

# BENZ & HILGERS GMBH

Münsterstraße 246 · Postfach 32 01 80 · D 4000 Düsseldorf 30 · Telefon (0211) 63941 · Telex 8586830

---

*Operating instructions and illustrated  
specifications of spare parts  
for the  
Filling and Wrapping Machine*

MACHINERY WORLD



**Typ., „Junior 8311S“**

C o n t e n t s
Page
1.) Instructions Manual

Unpacking	1
Cleaning	1
Erection	1
Drive	2
Control parts	2
Directions to operate the packaging machine in conjunction with the continuous processing plant	3
Overflow at the pneumatic compensating piston	3
Preparation of compressed air	4
Lubrication	4
Trial runs and control of movements	5
Connecting parts to be disconnected for cleaning	6
Cleaning of feeding and filling section	6
Preparatory works for packing butter	7
Incorporation of measuring parts	7
Treatment of measuring cylinders and pistons	8
Storage and handling of wrapper reels	9
Feeding the wrapping material into the machine	9
Registration device	10
How to mark the wrappers with the packing date	10
Trouble in the wrapper feed	10
Starting production of the packaging machine	12
Filling process (correct and incorrect)	13
Back suction of the measuring piston	13
Adjustment of cam for cutting bow	14
Control of cutter	14
Folding station	14
Change of off-conveyor belt	14
Removal of wrapper knives	15
Regrinding of knives	15
Incorporation of wrapper knives	16
Weight differences	17
Instructions for changing over from one packet size to another	18
Instructions for adjustment of "Ortlinghaus"-Multiple disc clutch No. 194	
Instructions regarding variable speed drive No. 8 8e	

2.) Indication of Spare Parts

Explanations	
Illustrations	
Spring list	
Part list to illustrations	

## 1) INSTRUCTION MANUAL (please connect illustration)

U n p a c k i n g :

Machine must be carefully unpacked and checked for any damage that might have occurred during transit. The machine despatched partly dismantled must be checked whether it is complete as per packing list and attachments thereto. Is any part short, please immediately notify BENHIL.

The transport of machine to site is eased by utilising round bars or the like underneath the deals bolted on. When positioning the machine take care to lift it by its frame only. Do not put ropes around levers, shafts and other similar parts which are liable to break.

Tool rack with tools, spare parts as well as accessories and change-over parts for various packet sizes should be stored at a suitable place. On request BENHIL may provide a special steel locker for these change-over parts.

C l e a n i n g :

All parts of the machine must be freed from anti-corrosives and dirt by means of a soft cloth and, if necessary, methylated spirits. This especially applies to all cams and rollers.

E r e c t i o n :

- a) Screw in four feet 2 under the machine frame and position machine on the four supports 3 (Fig. 11 D 83) and balance it by means of a water level.
- b) The measuring piston 21 must be fitted into the measuring cylinder 7 after having been greased with fat or vaseline and it is then to be connected to the lever 19 by means of pin 6. Utmost care should be taken when assembling these parts (see fig. 11 D/83).
- c) Shaft 15 for the wrapper reel is put into the open bearings above the wrapper apparatus and then the bolts of the brake yoke 18 are to be fastened in the upper rail 14. (see fig. 11 D/63).
- d) Prior to fitting the inflexible off-conveyor belt, remove lateral plexiglass shield 9. Fix off-conveyor belt by means of bolt 7, two counter sunk screws and hexagon screw 1 and fasten again plexiglass shield (see fig. 11 D/64.)

Motor 9 (fig. 11 D/62) is to be connected by an electrician in the correct sense of rotation (see wiring diagram). Check if voltage and cycles of motor correspond with those of main line.

Urheberschutz: Für diese technische Unfallsache behalten wir uns alle Rechte vor.

12. April 1966

Fi 64c 5 6302

If the machine is installed by one of our expert fitters, you should avail yourselves of the opportunity having trained your personnel thoroughly in the operation of the machine. Appoint a technical minded person to be responsible for the machine and a further man as a substitute so that in case of illness etc., there will always be at least one person being familiar with the machine. Our fitter ought to train your personnel and watch the operation of the machine for a few days after erection has been carried out. Before the BENHIL fitter leaves your plant make sure that the machine is working to your entire satisfaction and that your people are quite familiar with the operation and maintenance (lubrication, cleaning, changeover to another packet size) of the machine.

#### Drive:

The driving power of the motor is transmitted by means of V-belt to a gear shaft with multiple disc clutch. The clutch is actuated by engaging lever 3 (fig. 11 D/51).

The machine can only be started when guard 20 hangs down. Disengage blocking lever 5 (see fig. 11 S/59).

#### Control parts: (see fig. 11 D/51)

Engaging lever 3 with blocking lock 4.

Rod 5 for feed rollers of wrapper apparatus

1 = feed

0 = no feed

Handwheel 2 for test run of the machine

Adjusting wheel 7 for fine regulation of weight

1 full revolution = correction of 2.5-3 grams.

Crank handwheel 1 for variable speed drive

Adjusting wheel 8 for cell bottom adjustment

1 revolution = 1,5 mm difference in packet height

Pin 6 (fig. 11 D/83) with stopping bolt 5 for stopping piston movement.

Service unit 8,9,10 (Fig. 11 D/83) for the preparation of compressed air with compressed air feed and pressure control

Instructions covering the operation of the packaging machine in direct link up to the processing plant

For ensuring a perfect packing, the whole processing plant must work correctly. To achieve this, one has to refer to the supplier of the plant and to the instructions given by them, respectively.

The product must have a uniform, soft consistency. Mixing it with hardened product, possibly left on the day before, will cause weight variations. As described in the instructions for (Fig. 8803.2) drain the product by return pass until uniform consistency is achieved.

In case of too liquid product the consistency can be affected by reducing the quantity being handled at the regulating valve of the inlet pipe for the processing plant and in case of too hard a product by increasing the quantity running through, without having changed the cooling capacity of the plant, which, however, should have been adjusted before.

Overflow at the pneumatic compensating piston

In order to feed sufficient product into the dosing unit, the capacity of the processing plant should be larger by abt. 2 to 3 p.c. than the packaging capacity required.

(The output of the packaging machine is adjustable.)

Excessive product will occur also in case of constant output of the processing plant and change-over to smaller packet sizes.

At constant pressure which should not exceed max 1.5 bar=21.33 lb/si the compensating piston fig. 11 D83-12 of the packaging machine will work in regular up-and-down motions. As soon as the pressure decreases, so that only a little product or nothing will come out of the return pipe of the processing plant, the piston will lower to its undermost position. Weight variations!

The output of the packaging machine ist to be decreased, until the compensating piston will rise again and the return will increase, respectively. In case of too large a return flow with the product no longer coming out rhythmically, but continuously, the output of the packaging machine ist to be increased. It is recommendable to provide the tube running from the processing plant to the packaging

A can of oil is supplied for the first refilling after 150 working hours with the machine and be bought in case of need at every Shell - Agency or at our firm.

The roller forks for the vertical flap folder 11 S/60 - 16 and for the folder movement 11 S/60 - 8, the fork guides, roller chains, joints as well as the red marked oil holes have to be oiled with the best bearing oil having a viscosity of 4 - 7° Engler (at 50° Celsius = 122° Fahrenheit). All grease nipples that are marked in red are greased by means of the grease gun supplied with the machine. Ball joints, spindles chain and bevel wheels are oiled with a brush. Observe red arrows and rings! When racking merchandise without fat, see to it that the additional lubrication on fillingcock 11 S/60 - 28 and filling housing 11 D/83 - 10 is carried out with tasteless fat. Repress fat - best quality - until it oozes out of the bearings. To prevent rust formation grease all bright parts when machine has been cleaned, after finishing work, or when machine has been out of operation for a longer time.

#### Trial run and control of movements:

After the machine has been lubricated according to instructions, check the satisfactory functioning by turning handwheel 11 D/51 - 2 in direction of arrow. When doing this, oil cam rolls, too, with an oil can. Oil must penetrate between roll and lever and drip on the cam face.

Control of movement should be carried out every 100 - 150 working hours. To give a conformity, red marks are to be found on the following parts: Shaft for cams 9 on operator's side and bearing 8 (fig. 11 S/58) on the side of the off-conveyor on drive shaft 7, on shaft for cams 2 in the wrapper apparatus and on the pertaining bushing 3 (fig. 11 S/61).

When checking, these parts are to be handled as follows:

Turn the machine by hand until the marks on shaft 9 and bearing 8 (fig. 11 S/58) and on driving shaft 7 (fig. 11 S/61) are in a vertical position. Now the marks on shaft 11 S/61 - 2 and on bushing 3 should be one above the other forming one line. If this is not the case, the screws on roller fig. 11 S/63 - 9 are to be slackened, the marks should then be adjusted and afterwards the screws be tightened again. After this the chain fig. 11 S/63 - 1 has to be tightened by means of lever fig. 11 S/59 - 39.

After every 100 - 150 hours of operation the machine should be inspected thoroughly. On this occasion the following points should be taken into consideration:

- 1) Check if all cam rollers turn easily on the axles,  
(seizing rollers cause undue wear of the cam)
- 2) Check if all roller axles have a tight fit in the levers,
- 3) Check all bolts and nuts for tight fit,

April 1966

- 4.) Check all taper pins for tight fit on all turnig parts
- 5.) Check all levers for free movements
- 6.) Check all parts for undue wear

After inspection do NOT omit to replcece all guards and cover plates.

Connections to be released for cleaning:

Hexagon nut 3 for forming cell 1	}	Fig. 11 S/59
3 Thumb nuts 46 for the folding plates 43.45.51		
Ball pan 27 for cutter lever 25	}	Fig. 11 S/60
Bolt 24 for cutter lever 25		
Hexagon nut 18 for filling mouthpiece 13		
Hexagon nut for closing cover 37		
Star handle 34 for joint 32	}	Fig. 8803.2
Puncher and clutch 27 for the housing 22		
2 collar nuts for stud bolt 19		
2 knurled schrews 17 with retainers 18	}	Fig. 11 D/83
Bolt 6 for measuring piston 21		

Cleaning:

- a.) After every shift all parts coming in touch with the merchandise must be cleaned with hot water. Do Not add admixtures. Under No circumstances should soda, caustic soda, acids, wire brushes or other scraping objects be used. The parts to be cleaned have to be disassembled as follows:

For removal of the measuring piston 11 D/83-21 the resting pin 5 with button is to be released and the bolt 6 to be extracted laterally. Now measuring piston 21 can be removed from measuring cylinder 7. Take off closing cover fig. 11S/60-37. Measuring cylinder fig. 11 D/83-7 can now be drawn back.

Filling cock fig. 11 S/60-28 and ring 29 can be taken off. Now measuring cylinder is to be removed. Release mouthpiece 13 with cutter lever 25 from the filling cock. Dismantle forming cell 12.

Dismantled parts and measuring device are to be cleaned with clear hot water. Do NOT use detergents.

IMPORTANT!

When cleaning parts made of plastics, water temperature must not exceed 60 °C = 140 °F. Those parts are not to be exposed to this temperature for more than 2 minutes.

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

When cleaning keep water away from all steel parts that are liable to rust. Do NOT spray down machine with a hose. If it should not be possible to protect the parts concerned from water with cloths they are at least to be dried carefully and greased after cleaning.

This also applies to all chrome-plated parts and all polished light metal parts, which are also to be covered with a thin layer of fat as it is the case with the blank steel parts. This is the only way to avoid corrosion in factories with high air humidity.

Preparation for butter packing:

Only cutter bow 11 S/60-14 and outer lower rim of mouthpiece 11 S/60-13 are to be rinsed thoroughly with hot water and must then be prepared by brushing with a hot solution of P3 z etc. In the ratio of 1:10 (1/4 kg P3 z dissolved in 2 1/2 litres of water) on all sides. The solution may be used several times. Prevent the hot solution from penetrating into the bearing of the cylinder as in this case NO layer of fat for the cylinder 11 D/83-7 would be there. Prepared parts should dry for at least ten minutes and then be rinsed with cold water so that the invisible prepared layer may absorb again water and so that the temperature of the parts is lower than the temperature of the merchandise.

Do NOT touch prepared faces!

NEVER prepare filling housing 11 D/83-10, measuring cylinder 11 D 83-7, measuring and compensating piston 11 D/83-12 and 21, filling cock 11 S/60-28 and inner faces of mouthpiece 13! Otherwise machine might be blocked and differences in weight might occur!

Preparation of feeding and measuring section is NOT necessary when packing margarine fresh cheese, lard, or the like.

Incorporation of measuring parts:

Upper wrapper knife fig. 11 S/59-31 is to be brought into lowest position, wrapper feed is to be positioned to '0' by rod 11 D/51-5.

- a. Filling housing fig. 11 D/83-10 is to be greased inside, and measuring cylinder 7 outside. Then the cylinder is to be inserted whilst being turned until it projects for about 1 cm. Washer fig. 11 S/60-29 and filling cock 28 are to be placed into their position, push through cylinder. Marks on toothed rim on cylinder and toothed bar fig. 11 S/55-11 must correspond with each other, otherwise differences in weight or breakage. Washer fig. 11 S/60-31 which cover 37 must be fastened.

ATTENTION!-Hook in tie rod for cock

- b. Insert greased measuring piston fig. 11D/83-21, connect it to lever 9 by means of bolt 6 and let catch index bolt 5. Rough adjustment of weight is to be



carried out on piston lever 17 according to scale.

- c. Insert the greased compensating piston (Fig. 8803.2-13). Screw retainers 18 on cap 16 and tighten the knurled nuts 17. Place the compressed air cylinder on stud bolt 19 and secure it using collar nuts. Connect the puncher 27 with the clutch to housing 22.

Treatment of measuring cylinder 7. of compensating piston 12 and of measuring piston 21 (see fig. 11 D/83)

The cylinder and the two pistons are the most delicate parts, apart from being of greatest importance, and should, therefore, be treated with utmost care.

The surfaces of the cylinder should not be damaged. Should the cylinder ever be rifled file down with a smooth and fine emery paper the damaged faces before replacement. This also applies to the cylinder bearing in the filling housing fig. 11D/83-10.

In order to prevent dropping of the cylinder when dismantling use the cylinder support 11 D/71-4 supplied with the machine.

NEVER insert the measuring cylinder fig. 11 D/83-7 before having thoroughly greased its outer face and its bearing in the interior of the housing 10 with the fat to be packed or tasteless vaseline, milking fat or alike.

If merchandise of low fat content will be packed on the machine, a so-called 'Hahnkükenfett' USBB 312 of Messrs. Th. Klüber, Munich, West Germany, is recommended. The advantages of this fat are that it is odourless, tasteless, heat- and cold-resisting, not dripping and not melting.

If the cylinder is inserted dry, the cylinder walls will be rifled. The cylinder will be blocked and the faces of the cylinder bearing be damaged. Such damage is difficult to repair.

Pistons 12 and 21: (fig 11 D/83) are to be treated with utmost care when cleaning as damaged piston faces would lead to damages at the piston bearing, too. Chamfers and notches should be treated with fine emery paper.

**IMPORTANT!**

**Storage and treatment of wrapper reels:**

The wrapping material should be stored in a clean room free from germs. The following points should be observed:

- 1) The reels should NEVER be put on the floor of the store room. They should rest on a grid leaving a space of about 10 cm (4") between floor and reel.
- 2) The reels should always be stored on their faces in order to avoid flats on the circumference. Reels with flat spots on the circumference lead to trouble when unwinding.
- 3) Keep reels away from direct sunlight.
- 4) Temperature in the store room should be between 10 and 20° C. (50 and 68° F.) at a relative air humidity of 65 - 70%. Dry stores make the paper stiff and brittle, damp stores lead to moist paper and in either case, this means trouble. If the paper is damp, this can cause mould and other germs could develop which will lead to infection of the packed goods.

The temperature and moisture in the store room can easily be checked by means of a thermometer and a hygrometer which can be obtained at little cost. If possible, a separate store room should be used for the wrapper reels.

**Feeding the wrapping material into the machine:** (see fig. 11 S/63)

Before introducing the wrapping material plunger rod fig. 11 S/59 - 21 has to be put into lowest position. Cut the beginning of the reel straight and square in a way that the edge goes through the centre of a register hole. Pass shaft fig. 11 S/63 - 15 with the cones through the core of the paper reel and place in reel stand so that the print comes to the outside and lies downwards in the wrapper feed.

Pay attention that the distance to both sides is equal. Place brake bow 18.

The lateral guides 16 are to be adjusted to have approximately 1 mm distance from the wrapper reel. The wrapper is now passed under the reverse roller 3, under pendulum 34, and over guide rod 4 so far until feeler 8 falls into the next register hole and the beginning of the wrapper reel is within reach of the segments. The wrapper reel is now turned back for tightening the web until pendulum 34 is in its highest position.

When tightening the web, care should be taken that feeler does not tear the register hole. When shifting the lateral rod fig. 11 S/51 - 5 to "0" the wrapper feed will be interrupted.

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

The web can be drawn forward or backwards after lifting feeler. This hint should be observed in the case of non-functioning of the wrapper feed.

When using reels with continuous print no registerholes are required. In this case, a brake bar instead of feeler 8 will be supplied.

Registration device:  
(see fig. 11 S/63).

Feed segments 10 and 11 feed the required length of wrapping material immediately after the upper knife fig. 11 S/59 - 31 has cut off the wrapper. The wrapper feed is effected by feed roller 5 which is actuated by the segments. When the feed motion has been finished the register hole should be about 2 - 4 mm (3/32" - 5/32") beyond the front edge of feeler 8. At this moment cam segment releases the wrapper web and pendulum 34 pulls the web backwards by means of its own weight until feeler falls into the register hole. Now the next cut is carried out. Should the pendulum 34 not retract the wrapper web far enough, stop 33 must be adjusted downwards.

Packing data on the wrapper:  
(by means of punch-or needle-type perforators) (see fig. 11 S/63).

When fitting the perforating types 29 the following points should be observed:

Turn machine by hand until the wrapper knife (the upper one) fig. 11 S/59-31 is in its lowest position. Loosen knurled nut fig. 11 S/63 - 27 on plate 30 and push upwards bar 26. Insert a complete set of types. Put in in the reverse order. Push them through until they reach the stop. For example: To form the number 123, push types into the holder in the inverse order, i.e. 321, tighten screw again. When removing the types proceed in the reverse order.

All digits of the perforating device must always be provided with types.

If less perforators are required than the number of digits would allow for, a blind type is to be inserted at first. If the machine is supplied with a coding device for 5 - 7 digits, an extractor to facilitate removal of the types will be delivered with the machine. Remove the types before each cleaning of the machine and keep them well-oiled in order to avoid rusting. It is advisable to fill the metal box containing the types with oil. This will provide for efficient protection from corrosion.

Trouble in wrapper feed:

- a) Cut not in the middle of register hole, feeler does not snap in.

Check marks of the feed segments fig. 11 S/63 - 10 and 11 and mark 8 (wrapper feed equal to distance from one register hole to another, plus 3 mm).

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

b) Print is not in the centre of the packet face.

Wrapper wrongly printed! Reclame at your suppliers if faults in print show that the panel is 2 mm out of the centre as in trying to centre the dislocated printed panel one side of the wrapper will be higher than the other which will lead to trouble when filling. Correct smaller displacements of the printed panel diagonally to the direction in which reel is running by adjusting the lateral guide bolts 16 to the wrapper reel and by regulating the feeler 8 and the guide rails fig. 11 S/59 - 36 on the folding plate (observe 1 mm distance). If there are displacements in the printed panel in the direction in which reel is running, correct them by adjusting feeler. Register hole is then not cut in the middle.

c) Incorrect cuts.

Knives are blunt. Turn cutting edge of lower knife fig. 11 S/59 - 33 or insert new knife. When installing upper knife 31, use setting gauge for knife. Only mechanical regrinding is recommendable.

d) Bad delivery of the wrapper into the forming cell fig. 11 S/59 - 1.

Device for stripping off the wrapper 7 below the folding box 9 is ineffective, as wrapper lies onesidedly on the folding box. If necessary, at displacements of printed panel, put device for stripping off the wrapper 7 higher or lower (approximately 2 mm above the upper edge of the wrapper). Otherwise centre web and correct guide rails 36.

e) Falling through of the wrapper out of the cell or crumbled end folding.

Pressing-on rollers fig. 11 S/59 - 8 in the folding box have too much effect on the wrapper. Regulate by turning the four stop screws 41 in clockwise direction, (Fasten counter nut) until folding piston can move the pressing-on roller maximally 0.5 mm.

Axle 4 of the pressing-on rollers has to be greased from time to time with vaseline.

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

April 1960

Fi 616 3 62 51

Putting into commission:

Open inlet for compressed air and adjust pressure regulator to some 0.8 atü.  
(maximum 1.5 atü)

Open feed pipe for product, so that product will stream into the dosing system,  
max. pressure 1.5 atü. Compensating piston rises. (During standstill of the  
machine the overflow is released.)

Guard fig. 11 S/59-20 must be lowered, blocking device fig. 11 D/51-4 for engaging  
mechanism is to be released and then start up machine by the engaging lever Fig.  
11 D/51-3 whilst motor is running. When the merchandise appears at the outlet of  
the filling cock, fig. 11 S/60-28 stop machine and lift up guard.  
The extruding mouthpiece fig. 11 S/60-13 should now be fastened and cutter lever  
25 is put in position by means of bolt 24. Be careful NOT to bend cutter yoke 14.

Fasten the bolt by means of the knurled screw 23. Adjusting spindle 36 should then  
be fastened to the roller lever 5. Grease cutter lever 25. Turn machine by hand  
wheel fig. 11 S/51-2 until folding stamp fig. 11 S/59-2 moves downwards.

Shift rod 11 D/51-5 for wrapper feed to "I" and engage machine. Check weight of  
packets and correct same by fine adjustment on adjusting wheel fig. 11 D/51-7.  
One full turn or, respectively, one pitch line of scale on piston lever fig.  
11D/53-17 = approximalety 3-4 grams.

Packet filling is to be adjusted by means of adjusting wheel fig. 11 D/51-8 for  
cell bottom adjustment. The surface of the packet shall exceed the upper rim of  
forming cell fig. 11 S/59-1 by about 1 mm (see also fig. 11 S/47 under paragraph  
"Filling".)

In case of an alteration to the volume the packet height can be adjusted by 6mm  
(about 1/4") when lifting or lowering the cell bottom 52, which can be effected by  
the corresponding adjusting wheel. (one turn of the adjusting wheel gives 1.5 mm  
difference in height). Hereby adjustment of the volume of the merchandise just to  
be packed will be possible.

The up- and down moving endflap folder fig. 11 S/59-42 which is also adjustable,  
shall in its lowest position leave a space of about 1 mm to the forming cell 1.

The merchandise to be fed under constant pressure of the processing plant and of  
uniform consistency, as described in the respective para. on page 3.

Filling (correct and incorrect):

In most cases wrong filling of the packets is caused by maladjustment of cell bottom fig. 11 S/59-52. This leads to incorrect filling and bad appearance of the packet. It is always necessary when altering the packet volume to carry out readjustment. Fig. 11 S/47 shows the correct filling of the wrapper bag before the end folding begins. The filling should be about 1 mm above the upper rim of the cell.

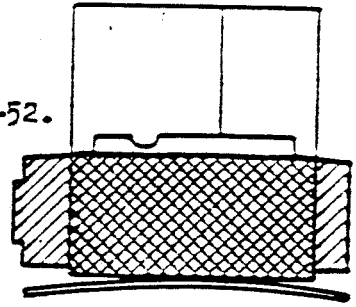


Fig.11S/47

On fig. 11 S/48 the filling is shown conical towards the top. The adjustment of mouthpiece fig. 11 S/60 - 13 is wrong. It is in its lowest position too high above cell bottom.

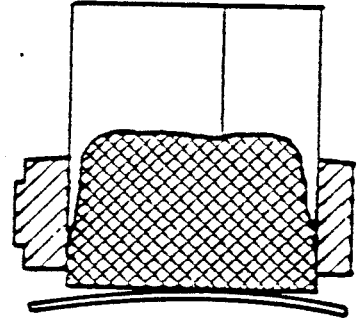


Fig.11S/48

For correction lift cell bottom by means of adjusting wheel 21 (turn in direction of "-" (minus)).

Fig. 11 S/49 shows the reverse faults. Mouthpiece fig. 11 S/60 - 13 dips down too far into the bag and merchandise squeezes up on the sides of the mouthpiece. This may lead to the mouthpiece lifting the whole packet out of forming cell. Distance from cell bottom is too short; for correction lower cell bottom by means of adjusting wheel 21 (turn in direction of arrow "+" (plus)).

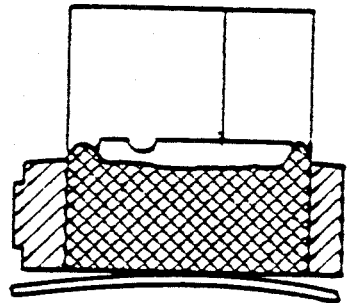


Fig.11S/49

As filling cock fig. 11 S/60 - 28 is removed for cleaning by withdrawing star handle 34 from the rod, special attention should be paid to correct fitting of bolt 33 in the slit of the cock and it is recommended to see that star handle is fastened. (Observe warning shield).

Explanation of the back suction of the measuring piston fig. 11 S/53 - 21

It is a well-known fact that edible fats always contain a certain amount of air and cannot, therefore, be considered as incompressible in the hydraulic sense. Fat can always be compressed to a certain degree according to its consistency. It would during or just after cutting off the merchandise squeeze out of the mouthpiece fig. 11 S/60 - 13 and set on the pat just extruded into the preformed bag. In order to avoid this, the flow of fat which is caused by its expansion must be stopped and, therefore, measuring piston fig. 11 S/53 - 21 after having expelled the measured quantity of merchandise moves slightly backwards thus drawing back the merchandise in the filling cock fig. 11 S/60 - 28 immediately after the measured quantity has been cut off. This backward movement is hardly perceptible but is just sufficient to relieve the pressure on the fat. The back suction can be adjusted on piston rod fig. 11 S/54 - 12. After undoing lock nut 10 spindle 9 can be adjusted.

Urheberrecht: Für diese technische Unterlage behalten wir uns alle Rechte vor.

1144 2 01 01

If the clearance between gliding stone 11 and head of adjusting spindle is 0 mm the utmost back suction is obtained. When the clearance is increased, the back suction is reduced. The right setting is obtained by gradual adjustment from mm to mm. In any case, the back suction should be as little as possible. Too great a back suction will cause faulty weights. After adjustment of the back suction, a weight correction will be necessary. (One complete turn of adjusting wheel fig. 11 S/51 - 7 = 2.5 to 3 grams.)

Adjustment of cam fig. 11 S/58 - 4 for cutter (see fig. 11 S/58).

Cam 4 which actuates cutter fig. 11 S/60 - 14 is adjustable and in order to avoid a withdrawal of the packet from the mould the following adjustments must be made according to the consistency of the merchandise:

When packing very soft merchandise, cam 4 must be adjusted in such a way that with the beginning of the back suction, i.e. with the beginning of backward movement of piston fig. 11 S/51 - 21 cutter also begins to move backwards to cut off the merchandise (direction "A").

When working hard merchandise it would be advisable to set the cam in such a way that the cutter begins to move at the end of the back suction (direction "B"). When displacing cam in direction "B", the cutter will begin its movement later. In direction "A" it starts earlier.

Checking the cutter:

Cutter fig. 11 S/60 - 14 must clear the mouthpiece opening fig. 11 S/60-13 completely in its utmost forward or backward position. Should the adjustment accomplished here in our works have displaced itself, the length of the way the cutter ought to do can be reached by readjusting the ball pivot fig. 11 S/60 - 26 in the cutter bow 25 and the regular movement in front of the mouthpiece can be reached by turning spindle 30 (loosen their nuts first).

Take care that in both end positions the cutter does not touch the paper bag. Tighten then spindle nuts again. Cutter must be moveable without clamping.

Folding:

The two side folders fig. 11 S/59 - 43 and 51 must move easily and their bearings should be oiled regularly. The two tension springs for each folder must be hooked in. Missing springs will result in a downward flap of the folders which might cause breakage in the machine (lever breakage) - by swinging forming cell. (fig. 11 S/59 - 1). The folders must be handled with utmost care.

Change of off-conveyor belt

fig. 11 S/64 - 12.

Tension on the old off-conveyor belt must be released completely, and the machine is to be turned by handwheel fig. 11 S/51 - 2 until the forming cell fig. 11 S/59 - 1 comes to rest under the filling cock.

Urberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

12. April 1936

11.646 3 41 11

Spare knives are supplied by return mail. When ordering, please, state whether upper knife fig. 11 S/59 - 31 or lower knife 33 is required.

Fitting of the lower wrapper knife fig. 11 S/59 - 33 and the upper wrapper knife 31.

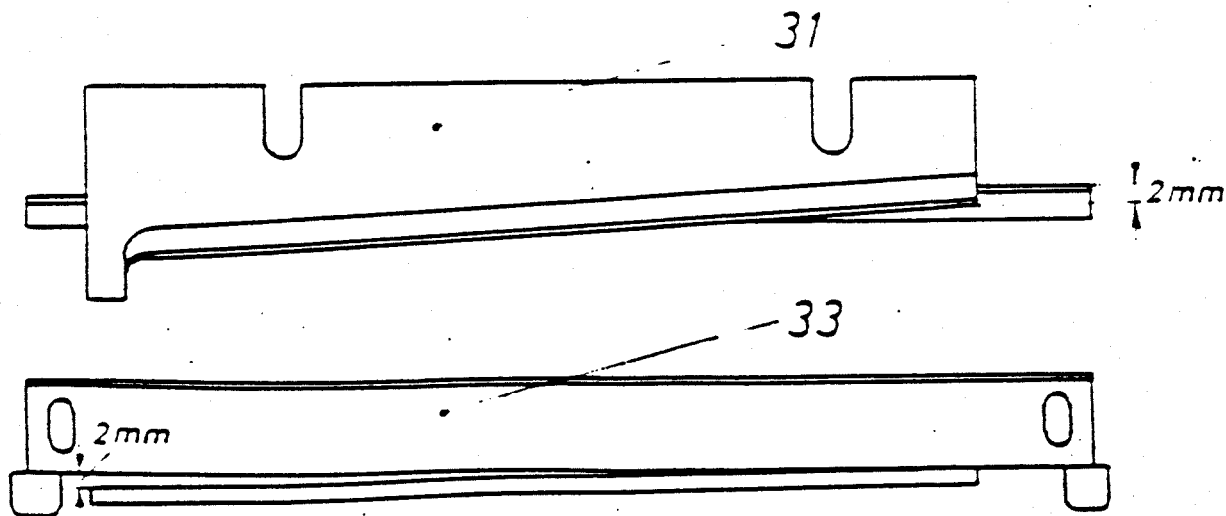
Exact cutting depends on accurate fitting of the knives according to the following instructions:

The lower knife 33 must be fitted tightly against the ledge 35 of folder plate 9. Holding-down plate 34 is then to be fitted and both parts are to be fastened with the nuts 37.

Now turn machine by hand until the knife levers fig. 11 S/63 - 12 and 21 are in highest position. Place the setting gauge for knives which is supplied with the machine into the two recesses of the holding-down plate fig. 11 S/59 - 34 onto the knife 33. The knife 31 is to be placed on the setting gauge and fastened with screws 30. Observe marks on the axle 15 of the upper knife!

After removal of the stencil, knife with its holders should oscillate easily on the axle for knives 15. Then hook-in the two tension springs.

The following drawing of the knives shows the correct positioning after the cutting movement. Pay attention that the upper wrapper knife 31 does not grind on the holding-down plate 34 below which the lower knife 33 is situated and observe the distance of about 1 mm.





Weight differences :

- a) Does the merchandise fed into the machine have a constant consistency?
- b) Has the preparation for the packaging of butter been carried out according to instructions on page 7?
- c) Is the output of the processing plant sufficient?
- d) Does the compensating piston 11 D/83 - 12 work regularly and steadily at every stroke? The up and down strokes of the piston should be uniform, otherwise change pressure spring.
- e) Has back suction of measuring piston fig. 11 D/83 - 21 been adjusted as little as possible?
- f) Is the merchandise fed under constant pressure?

To obtain uniform packing weights, please take care that the merchandise be fed into the dosing chamber uniformly and of equal consistency.

As contrary e.g. to an automobile there is not available an expert everywhere for a packing machine, the presence of a BENHIL fitter, when erecting the machine should be utilised to familiarize thoroughly a competent person of your firm with the machine.

Instructions for changing-over from one packet size to another for the Automatic Filling and Wrapping Machine BENHIL Type "Junior 1 D"

Change-over from big to small packet weight and vice versa:

All forming parts for a big packet weight are marked with "A", and all parts for small weight are marked with "B".

The following tools are required for changing of forming parts:

spanner	19/22 nominal size
socket wrench	14/17 nominal size
hexagonal insert key	6 nominal size

When changing within a shift disengage the feeding parts.

Please, observe:

The drive of the horizontal measuring piston will be disengaged by withdrawal of its bolt (before doing this, pull red button). Wrapper feed is to disengage by shifting the lateral lever to "C".

Switch off motor for safety reasons!

A) Sizes of packets with different basic measurements

1. Place forming cell 11 S/59 - 1 below folding box and remove cell after having loosened the nuts (key 17). Screw nut on the stud.
2. Prefolder 11 S/59 - 14 to be removed after loosening the knurled nut.
3. Place folding piston 11 S/59 - 2 in top position by turning handwheel in clockwise direction. Loosen screw in right-hand size of the folding piston wall by means of hexagonal insert key No. 6 Strip off folding piston from the vertical rod and support it by means of the half-way drawn out screw on the fold plate.
4. Unhook tension spring situated behind the upper knife; two laterally placed knurled screws 11 S/59 - 40 under the fold plate must be loosened. Lift folding box 11 S/59 - 9, pull it out and remove it. Hook in tension springs on change part "B".
5. Upper knife 11 S/59 - 31 is in lowest position. Adapt knife for wrapper length "B" (key 17).
6. Take off tie rod 11 S/60 - 30 for cutter lever 11 S/60 - 25 from the lower ball stud 11 S/60 - 36, loosen knurled screw 11 D/60 - 25 from the bolt and the nut 11 S/60 - 18 for fastening of the mouthpiece (spanner 14) and remove the parts.  
Turn handwheel 11 D/51 - 2 counter-clockwise until vertical rod 11 S/59 - 21 starts to move downwards.
7. Interchange side folders 11 S/59 - 43 and 51 "A" against "B".

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

12. April 1966

Fl 64c 5.6302

8. Continue to turn handwheel counter-clockwise until upper knife reaches top position. Place fold plate "B" onto the square supports. Lift up upper knife and introduce it into the slot in front of the lower knife. Hook in tension springs behind the upper knife and push folding box through until stop. Fasten lateral knurled screws.
9. Fasten folding piston "B" for change of size (hexagonal insert key No. 6).
10. Turn handwheel counter-clockwise until upper rim of the downwards moving folding piston is at equal height with the fold plate. Insert prefolder "B".
11. Insert forming cell "B" (spanner 17). Lower down guard shield.
12. Change wrapper feed segments 11 S/63 - 11 to position "B". (Spanner 17). Turn handwheel in clockwise direction until upper knife reaches lowest position.
13. Put feeler 11 S/63 - 8 to position "B".
14. Remove little gasket below the perforation device. Loosen lower nut for the holder of perforating types 11 S/63 - 30, (key 14) and place it laterally to position "B". Loosen upper knurled screw and shift upper part 11 S/63 - 24.
15. Interchange wrapper reel and fasten lateral guide bolts 11 S/63 - 16 to position "B" with a distance of about 1 mm.
16. Arrest connecting rod for piston 11 D/83 - 23 on designation "B" (spanner 19).
17. Lift protecting shield 11 S/59 - 20. Insert mouthpiece "B" (spanner 14). Fasten respective cutter bow with bolt 11 S/60 - 24. Fasten knurled screw 11 S/60 - 23.
18. Change over connecting rod for filling cock 11 S/60 - 39 to position "B" if the difference from one packet height to another exceeds 4 mm. Adjust device for end flap folding 11 S/59 - 42 to position "B" (spanner 17).

Urhaberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

B) Packet sizes with equal basic measurements but different heights.

1. Change forming cell "A" for "B".
2. Change side folders "A" for "B".
3. Adjust connecting rod for filling cock to position "B".
4. Install frame for prolongation of folding box.
5. Put on "B" the wrapper guide for the new width of the wrapper.
6. Put on "B" perforation for the new width of the wrapper (spanner 14).
7. Exchange wrapper reel.
8. Adjust connecting rod for piston onto the designation "B" (spanner 19).

After every change of packet size examine the proper working of the machine by turning handwheel in direction of arrow. Thereafter connect again the feeding parts with their respective drives.

Only when a faultless functioning of the machine is proved when turning the handwheel and all protecting devices have been fastened, let the machine run with motor power. After the first packet has been pushed out and weighed, fine regulation of packet weight is eventually necessary on the upper Plus-Minus-handwheel 11 D/51 - 7. Correction in height of the packet is done by turning the lower Plus-Minus-handwheel 11 D/51 - 3. (with symbol of packet heights).

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

12. April 1968

F164c 5 6302

### 1) Design

The mechanically shifted clutches are available in the following sizes:

Single shifted clutches up to size 63 see Fig. 1  
from size 69 up see Fig. 2

Clutches with brakes resp. double clutches up to size 63 see Fig. 3  
and from size 69 up see Fig. 4

Designs of housings:  
Flange-, Hub-, Collar-, Pot-  
housings and housings in  
special design.

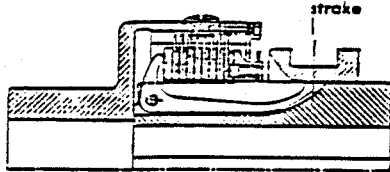


Fig. 1

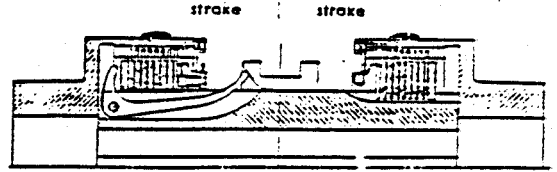


Fig. 3

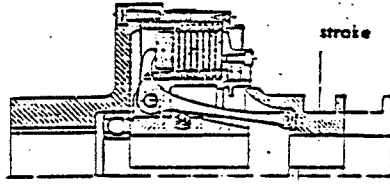


Fig. 2

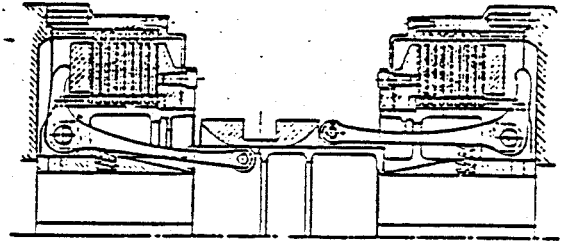


Fig. 4

### 2) Description

(Fig. 5). The housing (10) is splined in the inner part to fix the outer discs (6) whilst the Sinus-inner discs (7) are guided in splines on the disc support (1). If the sliding ring (9) is moved to the left, it operates the three levers (2) which press the discs into contact and thus achieve a transmission of movement from the driving to the driven element. The disc set is readjustable by means of an adjusting nut (8).

### 3) Spare parts.

If ordering spare parts the manufacturing number, shown on the housing or the disc support, must be indicated, with complement of the part number shown in Fig. 5. For clutches manufactured in 1943 or before spares are only supplyable according to sample, drawing or paper-print. To avoid faulty deliveries, please, order spare parts only by letter or telegram, but never by phone.

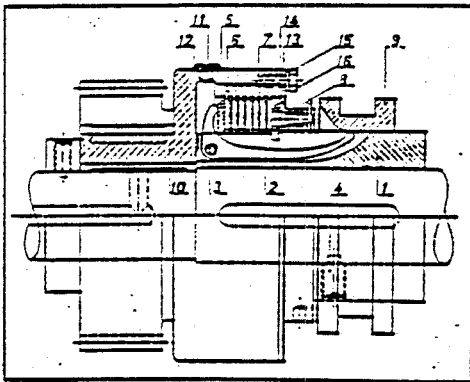


Fig. 5

- 1 Disc Support
- 2 Lever
- 3 Lever Pin
- 4 Grub Screw
- 5 Thrust Washer
- 6 Outer disc
- 7 Inner disc
- 8 Adjusting Nut
- 9 Sliding Ring
- 10 Housing
- 11 Oil Screw
- 12 Sealing Washer
- 13 Cover
- 14 Sealing Ring
- 15 Spring Washer
- 16 Cover Screw

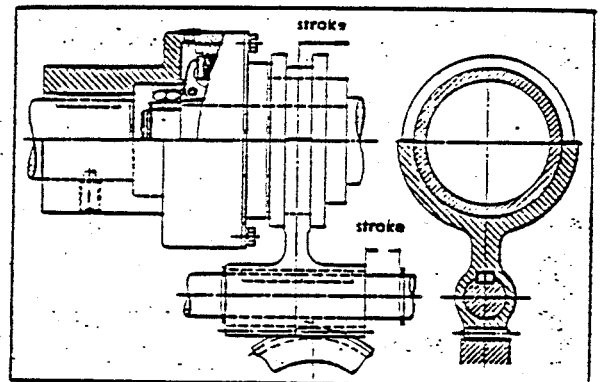


Fig. 6

### 4) Mounting

Note the following: Place the bearings as close as possible to the clutch. Where this is not practicable and in any case where high speeds are to be transmitted the stepped shafts of shaft clutches have to be positioned one into another (see Fig. 6). Stepped shafts must be in accurate alignment (see Fig. 7—9).

The inner disc support must be firmly fixed to the shaft so that an axial displacement is not possible. This is best achieved by having a stepped shaft as shown in Fig. 6 or with plain shafts as shown in Fig. 5. The axial displacement is prevented by means of a grub screw (4) which will be secured after mounting by means of a punch blow.

The outer housing must also be positively locked against an axial displacement, but radial movement between disc support and housing must be perfectly free. It is essential that the engaging fork should encircle the sliding ring to thrust at two points positioned at 180° and must under no circumstance thrust at one point only, to guarantee an easy shifting of the clutch. The engaged and disengaged positions of the shifting lever must be exactly fixed by limit stops to avoid partial engagement or disengagement of the clutch. This would cause undue heating and consequently an unsatisfactory working of the clutch.

The blocks in the sliding ring have to be perfectly free for radial movement when the clutch is completely engaged or disengaged. After mounting check whether the clutch is transmitting the required load; if not, adjust as described in Para 5.

### 5) Adjustment

**Slotted Nut:** (Fig. 10 and 11). Clutches up to size 39 are equipped with slotted nuts (fine adjustment nuts). If readjustment of these clutches is needed, unsecure the nut by withdrawing the locking pin (see Fig. 11). Then turn the nut for about 1/12th of a revolution to the right and lock it again. Pay attention, that the locking pin will engage after the adjustment again into the next slot of the slotted ring arranged behind the nut and provided with 24 slots.

**Double Nuts** (Fig. 12 and 13). Adjusting of the clutches from size 43 up, loosen the locking screws of the double nuts and turn the nut for about 1/20th to 1/30th of a revolution according of the size of the clutch. After having adjusted the clutch, the locking screws, securing the nuts against another, will be re-tightened.

fig. 7 wrong

fig. 8 wrong

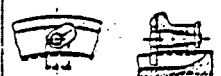
fig. 9 correct

Fig. 10



locked

Fig. 11



unlocked

Fig. 12

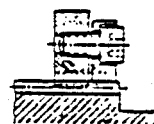
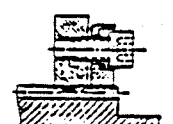
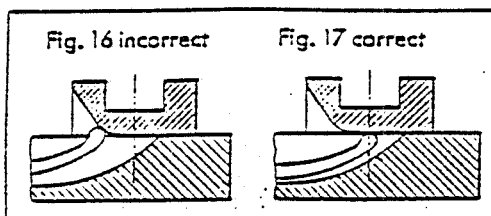
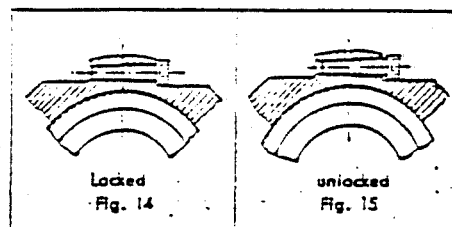


Fig. 13



**Tightening Nuts:** (Fig. 14 and 15). If clutches are in special cases equipped with tightening nuts, loosen the locking screw for readjustment and turn the nut for about 1/20 in. to 1/30 in. of a revolution according to the size of the clutch. After readjustment re-tighten the locking screw.

Right hand turning of the adjusting nut, of course, increases and left hand turning decreases the load to be transmitted. This must be achieved without any slipping. Radial movement between disc support and housing must be perfectly free when idle running.



Pay attention, that lever heads will not stay in the curve if clutch is engaged (Fig. 16) but only on the straight part (Fig. 17). If levers will rest in the curve, caused by a too strong adjustment or a too short shifting way, the clutch will not transmit the required power and is therefore not self-locking, i. e. the sliding rings rests under load, causing excessive wear and overheating.

## 6. Clutches for dry-running Disc mating: steel/"Ortex" friction lining.

Clutches equipped with "Ortex" friction lining discs must not be lubricated, but they have to be arranged so that no lubricant can enter. Clutches for dry-run are equipped with open housings (10) without cover (13).

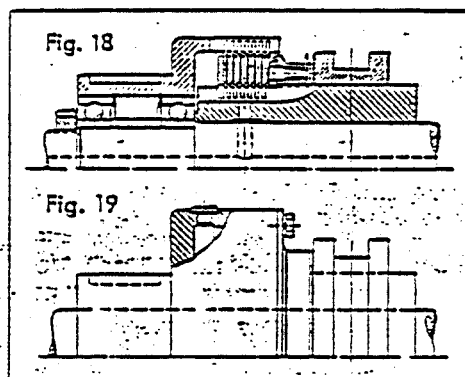
## 7. Clutches for wet running

Disc mating (running wet): Steel/Steel or Steel/"Konstant" metal friction lining.

Clutches inside a gearbox should preferably be lubricated by means of an oil mist or through the shaft (see Fig. 18). The oil level must not exceed 1/8 of the clutch diameter. These clutches are delivered without housing cover.

Lubrication of open mounted clutches (Fig. 19)

Open mounted clutches are to be mounted with cover. When mounting pay attention that the cover will be tightened with an usual sealing washer. Oil change has to be effected on permanent service and higher shifting numbers after each 200 to 300 service hours. Used oil must be drained and the clutch rinsed out with Kerosene. Then refill new oil by the oil-hole provided for on the clutch until the discs will be slightly moistened with oil. If there are less shifting procedures, oil changes after appr. 1000 service hours will be sufficient.



Under normal circumstances we recommend a thin-fluid machine oil of good quality having a viscosity of about 21 to 37 cSt/50° C such as SHELL Tellus Oil 29. In special cases, such as at high or considerably, reduced speed, oil of somewhat less viscosity, say about 7 to 17 cSt/50° C, such as SHELL Tellus Oil 15, depending of the specific working conditions, would be preferable. Never use oil which is too thick or of inferior quality. The clutch must not contain too much oil. The discs need to be only moistened. In special cases you will receive our additional advice on request.

## 8) Mounting- and Maintenance faults and their remedy

a) The clutch slips. Adjustment has not been properly carried out and should be made as described in Para: 5. Check whether the clutch is fully engaged and the positions of the shifting lever are correct.

b) The clutch is not free when idling: Adjustment has not been properly carried out. The clutch had been adjusted too strong. Adjusting nut must be somewhat loosened. The clutch is not being fully disengaged (see Fig. 16). Check the position of shifting lever. When engaged, lever must be perfectly free otherwise correct the stop position of the shifting rods. Oil used in wet running clutches is too thick-fluid. Empty, flush and refill with an oil of a less viscosity.

Note: If double clutches are used for obtaining different speeds in the same sense of rotation or in case of high revolution numbers, it will hardly be possible to avoid a slight drive, when idle running. In this case a small brake has to be applied. Separation of mounting proposals costless on request.

c) Heating up the clutch. First ascertain whether the heating up occurs if clutch is engaged or disengaged. The reasons may be as following:

1. Engaged: Clutch slips because it requires adjustment or it is not fully engaged or the shafts are not in proper alignment. (Fig. 16 and 17).

2. Disengaged: First locate region of heating up.

Housing: Insufficient lubrication of housing bearings (roller bearings or sliding bearings).

Sliding ring: Insufficient lubrication of sliding ring.

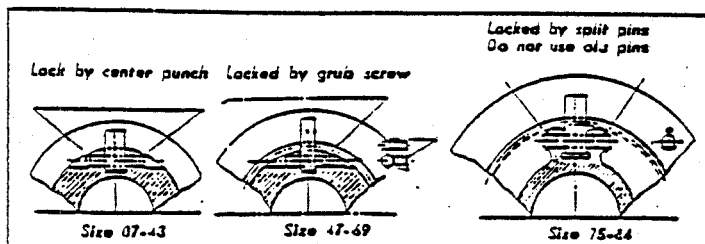
The sliding ring is not perfectly free when engaged or disengaged. Check the shifting lever.

Disc set: Check adjustment, disengagement when idle running (Para: 8) and viscosity and quantity of oil (Para: 7).

## 9) Dismantling and Mounting of the clutch (Fig. 20)

### Dismantling:

Drive out the lever bolts and in case of a larger sizes remove the locking screws. Take off the levers. Take off the thrust plate and then the disc set. Screw off the special nut and take off the sliding ring.



**Mounting: (Reassembling)**  
Put in the sliding ring and screw on the special nut. Put in the disc set and then the thrust plate. Insert the levers. Drive in the lever bolts and lock it by slight punch blow resp. by means of locking screws.

ORTLINGHAUS-WERKE GMBH · 5678 WERMELSKIRCHEN-RHLD.  
WESTERN-GERMANY

Tei. Wermelskirchen 1241 · Telex: 8 513 311 · Telegrams Ortlinghauswerk Wermelskirchen



## Do not adjust the drive while stationary!

### A. Maintenance Instructions.

Make sure that at weekly machinery cleaning the drive is filled with grease through the grease nipple (3). A permanent grease film has to be maintained on the serrations.

### PERIODIC GREASING:

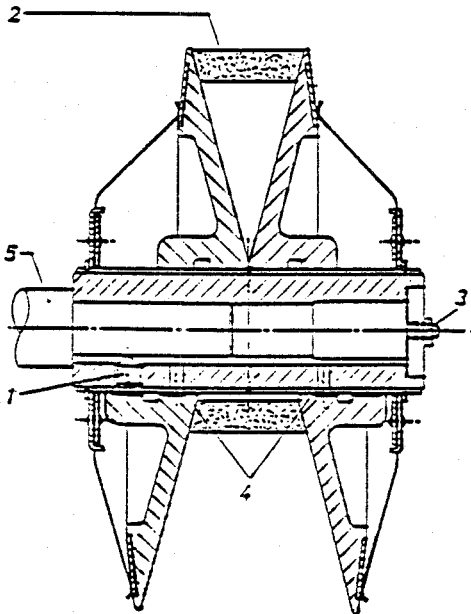
8-hour day - once weekly	and more often when
16-hour day - twice weekly	operating under warm,
24-hour day - three times weekly	dusty, or humid conditions.

B. The belt running faces of the expanding pulley are treated with Molykote. It is not necessary to remove the grease before putting into operation.

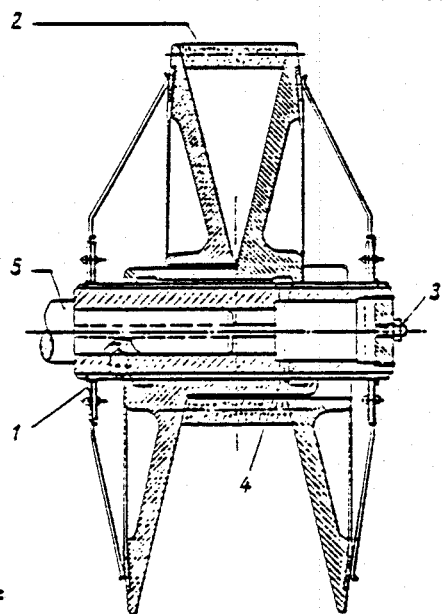
### C. Mounting.

- I. The finished bored expanding pulley has to be fixed tightly on to the motor shaft (5) and secured against axial movement by a grub screw (1) for which the shaft has to be point drilled. The grub screw must not project above bottoms of the serrations of the sleeve in order to avoid interference of the sliding parts. The key on the motor shaft should be secured against axial displacement.
- II. The adjustment of tilting or sliding base must be set so that the belt (2) does not run over the pulleys rim and also cannot touch the serrated sleeve and thus overstrain.
- III. Expanding pulley and driven pulley have to be set exactly in line.
- IV. Should the expanding pulley have to be dismantled make sure that it is reassembled in the very same way as it was before. Make especially sure that the markings 0-0 and 1-1 on the externally serrated sleeve and on the internally serrated hubs - after assembly - are lying upon each other at their front faces.





Expanding pulley - standard type



Expanding pulley - finger type



As lubricants  
we recommend:

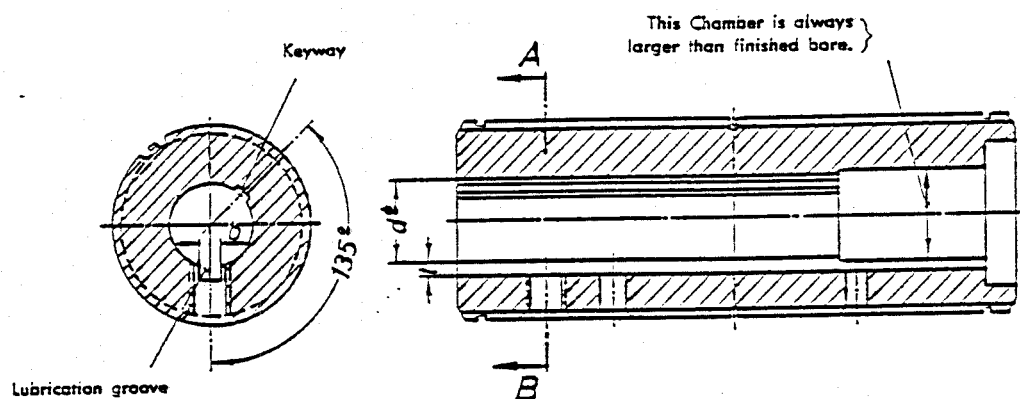
			
BP ENERGREASE RBB 2 or BP ENERGREASE LS 2	ANDOK 8 or BEACON 2	MOBILGREASE BRB No. 3 or MOBILUX Grease No. 2	SHELL Nerita Grease 2 or SHELL Alvania Grease 2

# Instruction for finish boring and providing of grease grooves

When the Simplabelt expanding pulley of standard type is supplied with prepared sleeve make sure that after finish boring the grease groove – apart from the keyway – is in accordance with the drawing, otherwise the greasing of the expanding pulley is not certain.

The expanding pulleys of finger type have no grease grooves. Instead the sleeve is furnished with radial holes leading to each finger of the pulley halves.

## Section A-B



Dimensions	00	0	10	20	30	40	50	60	70
t	2	2,5	3	3	3	4	5	–	–
b	3	3	4	5	6	6	6	–	–
d. dia	std.	8–10	8–12	14–19	16–24	18–28	20–32	25–45	30–45
	max *)	12	14	20	25	29	35	48	48

\*) For max. bore keyway has to be of shallow type and in accordance with DIN 6885 Sheet 3.

Lubricants listed overleaf are the products of:

**BP BENZIN UND PETROLEUM AKTIENGESELLSCHAFT, Hamburg**

BP Companies all over the world

**DEUTSCHE SHELL AKTIENGESELLSCHAFT, Hamburg**

SHELL Companies all over the world

**ESSO A.G., Hamburg**

ESSO Companies all over the world

**MOBIL OIL A.G., Hamburg**

MOBIL OIL Companies all over the world



## 2. Spare parts:

### Explanations:

When ordering spare parts, use the following spare parts list with illustrations.

For making out the correct number of spare parts proceed in the following sequence:

- 1.) Number of the rectangular area on one of both total views of the machine (page 1 or 2 of the illustrated list) in which the part required can be found, must be stated.

(The inner parts of the lower machine section are shown on / fig. 11 S/56. On this photo machine drive and cam gear can be seen from above after the wrapper apparatus had been removed.)

Look up found figure page of the illustration list.

- 2.) State part No. of spare part and give designation according to the pertaining part list.

#### Example:

One bearing for roller lever (prefolder) fig. 11 S/59 - 11, or if the part required should not be indicated in the illustrations give number of the next part joint to the part required.

#### Example:

One shaft 131 mm long, 16 mm diam., to part 11 fig. 11 S/59.

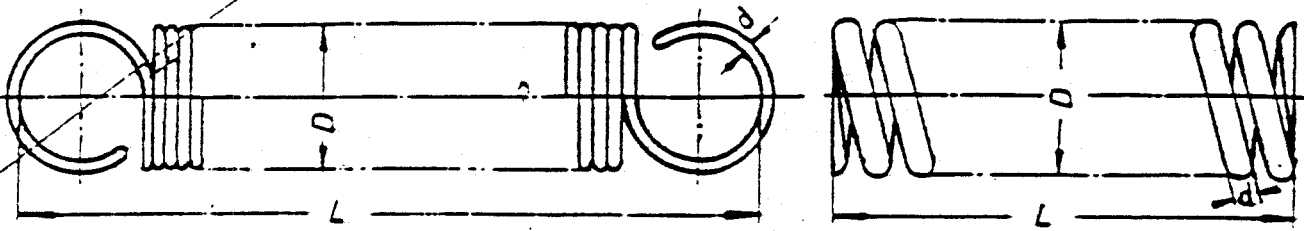
When ordering, please, state quantity, designation, and part No. as well as type of machine and serial number. Also indicate small pieces belonging to the spare part required, if necessary. Should the plate indicating the type of machine being fixed to the wrapper apparatus on the side of the off-conveyor have gone lost, type of machine and serial No. can also be found on the frame beside the bracket of the off-conveyor table.

The encircled numbers in the parts list denote forming parts. In case of ordering these parts, please, indicate packet measurements.

If you should not be quite sure, give an exact description of the part required and indicate its main dimensions. Parts of irregular shape (folders, etc.) should be described in a sketch to be attached to the order).

Please, do always give exact details so as to avoid delays.

As BENHIL Machinery are constantly improved in quality and design so as to comply with the requirements of our customers, we should like to know whether replacement of the part has been caused by wear and tear, or if it was due to own fault, so that we are enabled to improve performance and reliability of our equipment on the basis of the experience gained.



Designation	piece	$D \times d \times L$	part No.
tension spring for roller lever (cutter bow)	1	$20 \times 3 \times 265$	1
tension spring for longitudinal side folder lever	2	$18 \times 2 \times 150$	2
tension spring for folding sheet holder	4	$10 \times 1 \times 85$	3
tension spring for roller lever (forming cell)	1	$18 \times 2 \times 185$	4
tension spring for roller fork (flap folder)	1	$16 \times 1.75 \times 180$	5
tension spring for roller lever (longitudinal side folder)	1	$15 \times 1.5 \times 250$	6
tension spring for knife holder	2	$10 \times 1 \times 90$	7
tension spring for reverse roller lever	2	$16 \times 1.75 \times 90$	8
tension spring for roller lever (upper knife)	2	$16 \times 1.75 \times 115$	9
tension spring for roller lever (wrap folder)	1	$18 \times 2 \times 100$	10
tension spring for wrapper brake	1	$16 \times 1.75 \times 65$	11
tension spring for pressure roller packet size "A"	2	$10 \times 1 \times PL$	12
tension spring for pressure roller packet size "B"	2	$10 \times 1 \times PL$	13
torsion spring for bolt for engaging knob	1	$22 \times 2 \times 9$ windings	18
pressure spring for index bolt (piston fixing bolt)	1	$15 \times 1.5 \times 30.$	21
pressure spring for feeding axle	2	$19 \times 2.5 \times 25$	24
Example for order: 1 tension spring for roller lever 11D/80 - 1 PL = packet length			

Part No.	Designation
1	Crank handwheel for variable speed drive
2	handwheel
3	engaging lever
4	engaging lever with blocking mechanism
5	engaging or disengaging rod for wrapper feed
6	jam nut for wrapper brake
7	adjusting wheel for weight regulation
8	adjusting wheel for cell bottom regulation

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

Fig. 11S/59

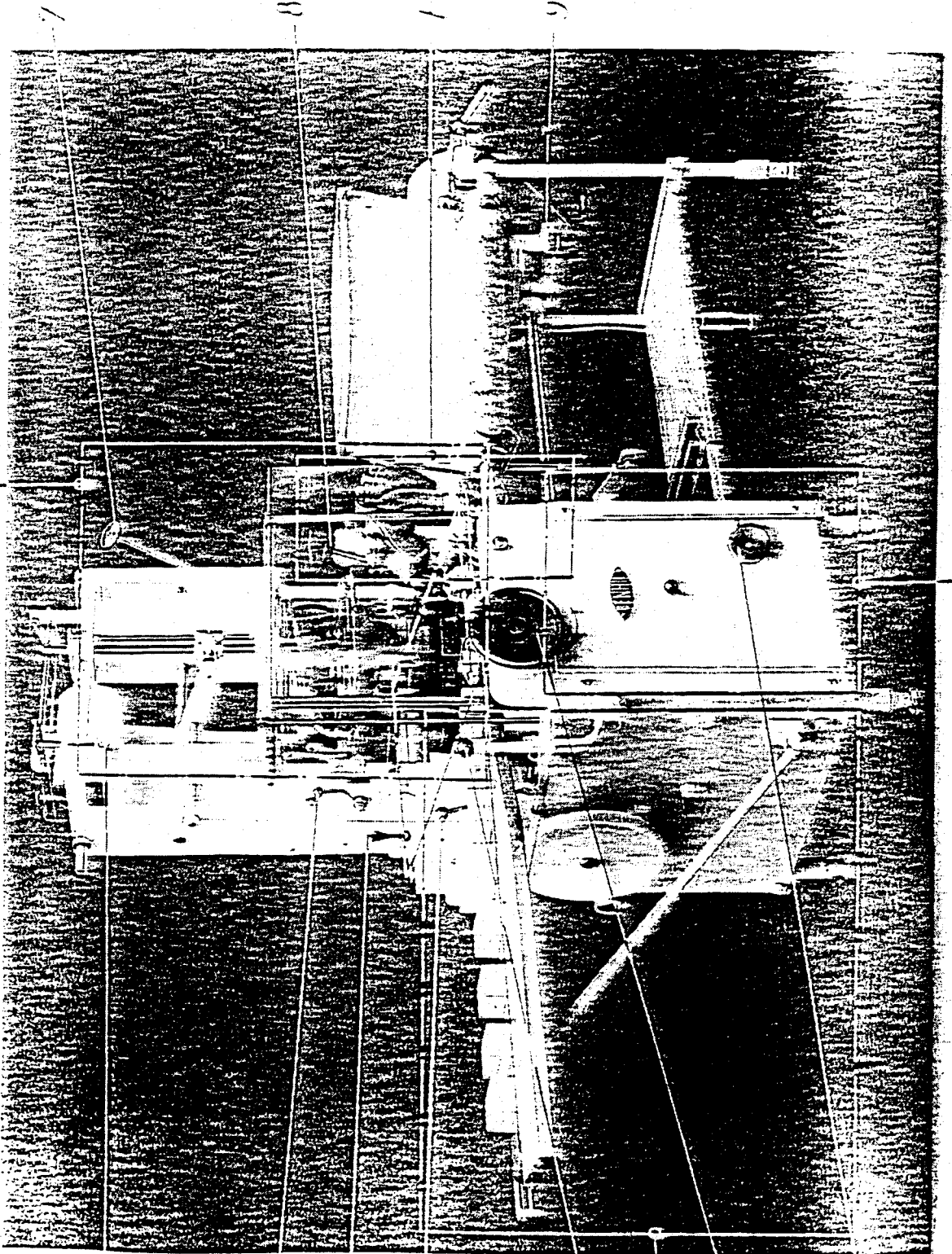


Fig 11S/56

Fig. 11S/64

Fig 11C /58

Part No.	Designation
1	lever for cock movement
2	lower angular joint of tie rod for cock
3	guard sheet (piston side)
4	water protecting box
5	index bolt to part No. 6
6	fixing bolt for piston
7	measuring cylinder
8	washer
9	lever to part No. 21
10	filling housing
11	knurled nut
12	compensating piston (piece parts see fig. 11 S/54)
13	shaft for weight adjustment
14	universal joint
15	rack
16	cover sheet
17	piston lever
18	screw toothed wheel
19	bolt
20	upper guide for tie rod, to part 15
21	measuring piston (piece parts see fig. 11 S/54)
22	machine frame, side of trough
23	tie rod for piston drive
24	sheet wall
25	lever for piston drive
26	bolt

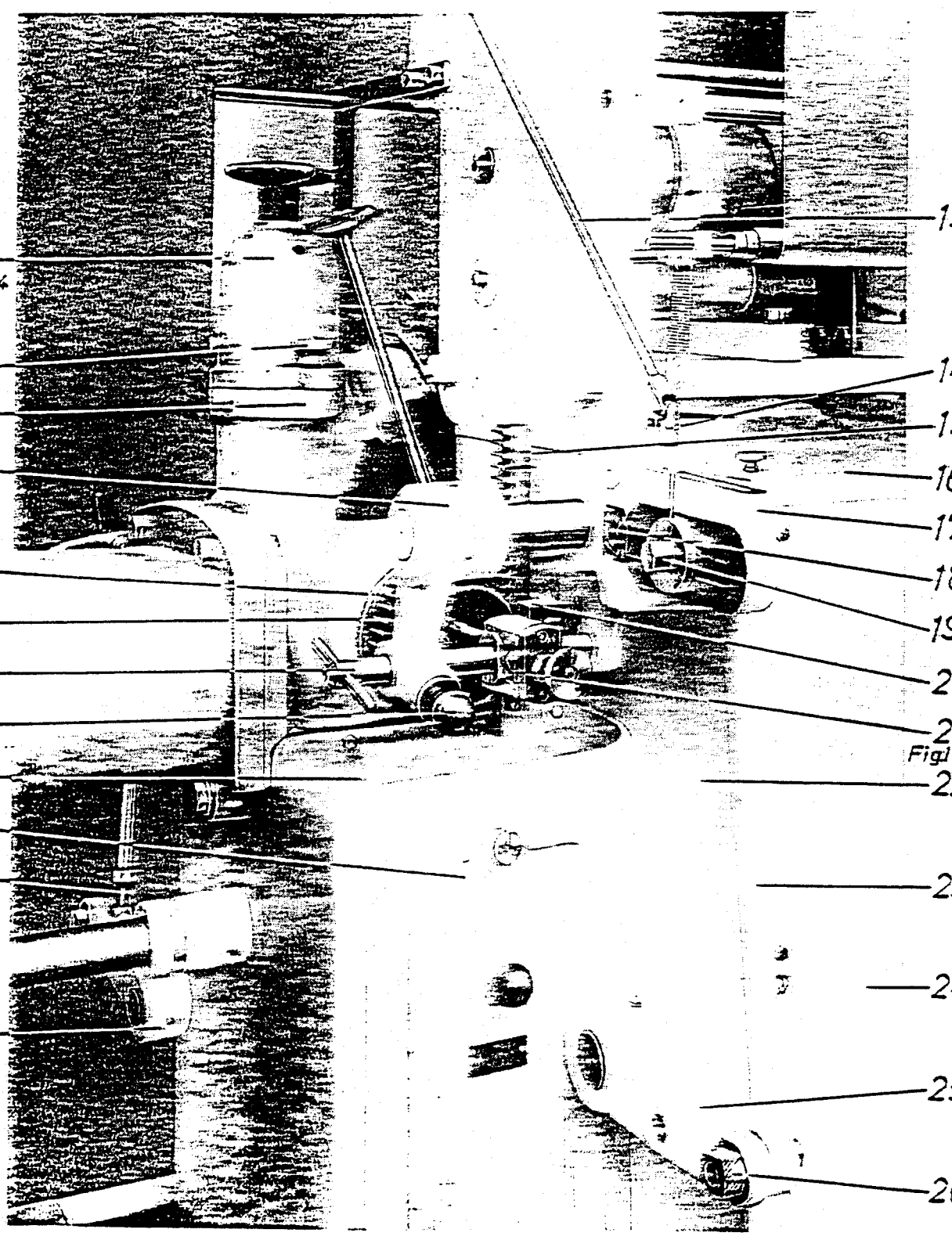
Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

12  
Fig. 11S/54

- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

Fig. 1

- 1
- 1
- 10
- 11
- 11
- 19
- 2
- 2
- 2
- 2
- 2
- 2



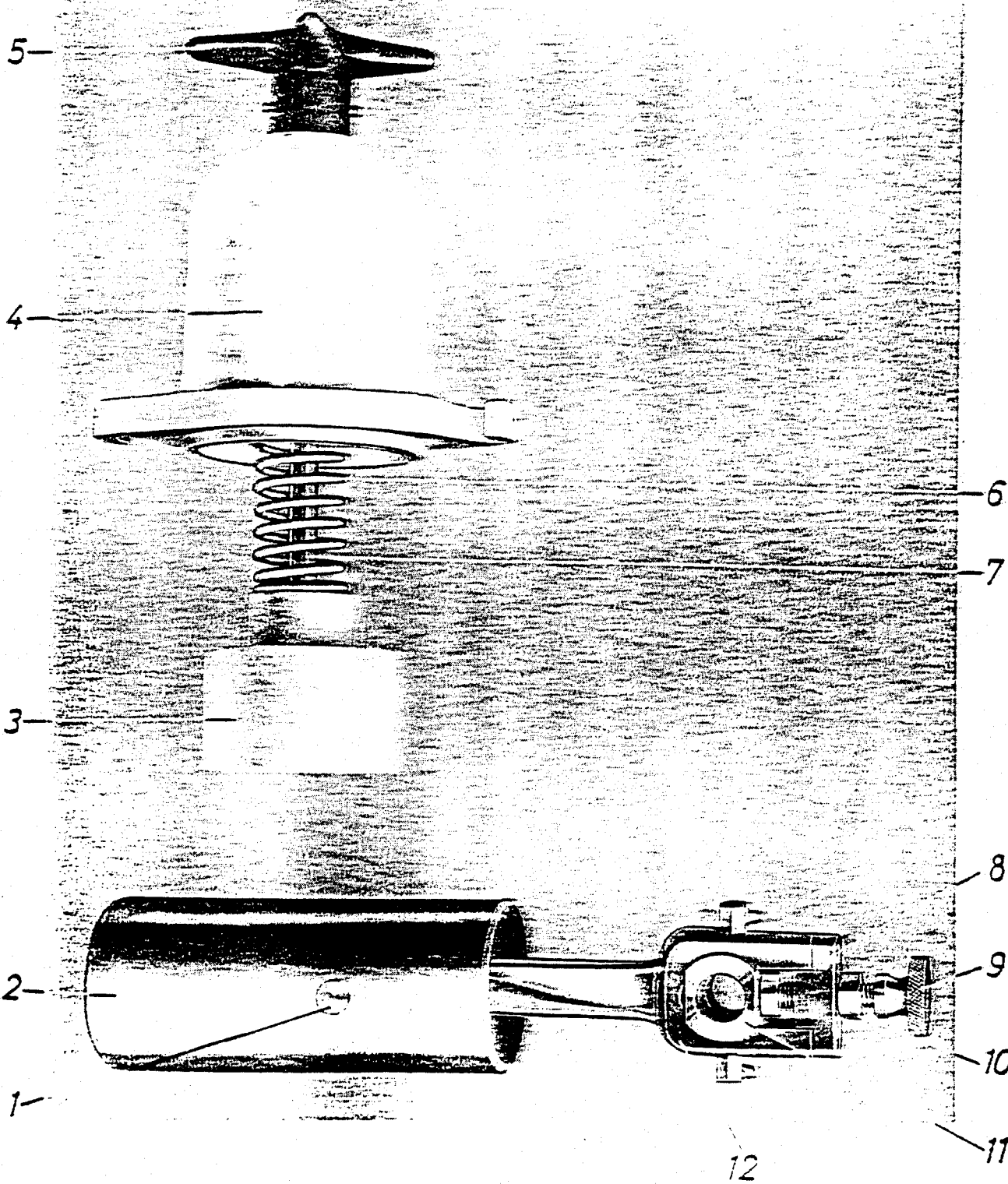
Part No.	Designation
1	piston pin
2	measuring piston
3	compensating piston
4	housing
5	star handle
6	pressure spring
7	piston rod
8	cover to part 9
9	adjusting screw
10	counter nut
11	bearing stone
12	piston rod

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

11 016 3 02 11

Benz & Hilgers GmbH, Düsseldorf, Germany.





## Drive for cock and measuring cylinder

Part No.	Designation
1	roll to part 14
2	bolt to part 14
3	shaft for levers
4	roller lever for filling cock
5	roller to part 7
6	driving shaft
7	counter cam for cock
8	main cam for cock
9	main cam for cylinder
10	counter cam for cylinder
11	rack for cylinder
12	bolt to part 11
13	slide stone to part 11
14	roller lever for cylinder
15	lower guide for rack
16	lining plate

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

7100 3 11 11

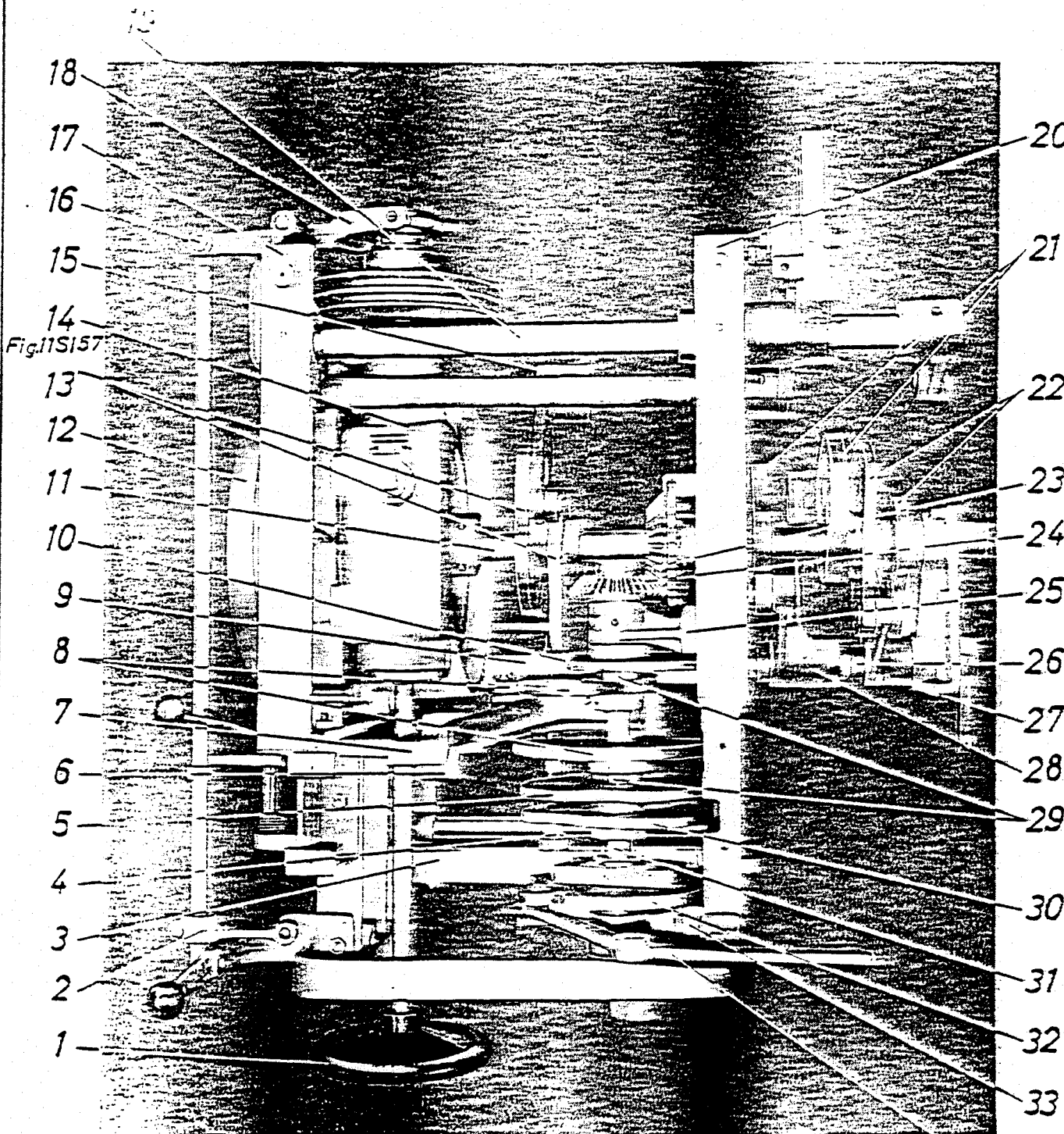


Part No.	Designation
1	handwheel
2	linking arm
3	front cross bar
4	shaft to part 7
5	cam for side folders
6	stop to part 7
7	roller lever for forming call
8	main and counter cam for forming call
9	rear cross bar
10	cam for flap folder
11	driving shaft
12	cam for folding piston
13	main and counter cam for measuring piston
14	machine gear, complete (see fig. 11 S/57)
15	roller lever for measuring piston
16	bolt with collar to part 18
17	machine frame, side of off-conveyor
18	disengaging fork for multiple disc clutch
19	shaft for piston lever
20	machine frame, side of trough
21	main and counter cam for measuring cylinder
22	main and counter cam for filling cock
23	bevel wheel with chain wheel to part 11
24	bevel wheel to part 31
25	rear bearing to part 31
26	shaft for levers
27	roller lever for filling cock
28	roller lever for measuring cylinder
29	slide stone for side folder roller fork and flap folder roller fork
30	cam for longitudinal folder
31	shaft for cams
32	cam for cutter bow
33	front bearing, to part 31
34	roller lever for cutter bow

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

11 443 1 02 11



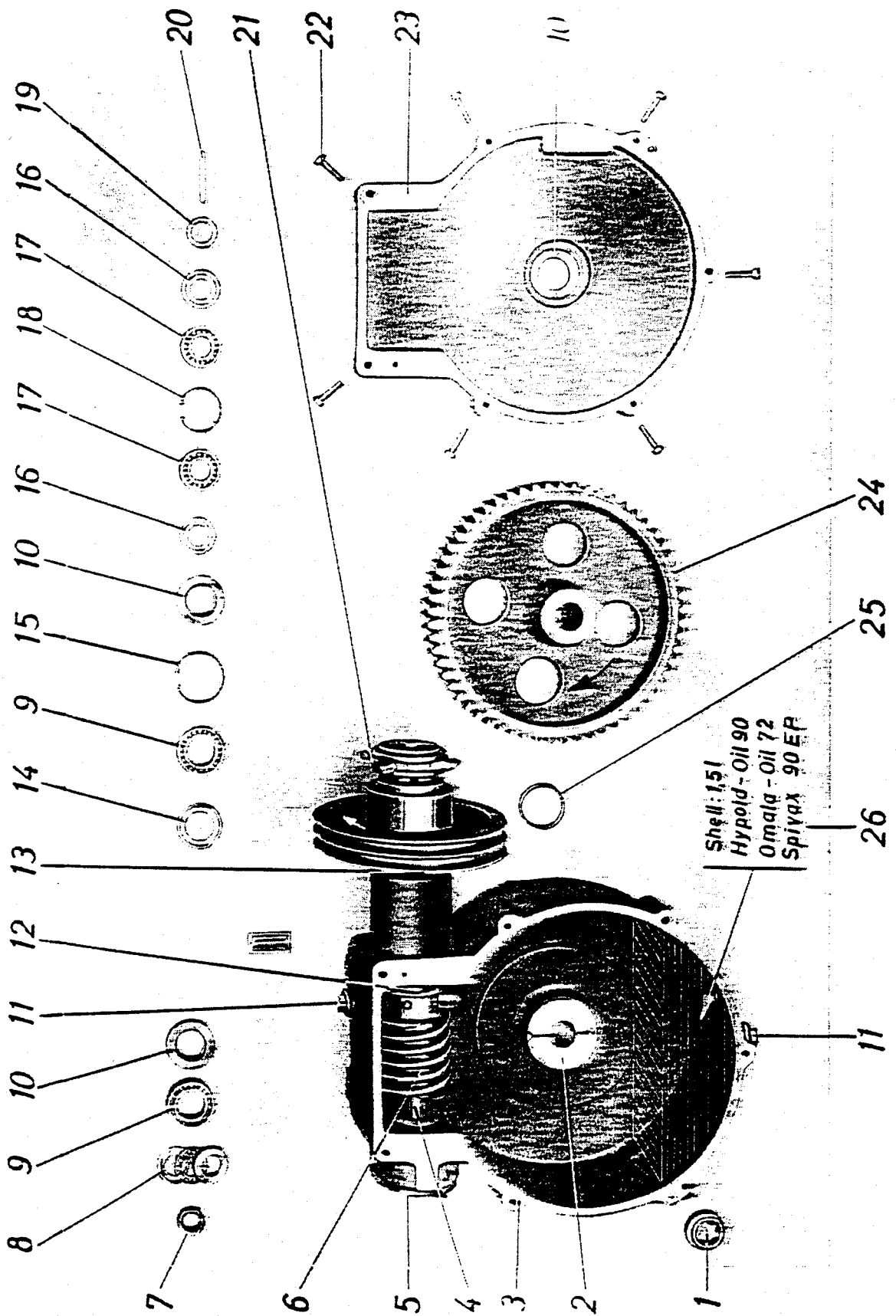
Part No.	Designation
1	oil level gauge
2	bearing bush
3	gear casing
4	driving shaft
5	cover
6	worm
7	shaft packing 420 x 35 x 10 B2v
8	axial grooved ball bearing 25 x 47 x 15, 51205 DIN 711
9	grooved ball bearing 35 x 62 x 14, 6007 DIN 625
10	shaft packing 35 x 62 x 12 B1Fg
11	plug with rim
12	distance bush
13	driving disc
14	ring
15	safety ring 62 x 2, DIN 472
16	ring 6205 AV
17	grooved ball bearing 25 x 52 x 15, 6205 DIN 625
18	safety ring 52 x 2, DIN 472
19	intermediate ring
20	fitting key
21	multiple disc clutch
22	hexagon screw
23	cover to part 3
24	worm wheel
25	O-ring
26	gear oil "Hypoyd 90"

Urheberrecht: Für diese technische Unter-  
 lage behalten wir uns alle Rechte vor.

08. Aug. 1963

71003 3 02 11

Fig. 11S/5

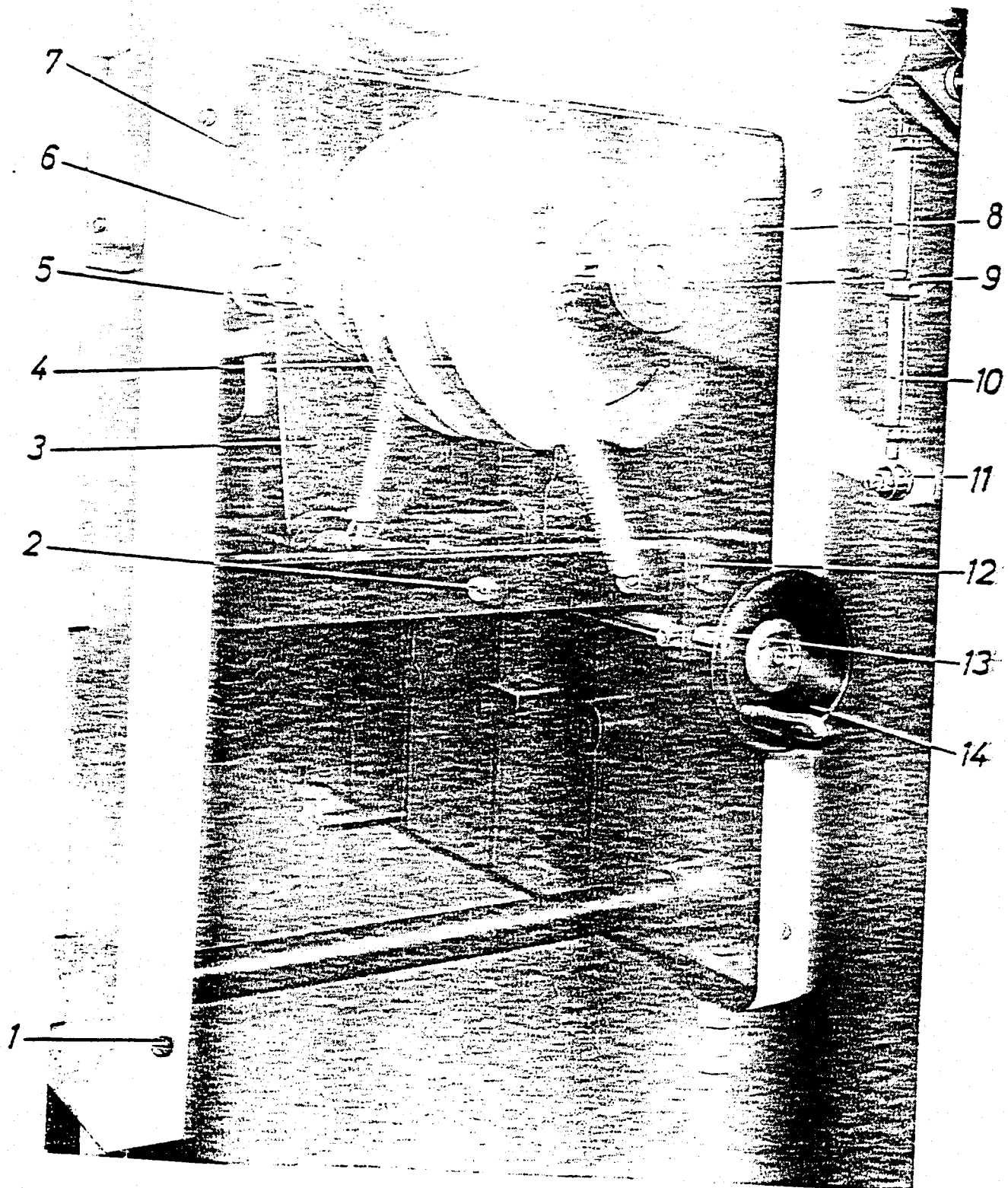


Part No.	Designation
1	collar screw
2	front bolt
3	roller lever for forming cell
4	cam for cutter bow
5	cam for longitudinal folder
6	cam for side folders
7	counter cam for forming cell
8	front bearing, to part 9
9	shaft for cams
10	adjustable part for tie rod of cock
11	lower angular joint for tie rod of cock
12	spindle holder
13	adjusting spindle
14	lever handwheel for variable speed drive

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

11.01.63 2 01.01





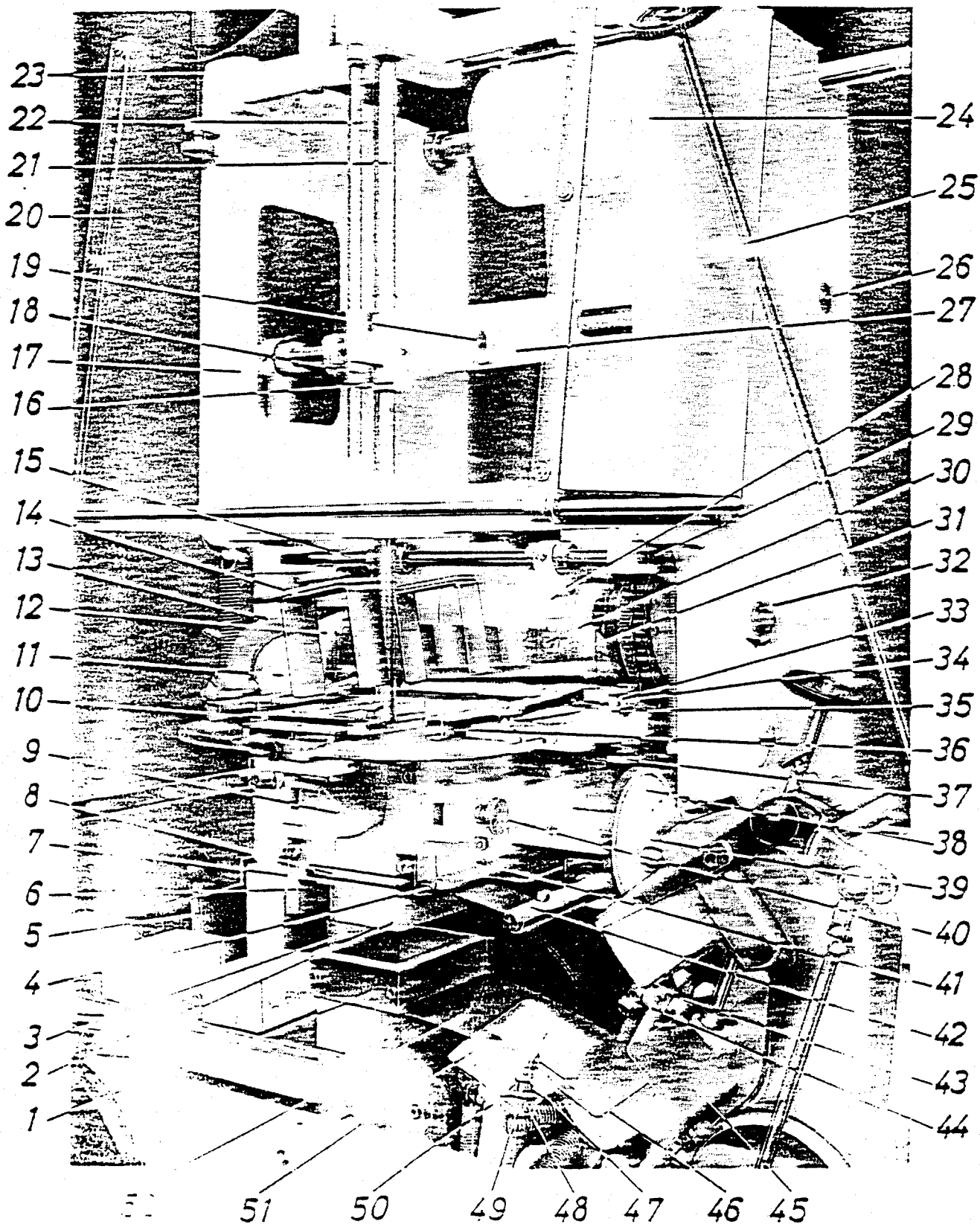
Part No.	Designation
1	forming cell
2	folding piston
3	nut with stud to part 1
4	roller axle
5	engaging stop
6	angle, front and rear
7	stripping-off device for wrapper
8	pressure roller
9	folding box with fold plate
10	wrapper stop
11	bearing to part 12
12	roller lever to part 14
13	holder to part 14
14	prefolder, complete
15	knife axle
16	guiding to part 21
17	side wall of wrapper apparatus
18	guiding stone to part 16
19	axle to part 27
20	slewable guard
21	rod for folding piston
22	guiding rod to part 16
23	threaded pin for wrapper brake
24	side wall of wrapper apparatus
25	plastic bush for weight regulation
26	lever axle to part 27
27	lever for folding piston
28	upper knife - holder
29	stop (right and left) to part 15
30	hexagon screw with nut for upper knife

Urheberrechtlich: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

71 1119 3 02.11

Benz & Hilgers GmbH, Düsseldorf, Germany.



- 23
- 22
- 21
- 20
- 19
- 18
- 17
- 16
- 15
- 14
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44

- 52
- 51
- 50
- 49
- 48
- 47
- 46
- 45

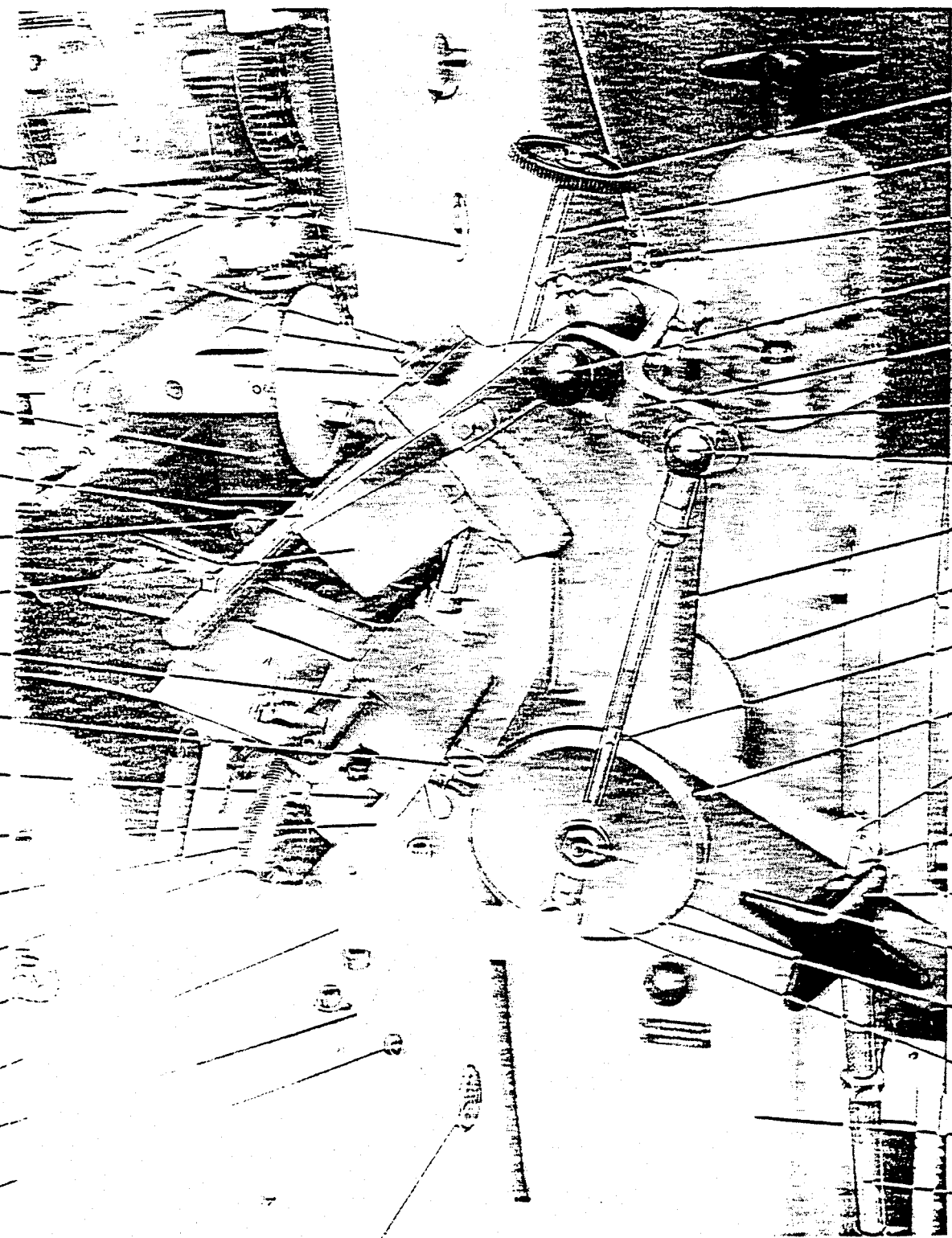
Part No.	Designation
1	cover
2	sheet wall
3	plug
4	chain spanner
5	roller lever to part 14
6	bolt to part 5
7	bolt to part 8
8	roller fork for side folder movement
9	roller lever for longitudinal folder
10	bolt to part 11 S/59 - 44 or 50
11	wing nut for longitudinal folder
12	forming cell
13	filling mouthpiece
14	cutter bow
15	adjustable piece for flap folder
16	roller fork for flap folder
17	pressure ledge
18	hexagon nut to part 17
19	hexagon screw to part 17
20	bearing bush
21	adjustable wheel for cell bottom regulation
22	adjustable spindle for cell bottom regulation
23	knurled screw to part 24
24	bolt to part 25
25	cutter bow
26	ball pivot for cutter movement
27	ball cup for cutter movement
28	filling cock with bush
29	washer for cock, rear
30	adjusting spindle for tie rod of cutter bow
31	washer for cock, front
32	upper angular joint for tie rod of cock
33	bolt for angular joint (upper one)
34	star handle for tie rod of cock
35	threaded pin for measuring cylinder
36	angular joint for cutter movement
37	cover for measuring cylinder
38	cover sheet (cockside)
39	adjustable part for tie rod of cock

Urhaberschultz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

11. 11. 63

- 20
- 19
- 18
- 17
- 16
- 15
- 14
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39

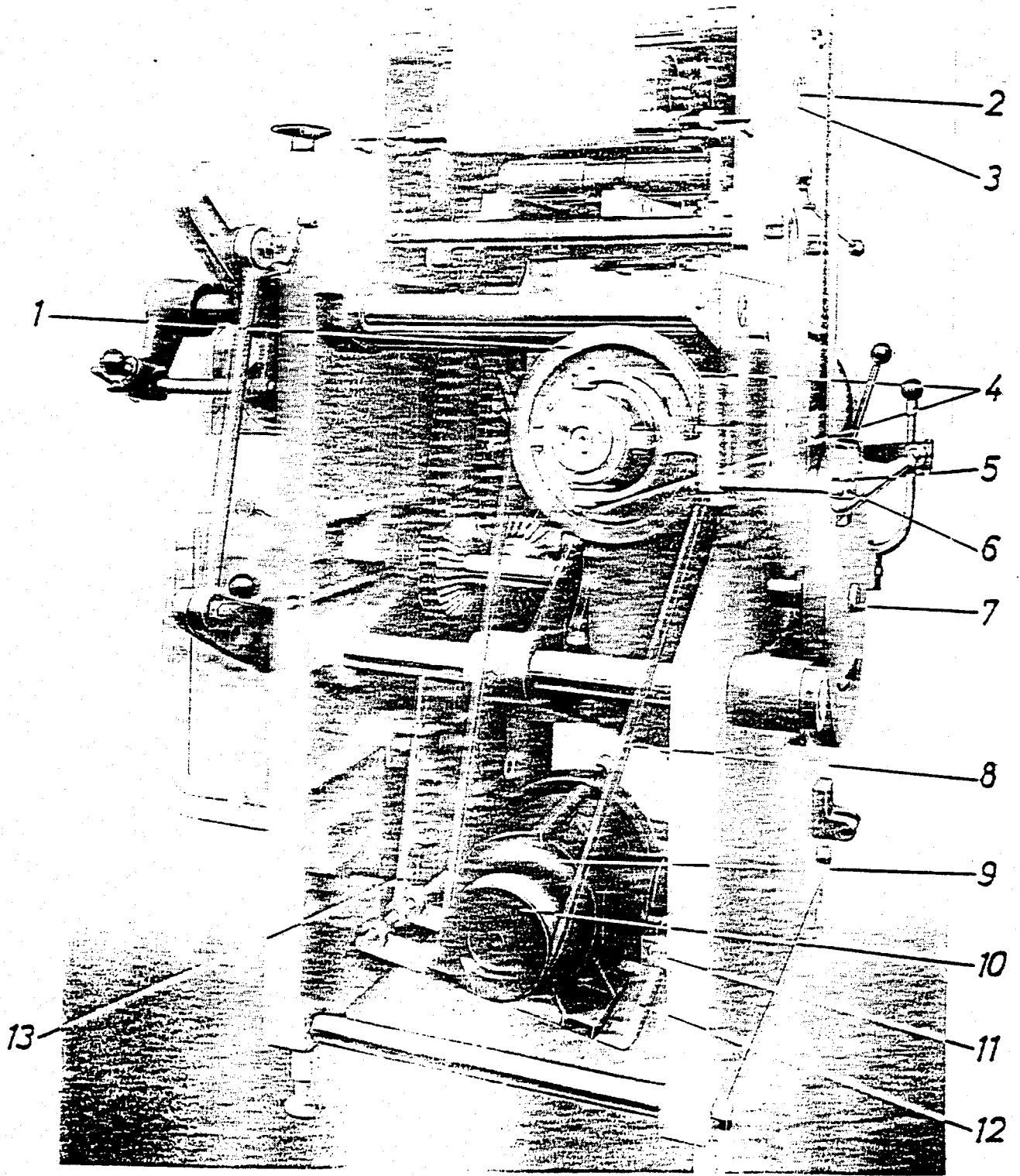


Part No.	Designation
1	drive pulley with multiple disc clutch (for designation of parts for clutch see special sheet No. 189)
2	shaft for cams
3	collar bushing
4	bolt for switch ring
5	collar bolt to part 6
6	disengaging fork for multiple disc clutch
7	driving shaft
8	V-belt, twofold
9	motor, 1.5 kW.
10	motor disc
11	axle
12	motor holder
13	motor fixing screw

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1983

71 1116 3 01. 11

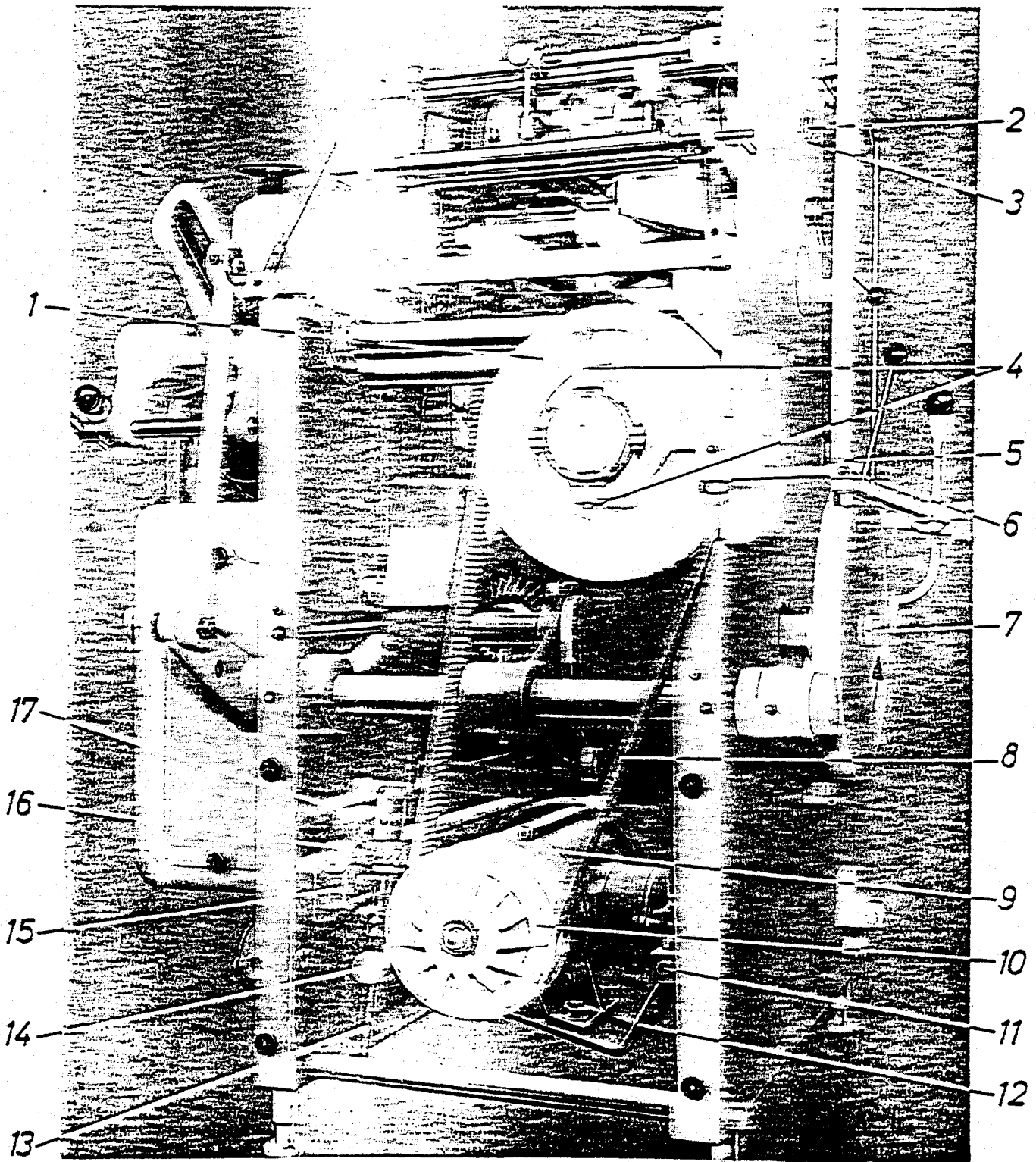


Part No.	Designation
1	drive pulley with multiple disc clutch (for designation of parts for clutch see special sheet No. 189)
2	shaft for cams
3	collar bushing
4	bolt for switch ring
5	collar bolt to part 6
6	disengaging fork for multiple disc clutch.
7	driving shaft
8	broad V-belt
9	motor 1.5 kW.
10	spreadable disc
11	axle
12	motor holder
13	spindle
14	spindle bolt
15	holder
16	screw wheel
17	spindle bearing

Urheberschutz: Für diese technische Unter-  
 lage behalten wir uns alle Rechte vor.

08. Aug. 1963

71 11 1 01 11



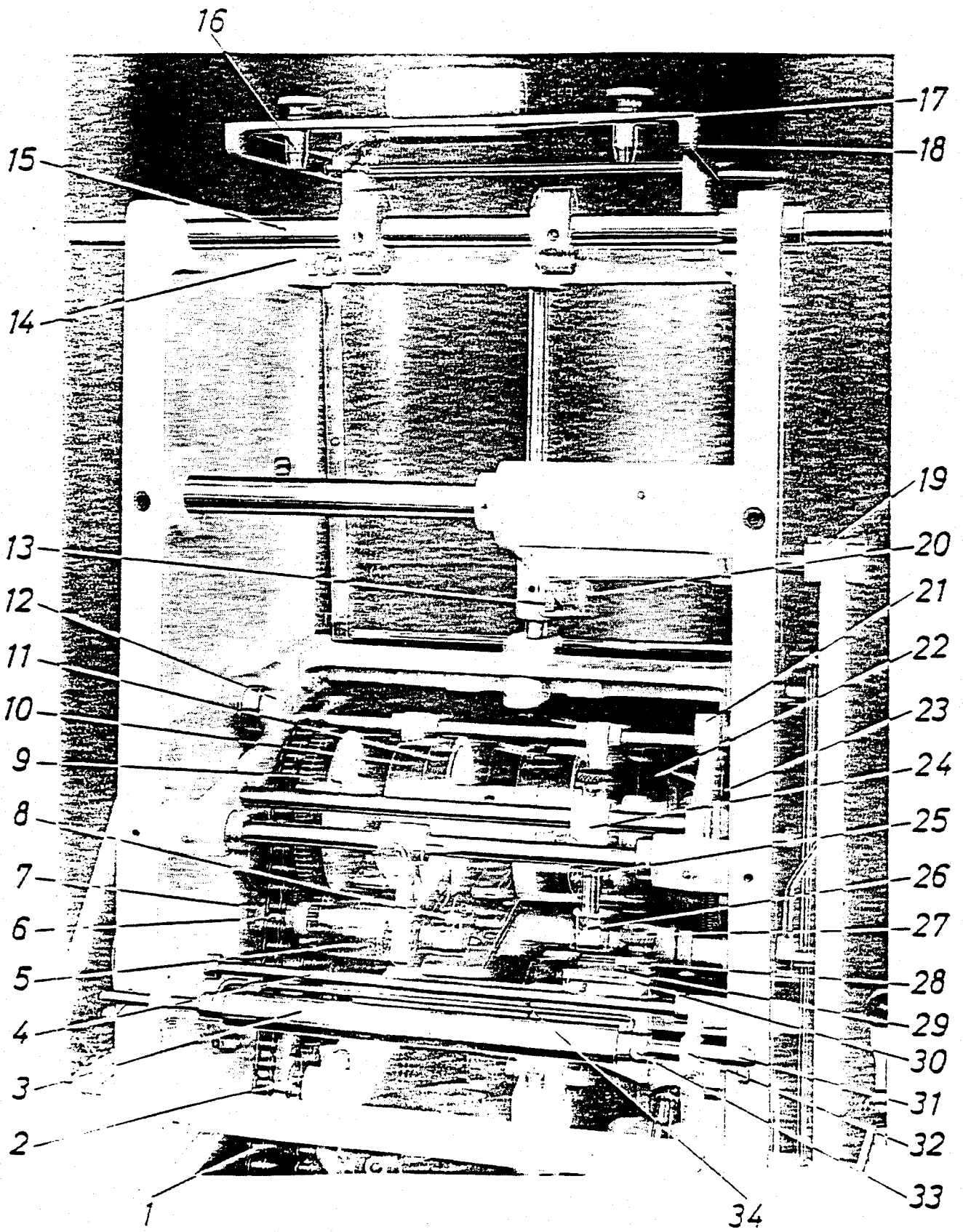


Part No.	Designation
1	roller chain for drive
2	chain tensioning wheel
3	guide roll
4	axle for wrapper guiding
5	feed roller
6	axle for feed roller
7	set collar
8	feeler
9	roll to segment shaft
10	feed segment left/right
11	feed segment (adjustable)
12	roller lever right, for upper knife
13	slide stone for folding piston rod
14	upper bridge
15	shaft for wrapper
16	guiding bolt to part 18
17	brake part to part 18
18	wrapper brake
19	tie rod
20	bolt with collar bush
21	roller lever left, for upper knife
22	cam for prefolder
23	cam for upper knife
24	movable collar
25	screw to part 11
26	lock
27	knurled nut with stud
28	tension piece to part 29
29	perforating type (needle-type or punch-type perforator)
30	holding plate to part 29
31	axle
32	lever to part 3, left and right
33	stop to part 34, left and right
34	pendulum

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

71 440 3 82 11

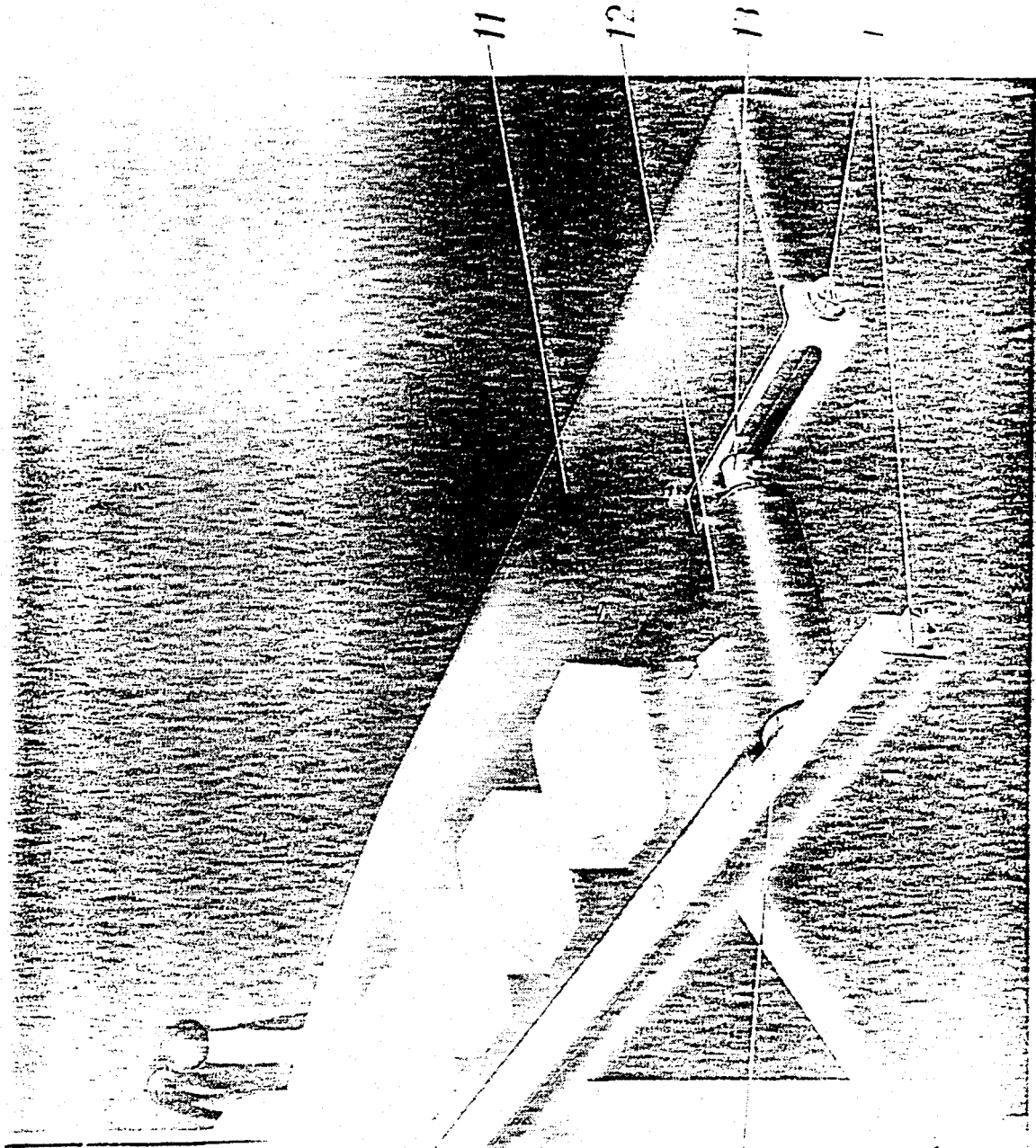


Part No.	Designation
1	hexagon screw to part 2
2	table support
3	driven roll for belt
4	stop finger of engaging lever
5	bolt for engaging device
6	bridge
7	bolt to part 8
8	belt roller bearing
9	guard (safety glass)
10	protecting rod for safety wall
11	table to off-conveyor
12	off-conveyor belt
13	axle
14	fixing screws

Urheberschutz: Für diese technische Unterlage behalten wir uns alle Rechte vor.

08. Aug. 1963

1111 1 01 11



10

( )  
( )  
!

The product fed from the infeeding pipe runs into the dosing housing and is pressing the compensating piston 13 upwards just when the product infeed pipe has been closed by means of the dosing cylinders. By the piston disc 23, the compensating piston presses onto the as an air-spring operating air accumulation in the air pressure cylinder 22 having 1 number of atmospheres above atmospheric pressure. When the dosing cylinder re-opens the product infeed pipe, the air-operated spring presses the compensating piston downwards and transports the accumulated product into the dosing cylinders. Should it happen that too much product is fed during the product accumulation procedure, then piston 13 is moving upwards until the upper edge of the piston gives free way to the opening of the return pipe through which the product surplus can run into the rework tank by means of the return pipe.

On machine stop, valve 10 of the air pressure cylinder 22 de-aerates. The product flow coming from the infeed pipe can now lift the compensating piston 13 slightly and run off through the return pipe.

On machine start, valve 10 recloses and in the air pressure cylinder 22 new necessary pressure of 1 atue is rebuilt for springing of the compensating piston.

The principal adjustment of the air pressure 10 made by means of a pressure regulator in the maintenance unit 9.

Position Reference Repère	Bezeichnung	Designation	Désignation
1	O-Ring	O-ring	Joint torique
2	Buchse	bush	bague
3	Anschlagstück	stop piece	butée
4	Buchse	bush	bague
5	Schalldämpfer	sound absorber	insonorisation
6	Verschraubung	screw joint	raccord fileté
7	Winkelstück	angle piece	coude
8	Handschiebeventil	hand sliding valve	vanne manuelle
9	Wartungs-Einheit bestehend aus FILTER DRUCKREGLER NEBELÖLER	maintenance unit consisting of FILTER PRESSURE REGULATOR OIL STRAYER	unité d'entretien se composant de: FILTRE REGULATEUR DE PRESSION VAPORISATEUR A L'HUILE
10	3/2-Wegeventil	3/2-way valve	vanne à tiroirs 3/2
11	Abfüllgehäuse	filling housing	cartar de remplissage
12	Manometer	pressure gauge	manomètre
13	Kolben	piston	piston
14	Kunststoffleitung	plastic pipe	conduite plastique
15	O-Ring	O-ring	joint torique
16	Lager	bearing	palier
17	Rändelschraube	knurled screw	vis
18	Halterung	support	fixation
19	Stehbolzen	stay bolt	boulon
20	Kolbenstange	piston rod	tige de piston
1	Aufschraubflansch	screw-on flange	bride à raccord fileté
2	Gehäuse	housing	cartar
23	Kolbenscheibe	piston disc	disque de piston
24	Kolbendichtung	piston seal	segment de piston
25	Scheibe	disc	disque
26	Deckscheibe	cover disc	disque de couverture
27	Stecker und Kupplung	plug and clutch	prise mâle et prise femelle
28	Verschlusschraube	locking screw	vis de fermeture

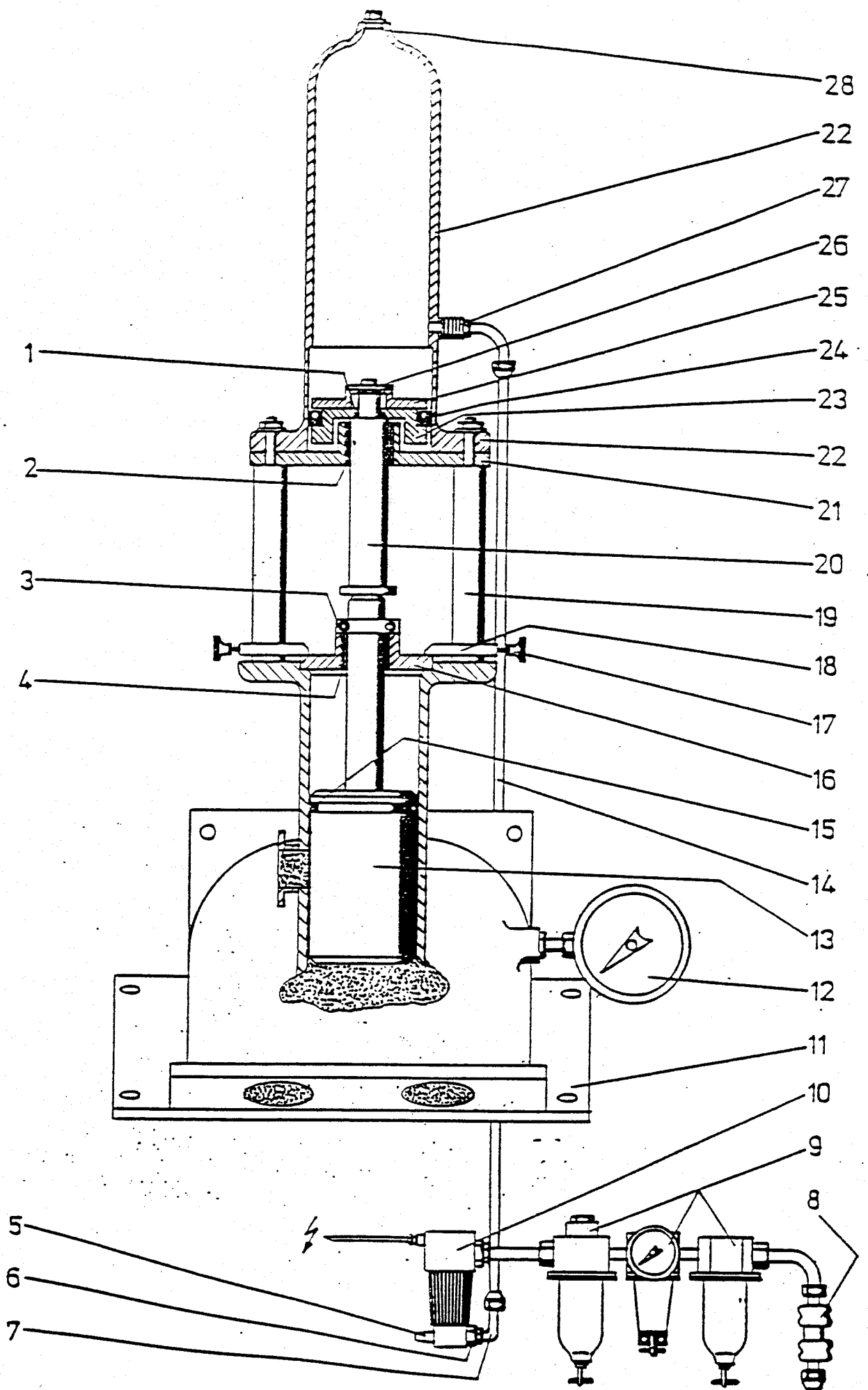


Fig. 8803.2

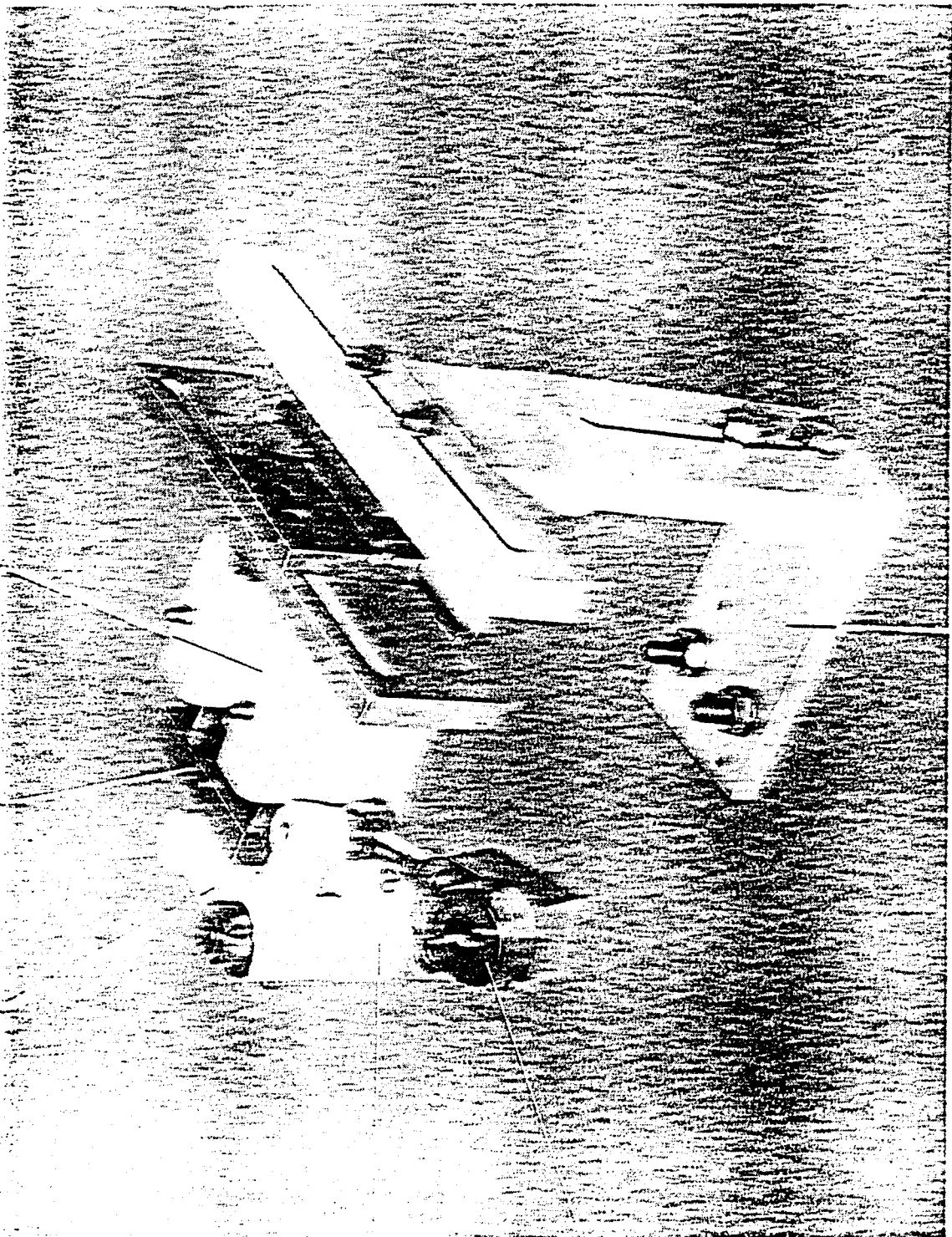
Dat: 5.2.75

gez: Watter

Pieza	Denominación
1	cubrejunta
2	cojinete en ángulo
3	cojinete doble
4	hierro angular
5	palanca
6	casquillo de cojinete

Alle Rechte vorbehalten.  
Verbreitung: Für alle technischen Liefer-





3

4

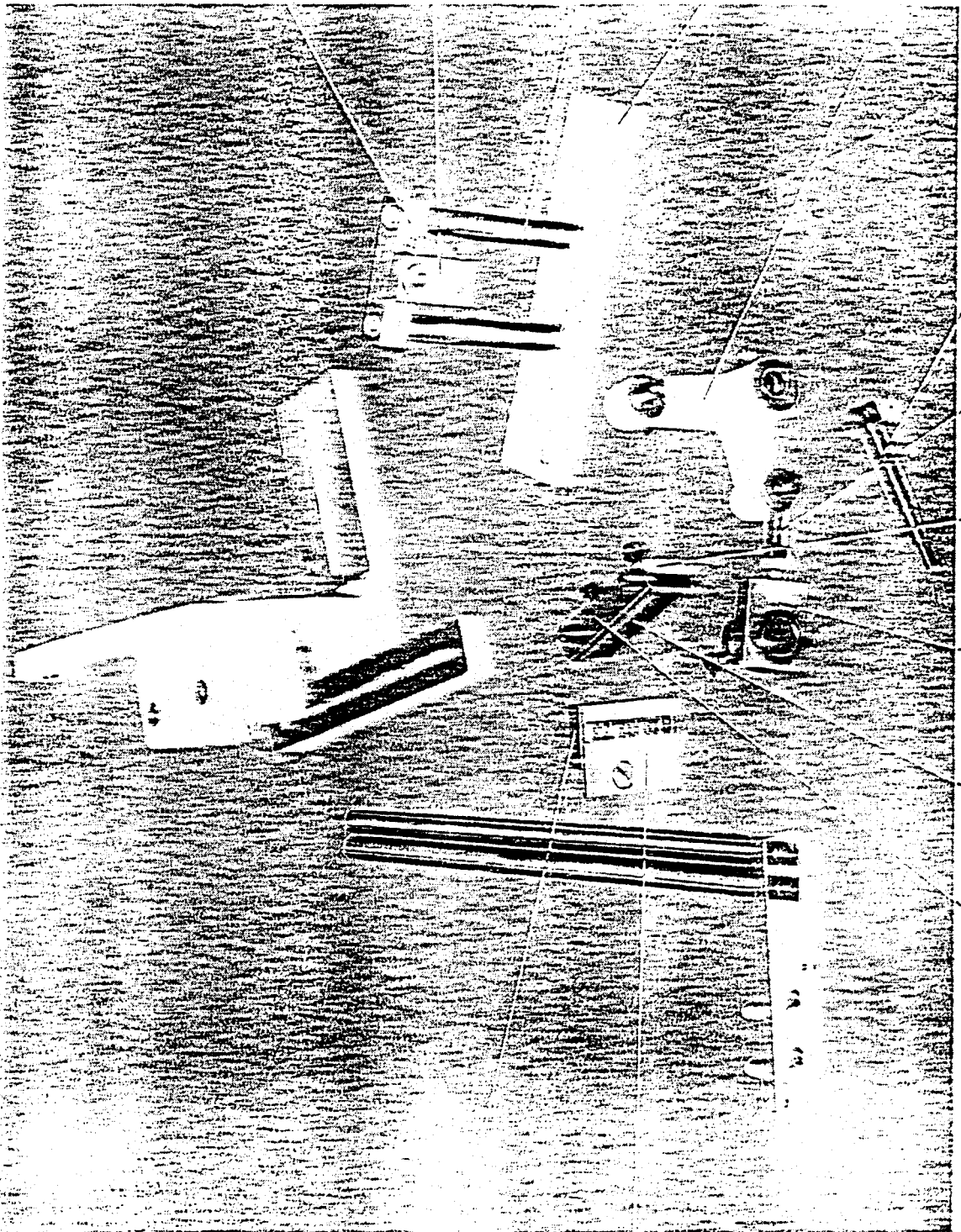
1

5

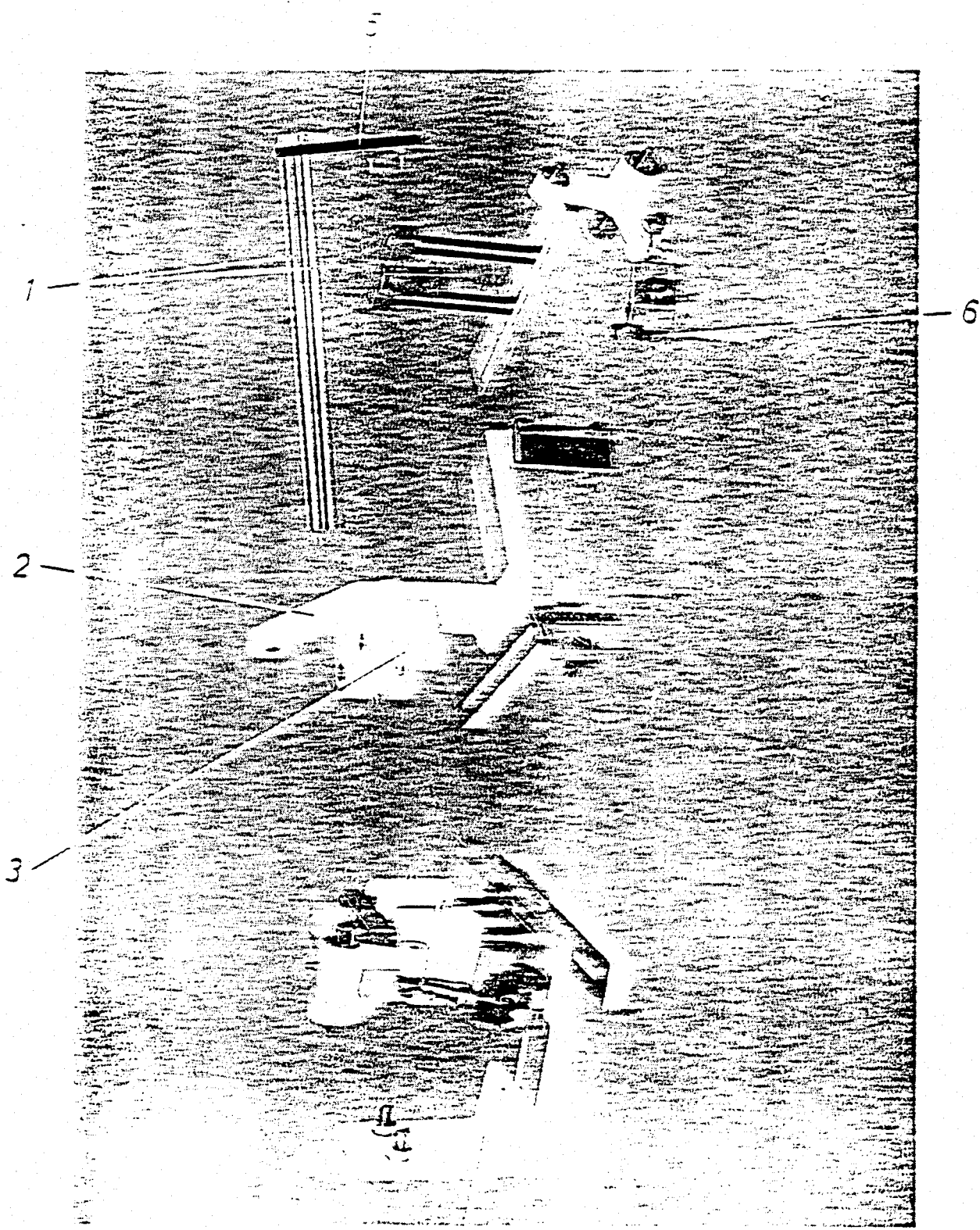
2

5

Pieza	Denominación
1	cubrejunta
2	cubrejunta
3	eje
4	cubrejunta
5	palanca
6	perno roscado
7	cabeza de barra articulada
8	placa de presión
9	cojinete
10	placa de goma
11	dispositivo sujetador
12	placa sujetadora
13	cubrejunta



Pieza	Denominación
1	vástagos de guía
2	cojinete en ángulo
3	cojinete doble
4	hierro angular
5	cubrejunta
6	casquillo de cojinete



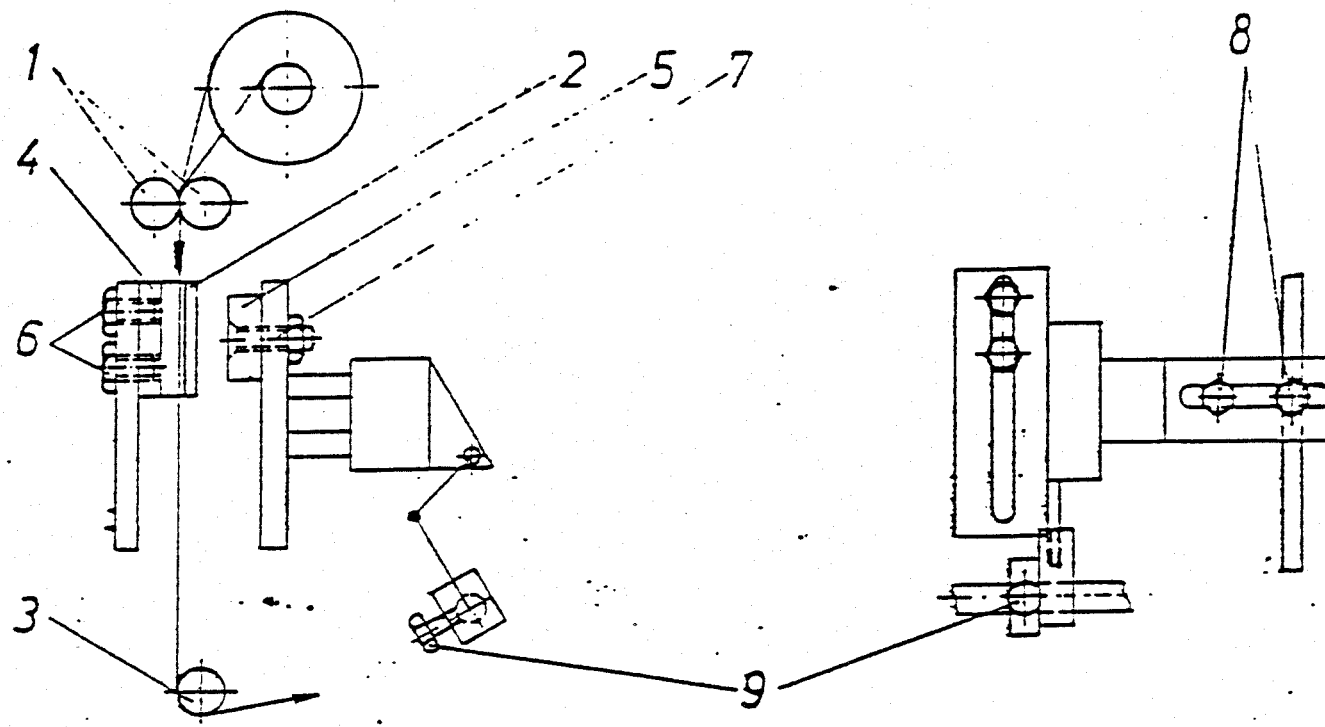


Fig. 8311/4

Marcación de la fecha de empaque y del número indicador sobre el material envolvente.

1. Al introducir la cinta del material envolvente hay que fijarse en lo que sigue:

Mover el portatipos fig. 8311/4 No. 5 en la posición más alta, pues introducir la cinta del material envolvente entre los vástagos de guía fig. 8311/4 No. 1 y el sujetador fig. 8311/4 No. 2 así como la placa de contrapresión fig. 8311/4 No. 4 y continuar llevándola alrededor del cilindro de rotación fig. 8311/4 No. 1 como hasta ahora.

2. Cambio de tipos.

Para el cambio de tipos hay que soltar el tornillo de la cubrejunta fig. 8311/2 No. 13, hasta que levantando la cubrejunta viene de la espiga de guía y puede girarse al lado.

Entonces los tipos pueden cambiarse. Al colocar los nuevos

Urheberrecht: Für diese technische Unterlage behalten wir uns alle Rechte vorbehalten.

tipos hay que fijarse en la sucesión correcta.

3. Ajuste de la perforación en el sentido longitudinal al largo del material envolvente.

Soltando los tornillos fig. 8311/4 No. 6 y la tuerca No. 7 el portatipos y la placa de contrapresión pueden moverse en la posición deseada.

Hay que fijarse en eso, que los tipos perforadores no toquen el sujetador. Después del proceso de ajuste los tornillos y la tuerca deben apretarse firmemente de nuevo.

4. Ajuste de la perforación lateralmente al ancho del material envolvente.

Soltando los tornillos fig. 8311/4 No. 8 y No. 9 el dispositivo completo de perforación puede moverse en la posición deseada. También aquí hay que volver a apretar los tornillos firmemente.