss Agnes Peterson
Subject: Application, Sterling Motor Company,
Brockton, Massachusetts,
for permission to employ women at night.

1. Date of visit, October 29.
 - (a) Afternoon in company with Miss Pope, Woman's Section, Ordnance Department.
 - (b) At night.
2. Interviewed:
 - (a) In company with Miss Pope, Mr. Mahayne, Employment Manager.
 - (b) At night:
 1. Mr. Smith, Superintendent of Plant,
 2. Mr. Mahayne, Employment Manager.
 3. Mr. Elton, Shop Superintendent.
 4. Several women.
 - (c) On question of labor supply, etc.
 1. Mr. D. R. Donavan, Organizer, Machinists Union, Taunton, Massachusetts.
 2. a. Mr. Cohen, Boot & Shoe Workers Union
b. Mr. Harrington, " " "
c. Miss Alice Carr, woman on community board representing women workers.
d. Mr. W.E. McNamara, U. S. Employment Service.
e. Mr. Fechtner, Machinists, A. F. of L., Washington
3. Afternoon visit:
 - (a) Mr. Smith and Mr. Elton were not at the plant during the afternoon. Was taken through the plant by Mr. Mahaney. Mr. Mahaney stated that the firm could get men but that the work was such that men should not be asked to do it

because it was more suitable for women. Miss Pope was of the same opinion. Both made statements to the effect that night work was not more injurious to women than to men. Both stated that the work of inspection was a "woman's job". Their attention was called to the fact that it has been considered to be so but very recently and that without question the inspection work in the past has been done almost exclusively by men. They agreed that it had perhaps been considered a man's job in the past but did not think it would be so in the future. Mr. Mahayne stated that the "firm has no trouble in getting help but every man who could be put at such work at night is needed for other work which could not be done by women". Stated that it was not a question of wages.

Mr. Mahayne's last statement to the representative of the Woman in Industry Service was to the effect that Miss Pope looked at the question from the standpoint of production while the representative of the Woman in Industry Service looked at it purely from the standpoint of labor.

(b)

Night visit:

1.

1. Mr. Smith stated that it was impossible to use men for the inspection "off the automatics" because of the fact that the work entails the utmost care to the details of several gagings on each piece, one piece as many as eight gagings. He stated that men would either go to sleep on the job or be so careless as to be useless. That after men had inspected a number and found that they were correct that they would slide along and pass up others without carefully gaging them and in that way allow imperfect pieces to pass by unnoticed, to be found later on the final inspection and assigned to the waste heap. That the inspection off the automatics by women has brought proof of the possibility of eliminating waste almost entirely, and so increasing production to the maximum under present conditions. Claimed that men have been used as inspectors off the automatics. This is doubtful, however, for at times he boasted of the fact that he had worked out the present system of gagings and inspections, thereby eliminating much waste formerly believed to be unavoidable. Referred

to the fact that "when no one in this country knew what a real gage was". The operator does a certain amount of inspection work, --from four to seven per cent, but when the new machines are in operation Mr. Smith expects that two men can run a battery of six machines, if one and sometimes two women are at hand to inspect off each machine, in this way relieving the operator of all inspection work.

The compressed air machine was out of order and several machines were idle. Mr. Smith explained in reference to the compressed air machine that it was just one of the things which will happen in any shop. In reference to the fact that machines were idle, Mr. Smith explained that many of their people had been ill and that they were handicapped because of this.

In reference to the fact that machines were idle on the night visit explained that he would not try to fill up a complete night shift until he had some assurance that he could operate on that kind of a schedule for at least six months. He told Mr. Elton to see that the day shift was filled up and that all machines were kept going on the day shift. He said that the influenza had unbalanced the day shift for them but the workers were expected to return very soon. Stated that the firm had never had any labor troubles and that replacement of men by women was not being practiced because women were willing to work cheaper than were men but because their men were needed at other and heavier work and that every available man was needed in some other plant, perhaps even more than in his plant.

4. 2. Mr. Elton took the representative of the Woman in Industry Service through the plant. He promised to forward to this office a detailed list of each operation on which women work, as well as an itemized list of the component parts and the number of gagings on each. This has not been received up to date.
- (a) 1. Labor supply.

Mr. D. R. Donavan stated that he was so new in the district he was not in position to give much information. His child was ill so could not go to Brockton until October 31st, and asked that the representative of Woman in Industry Service meet him in Brockton on that evening. Said he knew that the Sterling Motor Company had a bad record as far as organized labor was concerned. Advised

consulting Mr. Cohen and Mr. Harrington at Brockton.

2. a. Mr. Cohen, member of the Community Board, representing labor: Mr. Cohen repeated about what Mr. Donovan had said about the company's policy. Stated most emphatically that women should not be employed at night. However, he doubted very much that men were available for that kind of work and he supposed if the emergency really existed the women would have to work at night. He thought, however, the Sterling Motor Car Company Company should be compelled to pay better wages than they were paying.

b. Mr. Harrington knew people who had worked in the plant. Was of the opinion that male help for inspection work was not available at the present time. Believed, however, that it should be declared that an emergency really existed before night work for women was permitted. Stated that the standard of wages in Brockton was perhaps lower than in other parts of New England but that the standard of wages at the Sterling plant was lower than any other. That the Sterling Motor Company seem to get along without skilled mechanics. That the wages of skilled mechanics in Brockton was \$.60 and \$.70 an hour. Stated that the wages for inspection work at night should be not less than \$.55 an hour. Thought that perhaps it would be well to insist that time and a half be paid for all night work. Suggested that the Woman in Industry Service recommend an increase of wages for women

3. Mr. McNamara, W. S. Employment Service (in company with Miss Pope) stated that he comes up from Boston each day and knows very little about local conditions. He is just keeping the office open until the local man can take charge. Stated that women should not be employed at night under any circumstances, that he was quite confident that it was a question of wages and that men could be supplied. When asked if an order for women to do inspection work at the Sterling Motor Company were placed with him, could he find the men, replied that he did not know but would try to do so. Advised consulting with Mr. Cohen and Mr. Harrington and was present at the first interview with Mr. Harrington.

4. Miss Alice Carr. Miss Carr is a shoe worker and appointed to represent women workers on the Community Board. The fuse manufactured at the Sterling plant was

was shown to her and the work of inspection explained. She was of the opinion that as long as men were needed to do other work, this work should be done by women. Believed there was a shortage of male labor in Brockton. Stated that the shoe workers' union had agreed to do overtime work on an English and Italian shoe contract about a year ago, which lasted for about three months and women worked until ten o'clock at night three times a week. But if an emergency really existed it was her opinion that women should be permitted to work at night. Suggested, however, Mr. Cohen be interviewed even though it meant remaining over another day.

5. Mr. Fechtner. Mr. Fechtner believes that the Sterling Motor Company prefer women to men because they have discovered that women can do the work and will work for a smaller wage. Mr. Fechtner worked as an inspector for the U. S. Shoe Machinery Company, stated that he inspected pieces fully as small and smaller than those being manufactured by the Sterling company, that in 1915 he was receiving \$.50 an hour for this work. That men at that time never thought it too monotonous or work which should not be done by men. He is writing to this company and to the Boston Electric Company and as well as to other firms to make inquiry as to whether or not men still do this inspection work, and to ascertain the wages being paid for such work at this time. Stated that the wages of the Brockton company for this kind of work should at least be as high as that ordered in the award of the War Labor Board in reference to unskilled labor, \$42 an hour with a bonus for night work. He thought that a bonus of ten per cent for night work was sufficient but that when inspectors had mastered the details of inspection work that they be paid at least \$.55 an hour.

4.

Working Conditions:

Working conditions, generally speaking, seem to be good. Cordial relations exist between the management and employees as evidenced by the greetings extended to Mr. Elton and Mr. Mahayne. As it was agreed that the investigation of the Woman's Branch of the Ordnance Department was not to be duplicated, a regular inspection of this plant was not made. Miss Pope and Mrs. Rantoul both made the statement that the Ordnance Department considered this firm one of its best. That all suggestions made are met with ready response. Miss Pope suggested that no reference be made to her report on the management of the lunch room for as far as she knew no action had been taken by the Ordnance Department in

reference to her report in this matter. However, suggestions were made in regard to seating and lighting.

- a. Seating: Adjusting of seats to suit the height of the worker was suggested. Good chairs and footrests have been provided but no attention has been given to the adjusting of the height of the chair to the height of the worker and the table. Mr. Smith and Mr. Elton said that this matter would be attended to at once.

Lighting at night can be much improved. There should be more general lighting. Local lights shaded with dark green shades now prevent the light from the bulb shining directly into the workers' eyes but the reflection from the brass pieces especially the parts of the fuse are very strong and must be very trying to the eyes of the worker because the lights are adjusted so as to shine directly on the brass piece. The local light should be so adjusted that there is no reflection. This matter was taken up with Mr. Mulready who said that he would send some one to Brockton to attend to it right away.

5. Shifts:

Women: 6:30 a. m. to 2:00 p. m.
2:00 p. m. to 10: p. m.
10:00 p. m. to 6: 30 a. m.

One shift doing final inspection work, 7 a. m. to 5 p. m. All allowed one-half hour for lunch. Those working only seven and one-half hours allowed eight hours' pay.

6. Wages:

- (a) Women, \$.25 an hour for first month, \$.30 an hour after the first month. Piece rate \$3.50 a day and up. Afternoon and night shift, ten per cent bonus and night shift may be raised if one is put on permanently. According to Mr. Smith, some of the women are receiving \$.35 an hour after they have worked there for a month. He said that their wage scale was to be adjusted and some changes made.
- (b) Men,--wages gradually raised for first eight weeks from \$.30 to \$.37; an hour; \$.40 after that.

7.

Transportation:

Not a problem. Car passes factory. Fare from Brockton, six cents.

8. Summary:

- a. Consensus of opinion of local people is to the effect that male labor is not available and that the work should be done by women.
- b. That night work of women should be permitted only when the Secretary of War declares that an emergency exists.
- c. All work on which women are employed now is suitable to women.
- d. General working conditions good excepting lighting and seating which are to be taken care of.
- e. The women interviewed all expressed themselves as being interested in their work and very much satisfied with their employment. The women employed seem to be of a high type. One girl who was interviewed was formerly employed as clerk in government work in Washington. Stated that inspection was perhaps monotonous but that surroundings were pleasant and that she felt she was doing her bit in this way.
- f. Wages low. Discrepancy between wages paid men and women.
- g. Transportation adequate.

9. Recommendations:

That the application of the Sterling Motor Car Company for permission to employ women at night if an emergency is declared to exist and the plan for the control of night work under consideration is adopted,

Provided that,--the firm change its policy in the matter of wages:

By adopting standards of equal pay for equal work, including a gradual raise in wages for women as is done in the case of men.