

LAST Num 57.

SHEET NO FOGLIO No	1	OUR REF NS. REF.	
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AUTOMATIC PASTEURISER EMULSIFIER WITH TRANSFER PUMP "MODULO 100"

INSTRUCTIONS FOR INSTALLATION USE AND MAINTENANCE.

The Cattabriga Modulo 100 is the machine which has been designed and built to satisfy the exigencies of the modern ice cream artisan.

Like all of the machines which we produce the Modulo 100 has been put into production only after having been subjected to long and severe tests in our prototype and trials laboratory.

THE CAREFUL READING AND ATTENTION TO THE DETAILS LISTED IN THIS
INSTRUCTION MANUAL WILL PERMIT YOU TO OBTAIN THE BEST RESULTS FROM
THE MODULO 100.

WARNING.

PLEASE FOLLOW CAREFULLY THE INSTRUCTIONS OUTLINED BELLOW:

DELIVERY

Remove the machine from its packing, check that there is no visible sign of damage. If in fact the machine is in an imperfect condition, note this on the delivery note.

INSTALLATION OF MACHINE & CONNECTION TO THE ELECTRICAL SUPPLY

- 1) Place the machine in the previously chosen position.
Carefully check that the electrical supply available corresponds with the electrical characteristics on the machine.
Check that the electrical supply (main supply cables etc.) are capable of carrying the necessary current:
Check that electrical cable supplied with the machine conforms to the local regulations. If it should not, have it exchanged for a suitable type locally.
Connect this cable to your fused isolator.
Switch on.
- 2) Check that the rotation of the agitator is anti clockwise (figure 6A).
If this should not be the case invert two of the wires in the fused isolator to reverse the rotation.
- 3) Feed the antifreeze liquid into the filler tube (figure 7A) using the filler and the section of rubber hose supplied until the correct level is achieved (figure 7B).
- 4) Check that the mix tap (figure 4A) is closed, feed some water into the vat by depressing the switch (figure 3D), add a quantity of steriliser and effect a careful cleaning of the vessel.
Empty the vat on completion of the cleaning cycle by operating the transfer pump.

PRODUCTION CYCLE

- 5) Check that the mix tap (figure 4A) is closed.
Feed into the vat the desired ingredients and follow the procedure advised on page 8 paragraph 30.
- 6) Turn the thermostat (figure 1 & 2B) to the desired temperature that you wish the mix to achieve and adjust the timer (figure 1 & 2A) to the time you the mix to be held for at that temperature.
- 7) Rotate the control switch (Figure 1E & 3A) to the position marked pasteurisation to required temperature and subsequent cooling back down to 4° C commences.
On completion the mix is held at 4° C.
- 8) Before removing moving the mix it is advisable to leave it for some minutes to be agitated by turning the control switch (figure 1E & 3A) to the position marked "solo agitatore".

9) IMPORTANT

Please note that the machine is programmed for a complete production cycle, that is to say that each time the selector switch is positioned at "pasta rizzazione" the complete cycle will be re-activated.

Therefore after having completed the instructions listed at point number 8 the selector switch should be moved forward to the position marked "solo raffreddamento".

- 10) At the end of pasteurizing cycle held automatically the aging of the mix commences: during the time that the mix is stored in the pasteuriser it will be automatically contained on a temperature between + 4 and + 6° C.

The compressor will cycle automatically (and with the agitator) when the temperature of the mix reaches + 6° C and it will stop when the temperature of the mix reaches + 6° C and it will stop (as will the agitator) when the mix reaches + 4° C once again.

- 11) The minimum quantity that one can process in the machine is 60 litres: we do not advise that lesser quantities be pasteurised or aged or stored in the machine.

12) CONNECTION OF THE EMULSIFIER

The emulsifier is put into operation by activating the switch (figure 1F & 3B). This can be started at the beginning of the pasteurisation cycle (thus one can in this way obtain a better mixing of the ingredients as they are added).

But it must never operate until the completion of the cycle; one must therefore disengage the emulsifier when during the refrigeration cycle, the temperature reaches 45-50°C.

- 13) The rotation of the emulsifier is clockwise (that is in the opposite direction to the agitator).

This enables us to obtain the maximum turbulence within the mix itself (which means that the higher air content in the globules and a superior emulsification).

14) TRANSFER MIX PUMP:

This is directly linked to the draw off tap (figure 4B).

- 15) Before starting up the pump one must assure oneself that the mix valve (figure 4A) is open.

- 16) The control switch for the pump (figure 1D & 2D) has three positions:

NO. 0 pump off

NO. 1 (clockwise rotation) continuously in operation;

NO. 2 (when one depresses this switch when it is in position 0)

the pump will function for the duration of its time programmed on the timer (figure 1D & 2D).

17) THE PROGRAMME OF TIMER:

On the command panel there are two timers:

The upper one (figure 2A) serves to control the pasteurisation cycle:

The lower one (figure 2C) serves to programme the operating cycle of the transfer pump.

18) THE PROGRAMMING OF THE PASTEURISATION CYCLE:

As the pasteurisation cycle is automatic (that is to say the cooling cycle starts immediately at the end of the heating cycle)

In the case where one wishes to maintain the temperature of the mix at this maximum temperature one need only programme the mix at this maximum temperature one need only programme the timer (maximum programmable time is 30 minutes as indicated on the bottom right of this timer - each division represents one minute). The time is controlled by turning the timer anticlockwise until the red arrow is at the chosen time (0,5=5 minutes: 1=10 minutes and so on)

19) PROGRAMMING THE TIME OF OPERATION OF THE TRANSFER MIX PUMP

This second timer the maximum programmable time is 120 seconds.

The volume which the pump can transfer is dependant upon the viscosity and density of the mix, by the length and diameter of the tube used to transfer the mix; and therefore one should the first time one operates it, measure the time necessary to transfer the pre-determined quantity of mix into a graduated container. As an example, standard mixes with a 19 mm. internal diameter tube of 2.5 metres in length, one can transfer a litre of mix stored at 4° C in 3.5 seconds.

20) PERIODICAL CLEANING

WASHING OF THE MIX VALVE AND THE TRANSFER PUMP IN CLOSED CYCLE:

This is affected by pumping first of all clean water until the pump produces clear water and secondly, by introducing a sanitising solution, the pump is again activated for a period of one minute. This cleansing operation is purely a preliminary step (see point 4) and at the end of each working day.

- 21) Having concluded the preceding operation, one must disassemble all the parts using the valve key supplied (as demonstrated in (Figure No. 8) and thoroughly cleaned by hand all parts with particular emphasis on the join between the valve and the vat proper.
- 22) Disassemble the pump by uncrewing the hand nuts (figure 4C) extracting the gears (figure 9A) and the o ring (figure 9B).
- 23) The agitator figure (6A) is easily removed to enable one to thoroughly sanitise this part using the appropriate brush. This must also be done on a daily basis or at the end of the processing period.

24) ATTENTION:

These sanitary procedures must be executed with great care; one thus avoids the following inconveniences;

- A) the inclusion of old mix in a new batch;
 - B) Damage to the moving parts and to the electrical motors.
- 25) It is also necessary to effect a complete and thorough clean and sanitisation of the lid and agitator each time one changes to another form of mix.
- 26) To sanitise the emulsifier open the lid completely, unscrew the two retaining nuts (figure 10A) and remove the body of the emulsifier (figure 10B). Periodically (at least once per week) unscrew the blade (figure 10C) with the correct key as supplied; remove also the shaft (positioned under the motor) so that one may remove the key and unscrew the appropriate parts to enable one to clean thoroughly those parts
- 27) At the end of each season particularly in areas where the ambient temperature drops below zero it is advisable to empty the condenser completely of any water. To do so it is necessary to unscrew the tap which is adjacent to the condenser and illustrated in (figure 11B)

MAINTENANCE

- 28) The refrigeration plant, the agitator, the emulsifier and the pump are protected by thermal relays (figure 12A/B/C/D).
In the case of a malfunction of any of these aforementioned motors one need only depress the overload switch (figure 3C)
After having diagnosed and removed the cause for the overload.

REPAIRS

- 29) For technical assistance and repairs contact cattabriga of Bologna directly or their authorised service agents.

30) ADVICE ON THE PREPARATION OF MIX TO BE PASTEURISED

- A) initially before heat is applied add all the liquids that are contained in the mix, the yolks of eggs may be if they are in a frozen state defrosted with the sugar;
- B) At 30° C add the milk powder (adding it gently to avoid any eventual globulation) and a part of the sugar (approximately 80% retaining the balance for mixing with the stabiliser);
- C) At 40/45° C add the fats;
- D) At 60° C add the stabiliser which has been mixed with the 20% of the sugar, always allow the pasteurising cycle to continue naturally.

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If one has difficulty in adding the milk powder without it being smoothly integrated, one can add 50% initially and the other half after the addition of all the fat solids at 60° C.

If one wishes to add aromatic essences these should be added after the mix is cold allowing them to be dispersed by agitating them for a short period before passing them into the mantomatic.

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CATTABRIGA S.P.A. WILL NOT BE LIABLE FOR EVENTUAL DAMAGE SUSTAINED BY PERSONS OR OBJECTS DURING INSTALLATION, USAGE AND MAINTENANCE OF CATTABRIGA S.P.A. PRODUCTS.

THE TECHNICAL CHARACTERISTICS AND DESIGNS IN THIS MANUAL ARE OF AN INDICATIVE NATURE ONLY.

CATTABRIGA S.P.A. RESERVES THE RIGHT TO CARRY OUT ANY MODIFICATION IT BELIEVES ADVISABLE ON ITS PRODUCTS, IN ANY TIME WITHOUT PRIOR ADVICE.

ANOMALY	ORIGINS	REMEDIES
Frozen mix on the walls	<ul style="list-style-type: none"> . Scarce agitation 	<ul style="list-style-type: none"> . Replace propeller of beater, with the one supplied with the machine . Mix too dense
Machine does not start	<ul style="list-style-type: none"> . Fuses blown . Thermal relays blocked 	<ul style="list-style-type: none"> . Check wall socket and replace them . Push re-set button (fig. 1B) event if the light is off (it could be burnt)
Compressor does not start	<ul style="list-style-type: none"> . Pressure control block 	<ul style="list-style-type: none"> . Check and release replace (fig. 4D) by a technician
Machine already cold has resumed to heat	<ul style="list-style-type: none"> . Wrong operation 	<ul style="list-style-type: none"> . Check instructions for use.

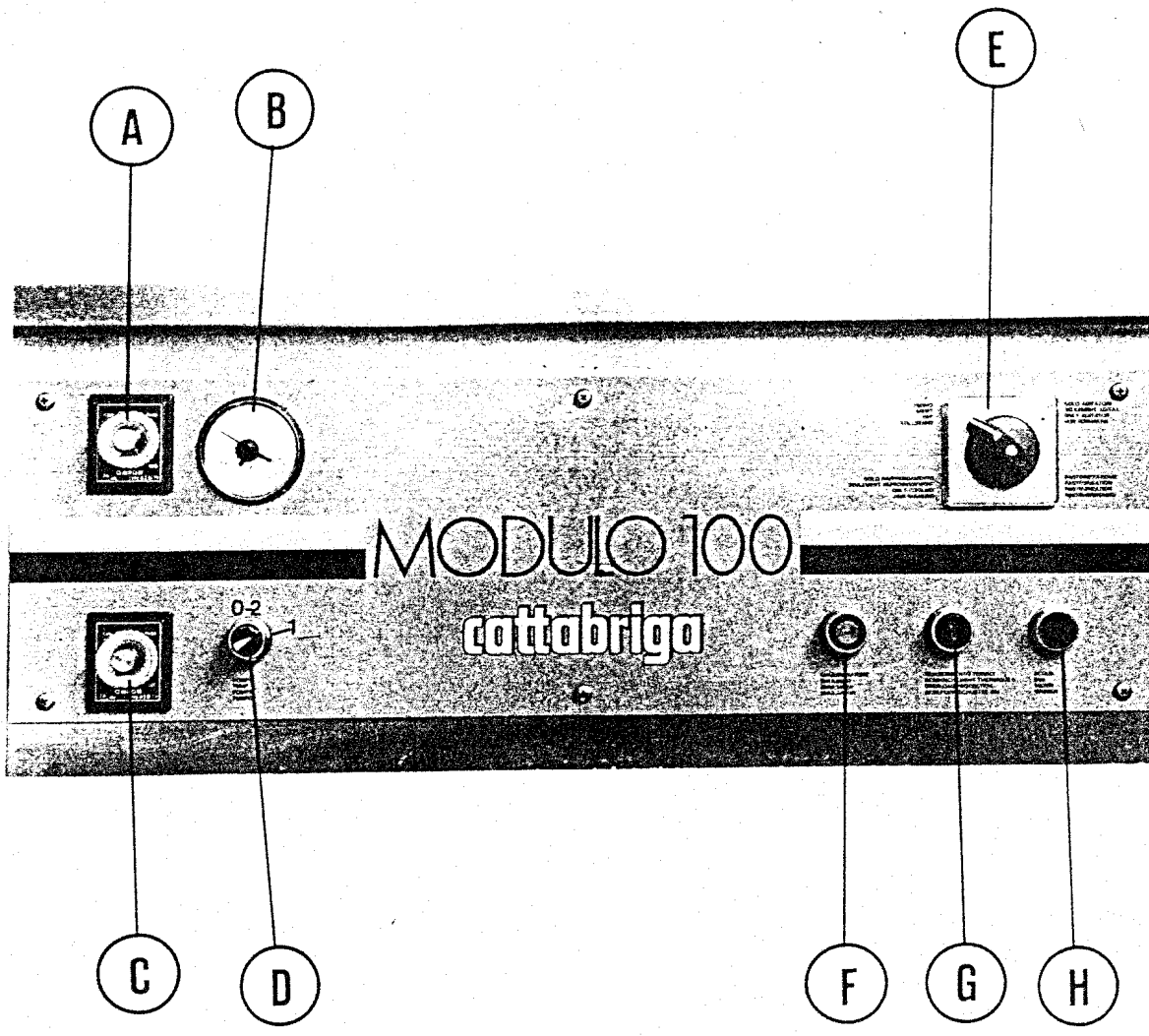
ANOMALY	ORIGINS	REMEDIES
High condensation pressure	. Air in the system	. Discharge air from condenser
	. Water feeding the condenser, too hot	. Check the water flow and the discharge temperature, which must be 4° C - 5° lower than condensation temperature
	. Insufficient water flow through the condenser	. Enlarge the opening of feeding tap checking the pump flow
	. Condenser overloaded with refrigerating fluid	. Discharge surplus either in the service tank or in the cylinder; after carrying out this operation, check the temperature and pressure conditions
Low condensation pressure	. Low efficiency of compressor	. Possibly check the intake and delivery valves and replace them
	. Surplus of water flow through condenser	. Reduce the opening of the pressure control valve
	. Water feeding the condenser, too cold	. See above
	. Compressor sucks moist vapours (fluid backflow)	. Look for an incorrect regulation at the users check regulations

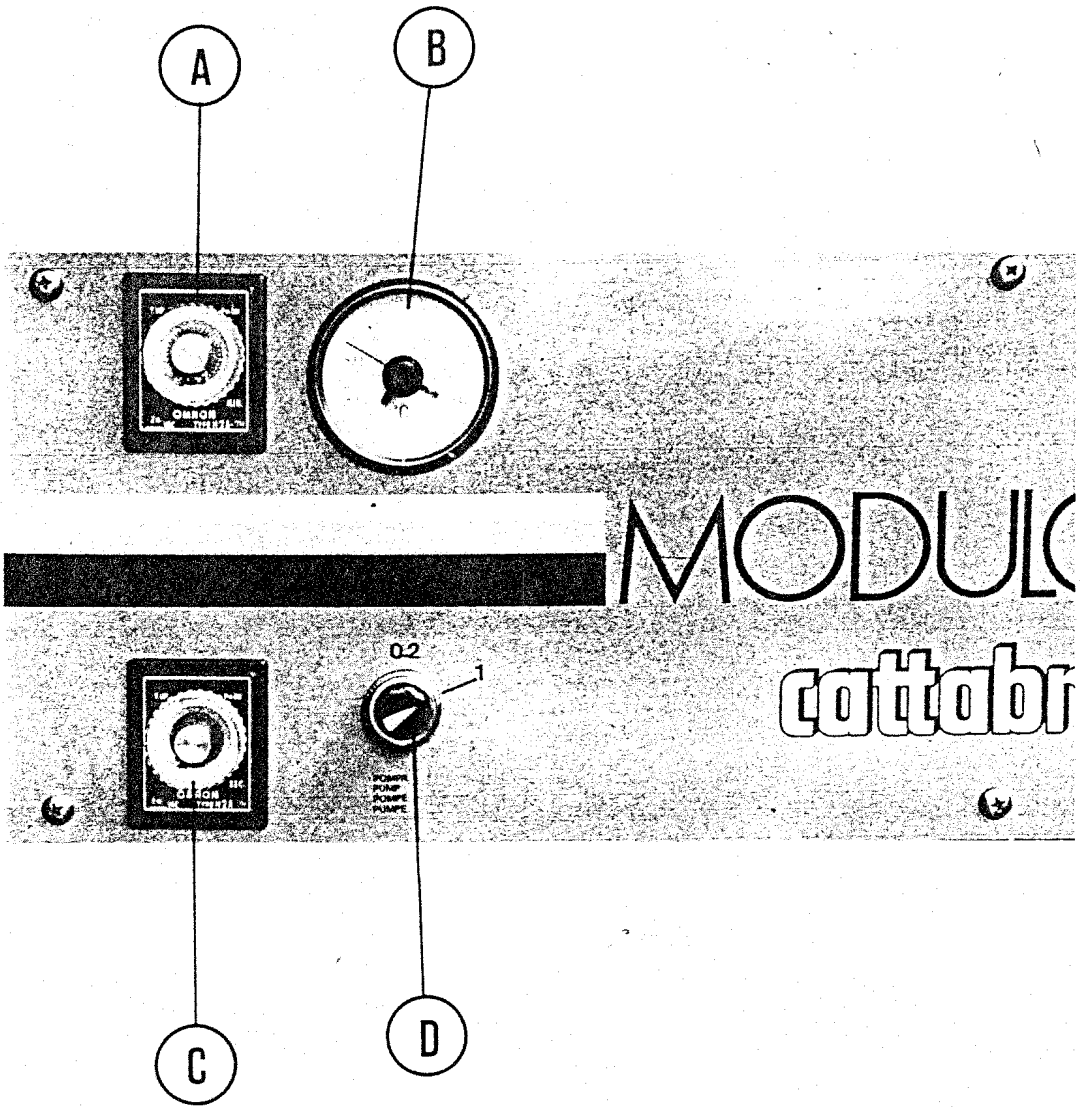
ANOMALY	ORIGINS	REMEDIES
High suction pressure	<ul style="list-style-type: none"> . Suction and delivery valves of compressor faulty . Regulation of the user incorrect 	<ul style="list-style-type: none"> . Remove heads, check the discs of the valves and replace the faulty ones. . Check valves and expansion taps of users, looking for defects, if any
Low suction pressure, scarce efficiency	<ul style="list-style-type: none"> . The refrigerating fluid. In the circuit is short . Oil surplus in cycle 	<ul style="list-style-type: none"> . Check presence of fluid in condenser and then add in carefully until pressure is restored (if this is necessary) otherwise regulate the users . Tap some oil on the evaporators or separators and check the oil presence in the oil windows
Compressor starts and stops continuously	<ul style="list-style-type: none"> . Insufficient water flow through the condenser or condenser dirty . Air flow insufficient 	<ul style="list-style-type: none"> . Check water regulation in condenser and cleanliness of the tubes . Check fan and clean battery

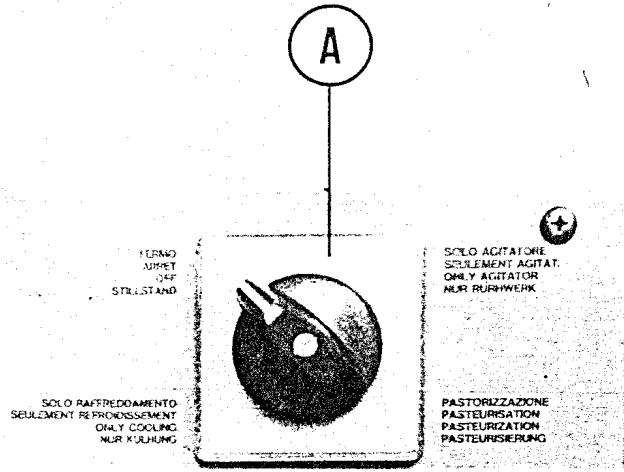
ANOMALY	ORIGINS	REMEDIES
	<ul style="list-style-type: none"> . Pressure switch or the freon circuits are not calibrated . Circuit overloaded with fluid. Pressure control can interrupt the electric circuit of the motor, which starts the compressor, because of insufficient capacity of the condenser the tubes of which are submersed in fluid 	<ul style="list-style-type: none"> . Check and calibrate pressure control again . Discharge freon until the correct level in the condenser is obtained (always after checking the working temperature and feeding) or transfer the fluid to other tank or containers connected with the circuit, if possible.
Installation is not so efficient as it should be, even though compressor turns continuously	<ul style="list-style-type: none"> . Freon shortage . Incorrect regulation of the users . Presence of uncondensable materials . Valves of compressor faulty 	<ul style="list-style-type: none"> . Check the leak and load with the right quantity of gas . Adjust expansion valves and check the feeding units . Discharge the uncondensable materials . Remove the heads of compressor and repair or replace the valves or discs

ANOMALY	ORIGINS	REMEDIES
Compressor operates either for short periods of time or with long breaks in relation to normal operation without reaching the requested temperatures	<ul style="list-style-type: none"> . Excess of frost on the refrigerant batteries . Filters obstructed on the suction tap or on the expansion valve . Thermostat valve is wrongly regulated or directive 	<ul style="list-style-type: none"> . Defrost the batteries . "Create the vacuum" and clean the filters . First check the efficiency; replace the faulty piece if any
Noisy compressor, not frosted	<ul style="list-style-type: none"> . Break of valve discs . Seizure of one or more pistons for lack of oil or excess wear of piston rings . Vibrations due to one or more foundation bolts loose . Too much oil going back to the compressor from the suction, which causes spark knocking 	<ul style="list-style-type: none"> . Check and replace . Disassemble the compressor, repair and replace where necessary . Tighten all foundation bolts carefully . Check different oil taps.
Fluid "priming" in the compressor	<ul style="list-style-type: none"> . Faulty regulation . Dirty below the seat of the thermic expansion valves 	<ul style="list-style-type: none"> . Check opening and thermic expansion valves . Remove, clean, regulate again

ANOMALY	ORIGINS	REMEDIES
Compressor does not start	<ul style="list-style-type: none"> . Thermic overload protection blocked fuses blown . General switch open . System completely empty . Solenoid valves closed 	<ul style="list-style-type: none"> . Restore the relay replace the fuses and find out the origin of the damage . Close it . Look for the origin of the leak, repair and recharge fluid . Examine the coils, burnt, replace them

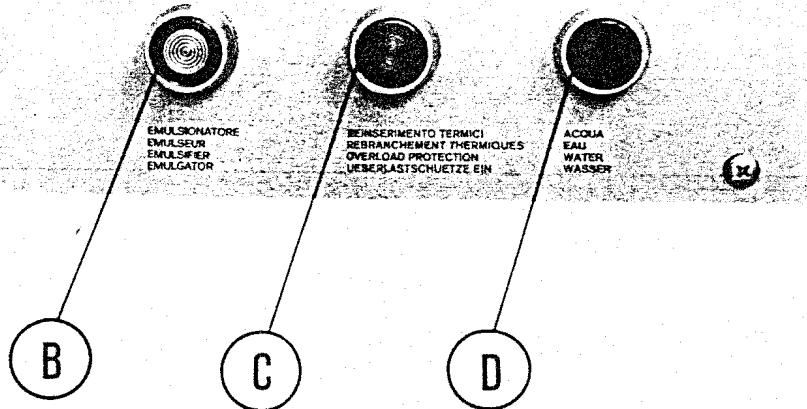


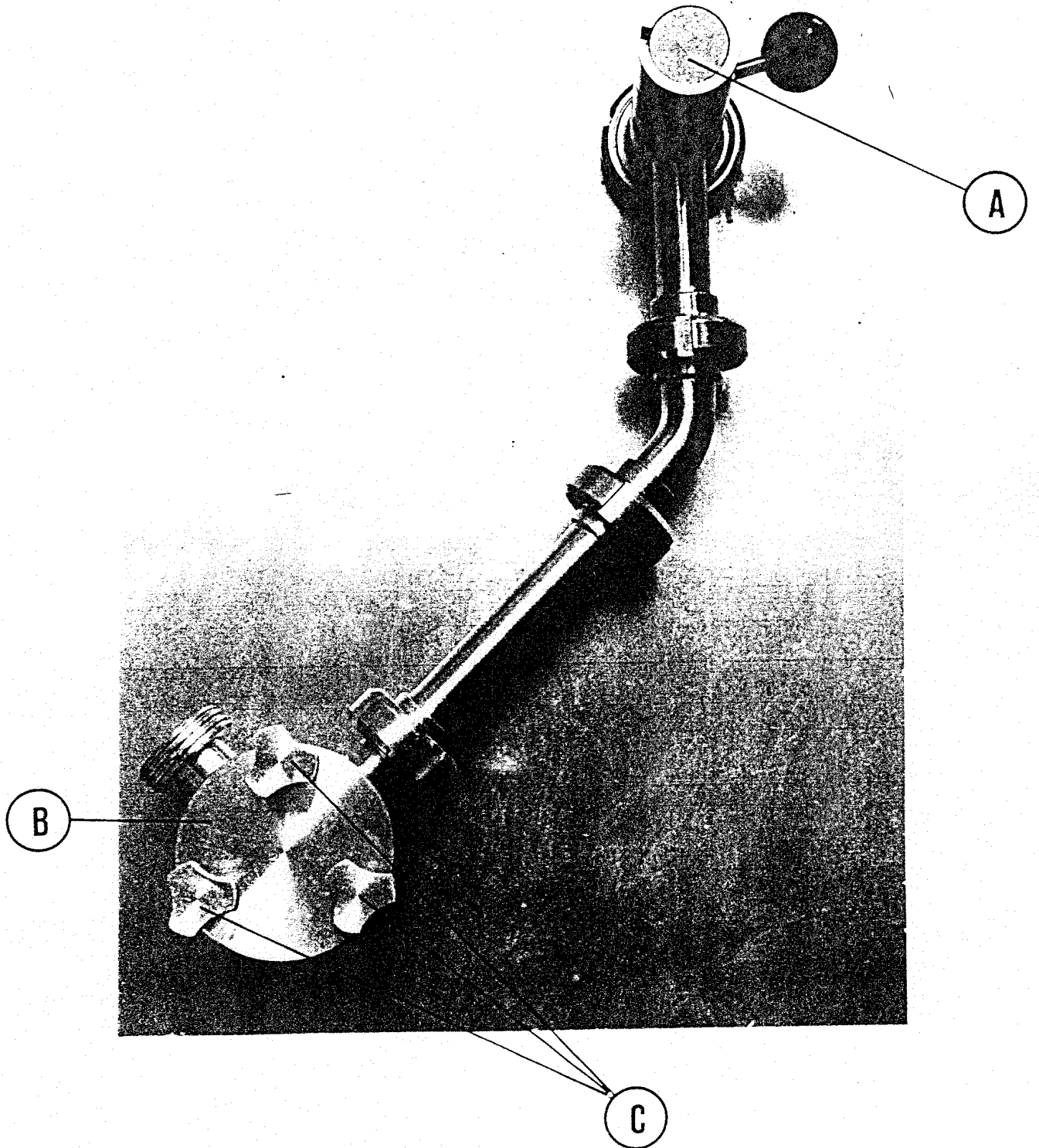


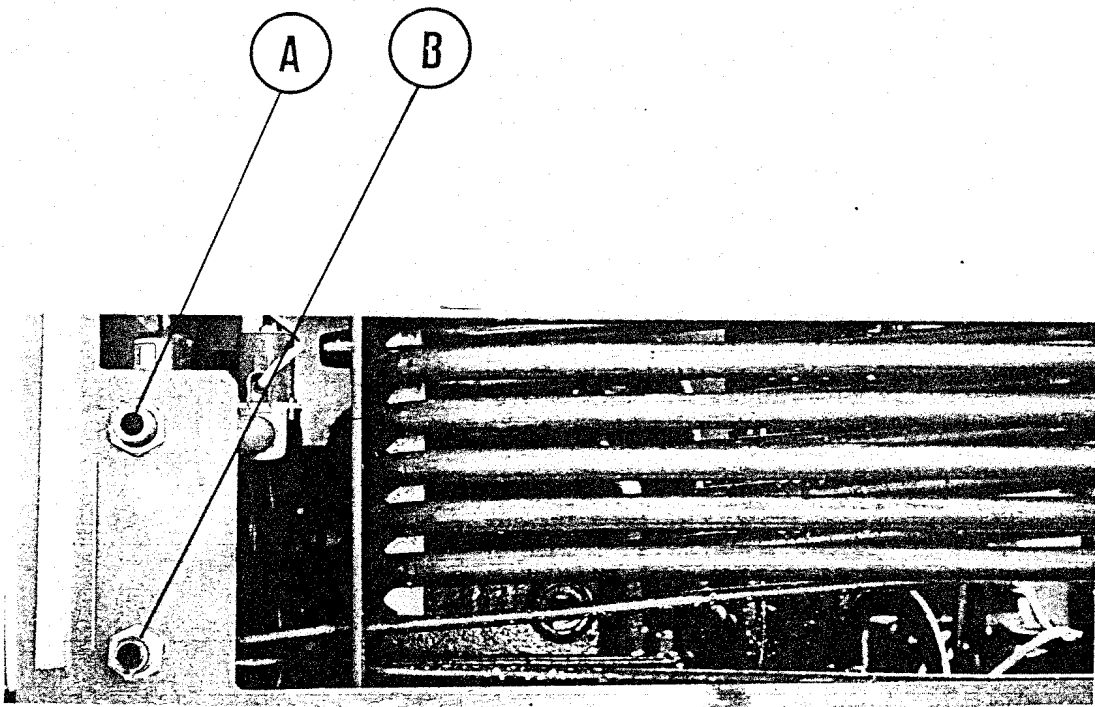


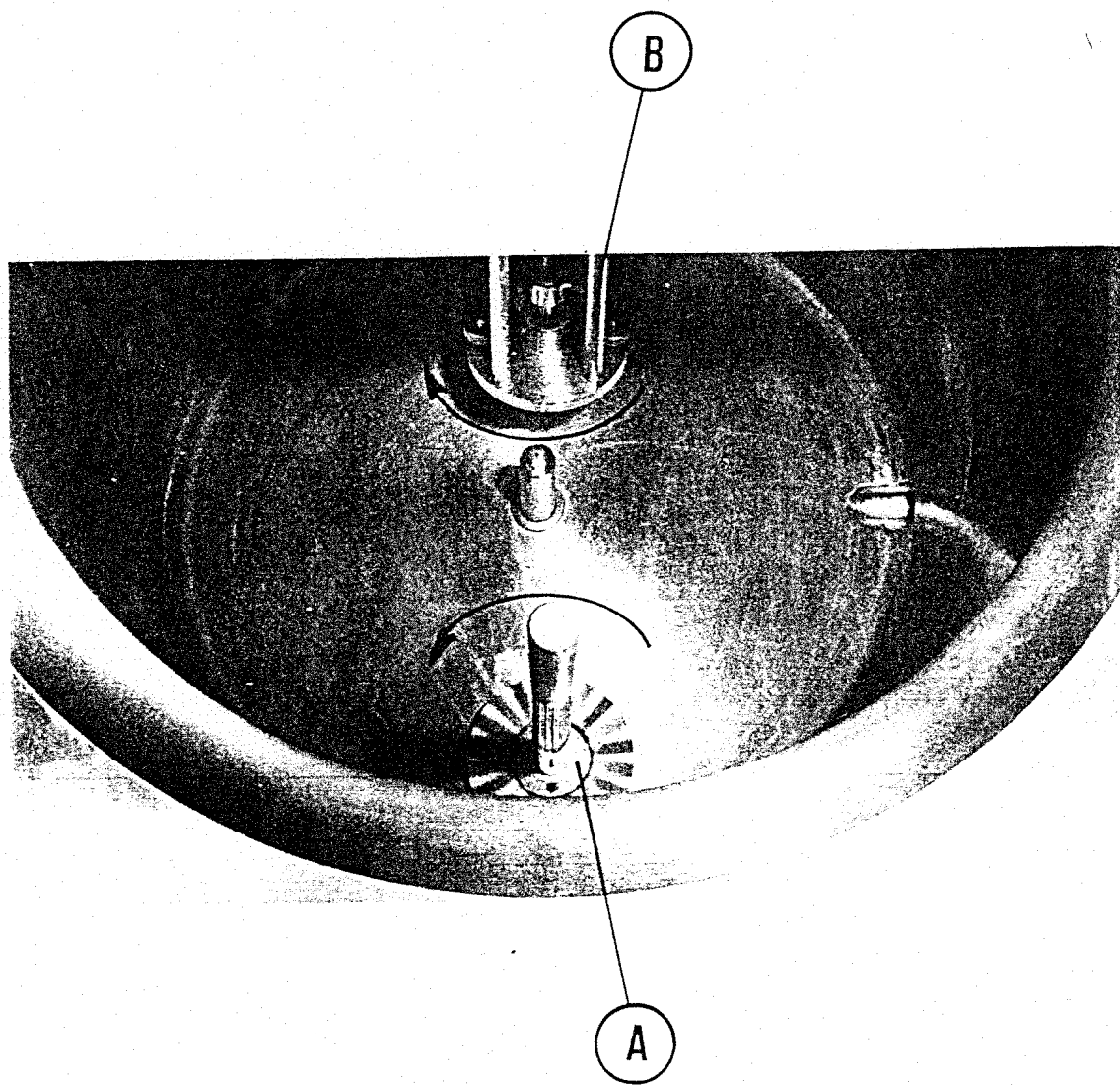
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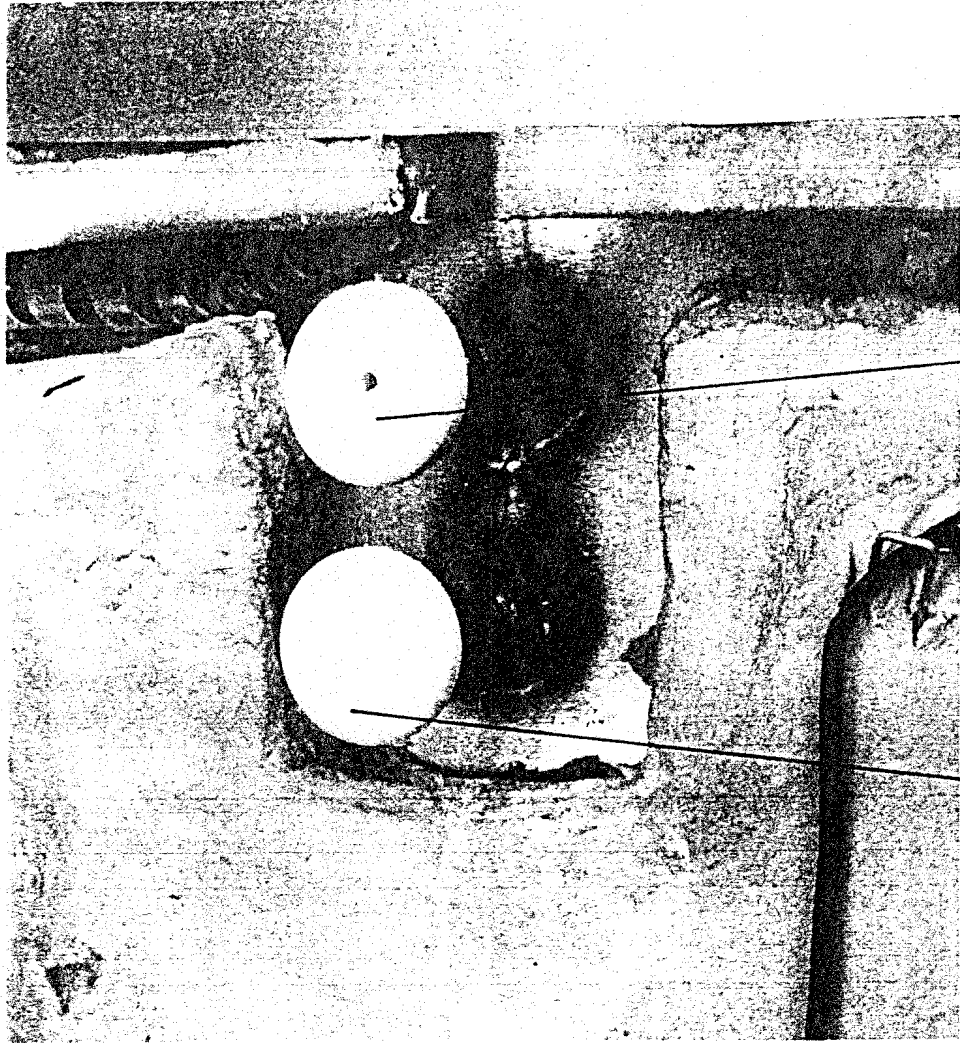
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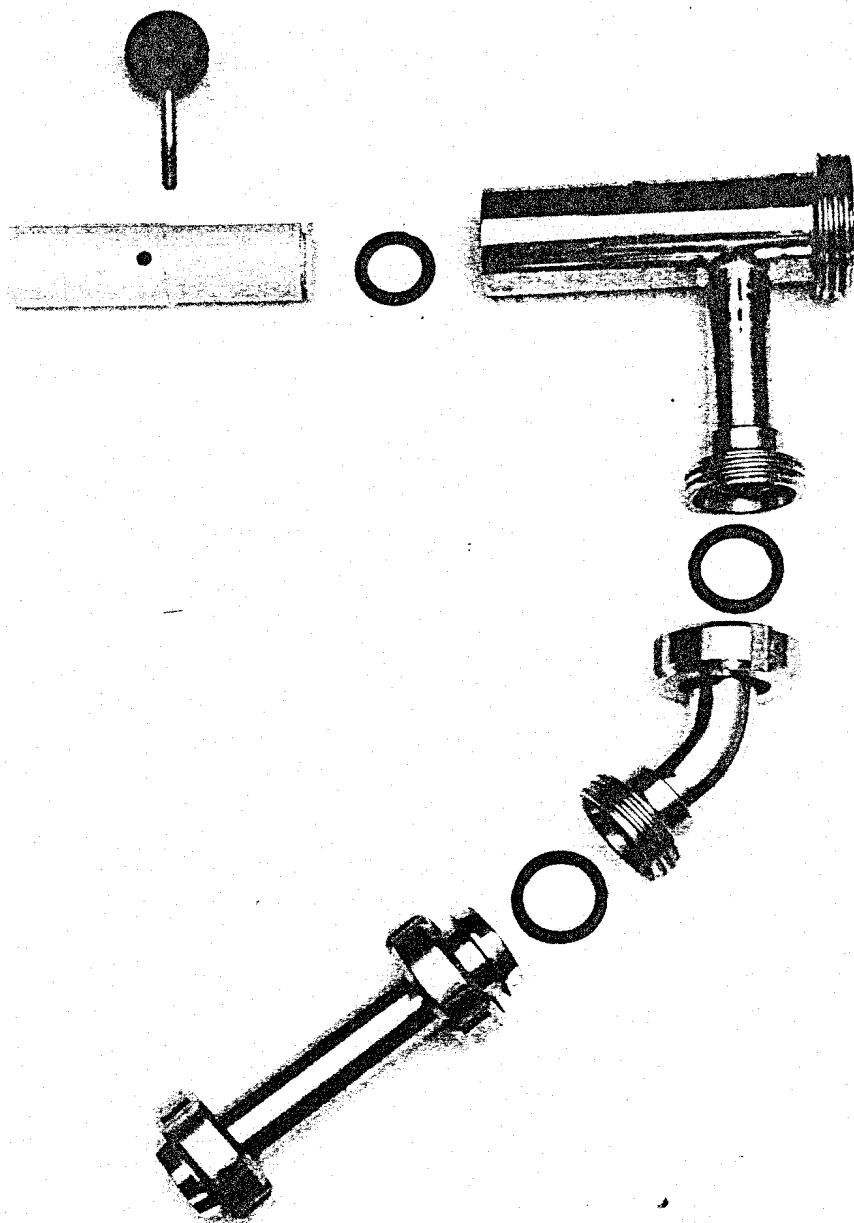


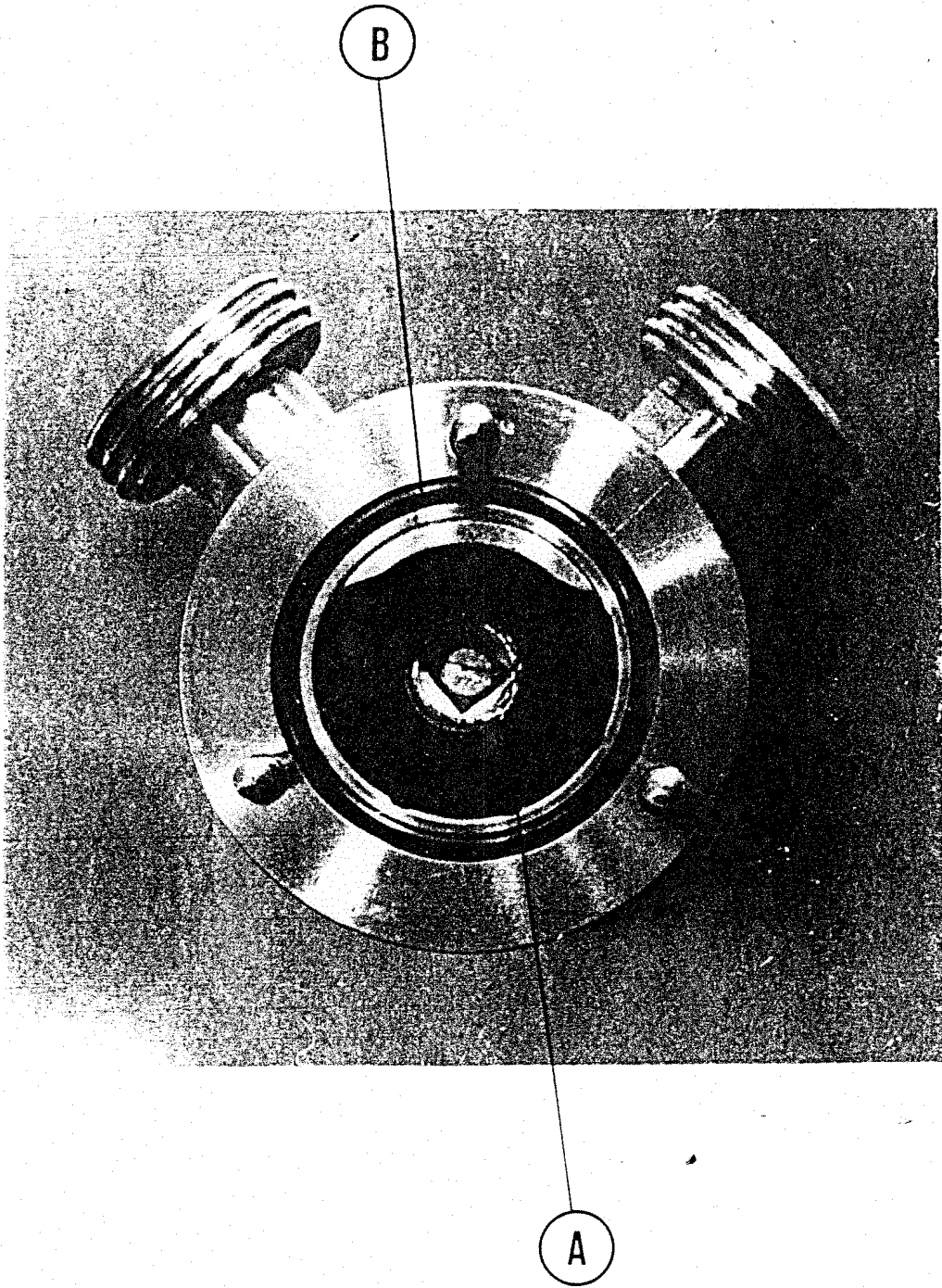


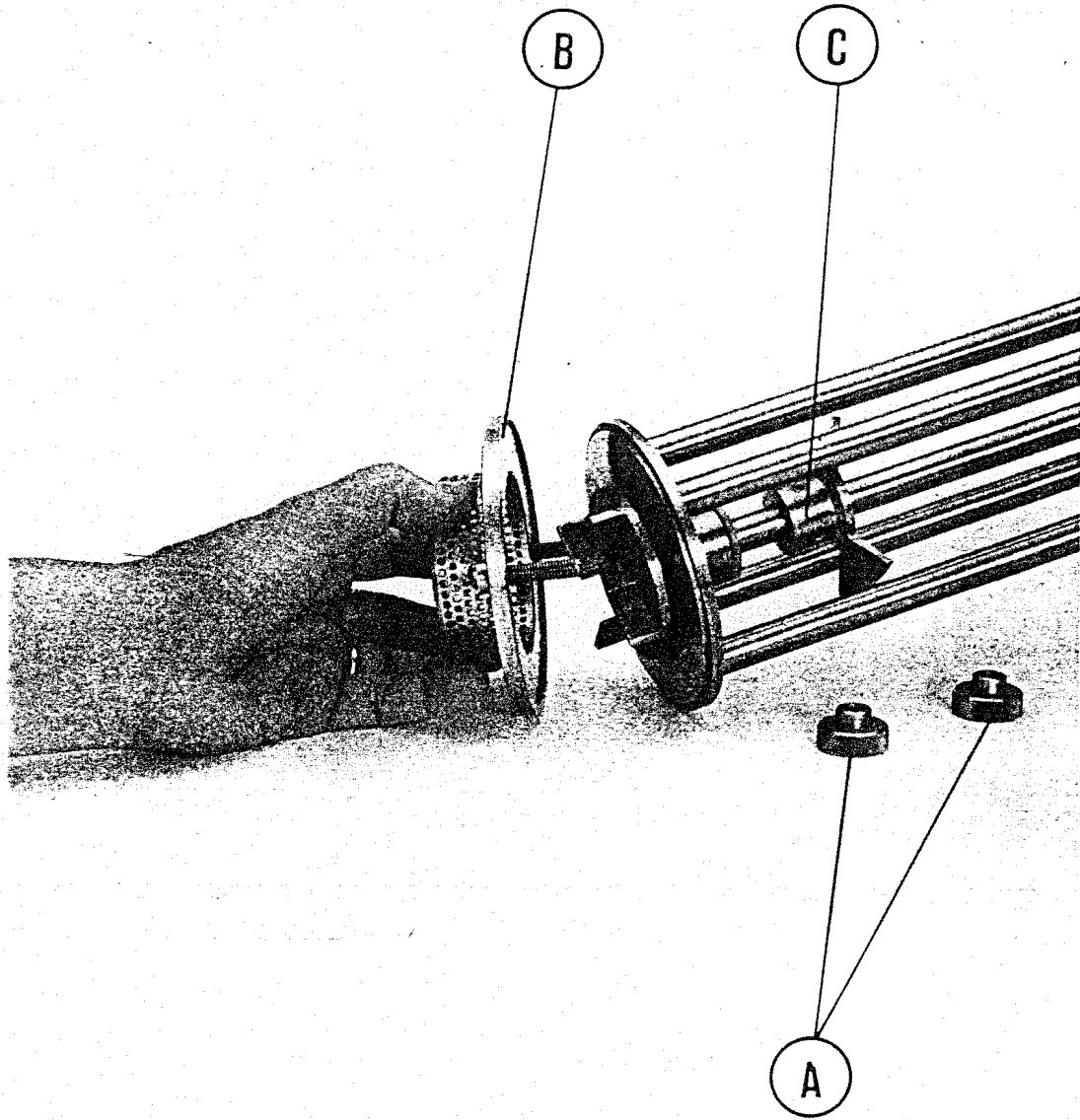


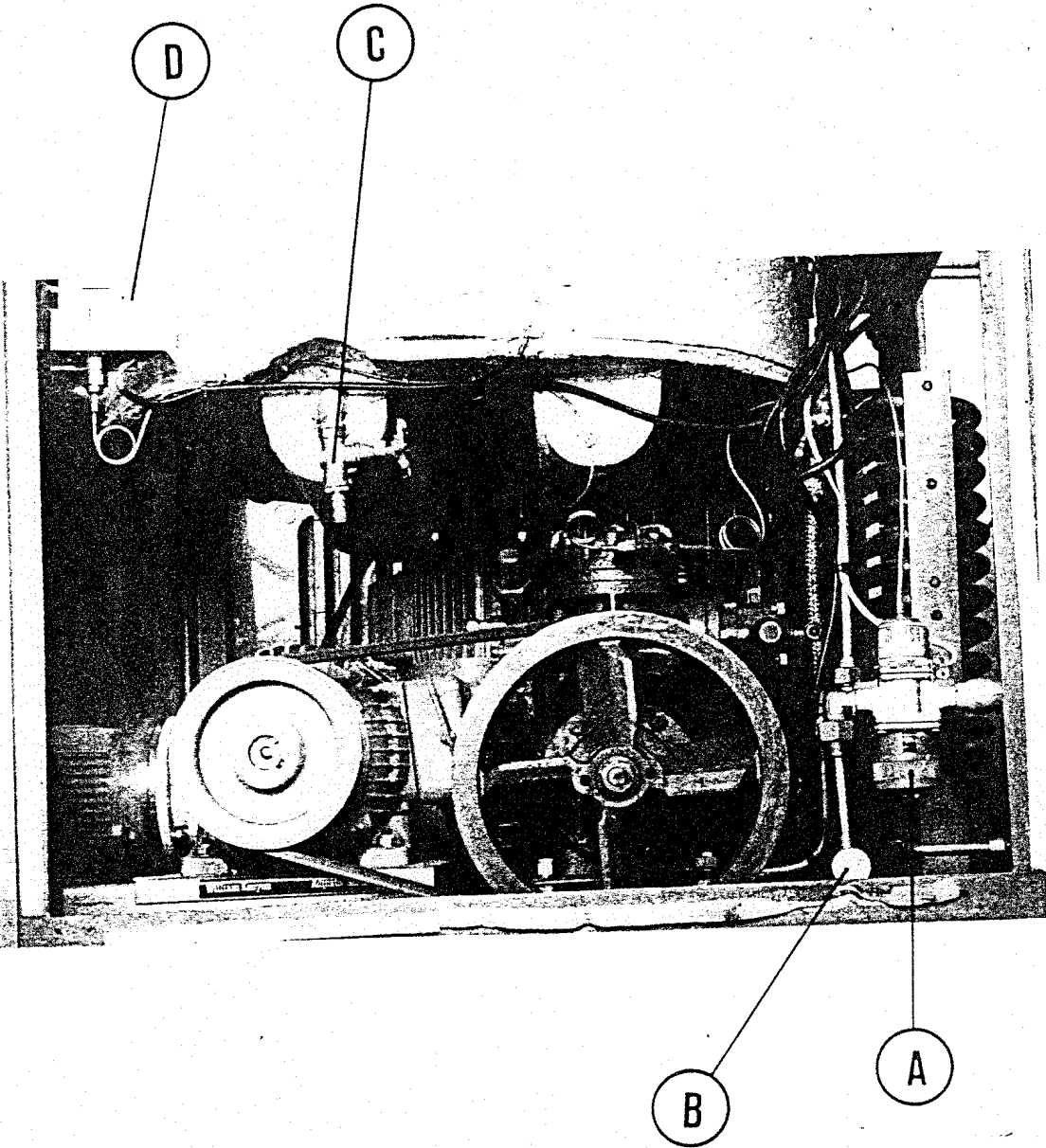
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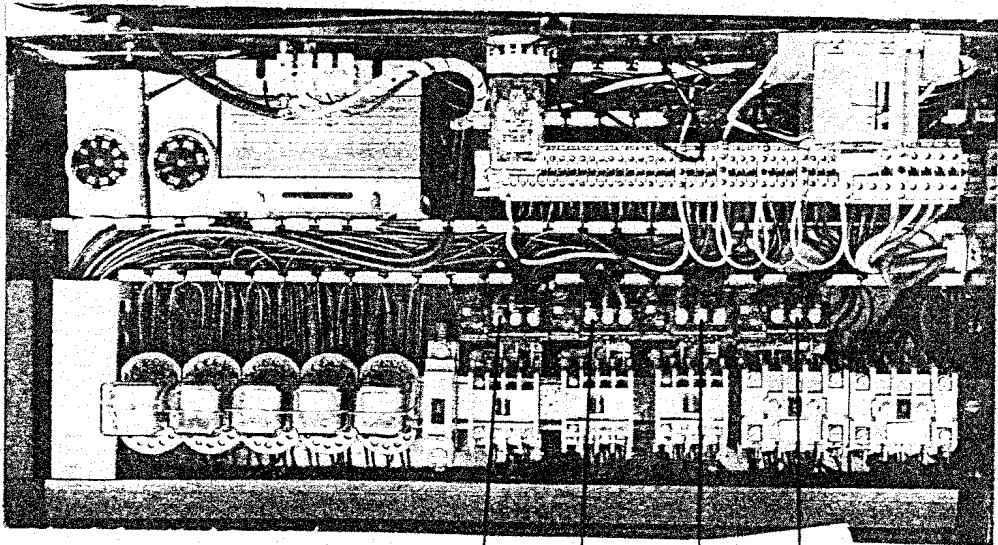
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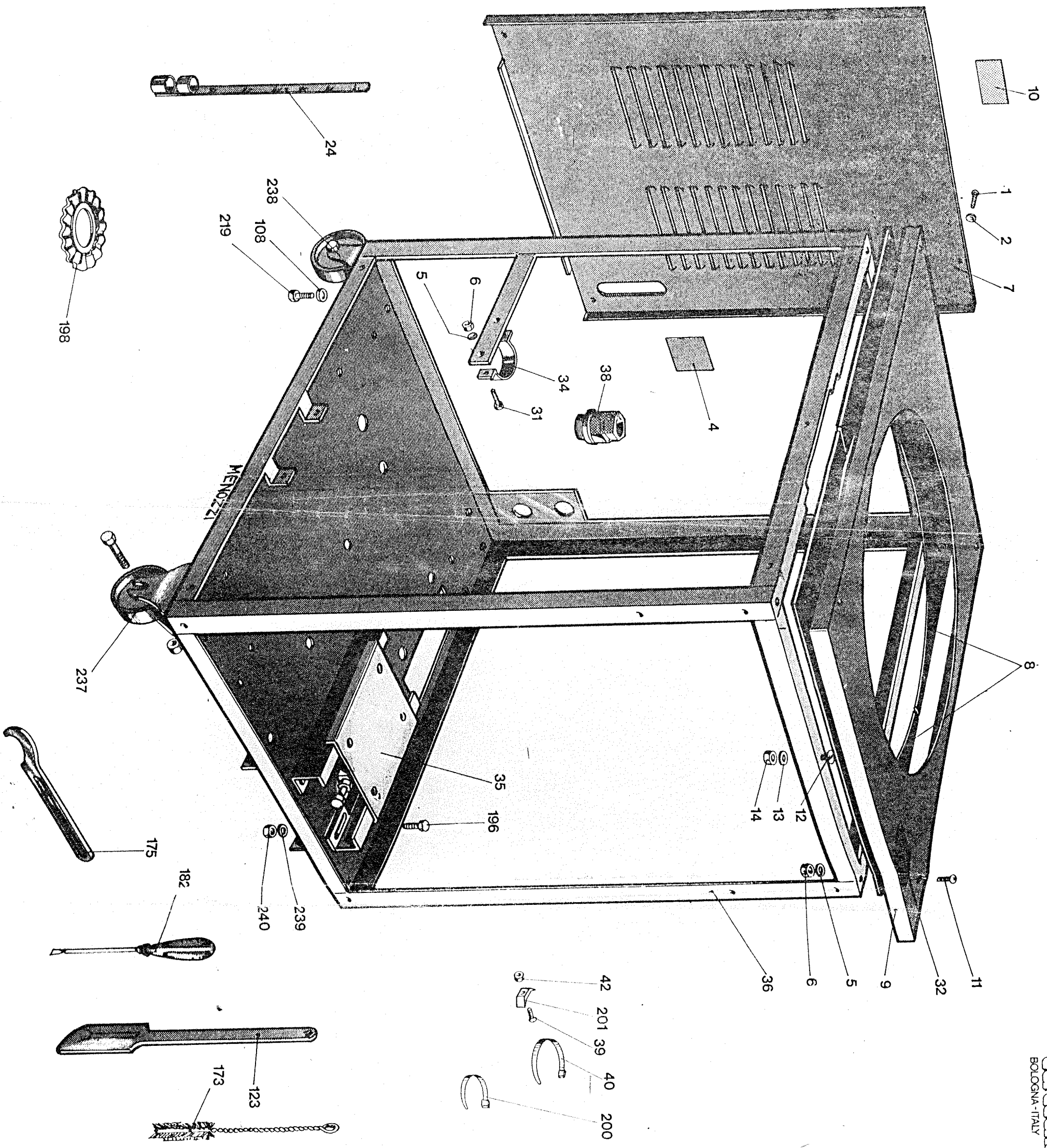


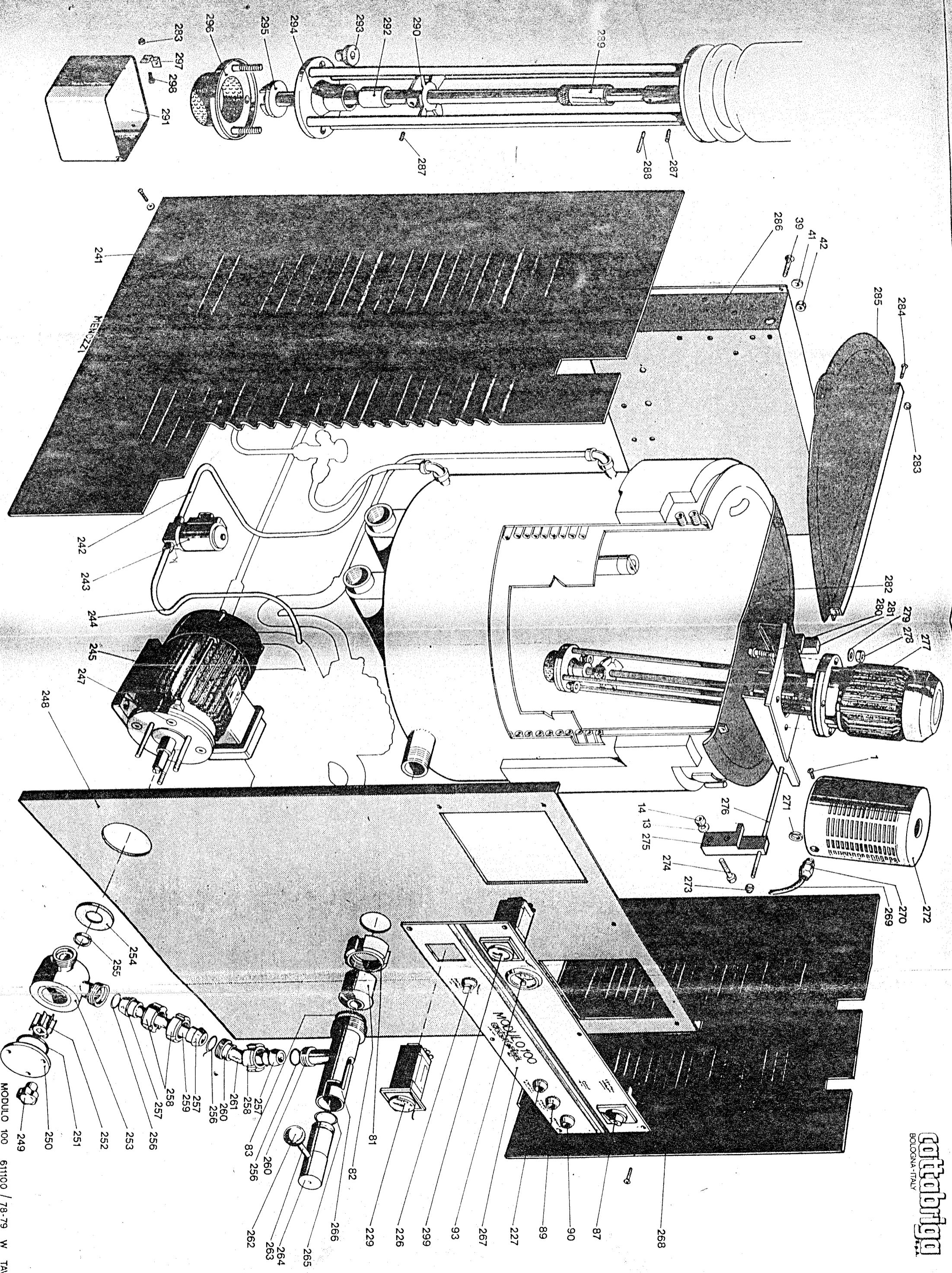


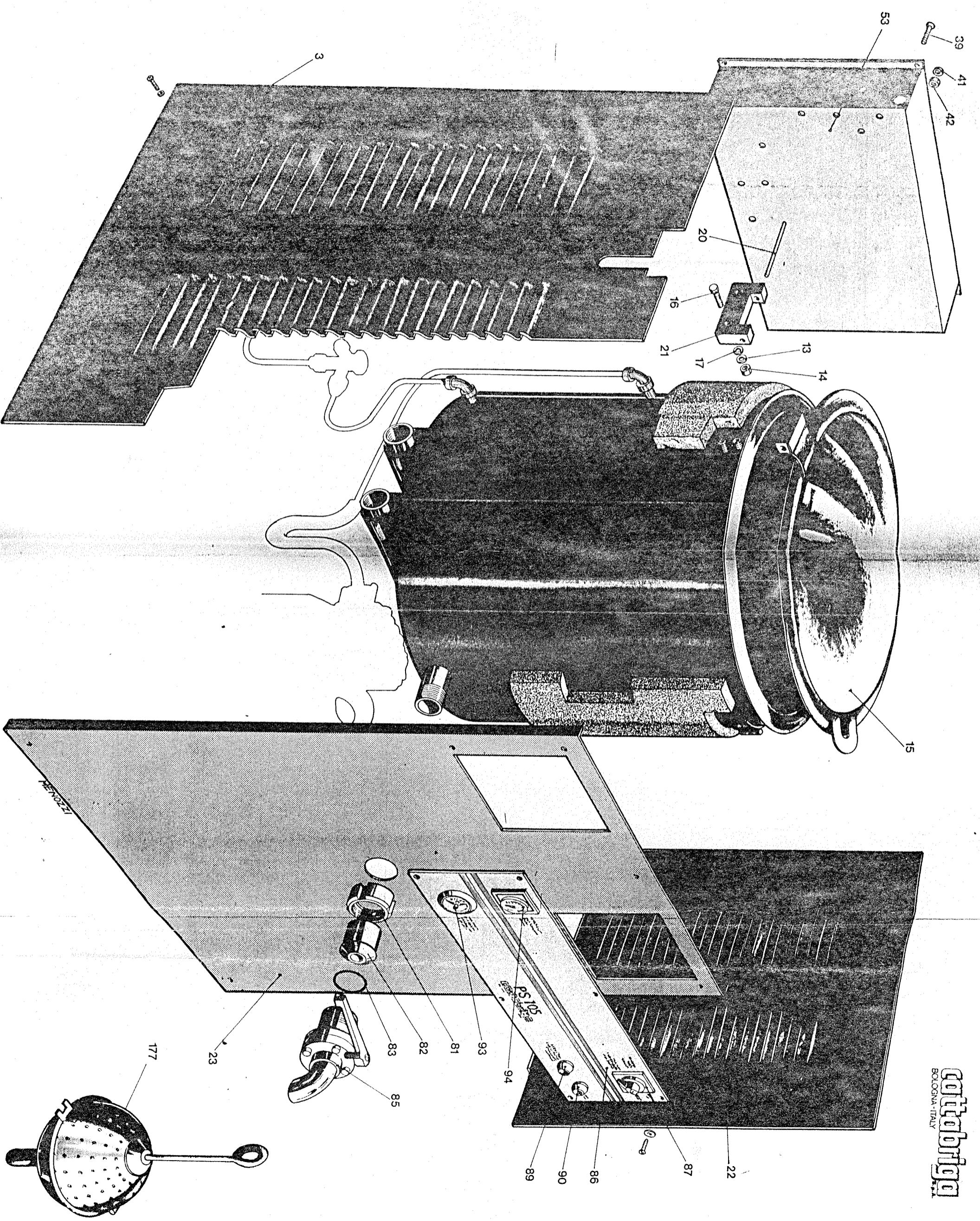




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Norme e disposizioni di legge sulla prevenzione infortuni sul lavoro per l'installazione elettrica delle ns. macchine.

Normes et termes de la loi sur la prévention des accidents du travail pour l'installation électrique de nos machines.
Normas y disposiciones legales referentes a la prevención de accidentes de trabajo, para la instalación eléctrica de nuestras máquinas.

Rules and provisions of the law on labour accident prevention for the electrical installation of our machines.

Gesetzliche Bestimmungen fuer den Unfallschutz bei den elektrischen Einrichtungen unserer Maschinen.

La CATTABRIGA S.p.A. informa che le vigenti disposizioni di legge sulla prevenzione degli infortuni sul lavoro stabilite con decreto del Presidente della Repubblica D.P.R. 547 del 27-4-1955 **fan- no obbligo** di attuare le seguenti misure per l'installazione elettrica:

- a) Le parti metalliche di impianti elettrici superiori a 25 V. verso terra, in corrente alternata che per difetto di isolamento possono venire a contatto delle persone, **devono essere collegate a terra.**
- b) Le derivazioni a spina per l'alimentazione di macchine e di apparecchi di potenza superiore a 1000 W. **devono essere provviste**, a monte della presa, **di interruttore, nonché di valvola omnipolari**, escluso il neutro, per permettere l'inserimento ed il disinserimento della spina a circuito aperto.

La CATTABRIGA S.p.A. informe que conformément aux normes de loi en vigueur sur la prévention des accidents du travail, établies par décret du Président de la République D.P.R. 547 du 27.4.1955, l'installation électrique de nos machines doit être effectuée en adoptant les mesures suivantes:

- a) Les parties métalliques des installations électriques au dessus de 25 V. vers terre, en courant alternatif, qui par défaut d'isolation peuvent entrer en contact avec de personnes, **doivent être connectées à terre.**
- b) Les dérivations par fiche pour l'alimentation de machines ou d'appareils de puissance au dessus de 1000 W **doivent être pourvues**, en amont de la fiche, **d'interrupteur, de même que de fusibles omnipolaires**, à l'exclusion du neutre, pour permettre le branchement et le débranchement de la fiche en circuit ouvert.

La firma CATTABRIGA S.p.A. informa que las disposiciones legales vigentes referentes a la prevención de accidentes de trabajo, establecidas por el decreto N. 547 D.P.R. del Presidente de la República de fecha 27-4-1955, **establecen la obligación** de poner en práctica las siguientes medidas para la instalación eléctrica:

- a) Las partes metálicas de los equipos eléctricos superiores a 25 V. hacia tierra, en corriente alternada, que por defecto de aislamiento pueden entrar en contacto con las personas, **deben estar conectadas a tierra.**
- b) Las derivaciones con enchufe para la alimentación de máquinas y de aparatos de potencia superior a 1.000 W., **deben ser provistas**, antes de la toma de corriente, de un **interruptor y de una válvula omnipolar** (con exclusión del neutro), para permitir la inserción y la desinserción del enchufe en circuito abierto.

CATTABRIGA S.p.A. communicates that the provisions of the law in force on the prevention of labour accidents established by a decree issued by the President of the Republic D.P.R. 547 on 27.4.1955 make the carrying out of the following measures for electrical installation obligatory:

- a) The metal parts of the electrical installation over than 25 V earth, in alternate current which, due to an insulation defect could come into contact with people, **must be earthed.**
- b) The plug shunt for the supply of machines and equipment with power over 1000 W, **must have**, upstream the current socket, **a switch as well as an omnipolar valve**, neutral excluded, for the connection and disconnection of the plug with an open circuit.

Die CATTABRIGA A. G. gibt bekannt, dass, laut gültigen Gesetzesbeschluss bezüglich des Arbeiter-Unfallschutzes für die elektrischen Anlagen folgende Schutzmassnahmen Pflicht sind:

- a) Alle Metallteile von elektrischen Anlagen über 25 V, die gegen die Erde ausgerichtet sind und die wegen schlechter Isolierung mit dem Arbeiter in Berührung kommen können, **müssen geerdet** werden.
- b) Alle Abteilungen in Form von Steckern zur Speisung von Maschinen und Geräten über 1000 W **müssen** oberhalb des Steckers einen **Schalter und eine omnipolare Sicherung**, der neutrale Pol ausgeschlossen, haben, damit bei offenem Kreis der Stecker ein- und ausgeschaltet werden kann.

Per agevolare l'installatore ad osservare le disposizioni descritte al punto a) ogni macchina è provvista di **attacco di messa a terra** con relativa indicazione.

Au but de faciliter l'installateur à observer les normes décrites au point a), chaque machine est pourvue de **prise de mise à terre** avec l'indication relative.

Para allanar las dificultades del instalador que deberá observar las disposiciones descriptas en el punto a), todas las máquinas están provistas de una **conexión de contacto a tierra**, con las debidas indicaciones.

In order to aid the installer to observe the provisions described in point a), every machine is equipped with an **earthing attachment** with relative instructions.

Um die Beachtung des Punktes a) zu erleichtern, ist jede Maschine mit einem **Erdanschluss**, sowie mit deren Anzeige, aus-

Per ottemperare alle disposizioni di cui al punto b) ogni macchina deve essere allacciata alla linea elettrica tramite un **interruttore antinfortunistico interbloccato** con fusibili e giunto a spina come risulta dal seguente schema:

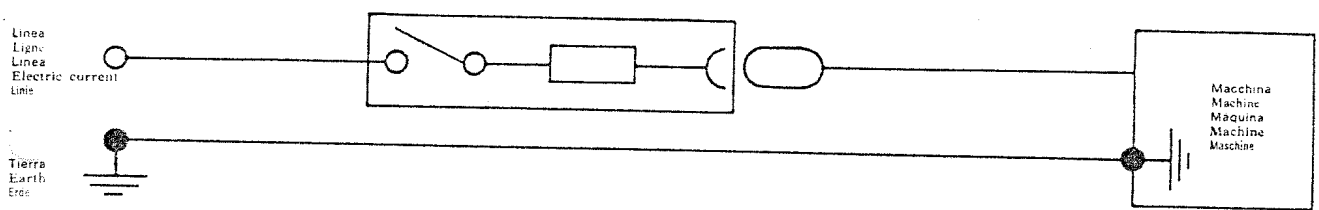
Pour se conformer aux dispositions dont au point b), chaque machine doit être branchée à la ligne électrique au moyen d'un **interrupteur de sécurité contre les accidents interbloqué** avec fusibles et joint à fiche, suivant le schéma ci-dessous:

Para cumplir con las disposiciones establecidas en el punto b), todas las máquinas deben ser conectadas con la línea eléctrica a través de un **interruptor contra accidentes de trabajo bloqueado internamente**, con fusibles y junta con enchufe, que deberá responder a lo indicado en el siguiente esquema:

In order to comply with the provisions in point b), every machine must be connected to electric current through an anti-accident interlocked switch with fuses and plug coupling as it appears on the following diagram:

Zur Beachtung der Bestimmungen laut Punkt b) muss jede Maschine folgendermassen an die elektrische Leitung angeschlossen werden: **verblockter, unfallsicherer Schalter mit Sicherungen und Verbindung** laut nachstehendem Schema:

INTERRUPTORE ANTINFORTUNISTICO
INTERRUPTEUR DE SÉCURITÉ CONTRE LES ACCIDENTS INTERBLOQUÉ
INTERRUPTOR CONTRA ACCIDENTES DE TRABAJO
ANTI-ACCIDENT INTERBLOCKED SWITCH
UNFALLSICHERER SCHALTER



Prima di eseguire le connessioni è necessario accertarsi dell'efficienza dell'impianto di messa terra.

Avant d'effectuer les branchements il faut vérifier que l'installation de mise à terre fonctionne parfaitement.

Antes de realizar la conexiones es necesario asegurarse de que la instalación de contacto a tierra funcione normalmente.

Before making the connections it is necessary to make sure of the efficiency of the earthing installation.

Vor dem Anschluss muss die Wirksamkeit der Erdungsanlage überprüft werden.

Per rendere operativa l'ottemperanza alle norme sopraindicate sarà sufficiente, all'atto dell'installazione, raccomandare ai Sigg. clienti l'installazione di detti giunti antinfortunistici da scegliere macchina per macchina secondo quanto indicato nella Tabella 1 in allegato.

Au but de s'assurer que les normes sus-mentionnées soient suivies il suffira, lors de l'installation, de recommander aux Clients d'équiper chaque machine avec les joints de sécurité contre les accidents sus-mentionnés, choisir exprès selon le type de machine et suivant les indications de la Table 1 annexée.

Para poner en práctica el cumplimiento de las normas indicadas más arriba, será suficiente recomendar a los señores clientes, en el momento de la instalación de las máquinas, que instalen dichas juntas contra accidentes de trabajo. Estas deberán ser aplicadas de conformidad con las características de cada máquina, de acuerdo con lo indicado en la tabla N. 1 que se adjunta.

In order to make the compliance to the above indicated rules operative, it is sufficient, during installation, to recommend that Customers install the said anti-accident couplings to be chosen according to the machine, as shown in Table 1.

Zur Beachtung der obengenannten Bestimmungen, müssen die Kunden die verschiedene Schutzvorrichtungen (siehe die einliegende Tabelle 1) einbauen.

Detti giunti potranno essere installati direttamente dai Ns. Installatori o da elettricisti del cliente. Resta inteso che in ogni caso l'onere dell'adozione di questi giunti antinfortunistici è a carico del cliente.

Ces joints pourront être installés directement par nos installateurs ou bien par les électriciens du Client. Il est sous-entendu toutefois que la responsabilité de l'adoption des joints de sécurité contre les accidents et les frais relatifs son entièrement à la charge du Client.

Tales juntas podrán ser instaladas directamente por nuestros instaladores, o bien por electricistas señalados por el cliente. Queda entendido que, en todos los casos, los gastos resultantes de la adopción de estas instalaciones contra los accidentes de trabajo corren completamente por cuenta del cliente.

These couplings can be installed directly by our Installers or by the Customer's electricians. It is understood that in every case the responsibility of the adoption of these anti-accident coupling is at the Customer's expense.

Es versteht sich, dass die Kosten für diese Schutzvorrichtungen der Kunde trägt. Diese Schutzvorrichtungen können direkt von unseren Installateuren oder von Elektrikern der Kunden eingebaut werden.