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HYGIENE IN SLAUGHTERHOUSES AND MEAT PACKING PLANTS

by

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SUMMARY.

Different equipment used to improve the hygiene in slaughtering, meat cutting, meat processing etc. are shown by photographs with comments seen from a hygienic point of view.

In recent years meat research workers have worked out many methods and different types of equipment for reducing the bacterial contamination and for improving the storage life of meat and meat products. However, it is often difficult to bring the new theories, ideas and technical improvements into practical operation in the industry. Especially in the relatively small plant there is often a big difference between the way operations are carried out in practice and the way research workers would suggest as ideal for the same type of work.

The photograph collection and the attached descriptions may help the hygienist when explaining how the equipment should be designed, and will reduce the danger of misunderstandings when informing about new research results.

Each photo has a number which may be mentioned to avoid misunderstandings when ordering equipment from the supplier.

15. Juli 1965

HYGIENE IN SCHLACHTHÖFEN UND WURSTWARENFABRIKEN.

ZUSAMMENFASSUNG.

Verschiedene Ausrüstungen zur Verbesserung der Hygiene beim Schlachten, Fleischzerlegung und Wurstherstellung sind mit Photographien und dazuhörigen Kommentaren illustriert.

In den letzten Jahren haben die Fleischforscher viele neue Methoden und Ausrüstungen zur Reduktion des Bakteriengehaltes und zur Verbesserung der Haltbarkeit der Fleischwaren entwickelt. Es ist aber oft schwer diese Neuerungen in den Betrieben zur Anwendung zu bringen. Besonders in den kleinen Betrieben ist es manchmal ein grosser Unterschied zwischen der praktischen Ausführung einer Methode und dem was die Fleischforscher für die selbe Ausführung vorschlagen würden.

Die Photosammlung und die dazuhörigen Kommentare können vielleicht den Hygienikern zu hilfe kommen, wenn sie erklären wollen, wie die Ausrüstungen ausgeführt sein sollen, und mögen dazu beitragen die Gefahr von Missverständnissen vorzubeugen, wenn man über neue Forschungsergebnisse informieren soll. Jede Photographie hat eine Nummer die man bei der Bestellung von neuer Ausrüstung bei der Verkäufer benützen kann.

Норвежская научно-
исследовательская
лаборатория

15^{го} июля 1965 г.

ГИГИЕНА В БОИНЯХ И В КОЛБАСНОЙ ПРОМЫШЛЕННОСТИ

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В Ы В О Д

Различные принадлежности употребляющиеся для улучшения гигиены при убое скота, разрезании мяса и приготовлении мясных продуктов описаны ниже и иллюстрированы фотографиями.

В течении последних лет научные работники по мясопромышленности выработали много новых способов и различных приспособлений, чтобы уменьшить число бактерий и улучшить возможность долго сохранять мясо и мясные продукты.

Однако новые идеи и улучшения трудно привести в исполнение на практике в мясной промышленности и особенно в мелких и среднего размера предприятиях.

Фотографии и приложенное описание их могут оказать помощь работникам по гигиене и ветеринарам, чтобы они не только указывали какие приспособления не должны быть в употреблении, но больше указывать положительные стороны того, что следует применять.

Подобный выпуск фотографий с объяснениями разослан норвежским скотобойням и фабрикам мясной промышленности. Каждая фотография имеет номер, который можно употреблять при заказывании новых принадлежностей у поставщика, имеющего такой-же список с фотографиями.

I N T R O D U C T I O N .

The importance of a good hygienic status in slaughterhouses, meat packing plants and distribution apparatus to improve the quality and the storage life of meat products is gradually becoming more obvious to people working in the meat trade. Strong competition forces the industry to invest in expensive machines and equipment, but often more attention is paid to the labourcost savings than to the design of the equipment with regard to the contamination during work and the daily sanitation. Relatively cheap implements receive less attention although they play an important function.

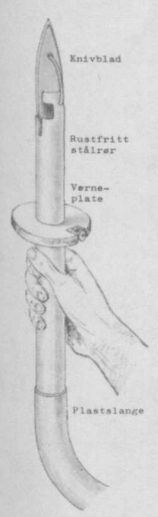
In the larger plants with a research staff including hygienists, new hygienic improvements are rapidly brought into operation, but in the smaller plants it is more difficult to put new ideas into practical use. In these types of plants there is a great need for hygienic advice involving the complete process from handling the living animals to the finished products in the retail showcase.

There is often a difference between plans of research workers for a particular operation and its actual application in practice. It is a fact that the packers are not always aware that better methods really exist.

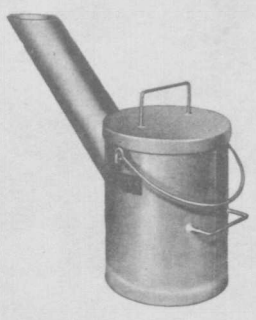
Leading research workers have realized this problem, and time and money are invested in order to bring their "know how" into practical use and to advise the packers about the value of the research results obtained.

The idea of the following photograph collection and the attached comments is an attempt to simplify the introduction of new and existing implements and research developments into practical work and to reduce the difference between the scientific knowledge of the research workers and the way things are carried out in practice. By using photographs the danger of misunderstandings is reduced. Each photograph is given a number which can be referred to when ordering a new article from the supplier.

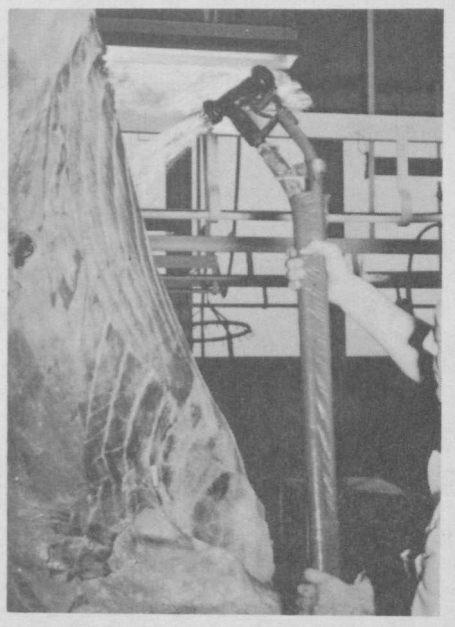
HYGIENE - SLAKTERIER



1. Canula for receiving blood.
Entblutungskanüle.
Кровопускательный нож
Blodtappekanyle.



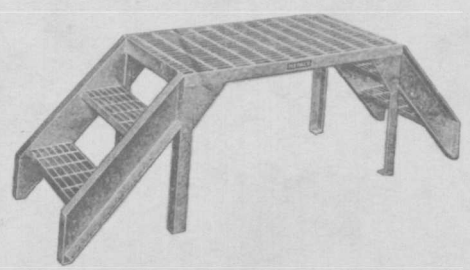
2. Can for receiving blood.
Entblutungsbehälter.
Жбан для крови
Blodtappespann.



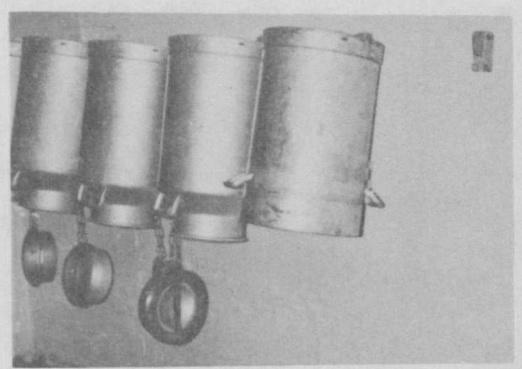
3. Hot water washing of warm carcasses.
Heisswasserwaschung von Schlachtkörpern.
Обливание туши горячей водой (95°)
Varmtvannspyling av slakt.



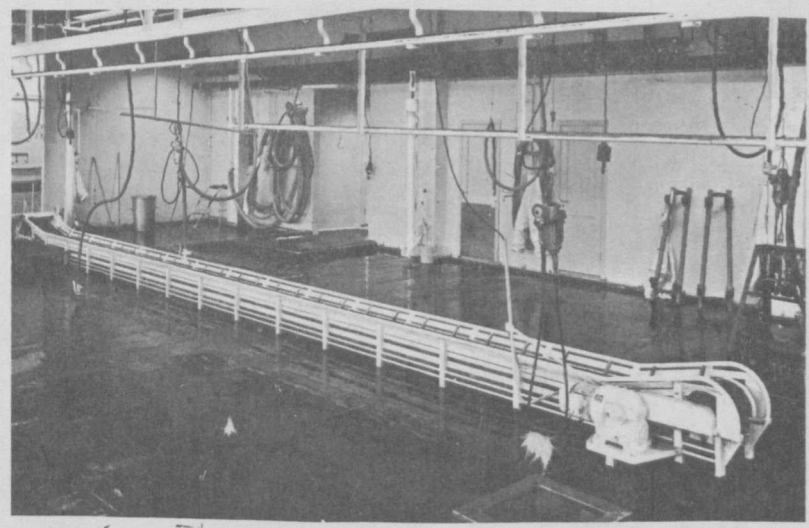
4. Ladder with non-skid rubber steps.
Treppe mit gleitsicheren Stufen.
Лестница с резиновыми ступенями
Trapp med sklisisikre trinn.



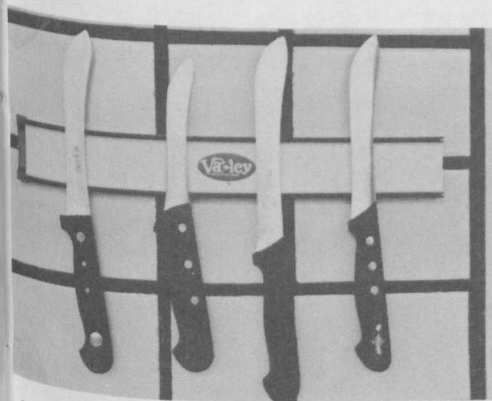
5. Non-skid platform.
Gleitsichere Plattform.
Платформа нескользкая
Sklisikker plattform.



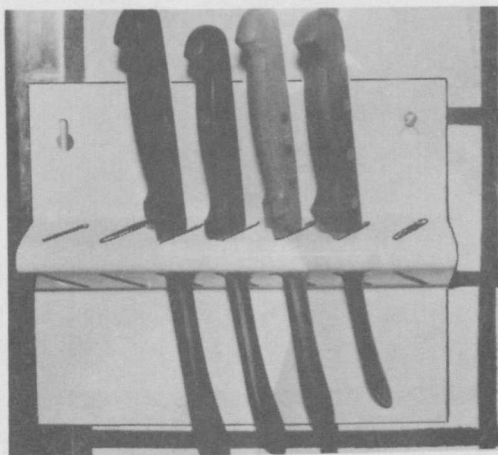
6. Can rack on wall.
Eimerhalter an der Wand.
Держатель для жбана на стене
Spannholder på vegg.



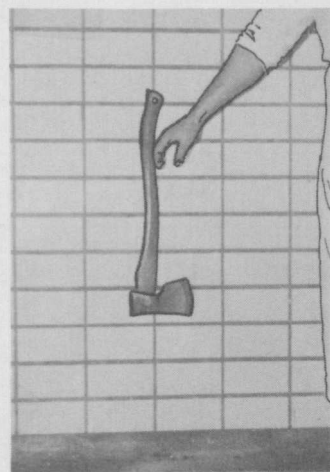
7. Roll conveyor for slaughtering.
Rolleband für Schlachten.
Убой на конвейере
Slaktebånd.



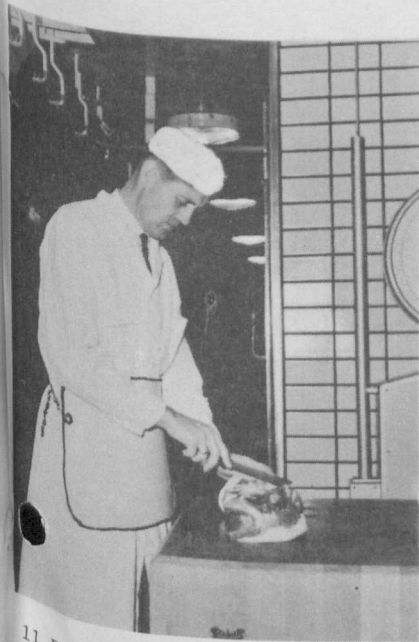
8. Magnetic knife holder.
Magnetischer Messerhalter.
Магнитний держатель для ножей
Magnetisk knivholder.



9. Plastic knife holder.
Plastik Messerhalter.
Держатель из пласт для ножей
Plast knivholder.



10. Axe on wall.
Axt an der Wand.
Топор на стене
Øks på vegg.



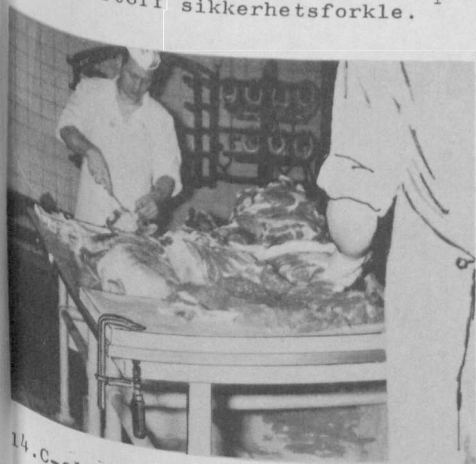
11. Rubber/duck safety apron.
Kunststoff Schutzschürze.
Фартук из искусственного материала
Kunststoff sikkerhetsforkle.



12. Steel safety apron.
Stahl Schutzschürze.
Стальной фартук
Stål beskyttelsesforkle.



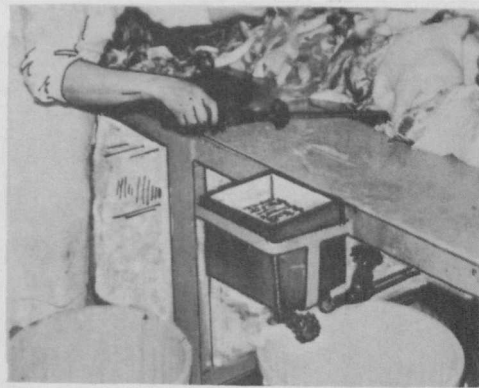
13. Stainless steel meat tree.
Rostfreier Hänger für Schinken.
Штатив для мяса
Rustfri skinkehenger.



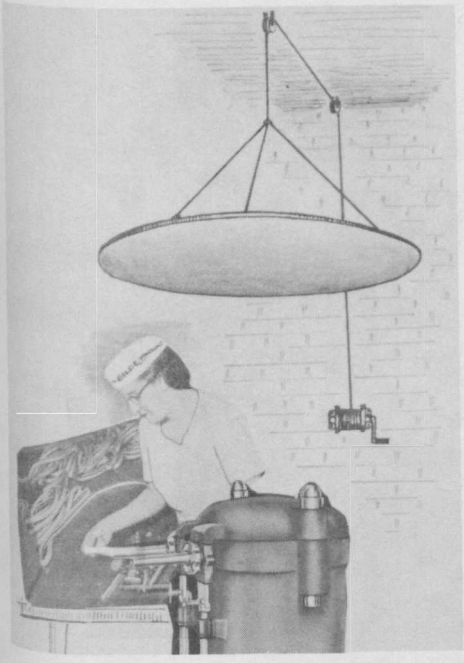
14. C-clamps keep the board in place.
Zwinge hält die Schneidbrette fest.
Тиски
Tvinger holder planken fast.



15. Small hard-rubber plate.
Kleine Kunststoffbrette.
Пластинка для разрезания мяса.
Liten kunststoff plate.



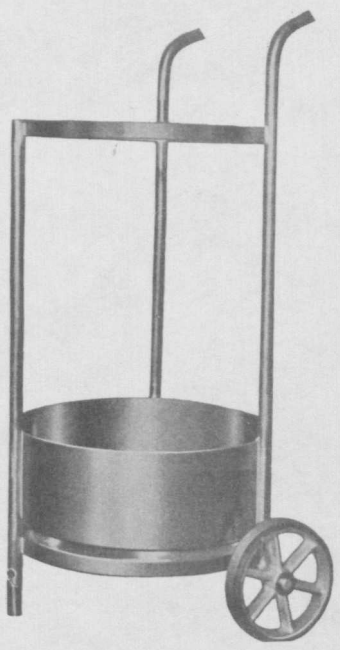
16. Knife sterilizer.
Messersterilisator.
Котелок для обварки ножей
Skollekum for kniver.



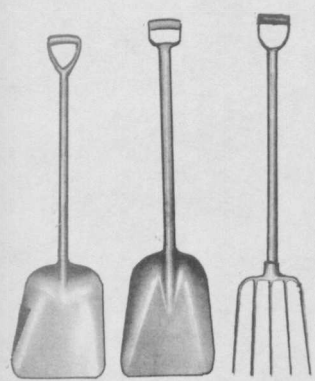
17. Stainless steel screen above stuffer.
Rostfreier Stahlschirm über Druckfüller.
Пластина против забрызгивания потолка
Rustfri stålskjerm over stopper.



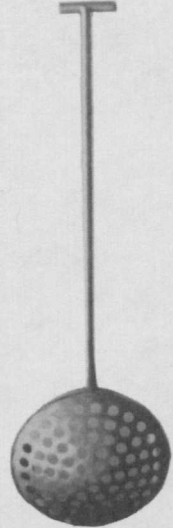
18. Magnetic sausage trap.
Magnetische Metallfalle
Магнитный детектор
Magnetisk metallfjerner.



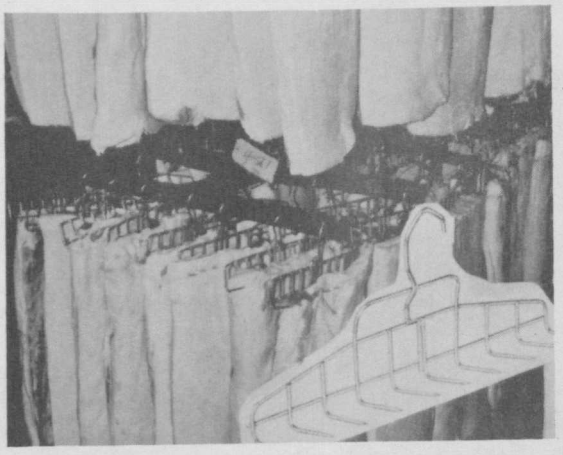
19. Stainless smokestick waggon.
Rostfreier Räucherstockwagen.
Тележка для палок
Røkestokkvogn i rustfritt stål.



20. Stainless steel implements.
Rostfreie Stahlwerkzeuge.
Нержавеющие стальные принадлежности
Rustfrie stålredskaper.



21. Stainless steel colander.
Rostfreie Siebschöpfkelle.
Нержавеющий большой дуршлаг
Rustfri hov.



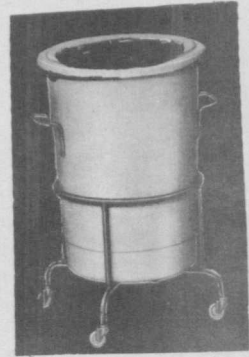
22. Stainless steel bacon hangers.
Rostfreie Baconhaken.
Нержавеющие крючки для бекона
Rustfrie baconkroker.



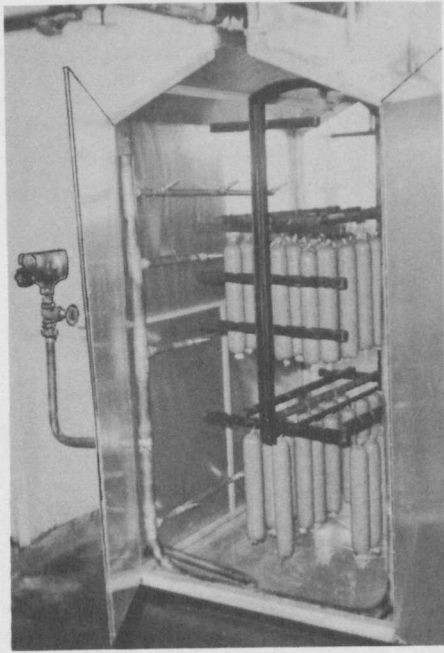
23. Pail with bottom handle.
Kübel mit Handgriff zum ausgießen.
Ведро с ручкой для отливания.
Bette med hellehank.



24. Offal sack rack.
Abfallsackhalter.
Штатив для мешка для отбросов
Avfallsekkholder.



25. Polyethylen drum.
Polyethylenbehälter.
Чан из полиэтилена
Polyethylen dunk.



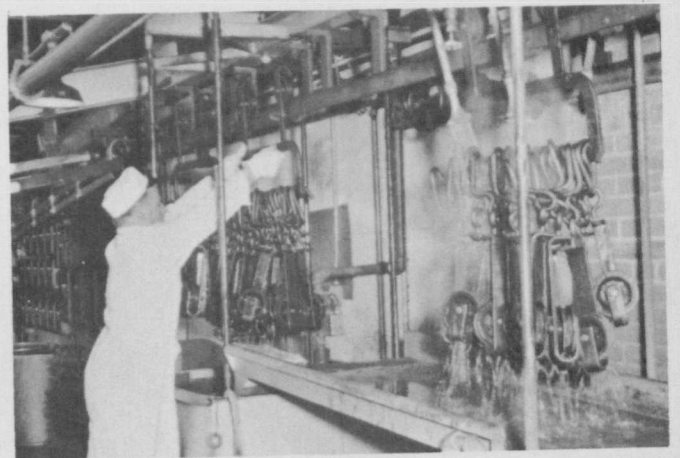
26. Sausage shower cabinet.
Wurstduschkammer.
Камера с душем для колбас
Pølsedusjekammer.



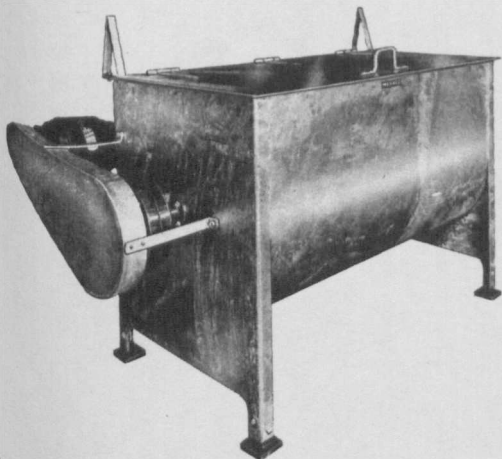
27. Desinfection equipment.
Desinfektions-gerät.
Принадлежности для дезинфекции
Desinfeksjonsutstyr.



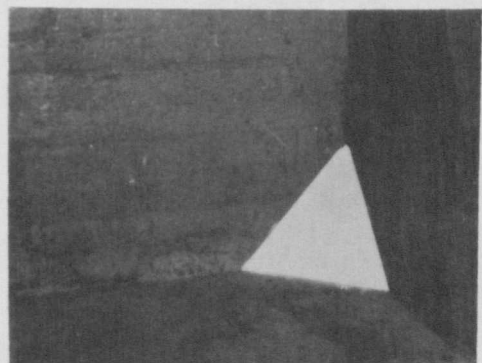
28. High pressure cleaner.
Hochdruckwascher.
Прибор для разведения дезинфек жидкости
Trykkvasker.



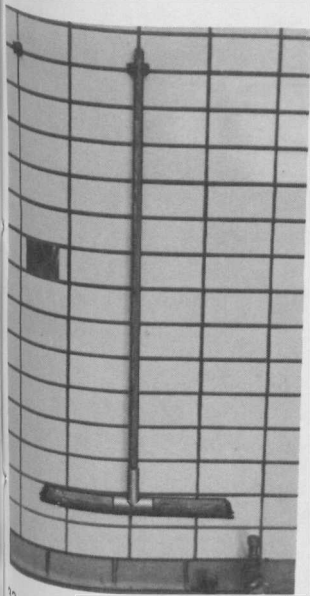
29. Trolley dipping unit.
Haken Wascheinrichtung.
Принадлежности для мытья крючков
Krokvaskeutstyr.



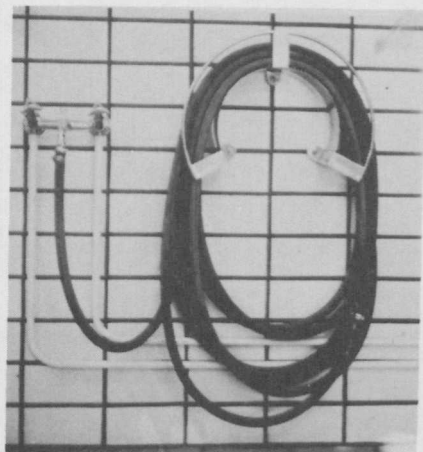
30. Smokestick washer.
Røkerstockwascher.
Прибор для мытья палок для колбас
Røkerstockvasker.



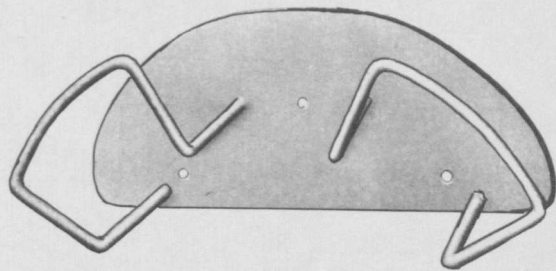
31. White round wall junctions.
Weisse runde Ecken.
Белые углы для контроля гигиены
Hvite runde hjørner.



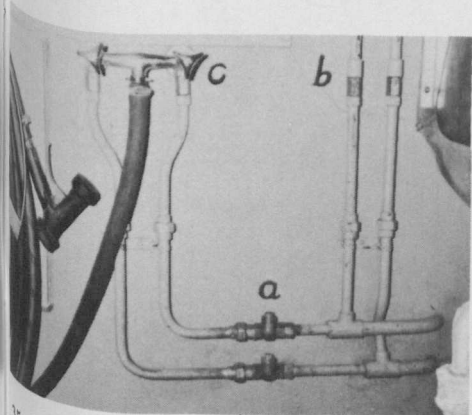
32. Broom hanging on wall.
Børsten hängen an der Wand.
Ветка на стене
Boster henges på vegg.



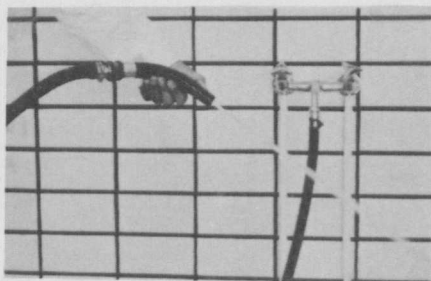
33. Stainless steel hose rack.
Rostfreier Schlangehalter.
Нержавеющий крюк для шланга
Rustfri slangeholder.



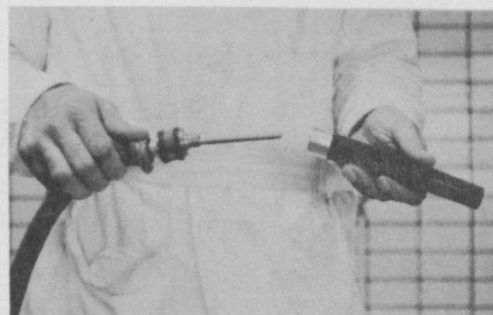
34. Stainless steel hose rack.
Rostfreier Schlangehalter.
Нержавеющий крюк для шланга
Rustfri slangeholder.



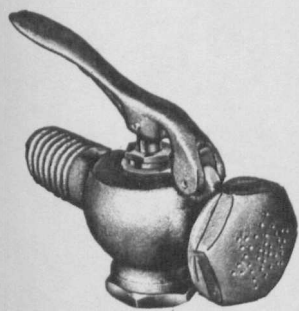
35. One way valves. (a)
Richtungsventile. (a)
Вентиль для направления воды
Tilbakeslagsventiler. (a)



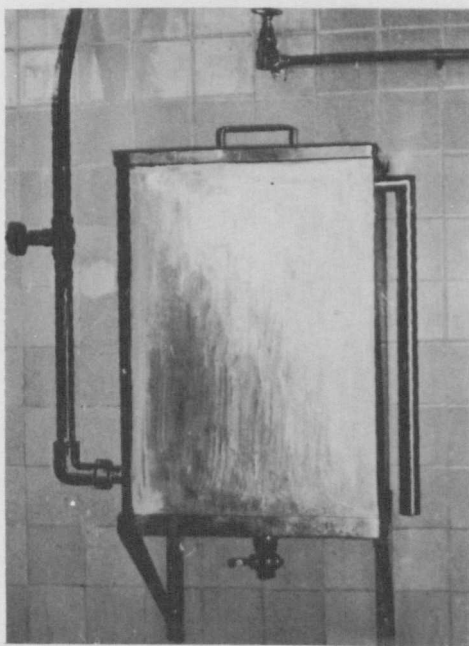
36. LONN water saver.
LONN Wassersparer.
"Лонн" водосберегательный мундштук
LONN vannsparer.



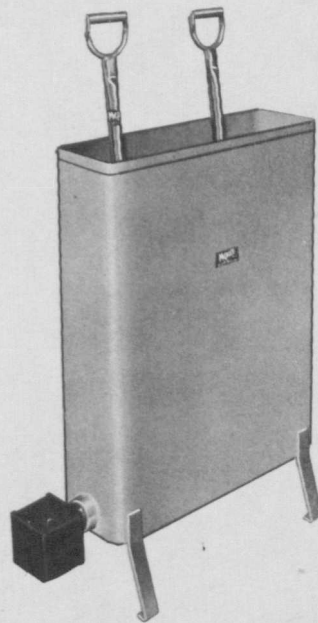
37. LONN water saver.
LONN Wassersparer.
Деталь к нр. 36
LONN vannsparer.



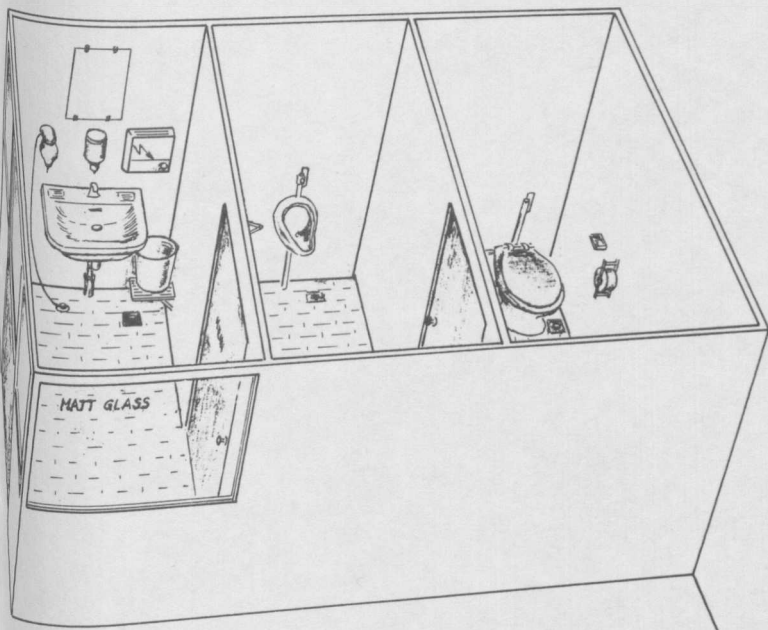
38. Wash valve.
Waschpistole.
Самозакрывающийся душ
Spylepistol.



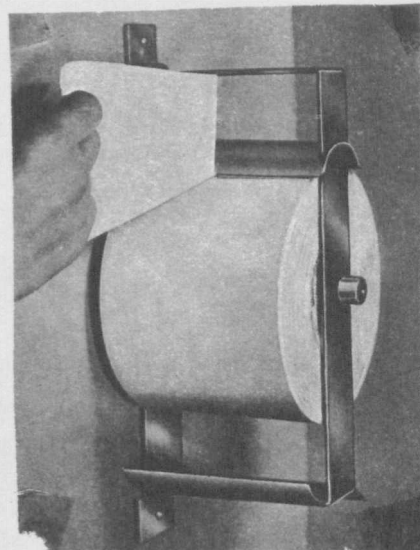
39. Knife sterilizer.
Messersterilisator.
Стерилизатор ножей
Knivsterilisator.



40. Shovel sterilizer.
Werkzeugsterilisator.
Стерилизатор лопат и вил
Spadesterilisator.



Windows facilitate the hygiene control.
Fenster vereinfachen die Hygienekontrolle.
Окно контроля гигиены
Glassvindu letter hygienekontrollen.



42. Giant roll for toilets.
Riesenrolle für Toiletten.
Огромный рулон туалетной бумаги
Kjemperull for toalett.



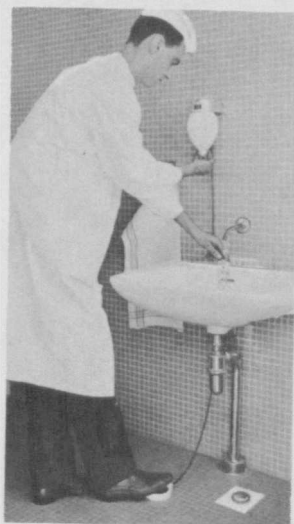
43. Electric hand dryer.
Elektrischer Handtrockner.
Электрический аппарат для обсушивания рук
Elektrisk håndtørrer.



44. Paper napkins on the showcase.
Papierservietten an dem Kühlschrank.
Бумажные салфетки на холодильном прилавке
Papierservietter over kjøledisk.



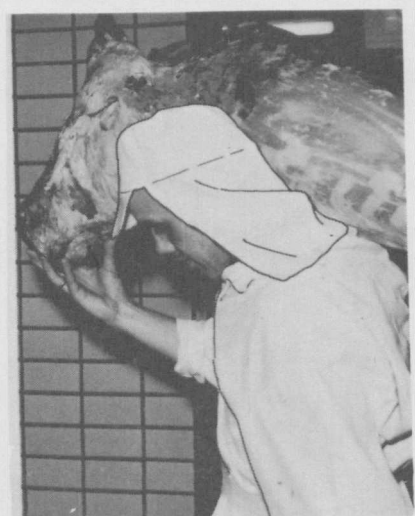
45. Combined drink-and wash-tap.
Trink-und Zapfhahn.
Кран с наконечником для питья
Tappekran med drikkespiss.



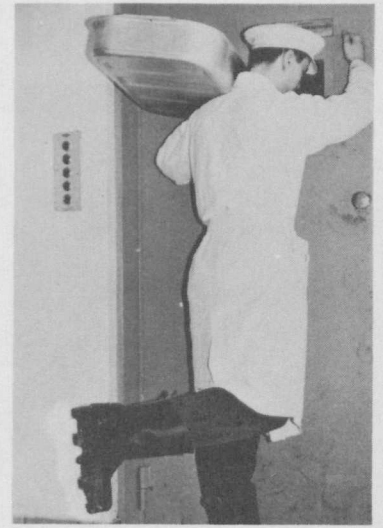
46. Hand-desinfection.
Handdesinfektion.
Комбинированное мытье и дезинфекция
Hånddesinfeksjon.



47. Large wall mirror.
Stor veggspiegel.
Большое настенное зеркало
Stort veggspeil.



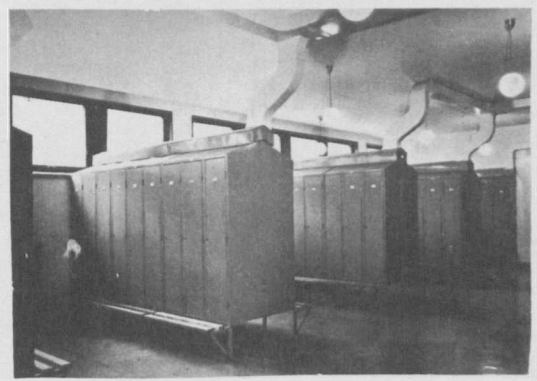
48. "Beduin cap" protects the neck.
"Beduinermütze" schützt den Nacken.
Бедуинская шапка
"Beduinerlue" beskytter nakken.



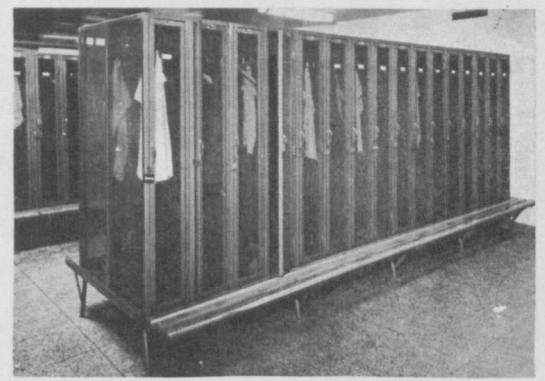
49. Iron-fittings under the boots.
Eisen unter den Stiefeln.
Сэлпюги с железом на подошве
Jernbeslätte støvler.



50. Polyethylen shoe protection bag.
Polyethylen Schuhschutz.
Защитная обувь из полиэтилен
Polyethylen overtrekssko.



51. Press with sloping top.
Garderobenschränke, schräge.
Шкафы с наклонным потолком
Garderobeskap med skråtak.



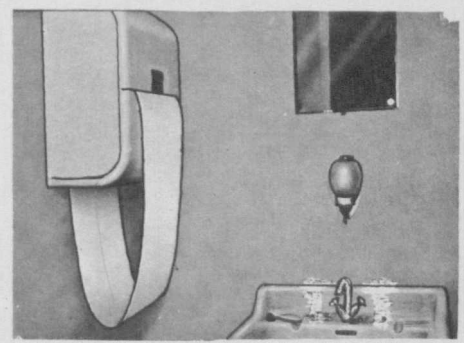
52. Press with wire netting walls.
Garderobenschränke mit Stahlnetzänden.
Шкафы из стальной сетки
Garderobeskap med vegger av netting.



53. Open press with glass walls.
Offene Schränke mit Glaswänden.
Открытые шкафы со стеклянными стенками
Åpne skap med glassvegger.



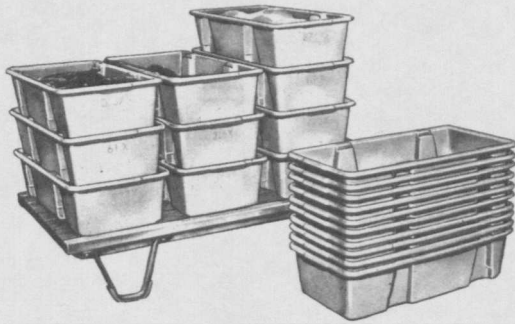
54. Wastebox on wall.
Abfallkasten an der Wand.
Корзина на стене для отбросов
Avfallskurv på vegg.



55. Automatic towel dispenser.
Handtuchautomat.
Автомат с полотенцем
Tøyhåndkleautomat.



56. Meat box truck.
Wagen für Fleischbehälter.
Тележка для таза (толкать)
Bakketralle.



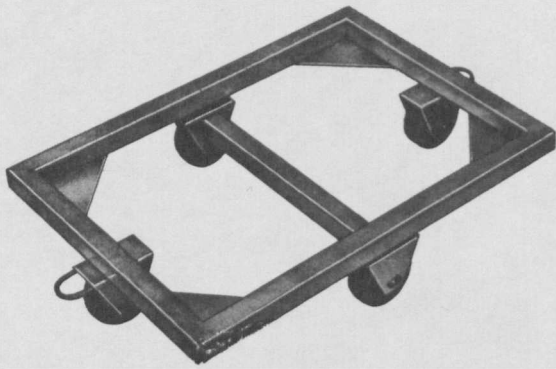
57. Stackable meat boxes.
Stapelbare Fleischbehälter.
Тазы из пласт, складывающиеся.
Stablebare bakker.



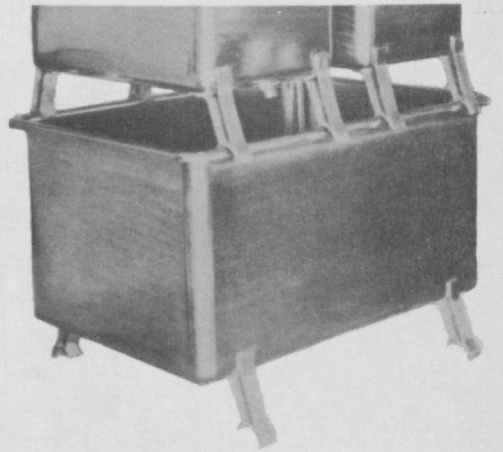
58. Meat box truck with handle.
Wagen mit Schiebbügel.
Тележка для таза (толкать)
Bakketralle med håndtak.



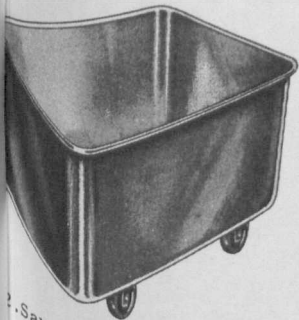
59. Meat box dolly.
Wagen für Fleischbehälter.
Тележка для таза (толкать)
Bakketralle.



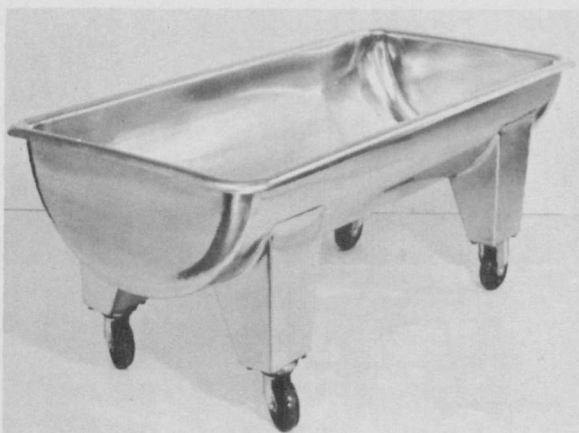
60. Meat box dolly.
Ziehbarer Behälterwagen.
Тележка для таза (тянуть)
Trekkelig bakketralle.



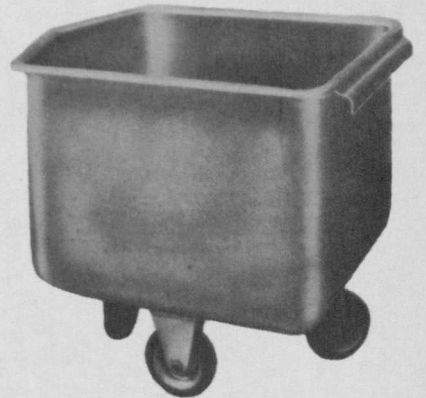
61. Vats with stacking legs.
Stapelbare Pökkelbehälter.
Нержавеющие чаны для засола
Stablebare saltekar.



62. Sausage meat truck.
Rostfreier Transportwagen.
Бак для мяса или фарша, на колесах
Bakke på svingbare hjul.



63. Sausage meat truck.
Rostfreier Transportwagen.
Чан для мяса или фарша, на колесах
Stette på hjul.



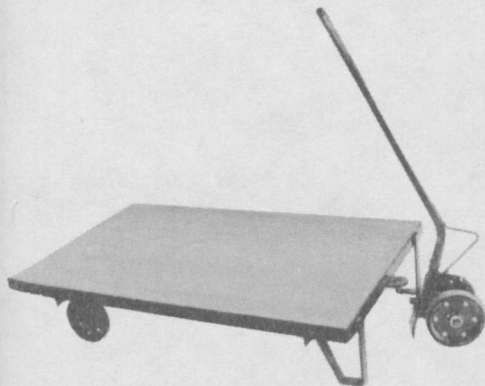
64. Truck for stuffer filling.
Beschickungs- und Hubwagen.
Бак для мяса или фарша, на колесах
Bakke til fylling av stopper.



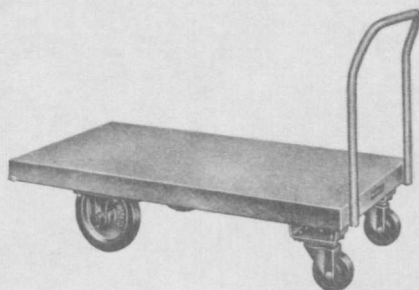
65. Trolley storage truck.
Hakenwagen.
Штатив для крюков
Krokvogn.



66. Storage pallets in freezing room.
Gefrierlagerung auf Paletten.
Решётки штабелями на холодильнике
Pallelagring i fryserom.



67. Jacktruck and skid.
Radpalett mit Hebel.
Передвижная платформа
Jekktralle og palle.



68. Stainless steel platform truck.
Rostfreier Plattformwagen.
Передвижная тележка
Tralle med dekke av stål.



69. Truck for distribution boxes.
Wagen für Transportkästen.
Передвижной штатив на колёсах
Bakkehulle på hjul.



70. Pan truck with seven shelves.
Wagen mit sieben Brettern.
Тележка с полками для транспорта
Hyllevogn for former.

JULY 15. 1965

Short descriptive comments for each photograph.

1. A special stainless steel knife with plastic hose is used to prevent contamination of the blood. By using the knife the bacteria from the hide etc. are kept out and the keeping quality of the blood is considerable improved. Vacuum may be used in order to draw the blood more rapidly through the hose. A continuous mechanical cooler can be installed in connection with the system. (MANUS, Sweden.)
2. A Stainless steel bloodcan with a capacity of 15 liters ($3\frac{1}{2}$ gallons) is practical for use in small plants.
3. Hot water, 95° centigrade, is used to reduce the bacterial contamination of the surface of warm carcasses immediately after exvisceration and splitting. By this treatment the keeping quality of the carcasses is improved by 2-3 days at $+5^{\circ}$ centigrade. The water pistol is well insulated and the trigger remotely operated.
4. Aluminum steps for use when inspecting carcasses hanging on rail. Each step has a special non skid rubber layer with good friction, even when wet.
5. Non-skid platform for carcass splitting. The construction is heavy galvanized steel. Hydraulic or air pressure operated platforms may have the same type of safety grating.
6. Dehiding conveyor for cattle and horses. The ~~roll~~ conveyor elevates the carcasses from the floor.
7. The can racks on the wall take up little space when not in use. Often empty milk- and bloodcans are put upside down on low wooden slabs on the floor, resulting in the cans and slabs becoming contaminated during work.
8. Magnetic knife-holder mounted on wall above tables etc. The holder allows a complete view of the knives and thus the sanitation control is made more easy.
9. The plastic knife-holder for 5-7 knives is cheap and shows the knives quite well. It can rapidly be taken down for cleaning.
10. Axes shall not stand on or get into contact with the floor. By making a hole 1 cm in diameter 5 cm from the end of the axe handle, the axe may be hung on the wall in a convenient place on a stainless screw. By painting the outline of the axe on the wall with blue or red color it is easier to find the screw when hanging the axe back in place after use.

11. Safety apron made of laminated rubber/duck protects the body as well as the clothes from knife and sharp bones. It is easily cleaned, and the price is moderate.
12. A safety mesh apron made of woven chrome steel will not allow penetration of a sharp knife blade or bone. For hygienic reasons it is worn under the clothes. It does not protect the clothes from the knife.
13. Meat trees for ham etc. are made of stainless steel pipe. They often have a movable lead piece inside in order to stabilize the empty tree.
14. C-clamps may be used to keep cutting boards in position on temporary cutting tables. Stainless steel knobs in the table with corresponding insertions in the cutting board serve the same purpose.
15. Small short cutting plates and boards are easier to handle while cleaning and sterilizing than longer ones. On a short plate the surface is worn down more uniformly. Small plates and boards are particularly suitable for ham trimming etc.
16. Boiling water at the cutting table is used to sterilize the knives and at the same time to facilitate the cutting. A clean warm knife free of fat goes easier in meat and lard. The water should be boiling constantly, in order to destroy the bacteria. It may be heated either with steam or electricity.
17. A stainless steel screen may be mounted over the stuffer in order to prevent contamination of the ceiling which is difficult to clean. If the high pressure in the stuffer ejects some forcemeat upwards, it is collected by the screen which can be lowered for cleaning.
18. In order to prevent small metal pieces^{from} getting into casings and cans with the meat products, a magnetic trap may be mounted on the stuffer tube. This can also be facilitated by an electric field across the stuffer tube. As soon as a metal piece passes the field, the stuffer automatically stops and can not be started until the extraneous matter is removed.
19. Stainless steel smoke stick waggons are preferable to wooden barrels and plastic drums. The waggon is made so that it is possible to see if the sticks are clean. The design of the waggon allows easy sanitation.
20. Stainless all steel implements do not discolor meat and lard, and contamination of the meat products by wooden pieces from the implements is avoided.
21. Stainless steel colanders welded into one piece are preferable to iron net colanders, which during use may be easily worn out and cause metal contamination of the products.
22. Stainless steel bacon hangers are superior to strings of steel or yarn. The hangers give the bacon a good square form. They are easily cleaned, especially with a pressure cleaner, and reduced cutoff in slicing the bacon is achieved.

HYGIENE
EQUIPMENT

23. Pails, preferably with bottom handle, should be put on a low shelf rather than on the floor.
24. Offalsack rack should be without lid when used indoors. If there is a lid on the sack, the offal may tend to be thrown on the floor.
25. Offal drums should also be used without lids in order to make the throw-away and the sanitation control more easy. The drums should be emptied every day.
26. Shower cabinets are used to remove contaminating pieces of forcemeat from dry sausages in order to prevent growth of bacteria and moulds. The water temperature is controlled by a thermostat and should be kept at 40-45^c centigrade. The water pressure should be relatively high.
27. Sprayer for bactericidal agents made of stainless steel and plastic devised by the Danish Meat Research Institute. The apparatus may be attached to the water hoses in the different departments in the plant. The bactericidal agent in the can may be sprayed in any suitable concentration independently of the water pressure.
28. Jet cleaner operated with 95^o centigrade hot water removes all contamination and kills bacteria so that usually a further sterilization is not necessary. High pressure cleaning units may be mobile or permanently sited with one or more outlets.
29. The cleaning of trolleys is often difficult. It is probably best if they could be cleaned continuously on the rail with a hot alkaline solution to remove blood, grease and rust in one operation. Suitable agents are available. A hoist located on the rail system facilitates the cleaning.
30. A specialised smoke stick washer or an old used tripe washer may be applied for washing smoke sticks. New detergents make the mechanical rotation-washing effective.
31. Round white-painted corners facilitate floor cleaning. Brushes may easily reach the contaminations which are visible against the light color.
32. Broomes and swabs are often stood against walls and take valuable floor space. By using a special rubbercoated metal spring fixed to the wall or by making a hole in the handle for a screw, the broomes can be hung. The spring or the screw is fastened about 10 cm higher from the floor than the length of the brush handle, so that the brush hangs free. For heavy swabs it is often necessary to make a cut on each side of the handle to prevent them from slipping down from the spring.
33. Stainless steel hose racks without vertical back plate are best. The back plate is often seen used as a knife-holder and dirt collects up behind it. The hose rack is more easy to clean when it is fastened about 1 cm from the wall.

HYGIENE
EQUIPMENT

34. A plate behind the hose rack may be useful on some wall materials, but then the plate must be relatively thick and stiff.
35. For a satisfactory sanitation a good hot water supply is necessary. In order to save hot water one-way valves (a) have to be put on the hot as well as the cold water pipes where watersavers or washing pistols are connected to a hot/cold water mixing unit. Otherwise the hot water may flow into the cold water pipe or vice versa depending on the waterpressure in the respective pipes. Also the water flow may be regulated by valves (b).
36. LONN water savers are effective, strong and relatively cheap. When the rubber nozzle of the water saver is bent in the hand of the operator, the water flows until he loosens his grasp.
37. With a wider rubber nozzle the LONN water saver type M is used for flushing natural casings.
38. Wash valve with self-closing spring handle is particularly suitable for carcass washing. It may also serve other purposes and is often mounted over the stuffing tables. For floor submerging a special system may be installed.
39. Steam operated sterilizer for small tools such as knives etc. The sterilizer, which is filled with water from the cold water pipe, has overflow and a perforated plate inside with a handle by which the hot tools may be taken out.
40. Electric shovel sterilizer with boiling water. The temperature is controlled by a thermostat. After 12-15 seconds in the boiling water the amount of bacteria on the tools is reduced considerably.
41. Poster with "WASH YOUR HANDS AFTER VISITING THE TOILET" should be placed on toilet doors. Glass windows around the washing sink help to urge the employees follow this request. The waterflow in the toilet rooms should preferably be controlled by foot pedals or by photocell. The water temperature should be controlled by a thermostat. The offal boxes should hang on the wall in order to facilitate the floor cleaning. A closet brush should be placed in each toilet as well as an ashtray fastened on the wall.
42. A giant roll with toilet paper is most suitable for industrial toilets. The small rolls have a tendency to disappear. Roll holders with automatic lock are available.
43. An electric hand dryer should be installed where paper or cloth towels may not be suitable. The dryer in the photograph uses 1600 watts and stops automatically after preset time.
44. Dispensers for paper napkins may be placed above showcases in distribution departments and shops. Sharp bones often penetrate the thin wrapping films and blood or water may leak out of the package and contaminate the hands of customers.

HYGIENE
EQUIPMENT

45. Drinking taps ought to be mounted near the working area. The faucet in the picture has a handle by which it may be changed from a drinking fountain to a washing faucet.
46. A germicidal detergent is recommended for hand washing in the meat industry. The dispenser in the picture is foot operated and transparent so it is possible to see how much liquid is available. When the water foot pedal in the floor is depressed, tempered water flows into the sink which should be without a bottom plug.
47. Large wall mirrors will help employees in factories and shops to keep their clothes clean and remind them to change when necessary. Size of the mirror: 50x110 cm. The mirror should be placed about 70 cm from the floor.
48. A "beduincap" should be worn when carrying carcasses on the shoulder in order to protect the neck from blood etc.
49. As floors must be relatively smooth to ensure satisfactory cleaning they may often become slippery. Iron pieces are fastened under the wooden boots instead of rubber to obtain firm footing.
50. Polyethylen shoe bags may be worn by visitors in departments with extra wet floors. They are to be thrown away after use.
51. Sloping top on lockers prevent the collection of offal etc. Discharge ducts installed over the presses give good ventilation.
52. Presses made of metal netting may be locked. The ventilation in such presses is good. Lockers may be with or without bench, and should have as few legs as possible to ensure easy floor sanitation.
53. Press with glass walls and lockable drawer. Each press is divided into two parts, one part is for clothes worn during work and the other for civilian clothes.
54. The wastebboxes in the cloak-rooms etc. should be fastened on the wall in order to facilitate the daily floor sanitation.
55. The handtowel dispenser in the photo is semi-automatic. Towels of cloth unlike papertowels, require no wastebbox.
56. Meat box dolly with swivel caster for convenient handling of one or two boxes, kept elevated from the floor.
57. Food handling boxes made in one piece from non-porous rubber-plastic material are made so they may be nested when empty or stacked upon each other due to different insertions in the box walls. They should be resistant to acids.
58. Meat box truck with strong handle and relatively large wheels on swivel caster to avoid shaking.
59. Meat box dolly easy to clean on heavy duty wheels to give stability and minimum of friction.