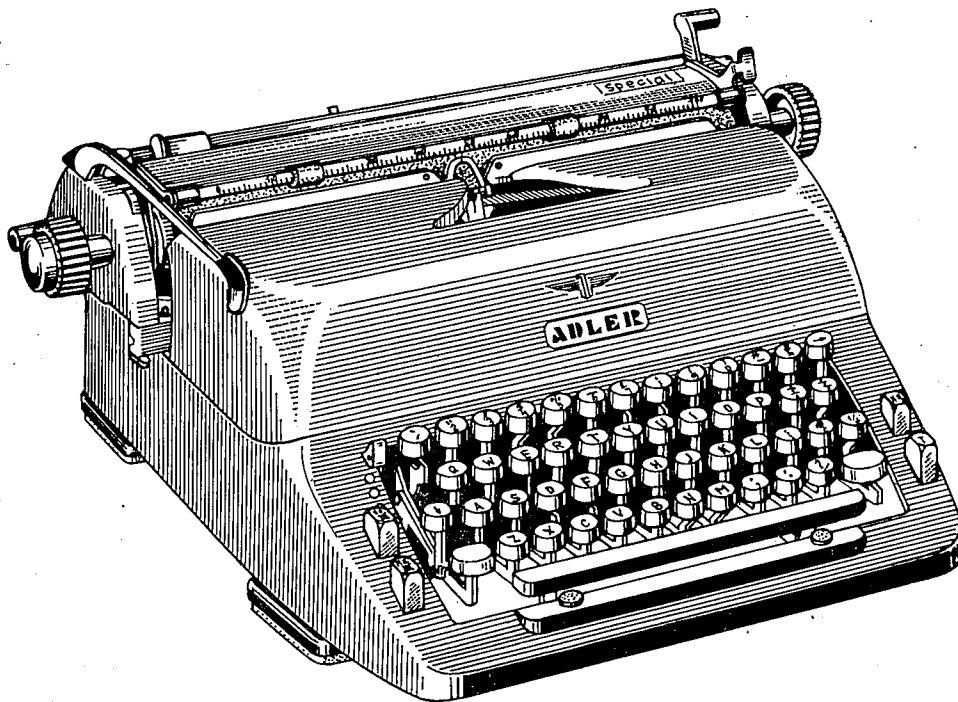




SERVICE MANUAL

for the

ADLER special



Standard-Typewriter

This manual is being continuously completed and kept up to date.

The manual remains the property of the ADLERWERKE and should be returned without special request in case of expiration of the agency contract.

ADLER special	General Instructions	S.M. 01
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The following instructions for typewriter mechanics have been written with the object not only to supply high grade typewriters, but also to give all servicemen adequate instructions for the appropriate maintenance and servicing of our machines.

Care has been taken to give a clear description of all operations which are essential and which may occur in maintenance and repair work.

Every mechanic, and especially every workshop manager should thoroughly familiarize himself with these instructions, taking into special consideration the following hints:

- a) Principally, repair and maintenance work should be done exclusively by trained servicemen, according to these instructions.
- b) Machines should be taken apart only as far as it is necessary for making the necessary repair.
- c) On the occasion of a repair it is advisable to adapt the machine to the latest design by providing it with the new parts or units which are essential for the perfect performance of the entire mechanism.
- d) After repair the machine should be checked according to Service Manual Sheets Nos. S.M. 600-1.
- e) New typewriters should be thoroughly checked, and possible damages incurred in transit should be repaired before delivery is made to the customer.
- f) When handing over a machine to the customer, the typist should be made thoroughly familiar with its operation, maintenance, and cleaning methods.
- g) It is essential that the machines are subject to regular service when being used, i.e. service to be conducted at appropriate intervals by the ADLER dealer's trained servicemen.

This Manual should not be issued to subagents unless they have received special training or have attended a mechanics' course. Delivery of Service Manuals to the agents is listed in the files. The agents are responsible for returning these Manuals in case of a change of subagents or for proper entry of supplementary sheets in the subagents' Manuals.

ADLER special	Introduction	S.M. 02
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In this Service Manual the groups which belong to one another are collected under one register number. The main groups can easily be found by means of the index (S.M. 05) and are divided into subgroups in which the individual operations are described. That means e.g. that all subgroups which belong to the main group "escapement" as escapement carrier, escapement wheel, loose dog etc. will be found under register 350.

On the sheets 403 and 503 faulty typing and some faulty actions are described as well as their cause and elimination.

By the delivery of supplementary sheets the Service Manual will always be kept up to date and we ask you to file these sheets into the referring register. Observe that the sheet number remains unchanged but will be completed by a letter (a, b, c.....).

ADLER special	Training of Mechanics	S.M. 03
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To promote the training of mechanics for our ADLER Typewriters and Office Machines, courses are continually held at the ADLERWERKE. Besides the necessary theoretical information these courses chiefly provide practical training.

An ordinary course for the ADLER Standard SPECIAL Typewriter takes 5 days.

To obtain an appointment as an ADLER agent at least one mechanic must have attended one of our training courses. It is also important that the mechanic trained in these courses is capable of training other mechanics.

Special agreements will be made with foreign agencies.

Moreover, it is advisable to have several mechanics attend the courses - depending on the size of the sales area - and to arrange for short repetition courses at appropriate intervals.

The training enables the mechanics to expertly maintain the machines, to obviate customers' complaints, and to keep each machine in proper working condition. Attendance at these courses is therefore the best service an agent can render to himself and to his customers.

Subagents who are left to themselves and who often can hardly entertain relations with the main agency, are also kindly invited to attend these courses or those which are held by the main agencies.

Arrangements for attendance can be made at any time; the beginning of courses will be fixed by ADLERWERKE.

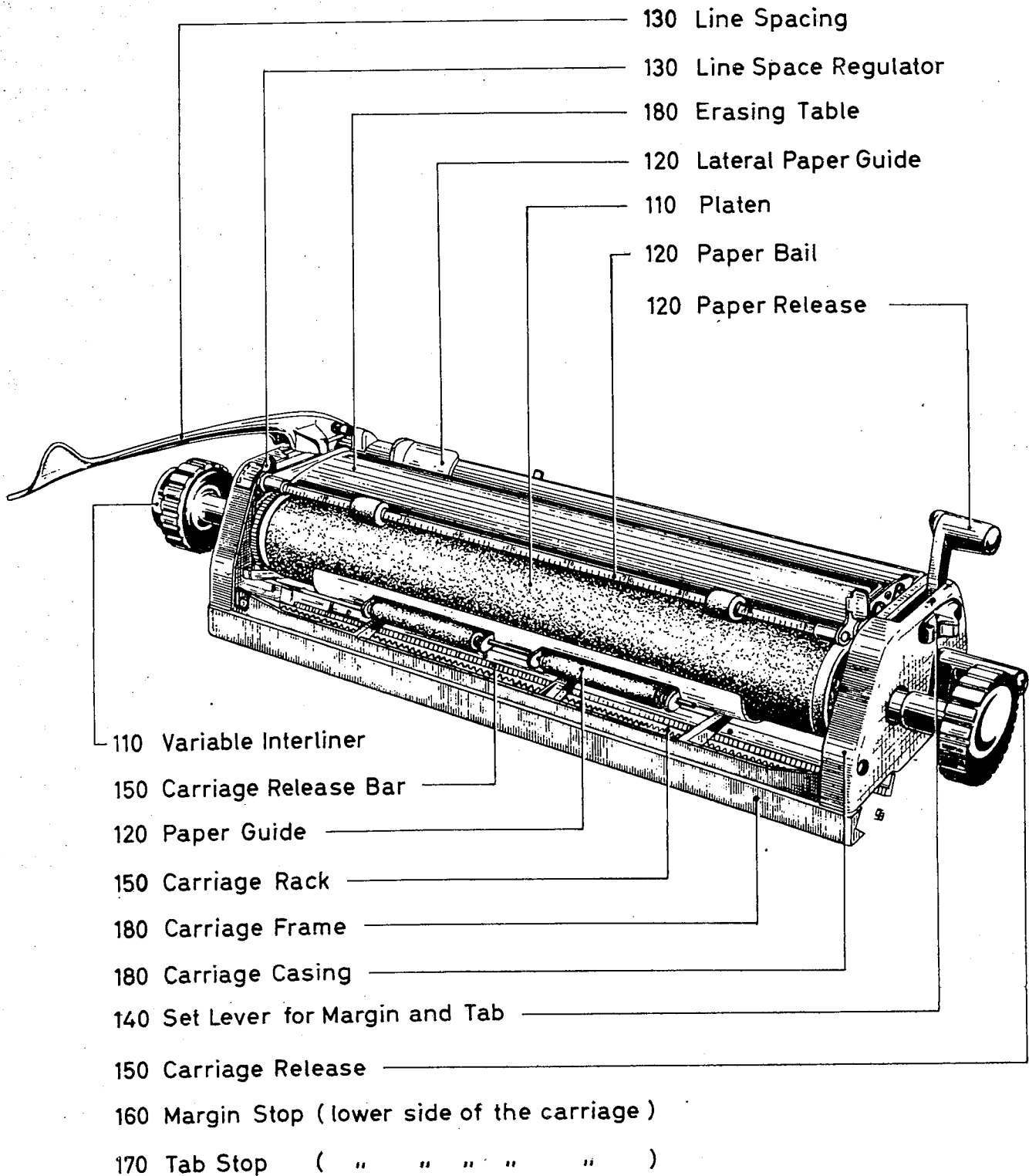
ADLER special	Index	S.M. 05
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Action:	Line lock bail.....	320
Back spacing.....	Line spacing.....	130
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Lateral paper guide.....		
Line finders.....		

ADLER
special

Carriage

S.M. 100



ADLER special	Removal of Carriage	S.M. 100-1a p. 1
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To dismount:

1. Depress carriage lock (1) (see fig. 2).
2. Shift carriage to the right hand stop, and unscrew countersunk screw (2) holding suspension eyelet (3) (fig. 1).
3. Press plate spring (4) against plate (5) of angular stop (6) by means of a screw driver. At the same time shift angular stop (6) forward in direction of arrow X (fig. 2).
4. Remove the carriage from the machine by shifting to the left while actuating carriage release lever (7) and depressing the margin release key; remove ball retainers (8) at the same time (fig. 3).

To mount:

1. Place ball retainers (8) into the carriage rails holding them with both hands in such a way that balls (9) still protrude from the carriage rails at the right side (see fig. 3).
2. Insert the carriage into the carriage rails on the outer frame from the left side. Hold fast ball retainers (8) and insert them together with the carriage until their entire length rests in the ball race grooves (10) of the outer frame (11).
3. Actuate carriage release lever (7), depress margin release key, and introduce the carriage fully.
4. Push back angular stop (6) to its initial position.
5. Replace countersunk screw (2).

To check:

1. Shift the carriage to the extreme left. See that the margin stops are cleared.
2. Place the machine on its rear side.
3. Check if front edge (8a) of the two ball retainers (8) is approximately in line with outer edge (10a) of ball race grooves (10) of the outer frame (see fig. 4).

Fig.1

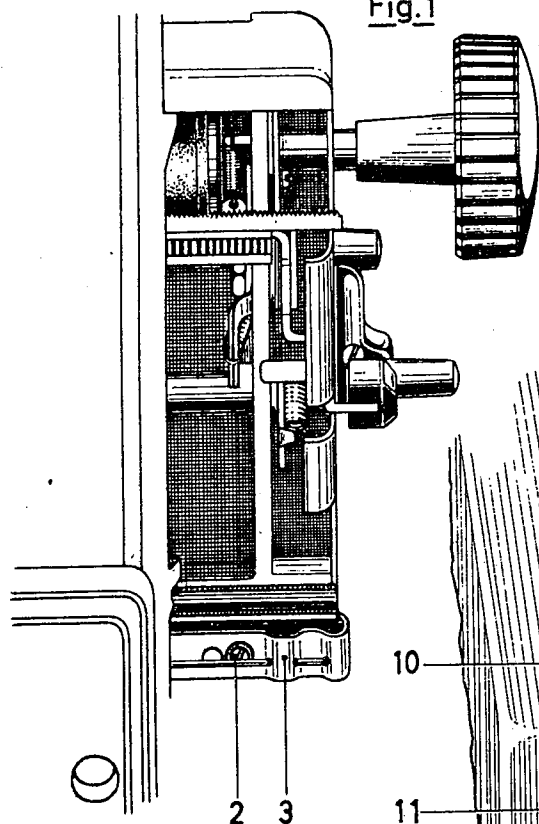


Fig.2

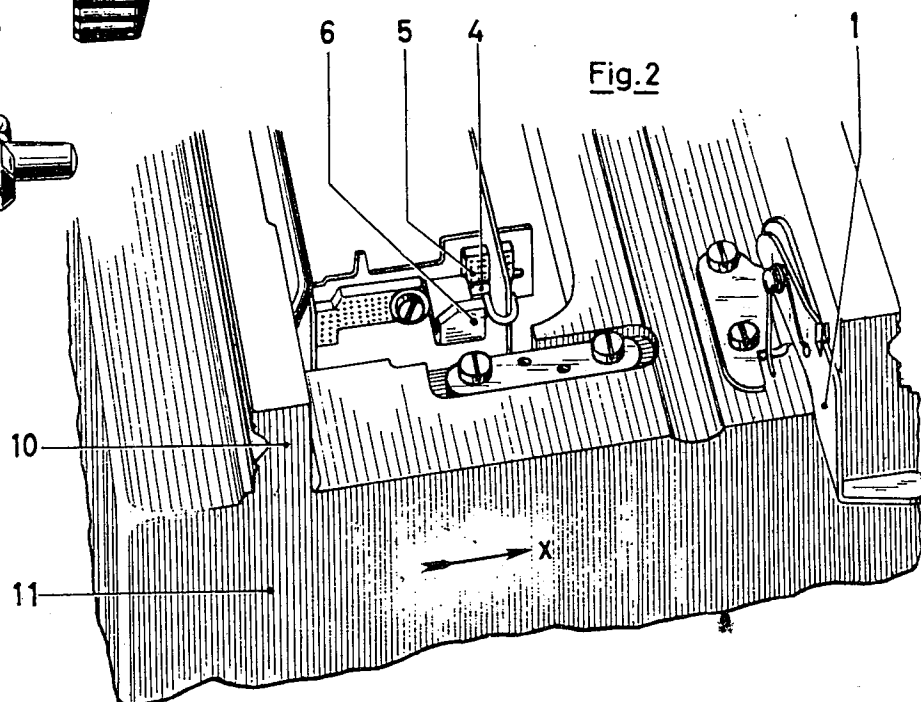


Fig.3

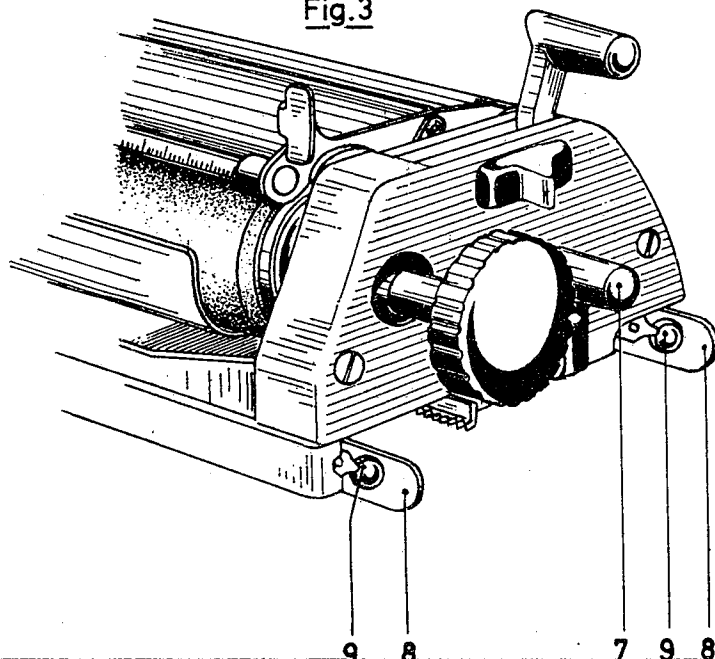
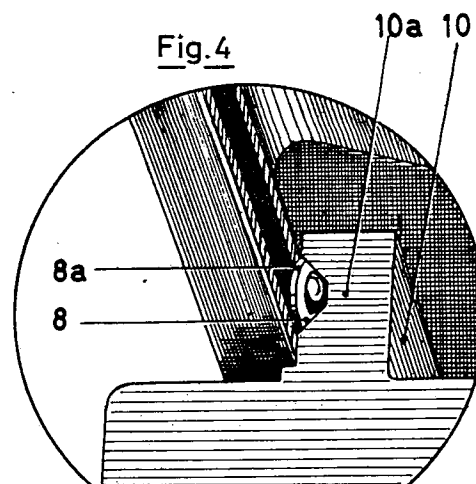


Fig.4



Remove carriage from the machine (see S.M. Sheet 100-1a).

Dismounting:

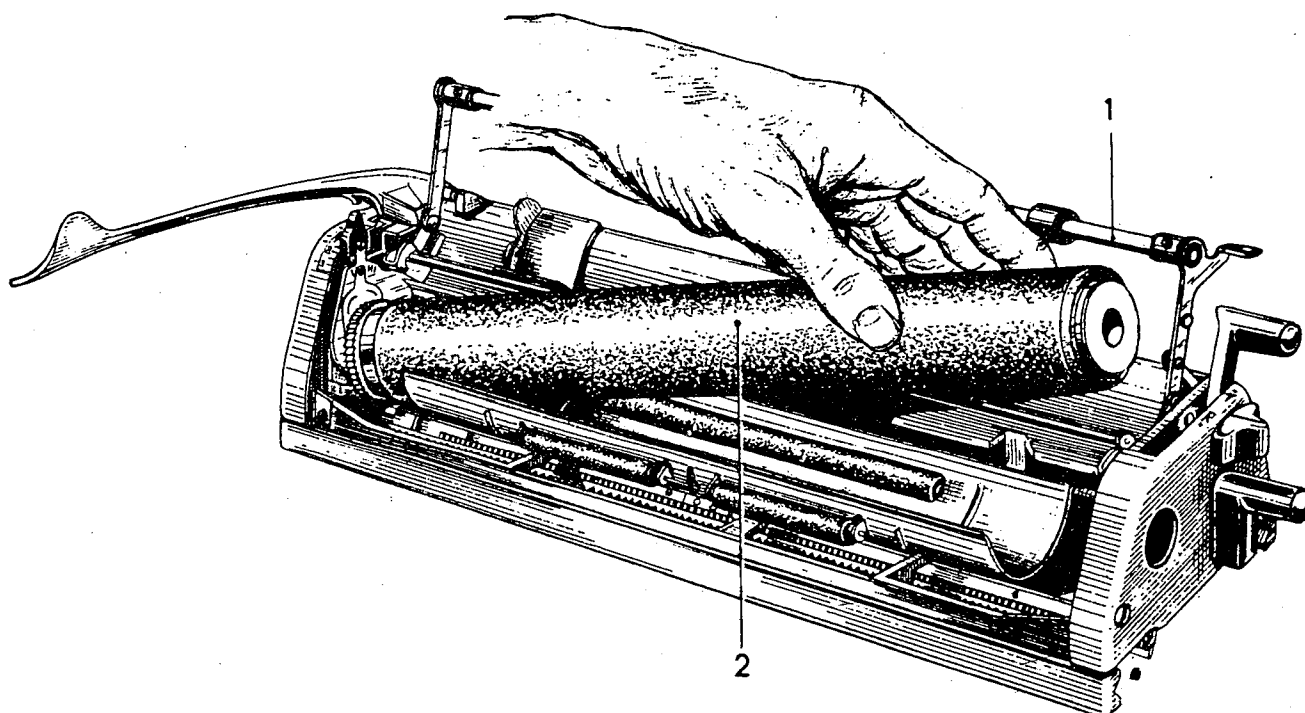
- 1) Tilt up the erasing table (S.M. 181-2a).
- 2) Unscrew the platen knobs.
- 3) Draw paper bail (1) forward (up to serial number 2 025 000) and lift it (from serial number 2 025 001).
- 4) Lift right side of platen (2) above the edge of the carriage (s. fig.) pull it slightly to the right, then lift it out completely.

Mounting:

Mount platen in inverted sequence. Adjust set collar (S.M. 112-1a, part 18) to the carriage end in such a way that the platen fits snugly without lateral clearance, but can be moved freely.

Adjustment of platen:

See S.M. 501-1.



ADLER special

To exchange and adjust the Button of
the Variable Interliner and Disen-
gaging Lever

S.M. 112-1a

Dismount platen (see S.M. 111-1).

Dismounting:

a) push button of the variable interliner

- 1) Unscrew hexagon nut (1) and remove cone (2).
- 2) Press in push button (3) and slip off circlip (4).
- 3) Withdraw push button (3) with pressure spring (5) from platen knob (6).

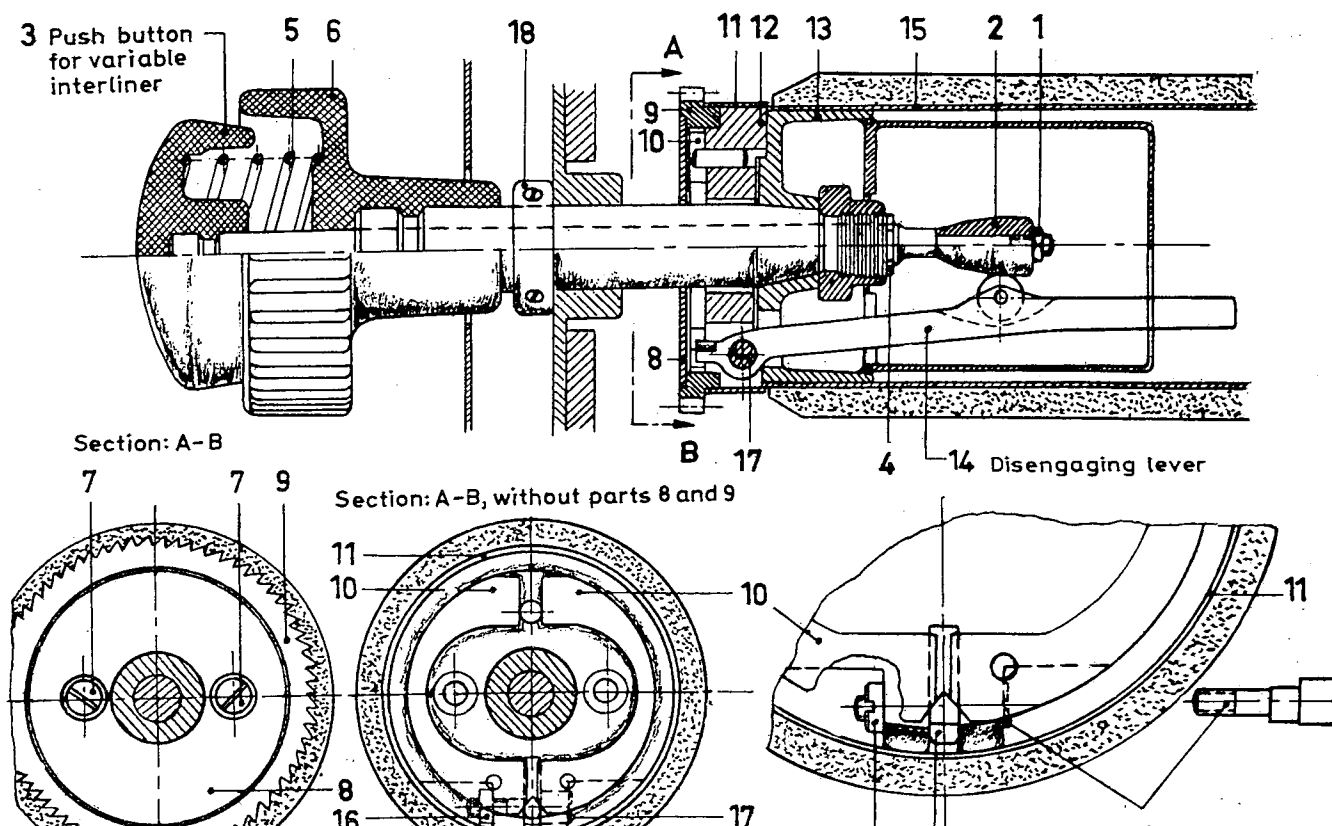
b) clutch parts

- 1) Unscrew fillister head screws (7); remove cover plate (8), line space ratchet (9), and clutch jaws (10).
- 2) Slip off guard ring (11) from base plate (12).
- 3) Force out base plate (12) from end cap (13) by means of a screw driver. Disengaging lever (14) can thus be removed from platen (15) at the same time.
- 4) Unscrew slotted nut (16) and remove eccentric screw (17). Disengaging lever (14) will then drop out.

Mounting: Mount parts in inverted sequence.

Adjustment:

- re a)
- 1) Expand guard ring (11) and slip it off over line space ratchet (9).
 - 2) Adjust eccentric screw (17) in such a way that line space ratchet (9) can still be turned when push button (3) of the variable interliner is pressed in. Fully tighten slotted nut (16).



**ADLER
special**

To exchange and adjust the Button of
the variable Line Spacer and the Re-
lease Levers

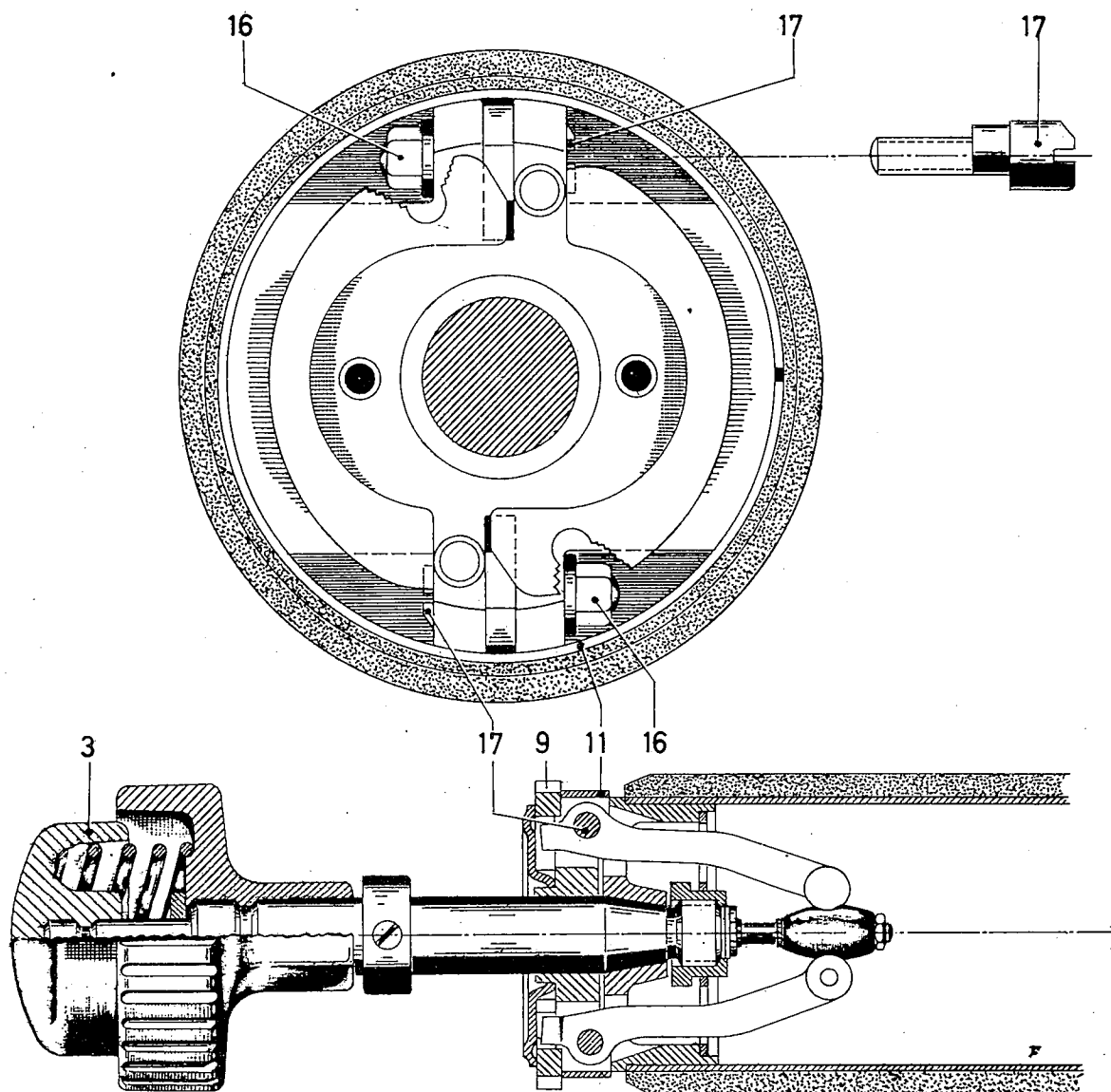
S.M. 112-1b

Dismount the platen (see Service Manual 111-1)

To dismount: (see Service Manual 112-1a)

Adjustment:

1. Expand guard ring 11 and slip it off over the line space ratchet (9).
2. Adjust the eccentric screws 17 in such a way that line space ratchet (9) can still be turned when button (3) is pressed in.
Fully tighten special nuts 16.



ADLER special	Covering the Platen Core	S.M. '112-2
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The rubber cover is not glued onto the platen core; it is only firmly pressed on. Cut it off for removal. Mount new cover after rubbing talcum powder on the platen core without heating it and without using adhesive, merely by pressing it on tightly.

Damaged or unround platen covers should be turned between the centers of a lathe. For this purpose replace the platen knobs by centering cones WB 1100/2780 A-3 and W-Norm 309.

ADLER special	Mounting and Dismounting of the Paper Deflector with Feed Rolls and Plate Springs	S.M. 121-1 p. 1
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Remove carriage (see S.M. 100-1a).

Dismount platen (see S.M. 111-1).

Dismounting:

- a) paper deflector
Lift deflector plate (1) out of the machine.
- b) feed rolls
 - 1) Remove cotter wires (2).
 - 2) Withdraw axle (3) of the rear feed roll (4) and remove latter.
 - 3) Withdraw axle (5) of the front feed rolls (6) and remove these.
- c) plate springs
 - 1) Unscrew hexagon nuts (7) on both plate springs (8).
 - 2) Remove plate springs (8).

Mounting: Mount parts in inverted sequences.

Adjustment: fig. 1 up to No. 2 319 549

Adjust plate springs (8) by means of hexagon nuts (7) that 5 first sheets and 5 copying papers can easily be moved between platen and feed rolls, when paper release (9) is operated. On the other hand the pressure must be strong enough that a single sheet is surely kept and will not be displaced when the paper is transported.

Adjustment: fig. 2 from serial No. 2 319 550

Set threaded bolt 11 to 13mm (=".512") and lock it by counternut 10. Mount plate spring 8 and add two cup springs 13 as shown on the sketch. Set two hexagon nuts 7 that there is a distance of at most 0.1mm (=".004") between plate spring 8 and cam 12 when the paper deflector is loaded with 1 000g (=2 lb., 3 oz.).

Examination of the pressure:

Insert one sheet and type in both upper corners one word each, transport the paper by turning the platen up to its lower edge and type two words again. Then turn the paper back, type the same words once more in the upper corners, turn it up and type once more on the lower edge. If the second impression does not exactly correspond with the first one the pressure must be adjusted accordingly.

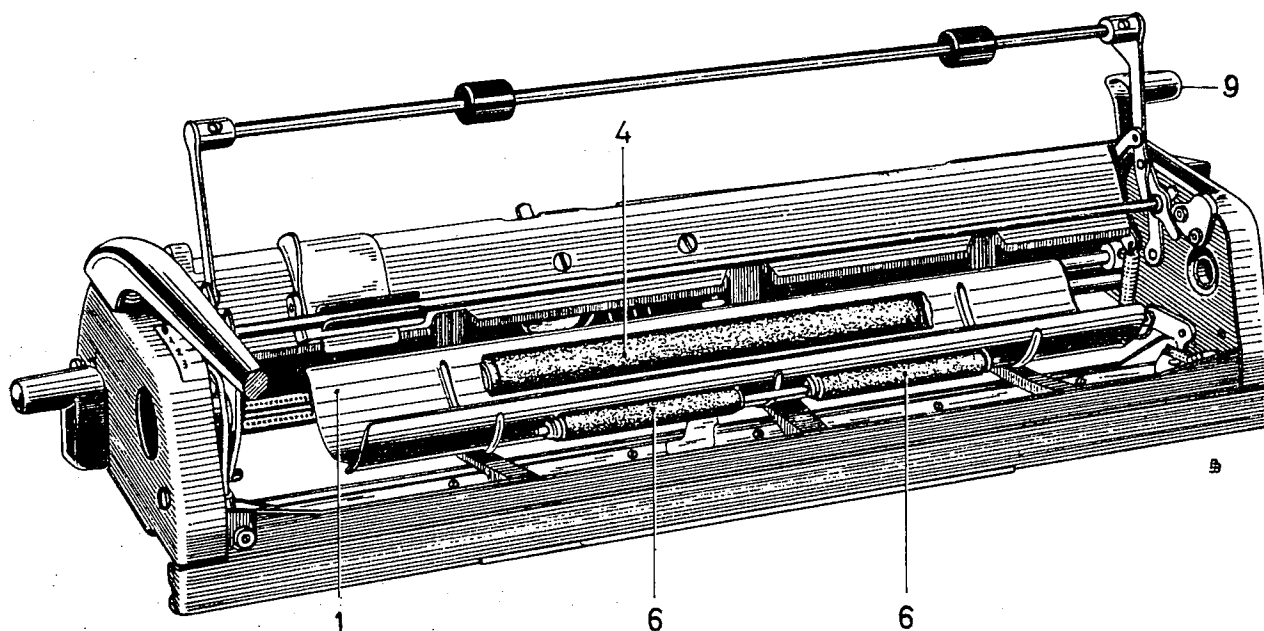


Fig.1

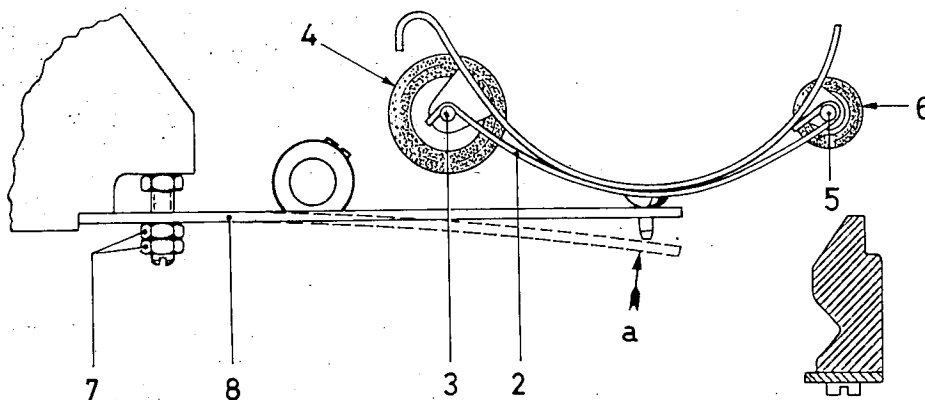
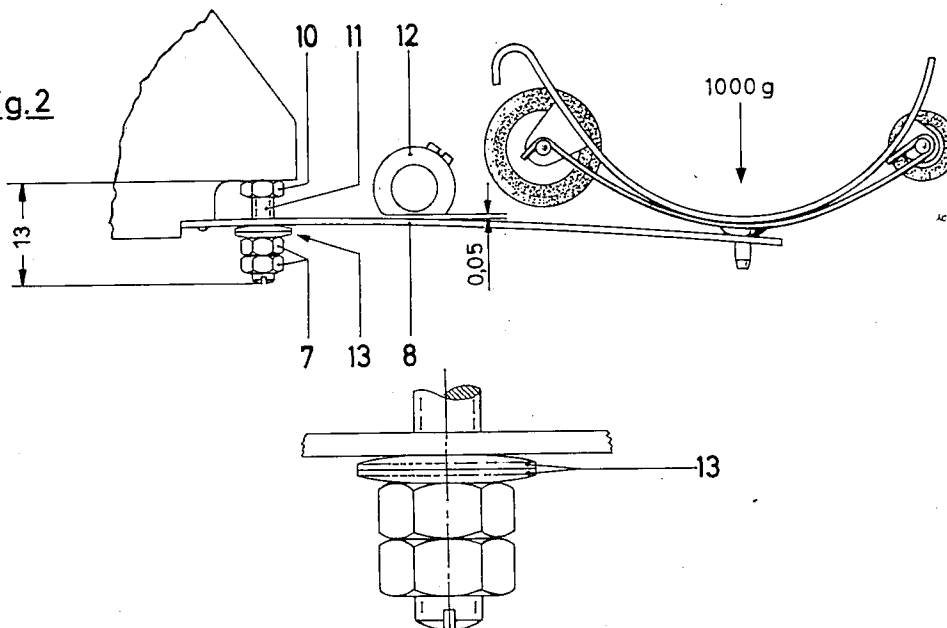


Fig.2



**ADLER
special**

Dismounting and Mounting of
the Paper Release Mechanism

S.M. 121-2a

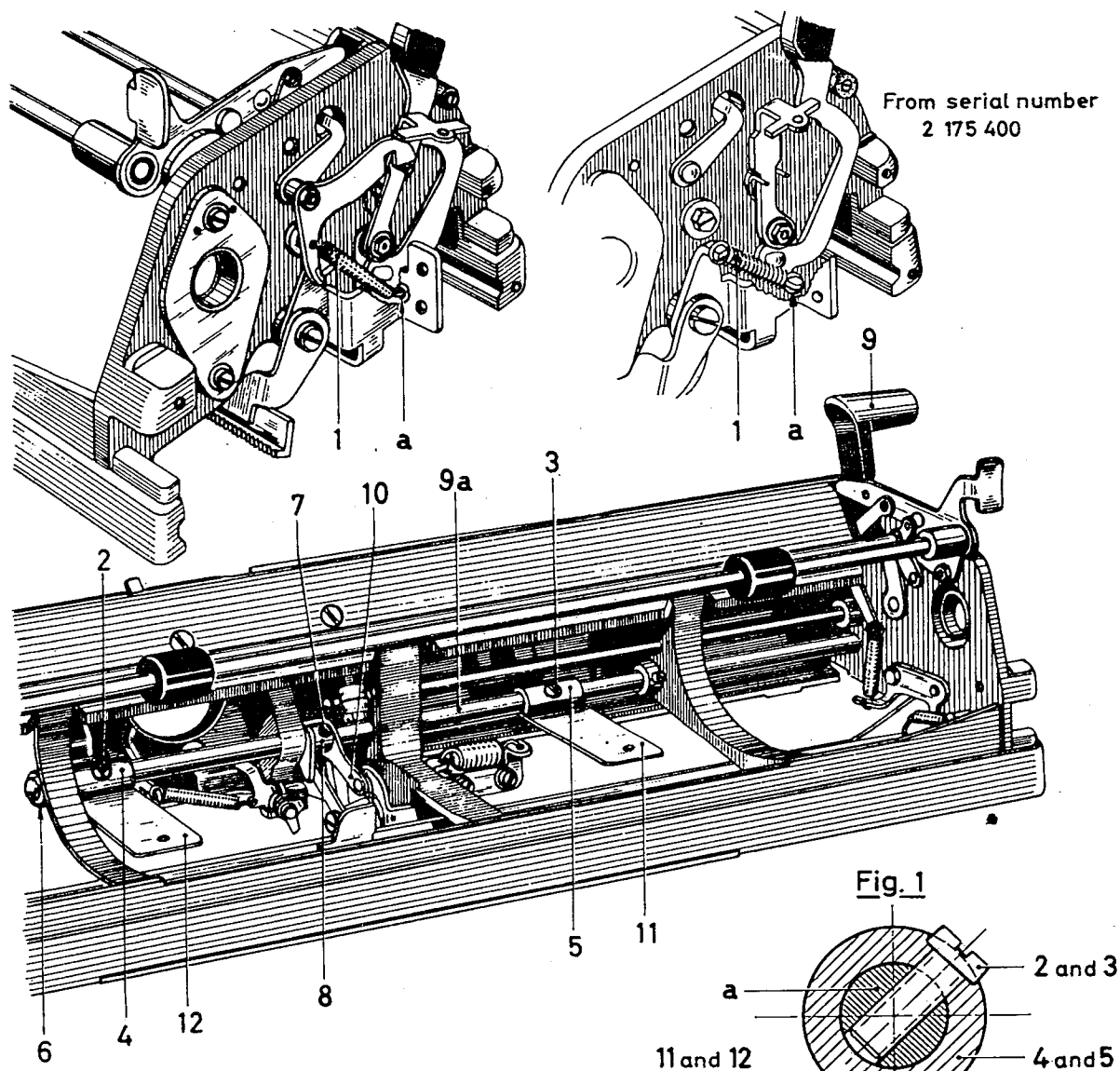
Remove carriage from the machine (see S.M. 100-1a)
Dismount platen (see S.M. 111-1)
Dismount paper deflector (see S.M. 121-1, item a)
Dismount carriage casing (see S.M. 181-1)
Dismount carriage release (see S.M. 151-1)

Dismounting:

- 1) Unhook tension spring (1) at "a".
- 2) Unscrew fillister head screws (2) and (3) of disengaging cams (4) and (5).
- 3) Slip off circlip (6).
- 4) Loosen cup point set screw (7) of adjusting collar (8) and withdraw paper release lever (9) with axle (9a) from the carriage to the right. When doing so remove disengaging cams (4) and (5) and adjusting collar (8).

Mounting: When mounting paper release axle (9a) observe that it is inserted through both holes of bellcrank (10) of the tab plunger and that of adjusting collar (8). In neutral position of paper release lever (9) the faces of disengaging cams (4 and 5) must lie on plate springs (11 and 12).

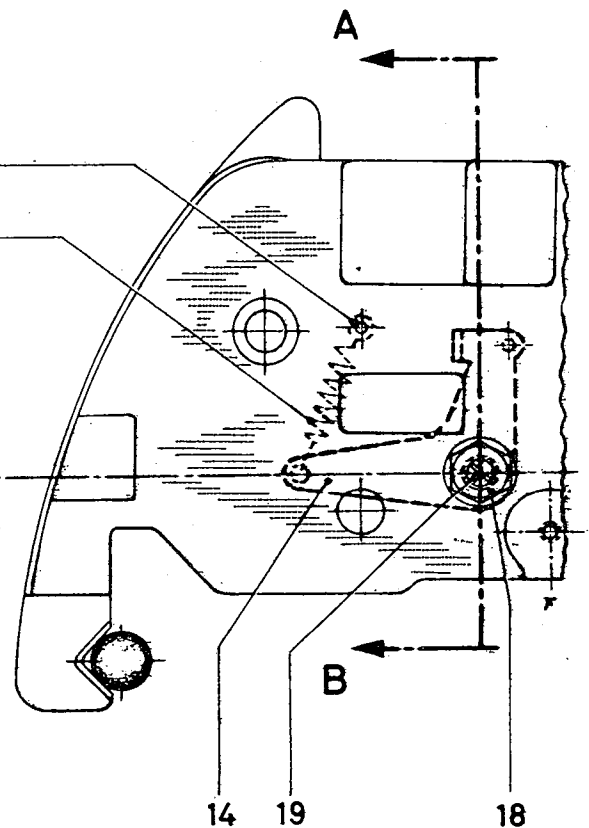
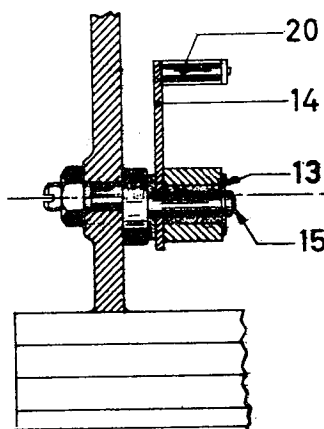
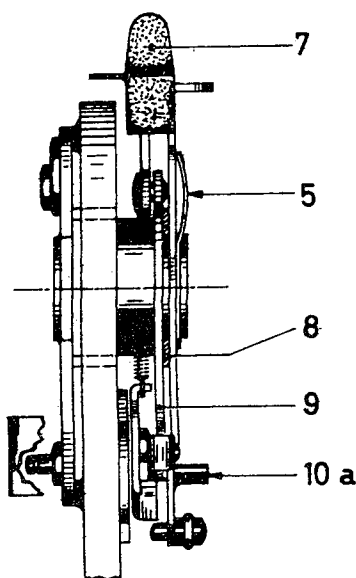
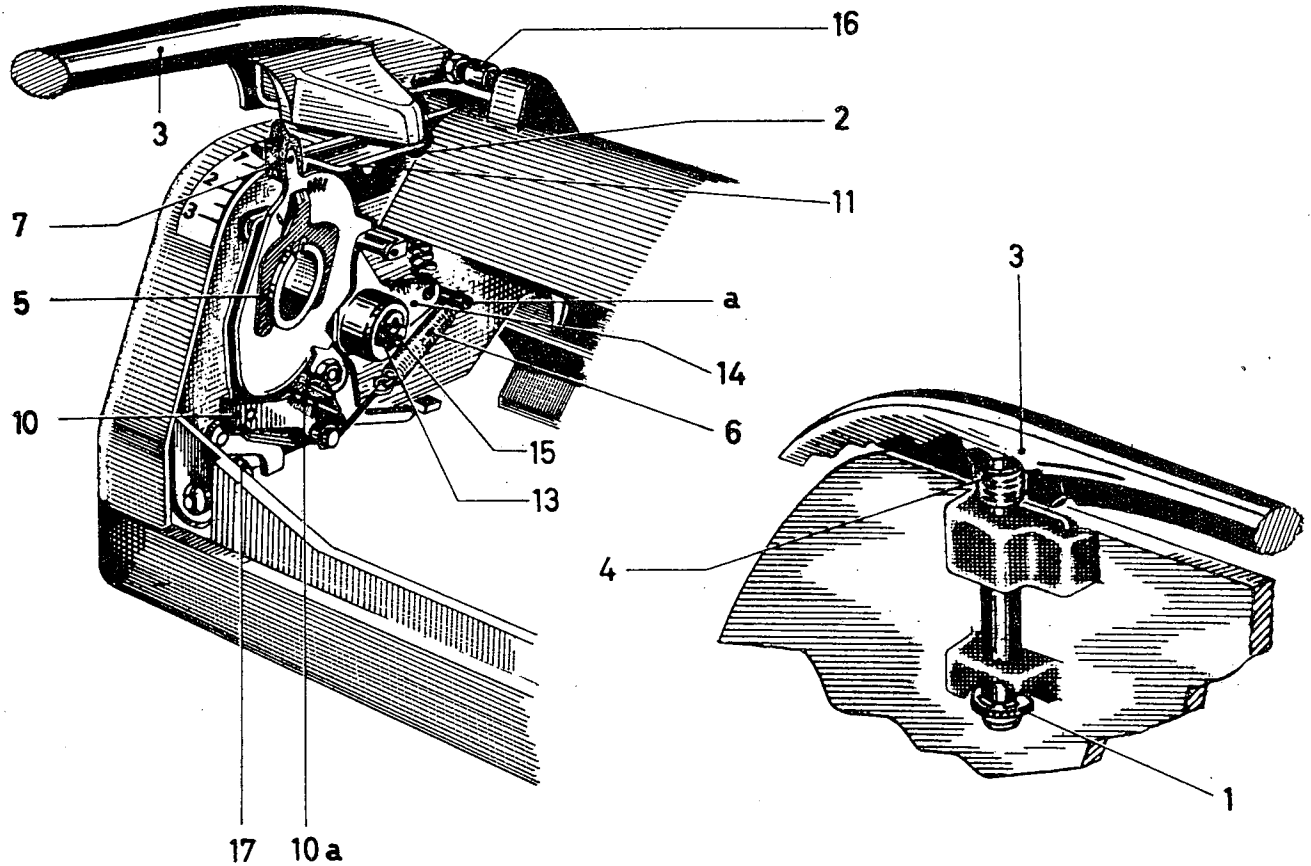
(see fig. 1)



**ADLER
special**

Dismounting and Mounting of the
Line Space Mechanism

S.M. 131-1a
Page 2



**ADLER
special**

Dismounting and Mounting of
the Tab Set Lever

S.M. 141-1,
p. 1

Remove the carriage from the machine (see S.M. 100-1a)
Dismount platen (see S.M. 111-1)
Dismount paper deflector (see S.M.121-1, item a)
Dismount carriage casing (see S.M. 181-1)
Dismount carriage release (see S.M. 151-1)

Dismounting:

Loosen screws (1) and (2), withdraw axle (3) with set lever (4), spring (5) and spacer (6) from the carriage. Set collar (7) and set lever (8) will then fall off axle (3).

Mounting: Mount parts in inverted sequence.

Adjustment of the tab set lever:

Loosen cylinder head screw (1). Adjust set lever (8) by sliding it laterally (direction of arrow "a") that its right edge coincides with the last tab stop (fig.3). Turn set lever (8) (direction of arrow "b") to a distance of 0.2 mm to set stop.

Tighten cylinder head screw (1).

Fig.1

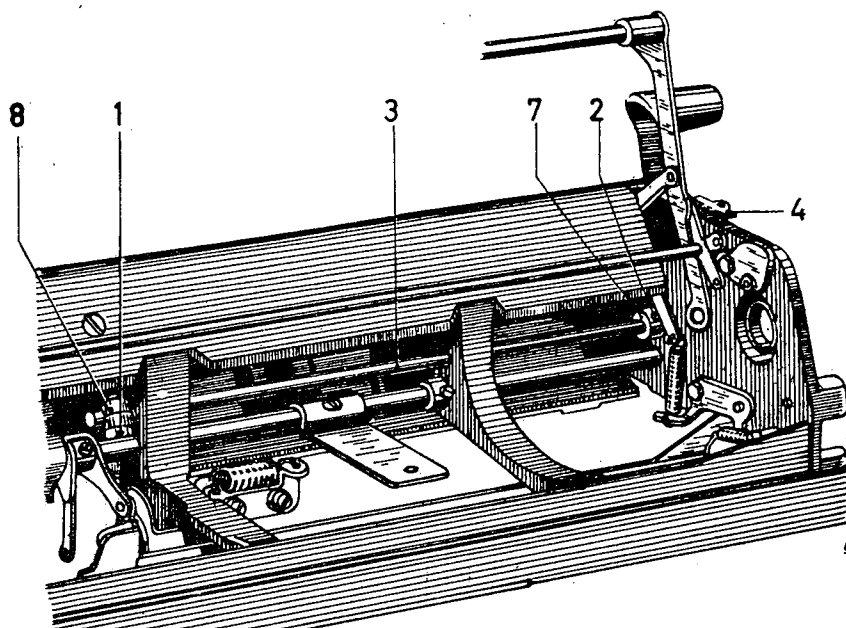
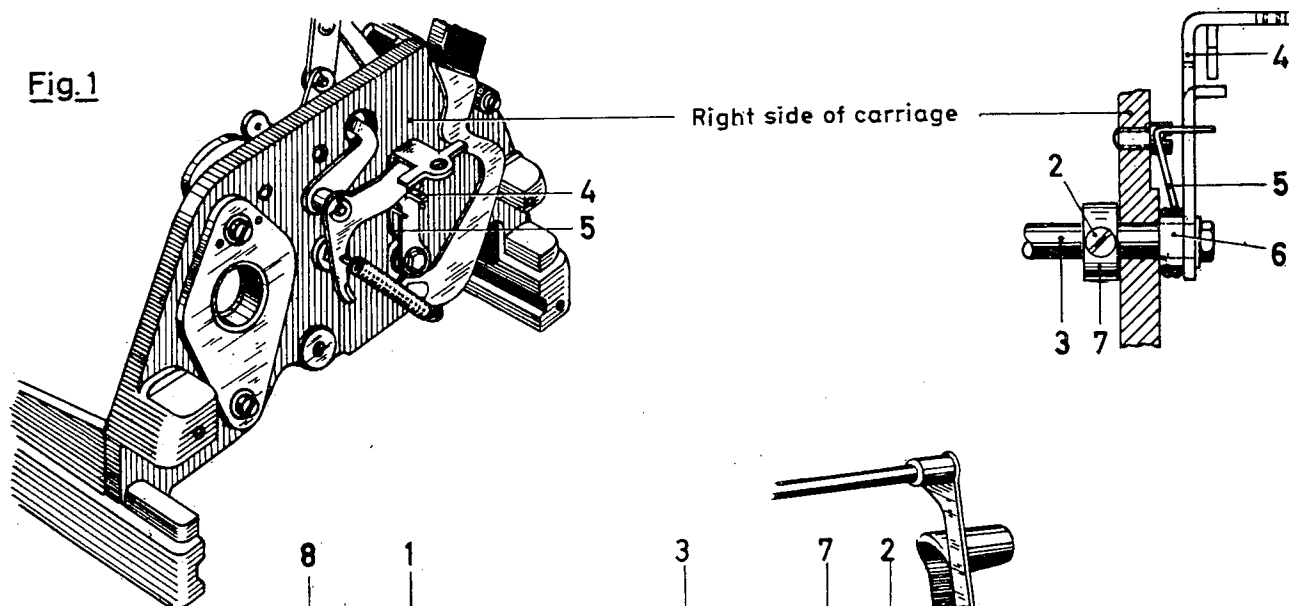


Fig.2

Fig.3

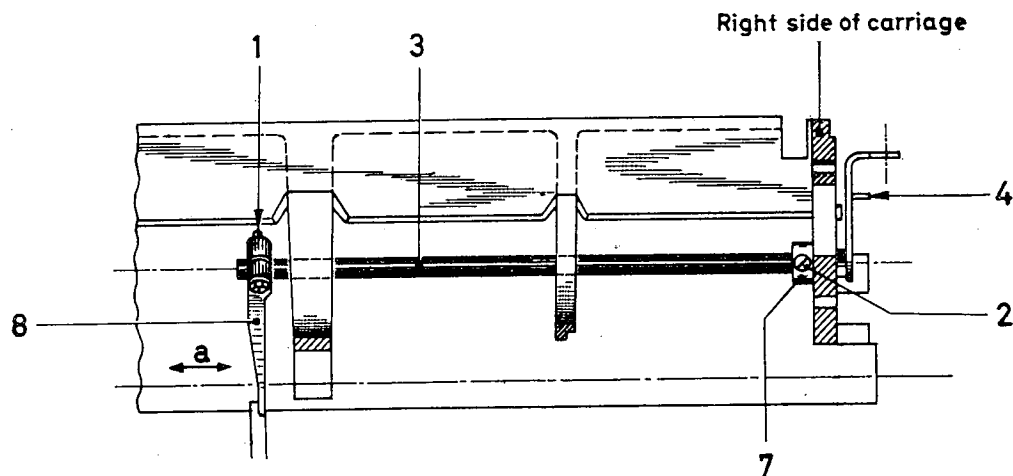
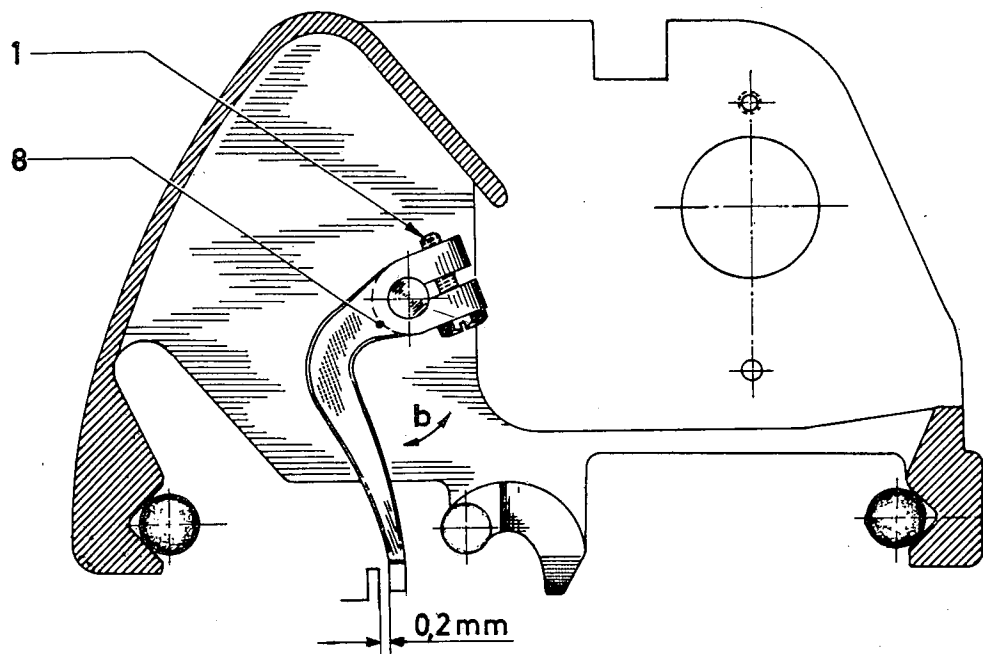


Fig.4



ADLER special	Interchanging and Adjustment of the Carriage Release	S.M. 151-1 p. 1
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Remove the carriage from the machine (see S.M. 100-1a)
Remove right- and left-hand carriage casing (see S.M. 181-1)

Dismounting:

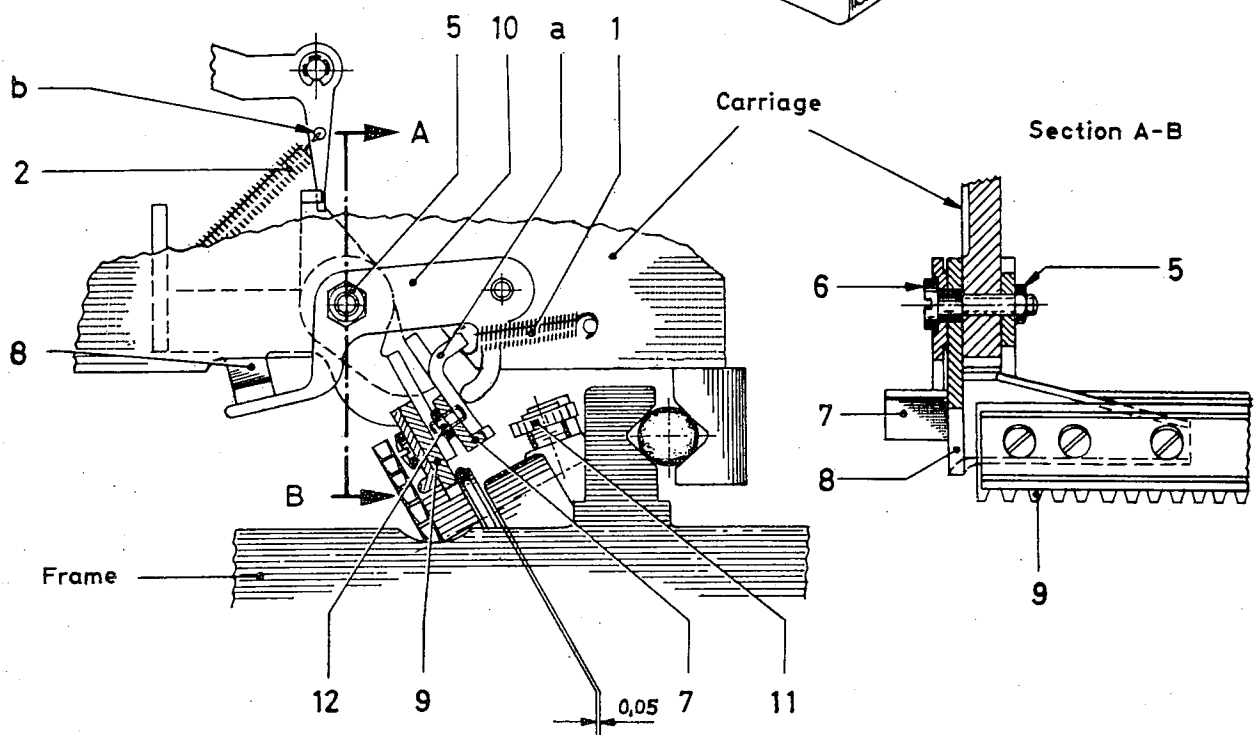
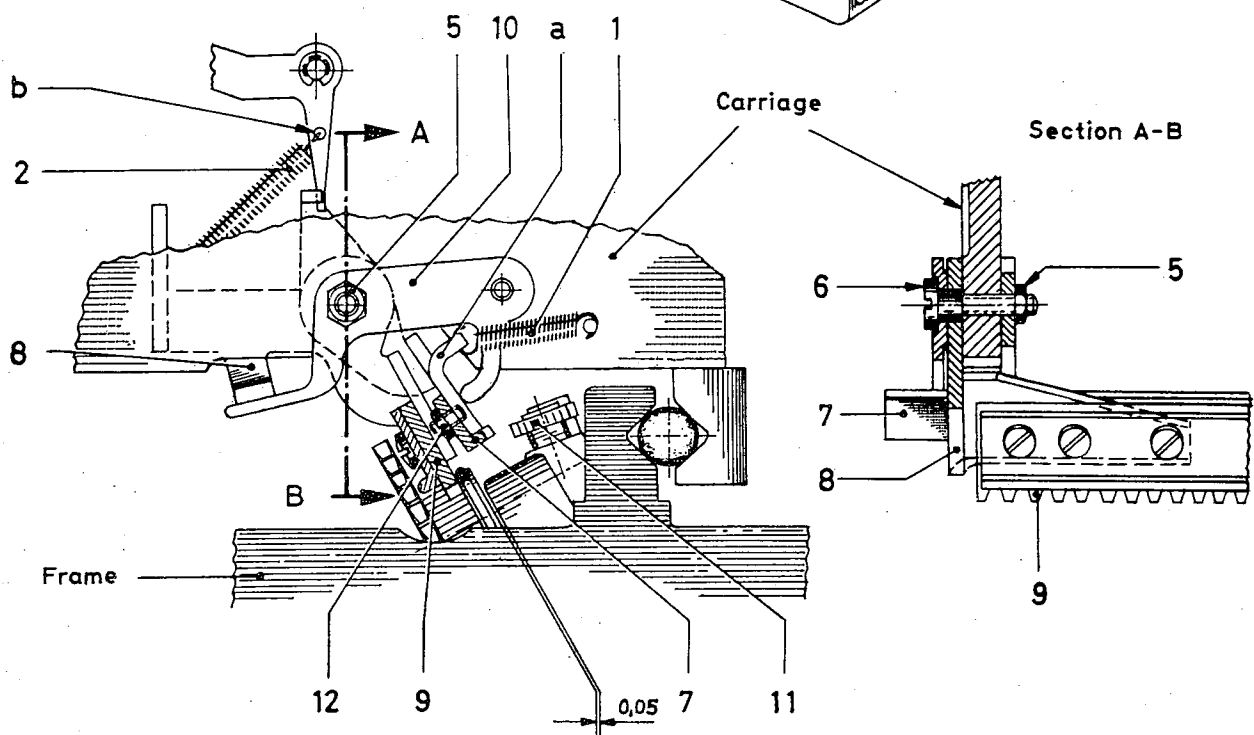
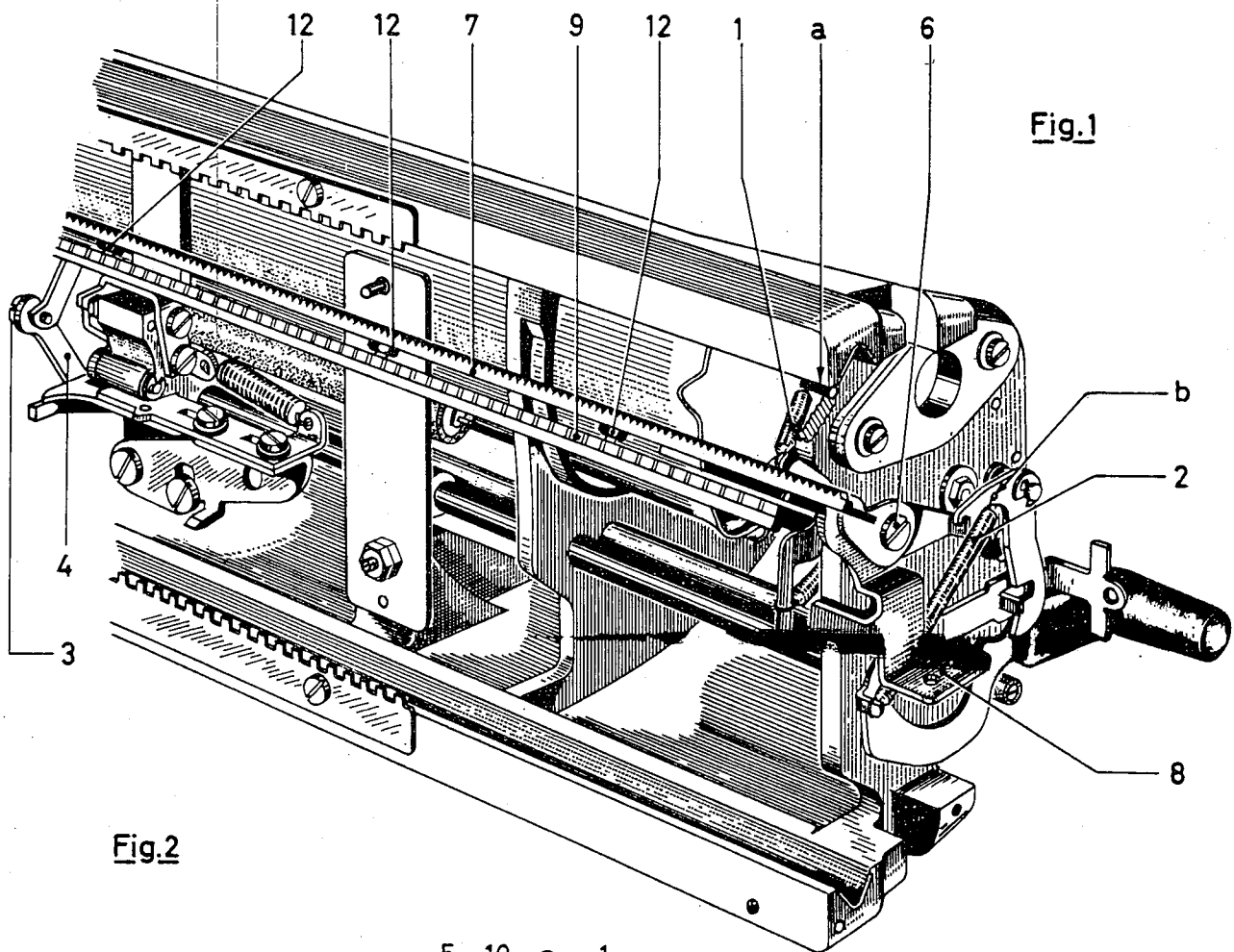
- 1) Lay carriage on back side.
- 2) Unhook tension spring (1) at "a" on the left and right side of the carriage.
- 3) Unhook tension spring (2) at "b" on the left and right side of the carriage.
- 4) Unscrew fillister head screw (3) on bellcrank (4).
- 5) Loosen hexagon nuts (5) of bearing screws (6) at the left and right side of the carriage and unscrew bearing screws (6).
- 6) Remove carriage release bar (7) and carriage release lever (8) with carriage rack (9).

Mounting:

Mount parts in inverted sequence.

Adjustment:

- 1) Adjust carriage rack (9) - (see S.M. 152-1 "Adjustment").
- 2) Set adjusting screws (12), that the release bar rests against carriage rack when tabulating.
- 3) Carriage rack (9) and carriage release bar (7) should be easily movable without spring power. Only then should springs (1) and (2) be hooked in.

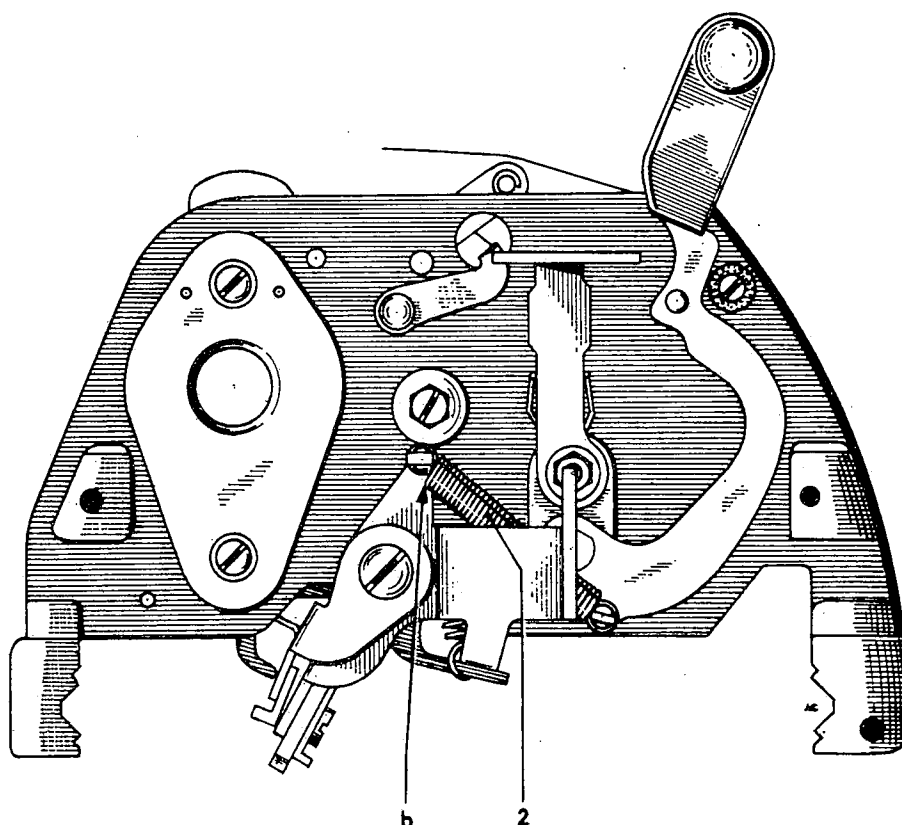


**ADLER
special**

Interchanging and Adjusting
of the Carriage Release

S.M. 151-1a

From serial No. 2 180 480 the lock bar for the set lever on the right side of the carriage is omitted. By this the rest point (b) of tension spring (2) has been changed.



ADLER special	Interchanging and Adjusting of the Carriage Rack	S.M. 152-1 p. 1
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Dismount carriage (see S.M. 100-1a)

Dismounting:

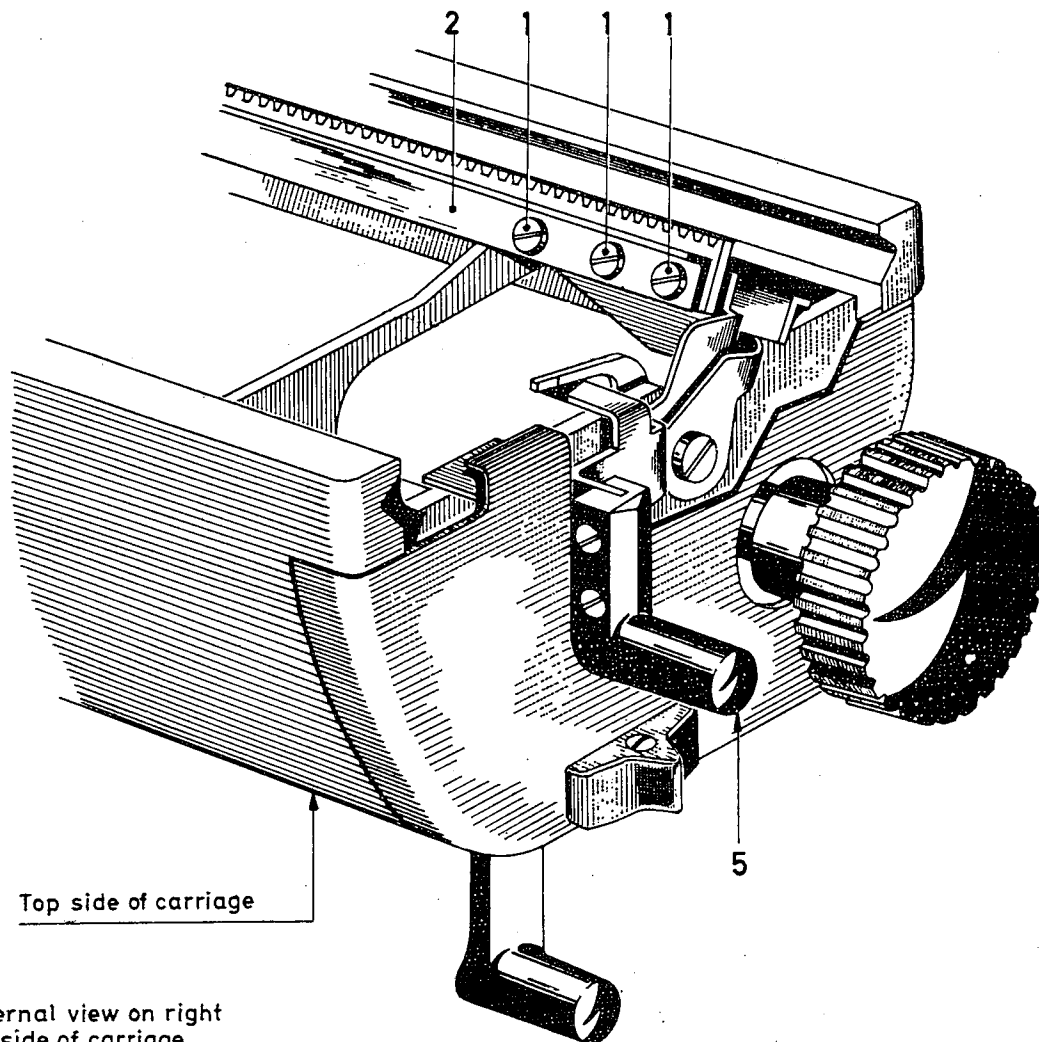
- 1) Lay carriage upside down.
- 2) Unscrew fillister head screws (1) at the left and right side of carriage rack (2) and remove latter.

Mounting:

Mount parts in inverted sequence.

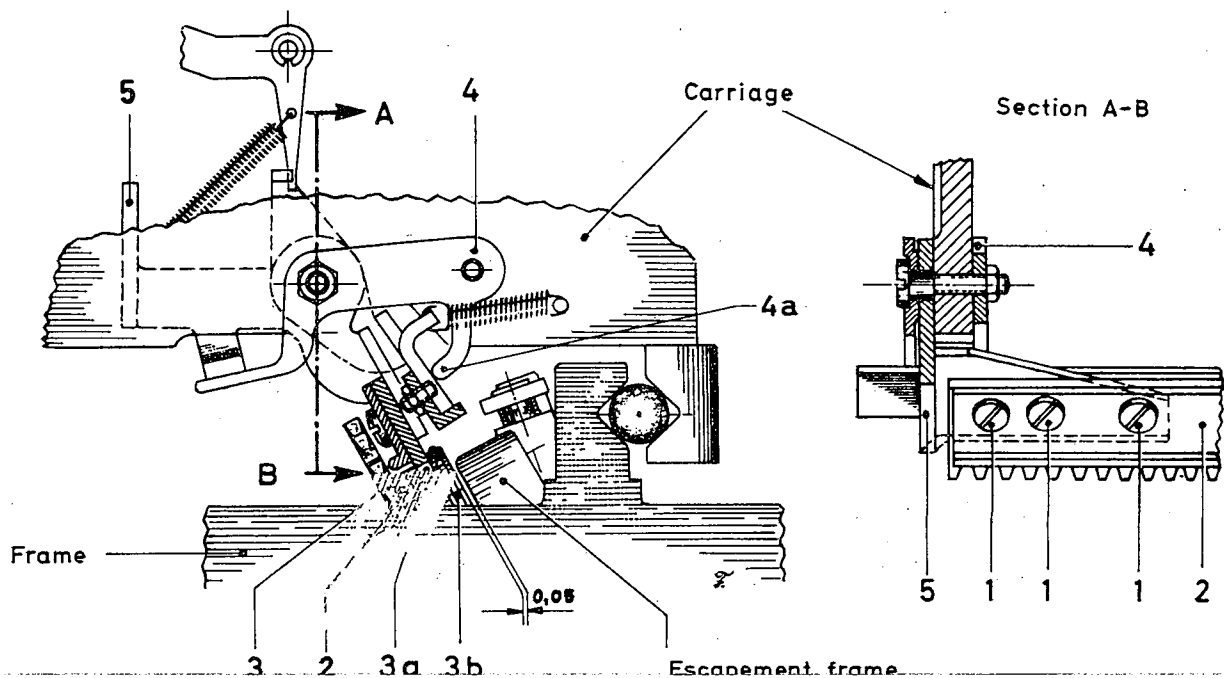
Adjustment:

- 1) Loosen fillister head screws (1) and adjust rack (2) in such a way that the teeth at the left and right side of the carriage mesh in the escapement pinion (3a) with play as small as possible but without contacting the roots of the teeth. The carriage return must be smooth and noiseless.
- 2) Adjust lugs (4a) of butt pieces (4) in such a way that in normal position of the carriage rack (2) the collar (3b) of escapement wheel (3) contacts escapement frame with minimum play possible but without any pressure (about 0.05 mm play).



Top side of carriage

Internal view on right
side of carriage



Remove carriage (see S.M. 100-1a)

Dismounting:

a) Left-hand carriage stop

- 1) Unscrew fillister head screws (1).
- 2) Remove left-hand carriage stop cpl. (2) with bell (3), bell hammer (4) and torsion spring (5).

b) Right-hand carriage stop

Before dismounting mark position of carriage stop.

- 1) Unhook spring (6) at point "a".
- 2) Unscrew fillister head screws (7) and remove right-hand carriage stop.

Mounting: Mount the parts in inverted sequence.

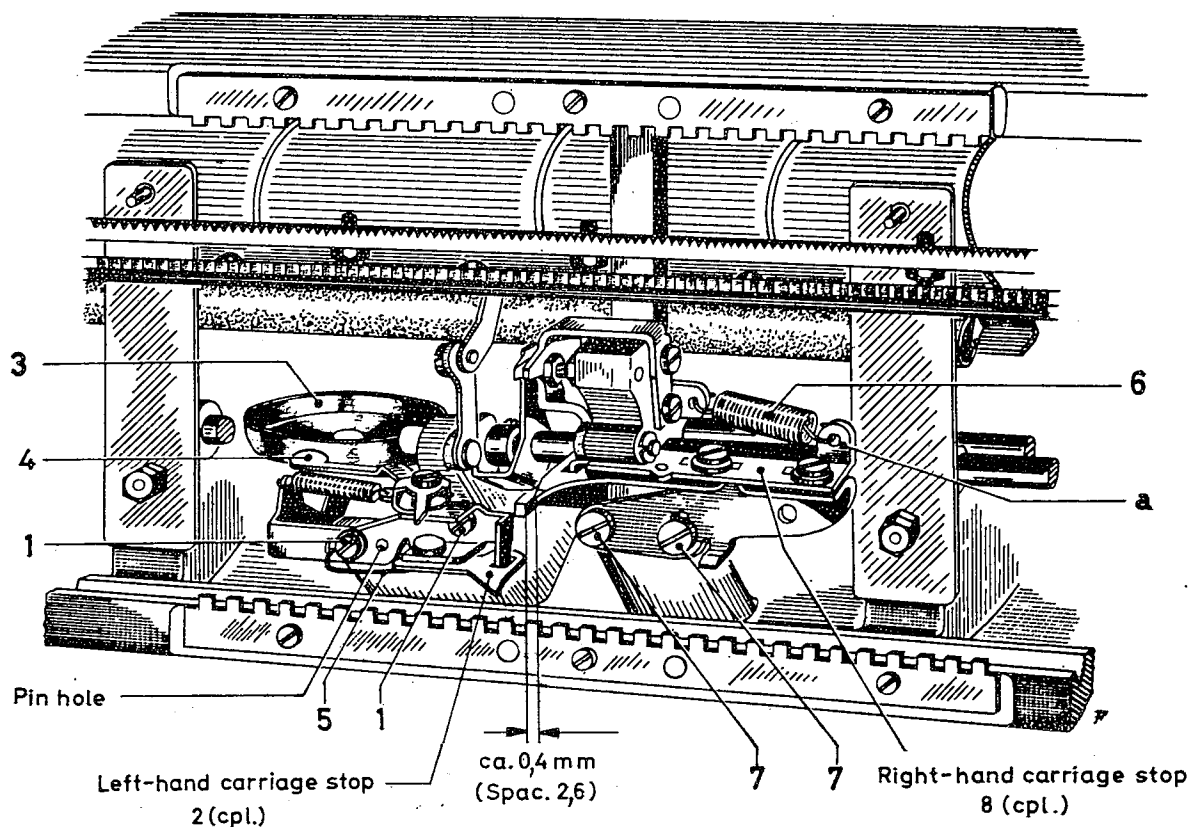
Note: The left-hand carriage stop is drilled true to gauge and pinned in the carriage. When mounting a new carriage stop it should be drilled and pinned after readjustment.

Adjustment of the left-hand carriage stop:

Check by means of the line finders if the carriage can be pulled beyond the left-hand carriage stop by one division line, resp. by one space. If the pass-over is too far or not far enough, shift the left-hand carriage stop forward or backwards.

Adjustment of the right-hand carriage stop:

Adjust the carriage stop so that the type bars are locked, when the right-hand margin is reached and that the carriage does not skip after operating the margin release.



**ADLER
special**

To mount and dismount the Tabulator

S.M. 171-1a

Remove the carriage from the machine (see Service Manual 100-1a)

Dismount the paper release mechanism (see Service Manual 121-2a)

To dismount

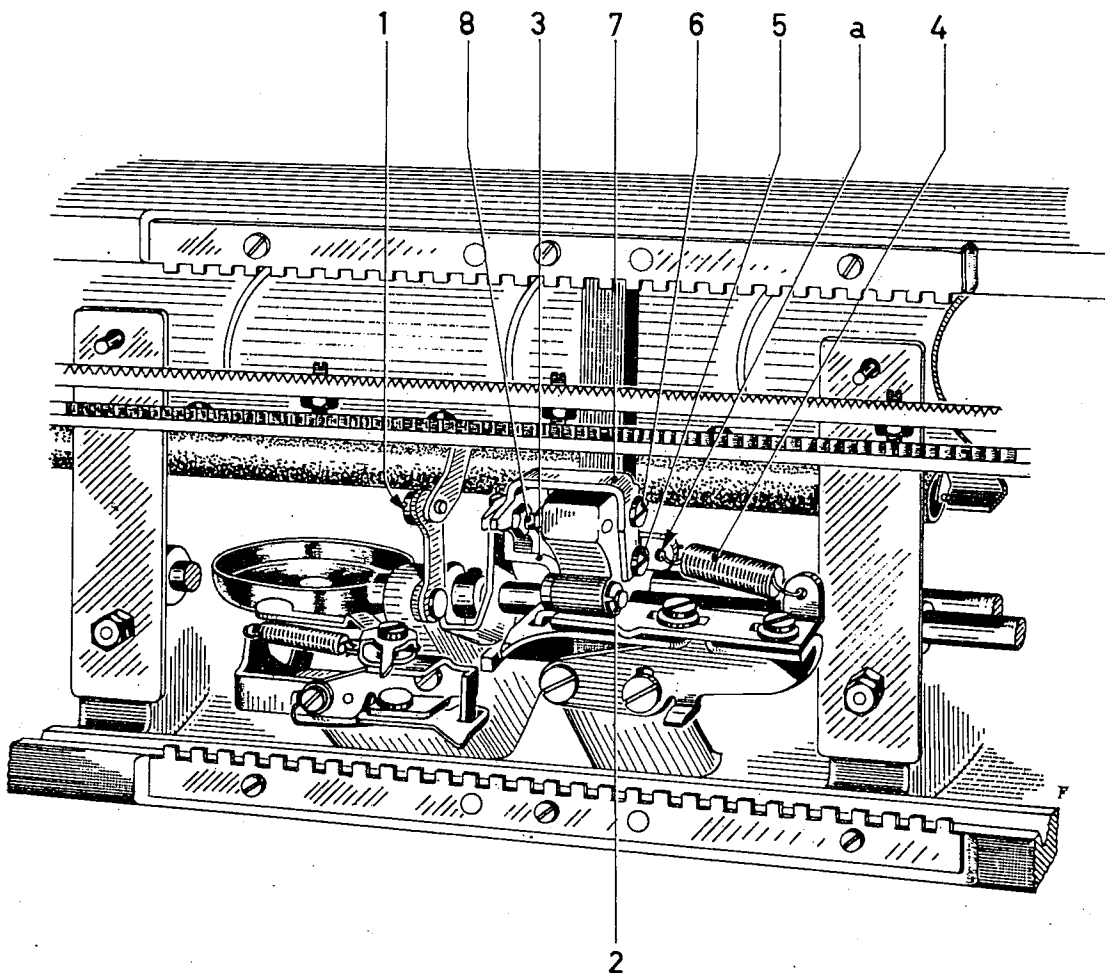
1. Unscrew shoulder screw (1), slip off clip (2) and withdraw tab plunger (3) to the left from the bore hole in the carriage frame.
2. Unhook tension spring (4) at point "a", unscrew fillister head screws (5) and (6) and remove guide piece (7).
3. Unscrew set screw (8) after loosening the hexagon nut.

To mount

Mount the parts in inverted sequence.

Adjustment

Adjust set screw (8) in such a way that the depressed tab plunger (3) snugly bears against guide piece (7), but can still be moved easily.



**ADLER
special**

Dismounting and Mounting of the left-
and right-hand Carriage Casing.

S.M. 181-1

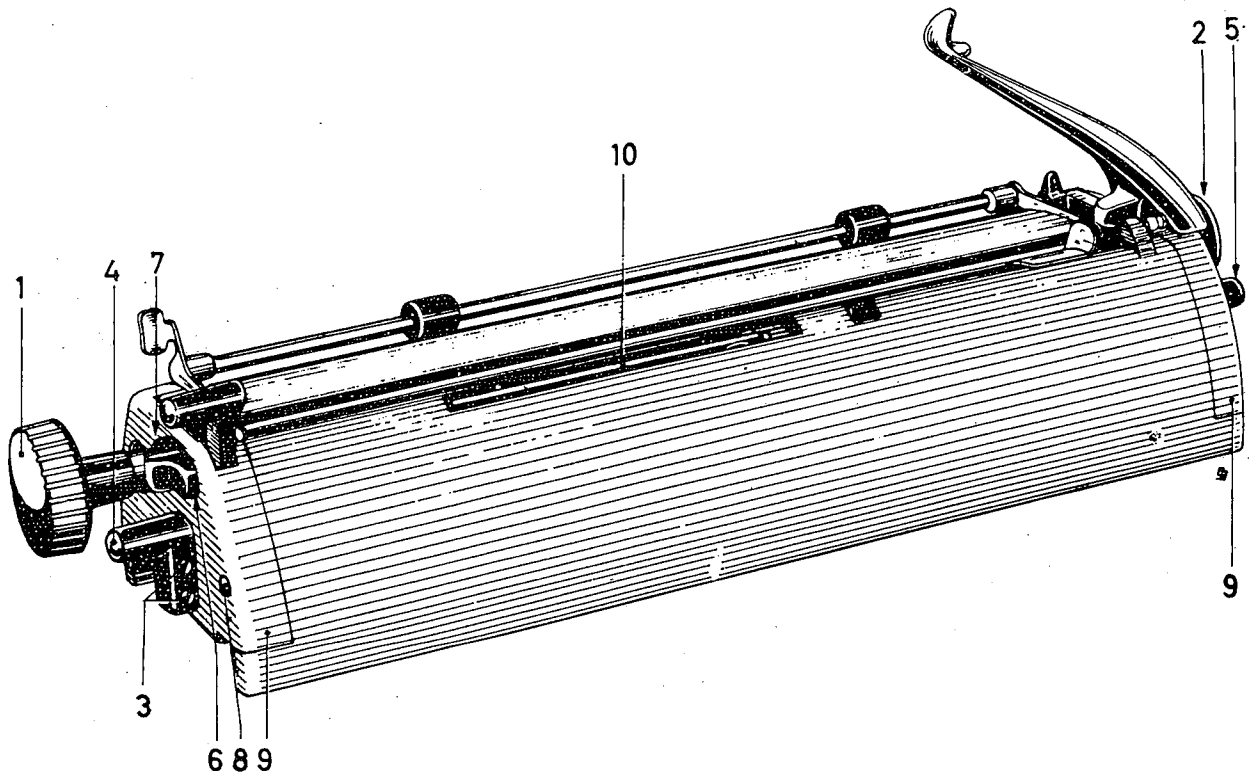
Remove the carriage (see S.M. 100-1a)

Dismounting:

- 1) Unscrew left- and right-hand platen knob (1 and 2).
- 2) Unscrew fastening screws (3) and remove carriage release handles (4 and 5).
- 3) Unscrew fastening screw (6) and remove handle (7) for tab set and margin set.
- 4) Unscrew screws (8) and remove left- and right-hand carriage casing (9).

Mounting:

Mount parts in inverted sequence.



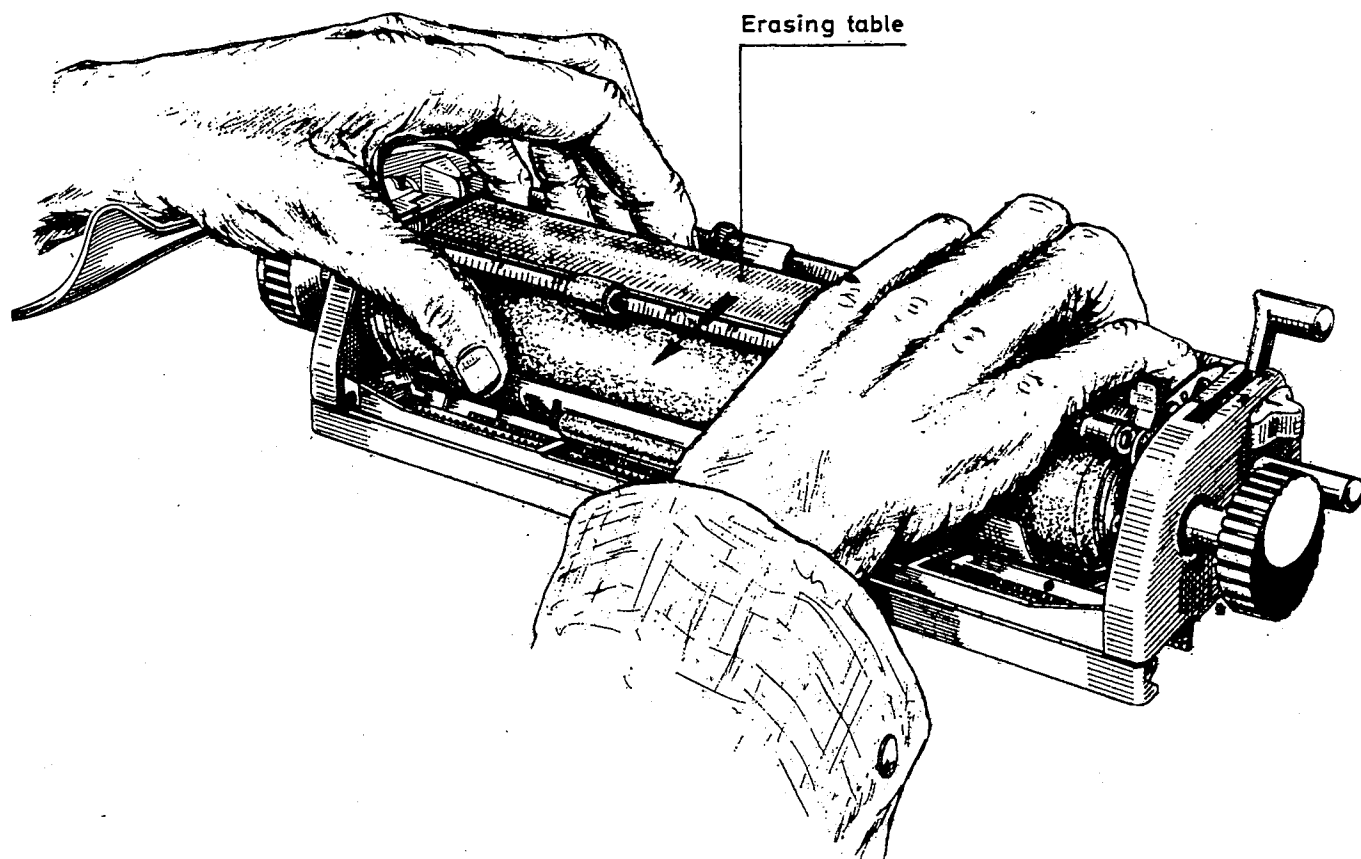
**ADLER
special**

Dismounting of the
Erasing Table

S.M. 181-2a

Dismounting:

Pull erasing table towards you with both hands in direction of the arrow, applying uniform pressure (see fig.).



**ADLER
special**

Dismounting and Mounting of the Paper
Bail and lateral Paper Guide with Shaft

S.M. 181-3a

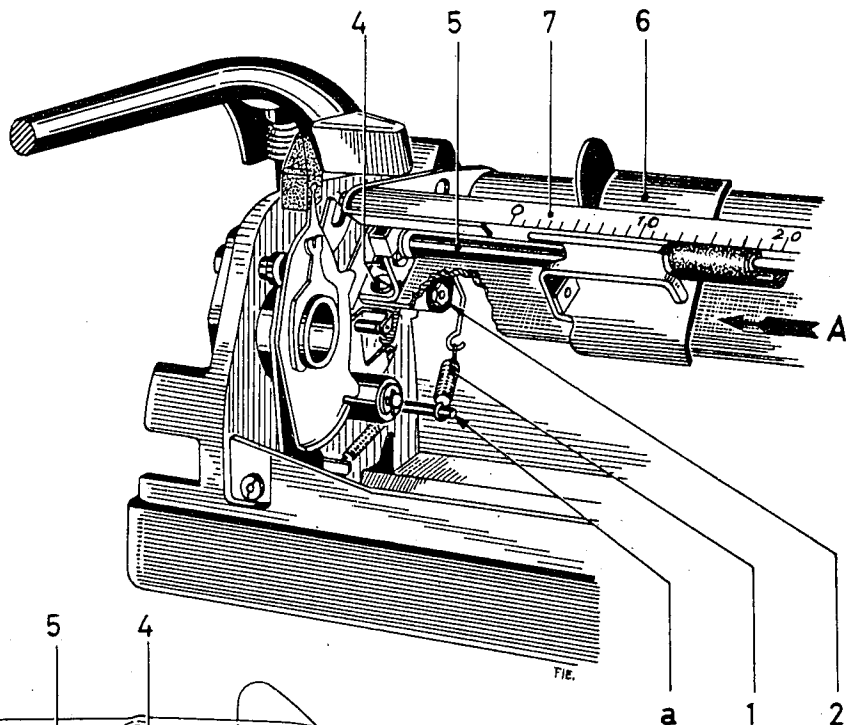
Remove carriage from the machine (see S.M. 100-1a).
Dismount paper deflector (see S.M. 121-1).
Remove left- and right-hand carriage casing (see S.M. 181-1).

Dismounting:

- 1) Unhook tension springs (1) on both sides at "a".
- 2) Unscrew hexagon nuts (2) and bearing screws (3) on both sides.
- 3) Unscrew fillister head screws (4) and pull shaft (5) with lateral paper guide (6) and paper bail (7) to the left in direction of arrow "A" until the shaft falls out of its right bearing in the carriage frame. Then lift out complete gear.

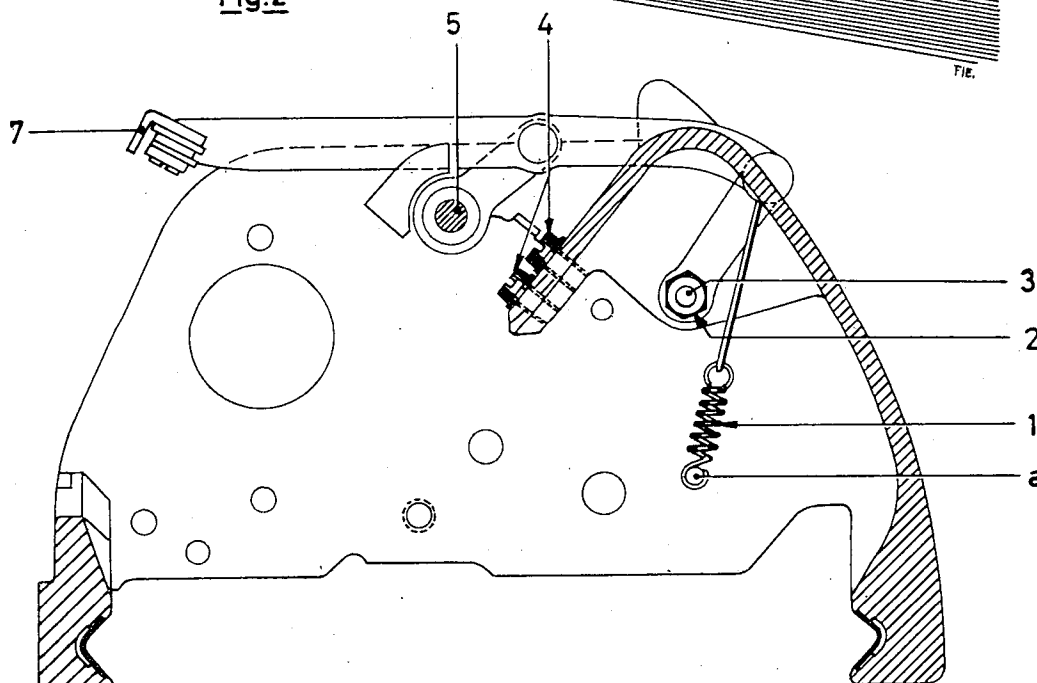
Mounting: Mount parts in inverted sequence.

Fig.1



Inside view of left
side-wall

Fig.2



Remove the carriage from the machine (see S.M. 100-1a)
Dismount paper deflector (see S.M. 121-1)

Dismounting:

- 1) Unhook tension spring (1) at "a" on right side of carriage.
- 2) Tilt up paper bail (2) and unscrew fillister head screws (3).
- 3) Pull shaft (4) with lateral paper guide (5) and paper bail (2) to the left in direction of arrow "A" until the shaft falls out of its right bearing of the carriage frame. Then lift out complete gear.

Mounting: Mount in inverted sequence.

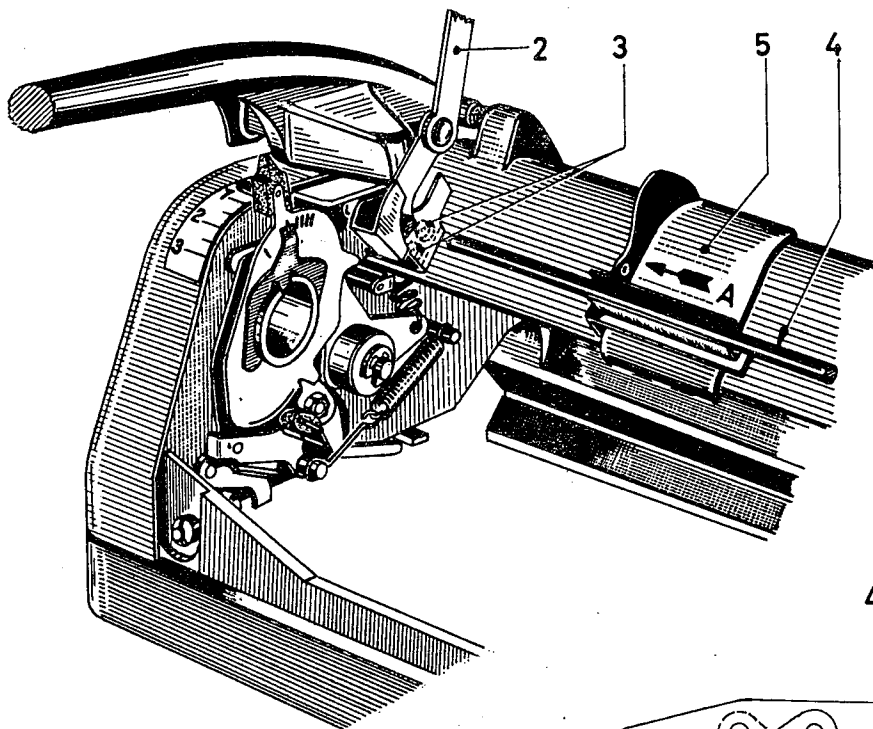
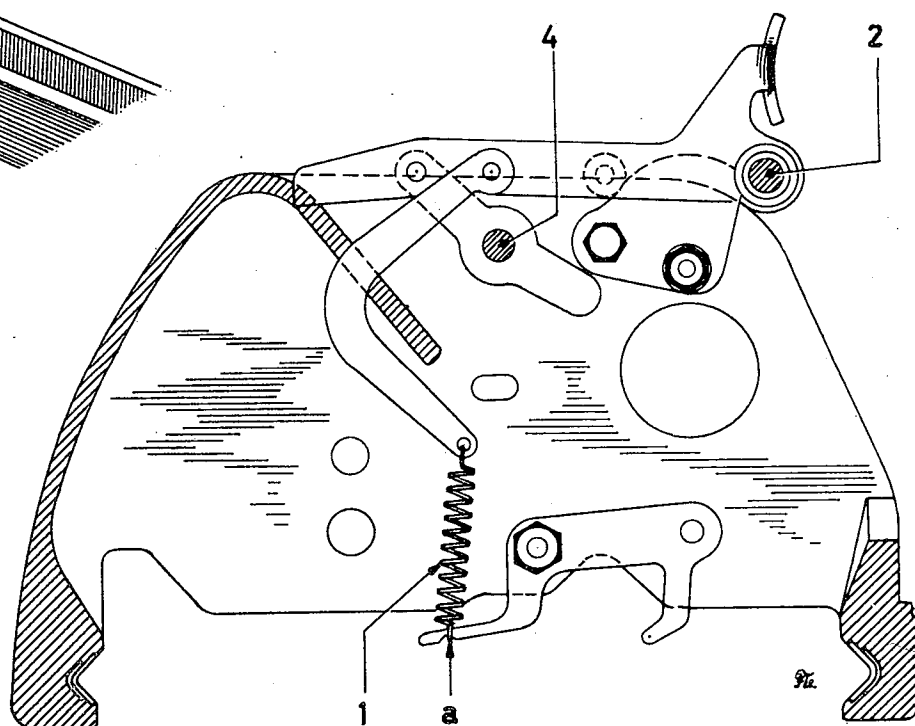


Fig.1

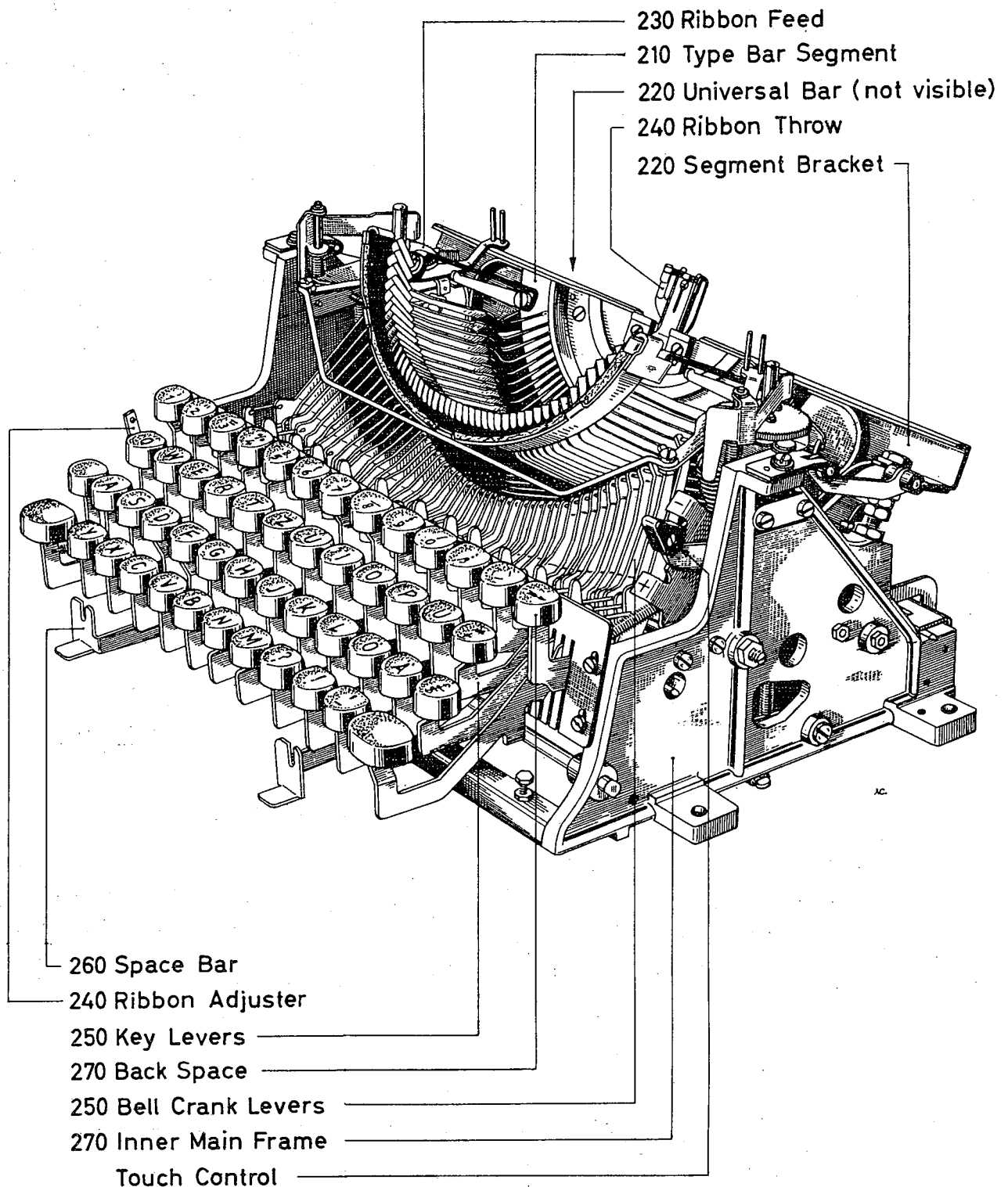
Fig.2
Inside view of right
side-wall



ADLER
special

Inner Main Frame, Complete

S.M. 200



Naturally your machine has the keyboard of your country

**ADLER
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Dismounting and Mounting of
the inner Main Frame

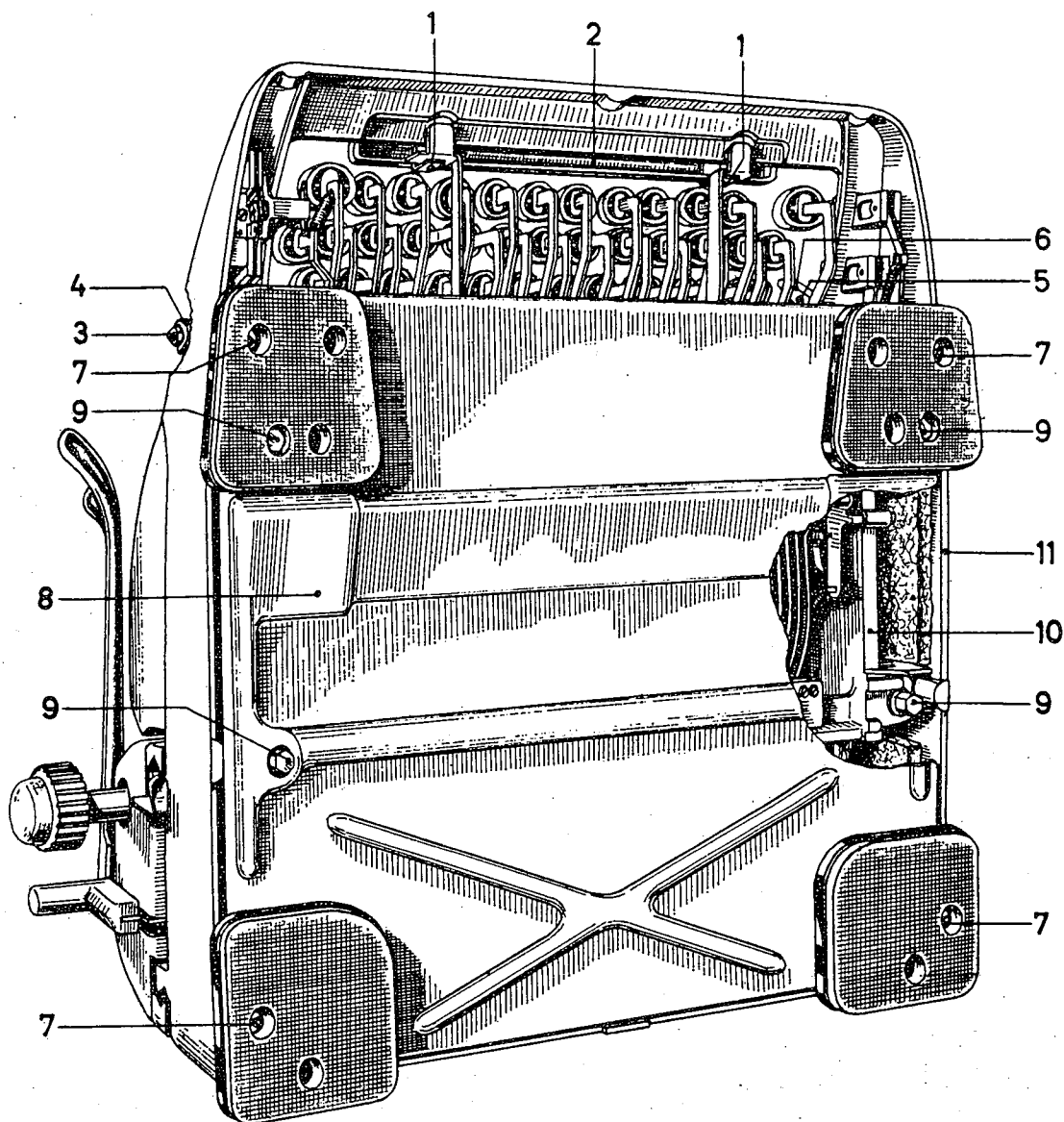
S.M. 200-1a

Dismounting:

- 1) Loosen fastening screws (1) of space bar (2) and remove space bar.
- 2) Unscrew hexagon screw (3) and remove handle (4) for ribbon adjuster.
- 3) Unscrew fillister head screw (5) and remove handle (6) for anti-jam device.
- 4) Place machine on back side (s. fig.).
- 5) Unscrew fillister head screws (7) and remove base plate (8).
- 6) Unscrew hexagon head screws (9) and remove inner main frame (10) from outer frame (11).

Mounting:

Mount in inverted sequence.



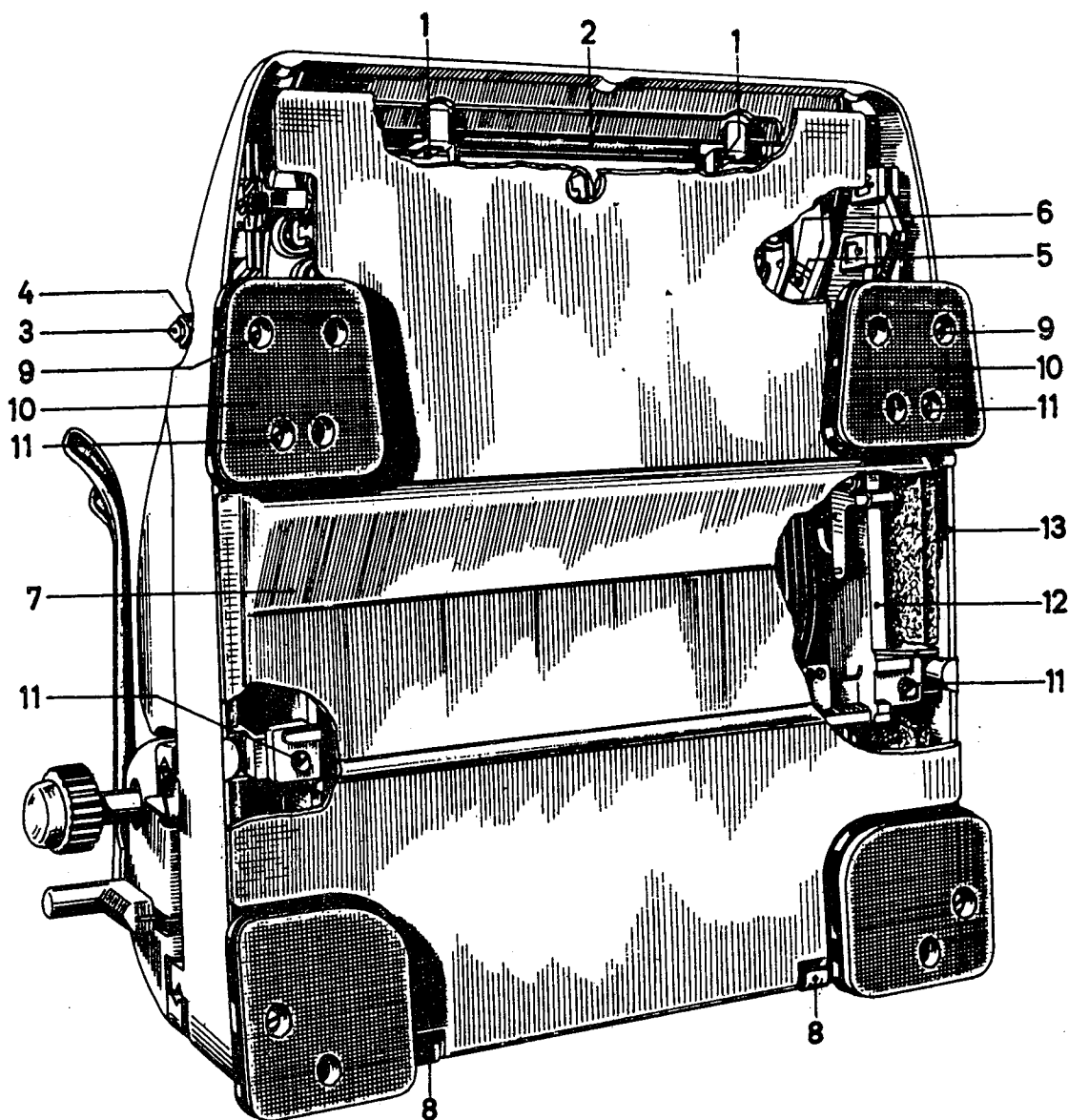
**ADLER
special**

Dismounting and Mounting of
the inner Main Frame

S.M. 200-1b

Dismounting:

- 1) Loosen fastening screws (1) of space bar (2) and remove space bar.
- 2) Unscrew hexagon screw (3) and remove handle (4) for ribbon adjuster.
- 3) Unscrew fillister head screw (5) and remove handle (6) for anti-jam device.
- 4) Place machine on back side (s. fig.).
- 5) Pull off base plate (7) and withdraw from gibs (8).
- 6) Unscrew fillister head screws (9) and remove rubber feet (10).
- 7) Unscrew fillister head screws (11) and remove inner main frame (12) from outer frame (13).



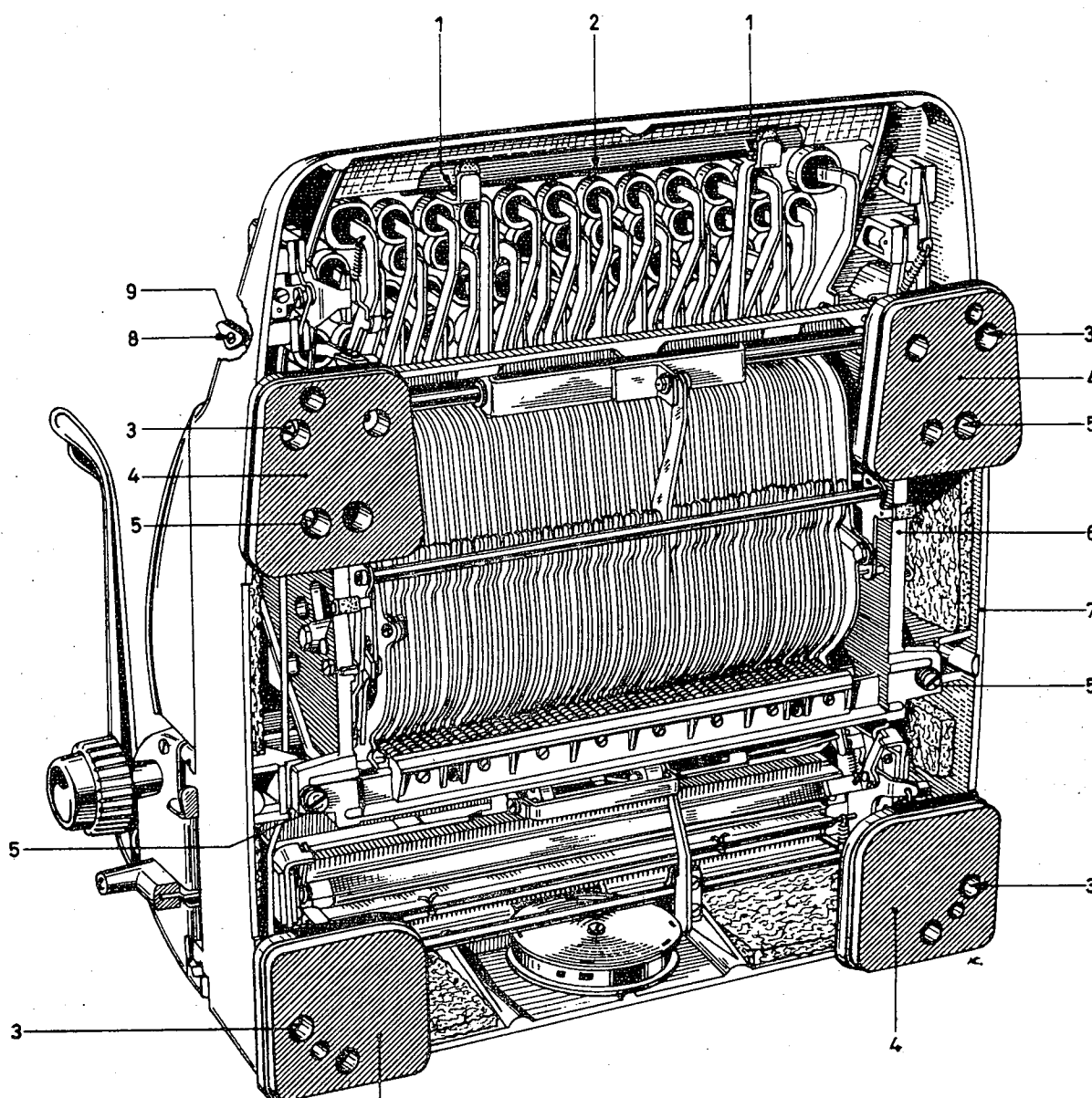
**ADLER
special**

Dismounting and Mounting of the
Inner Main Frame

S.M. 200-1c

Dismounting (from serial No. 2 168 551)

- 1) Unscrew screws (1) and remove space bar (2).
- 2) Unscrew cylinder head screw (8) and remove knob (9) of ribbon adjuster.
- 3) Place machine on backside (s. fig.).
- 4) Unscrew cylinder head screws (3) and remove rubber feet (4).
- 5) Unscrew cylinder head screws (5) and take out inner main frame (6) from outer frame (7).



ADLER special	Dismounting and Mounting of the Type Bar Segment	S.M. 211-1a p. 1
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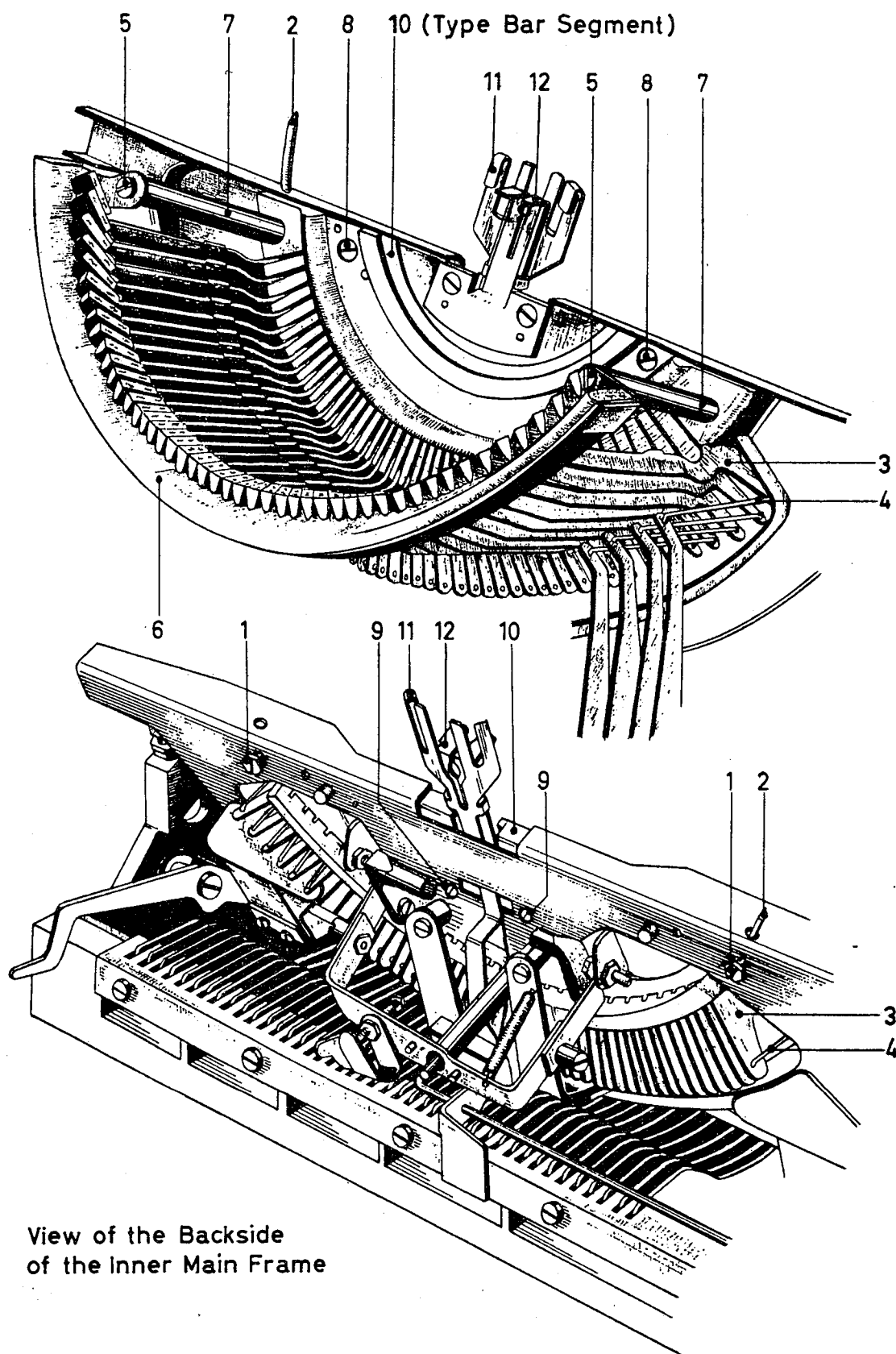
Dismount the inner main frame (see S.M. 200-1a, 200-1b)

Dismounting:

- 1) Loosen hexagon screws (1) for type bar fulcrum wire (2).
- 2) Shove type bar fulcrum wire (2) out of the segment groove by means of follow through wire W 258. Remove type bars (3) from segment slots and unhook from wire connections (4).
- 3) Unscrew fillister head screws (5), remove type bar rest (6) and unscrew stay bolt (7).
- 4) Unscrew fillister head screws (8) and (9) on segment (10).
- 5) Remove segment (10) and press downward to allow vibrator (11) being lifted out of type guide (12).
- 6) Remove segment (10) from inner main frame.

Mounting:

Mount parts in inverted sequence.



View of the Backside
of the Inner Main Frame

ADLER special	To dismount and mount the Type Bar Segment	S.M. 211-1b p. 1
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Dismount the inner main frame (see Service Manual 200-1a, 1b, 1c)
Remove the ribbon spools with the ribbon.

To dismount

1. Loosen hexagon screws (1) for fulcrum wire (2) of the type bar.
2. Shove fulcrum wire (2) out of the segment groove by means of follow through wire W 258; remove type bars from segment slots and unhook them from the wire connections (4).
3. Unscrew fillister head screws (5), remove type bar rest (6).
4. Unscrew fastening screws (7) of brackets (8) and remove the brackets.
5. Unscrew the 3 fillister head screws (9) on segment (10).
6. Remove segment (10) and press it down to permit ribbon fork (11) to be lifted out of type guide (12).
7. Remove segment (10) from the inner main frame.

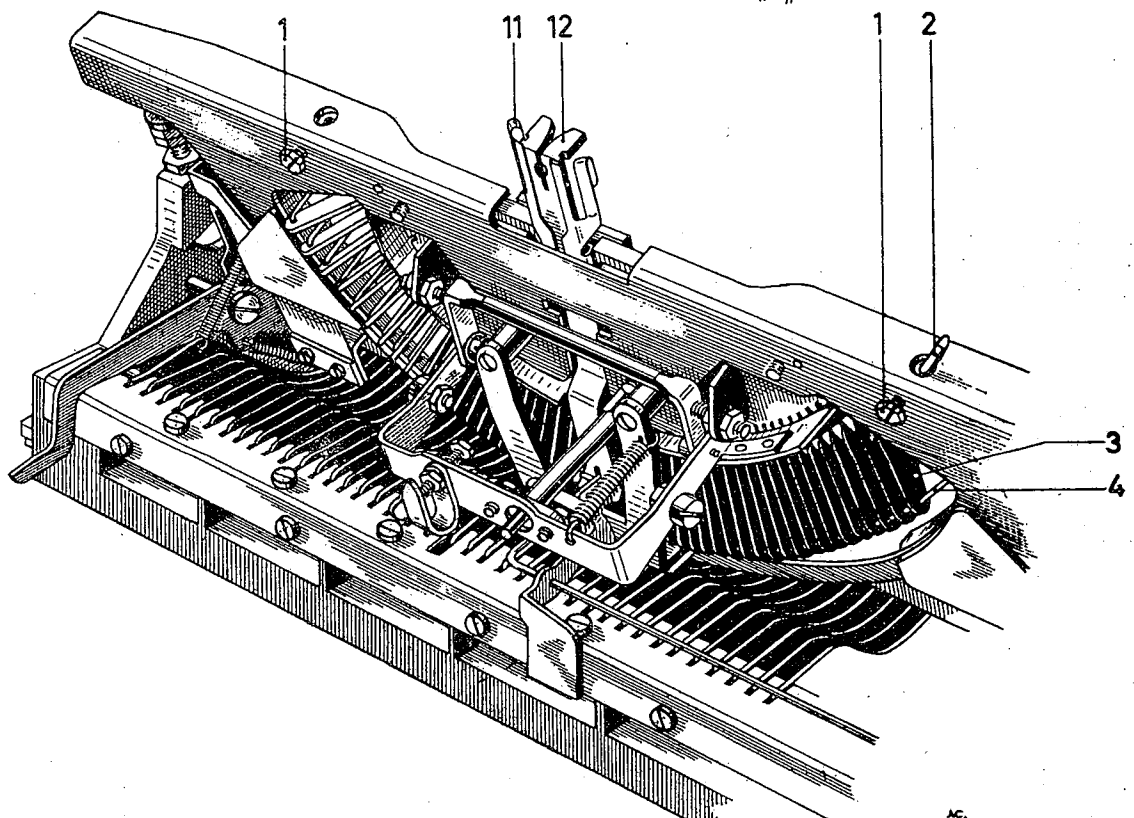
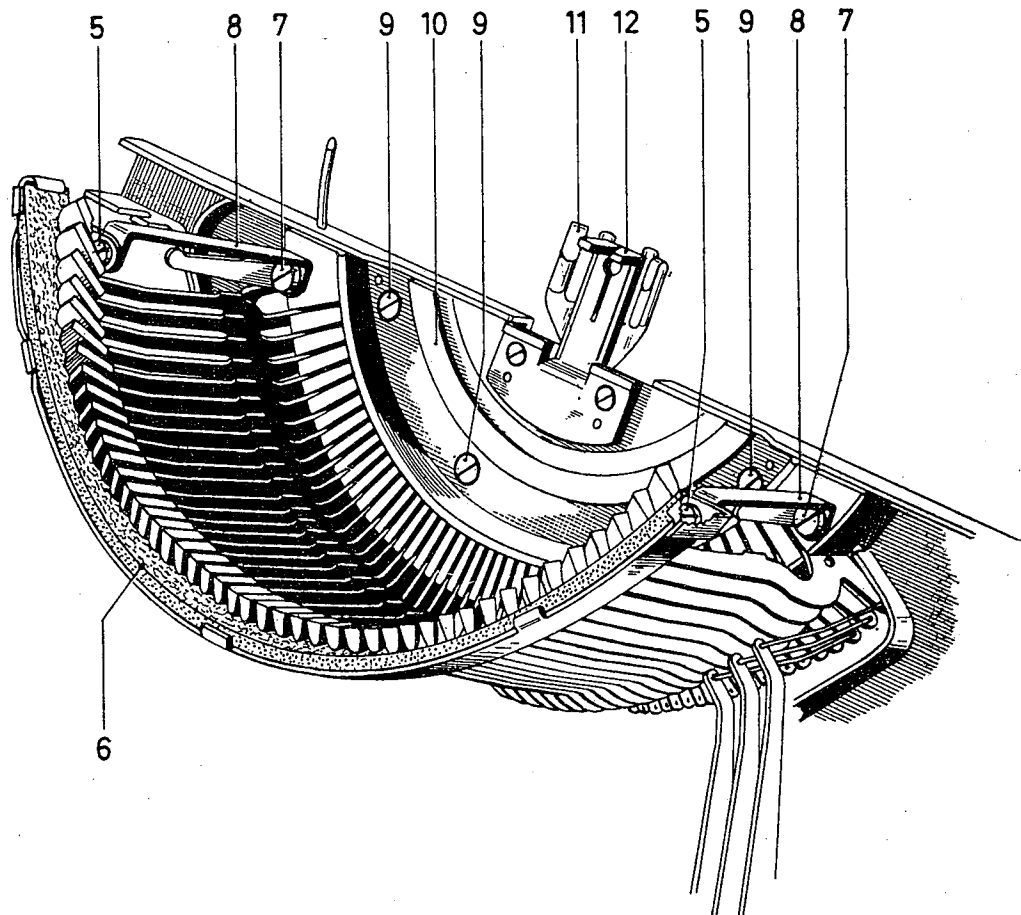
To mount

Mount the parts in inverted sequence.

ADLER
special

To diasmount and mount the Type Bar
Segment

S.M. 211-1b
p. 2



Dismount the type bar segment (see S.M. 211-1a, 211-1b).

Dismounting:

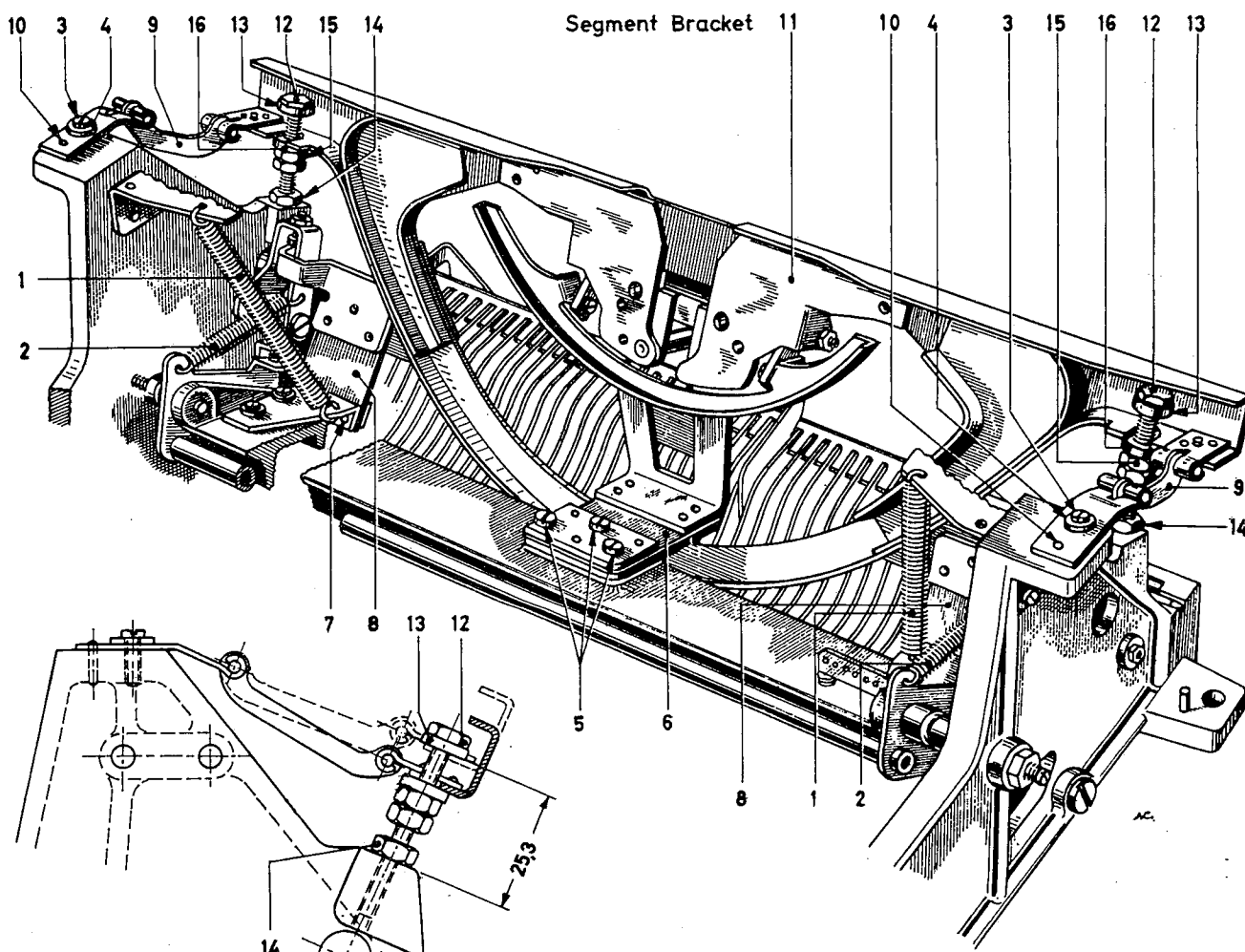
- 1) Unhook tension springs (1) and (2).
- 2) Unscrew fillister head screws (3) and remove plate (4).
- 3) Unscrew fillister head screws (5) of the lower swinging leaf spring (6).
- 4) Unscrew fillister head screws (7) of supporting leaf springs (8) on the left and right side.
- 5) Lift plates (4) out of straight pins (10) and lift out segment bracket (11).

Mounting:

Mount parts in inverted sequence.

Adjustment:

- 1) Tighten fillister head screws (5) only after having checked the ring and cylinder in upper case position with built-in type bar segment.
- 2) Adjust hexagon screws (12) so as to have a clearance of 25.3 mm between stop face of the plastic washer (13) and the seating surface of hexagon nut (14). Fine adjustment is to be made according to the impression.



Dismount the type bar segment (see S.M. 211-16)

To dismount

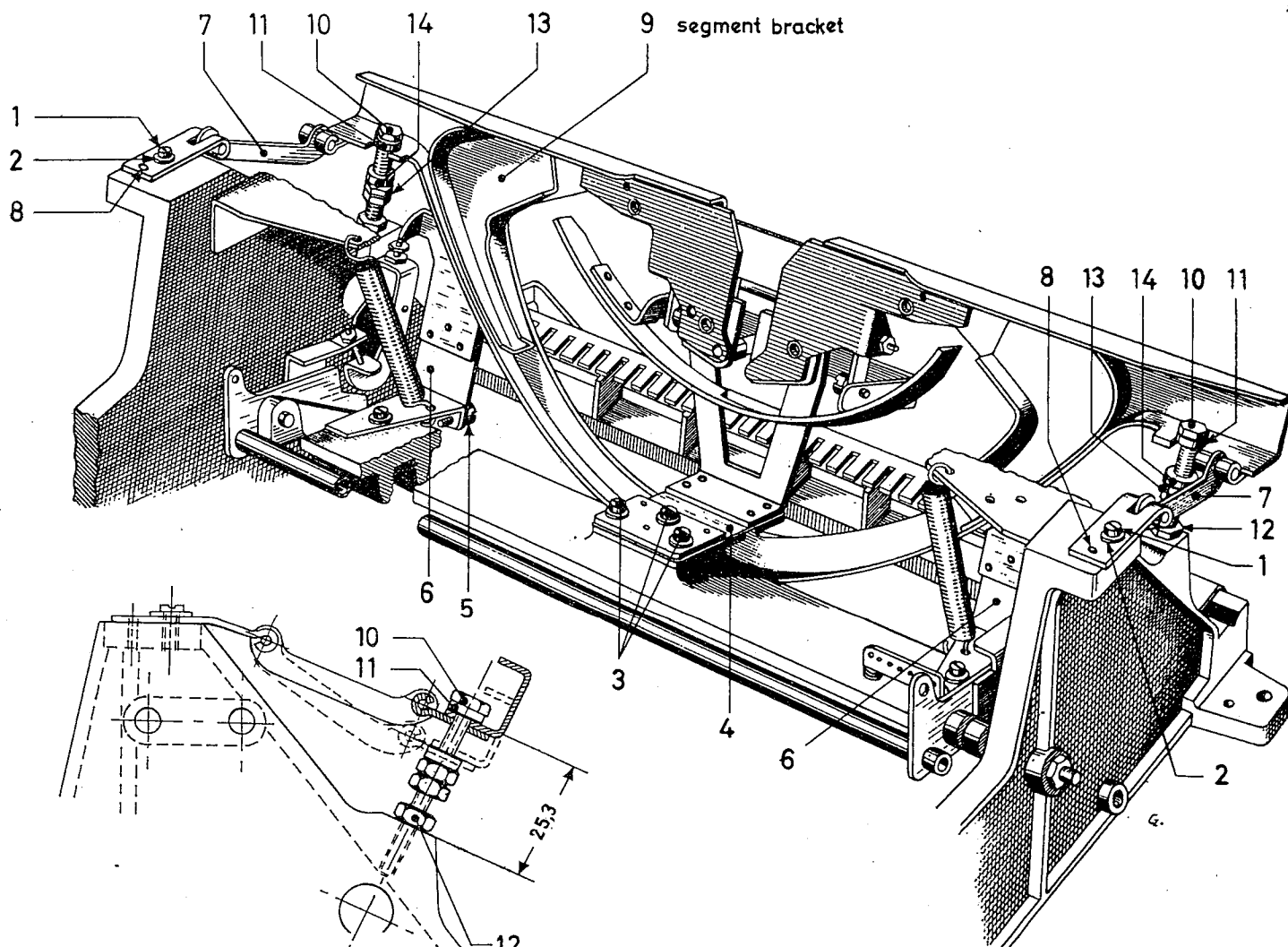
1. Unscrew fillister head screws (1) and remove washers (2)
2. Unscrew fillister head screws (3) of the lower swinging plate spring (4)
3. Unscrew fillister head screws (5) of the supporting plate springs (6) on the left- and right-hand side.
4. Lift rocker arms (7) out of straight pins (8) and lift out segment bracket (9).

To mount

Mount the parts in inverted sequence

Adjustment

1. Shift the segment and check the rebound of the type bars before tightening the fillister head screws (3).
2. Adjust hex screws (10) in such a way that the clearance between the stop face of plastic washer (11) and the seating surface of the hexagon nut (12) is 25.3 mm.



ADLER special	Dismounting and Mounting of the Shift Key Levers and the Shift Rocker	S.M. 221-2a p. 1
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Dismount the inner main frame (see S.M. 200-1a, 200-1b).

Dismounting:

a) Shift key lever (4)

- 1) Dismount space bar and anti-jam device (only up to serial No. 2184350) (see S.M. 261-1, par. 2 and 4).
- 2) Unscrew hexagon screw (1) and fillister head screw (2) on either side of shift rocker (3) through the maintenance vent of the inner main frame.
- 3) Withdraw right- and left-hand shift key levers (4) from the key lever comb in direction of arrow "y".

b) Shift rocker (3)

- 1) Dismount type bars (see S.M. 211-1a, par. 1, 2, and 3).
- 2) Unscrew shift key levers (4) - see par. 2, above.
- 3) Unhook tension springs (5) and (6) on the left and right side.
- 4) Unscrew fillister head screws (7) of supporting leaf springs (8) at the right and left side of shift rocker (3).
- 5) Unscrew fillister head screws (9) of the lower swinging leaf spring (10).
- 6) Loosen left- or right-hand hexagon nut (11) and turn out bearing screw (12) up to the stop.
- 7) Remove shift rocker (3) from frame.

Note: Units a) and b) may be dismounted independently.

Mounting:

Mount parts in inverted sequence.

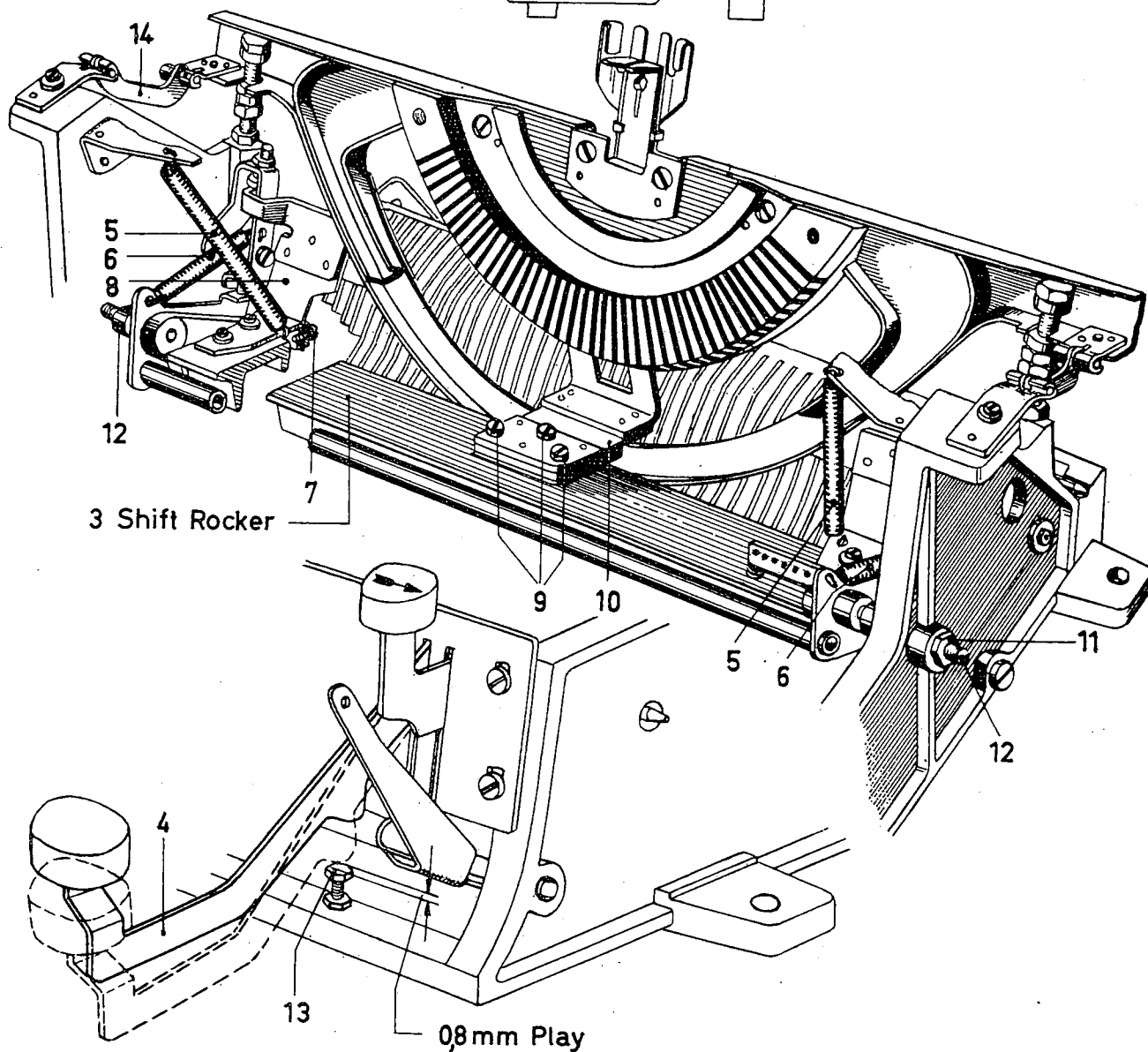
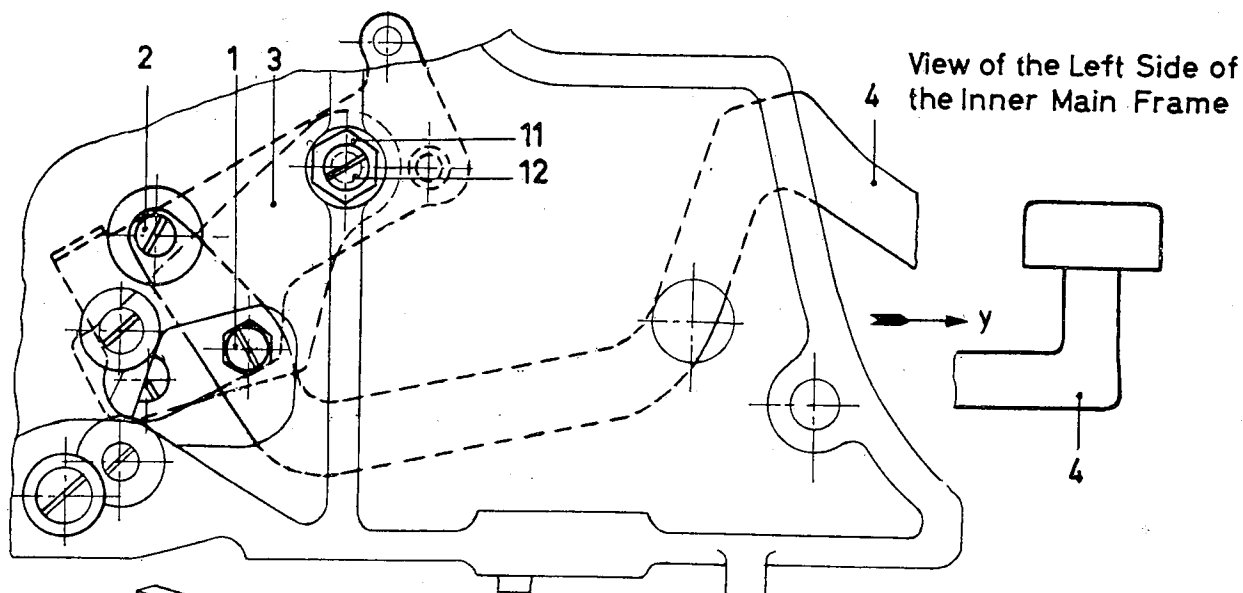
Adjustment:

- a) Loosen hexagon screw (1) and align shift key lever (4) to the bottom row of keys by laying an aligning ruler on the keys.
Adjust shift limit screws (13) for both shift key levers (4) in such a way that after shifting shift key levers (4) will have a pass-over of approx. 0.8 mm.
- b) Adjust bearing screws (12) without play so that the shifting mechanism will not jam and that the shift key can easily be depressed with the little finger. A load of 70 ounces (200 gr) must actuate the shift rocker.

**ADLER
special**

Dismounting and Mounting of the
Shift Key Levers and the Shift Rocker

S.M. 221-2a,
p. 2



ADLER special	To dismount and mount the Shift Key Lever and the Shift Rocker	S.M. 221-2b p. 1
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Dismount the inner main frame (see Service Manual 200-1a, 200-1b, 1c)

To dismount

a) the shift key lever

1. Loosen fillister head screws (8) of key lever comb (9) and push back key lever fulcrum wire (10).
2. Unhook tension springs (1) and (4).
3. Loosen connecting strip (3) from shift key lever (6) by unscrewing hex head nut (7).
4. Unscrew key lever comb (5).
5. Withdraw shift key lever (6) in direction of arrow A.

b) the shift rocker

1. Dismount the type bars (see Service Manual 211-1b, par. 1 to 3)
2. Unhook tension springs (1), (4), (13) and (14).
3. Unscrew fillister head screws (18) of supporting plate springs (19).
4. Unscrew fillister head screws (16) of the lower swinging plate spring (15).
5. Remove clip (2) of connecting strip (3).
6. Loosen the right-hand hex head nut (12) and screw out bearing bolt (11) up to the stop. (Watch the ball).
7. Shove shift rocker (17) to the right and withdraw it from the inner main frame.

Note

Groups a and b can be dismounted independently from each other.

To mount

Mount the parts in inverted sequence.

Adjustment

- Re a) Loosen hex head nut (7) and align shift key levers (6) to the bottom row of keys by adjusting the eccentric screw. Adjust stop screw (13) (see Service Manual No. 221-2a, p. 2) for both shift key levers in such a way that after shifting levers (6) have a play of about 0,8 - 1,0 mm.

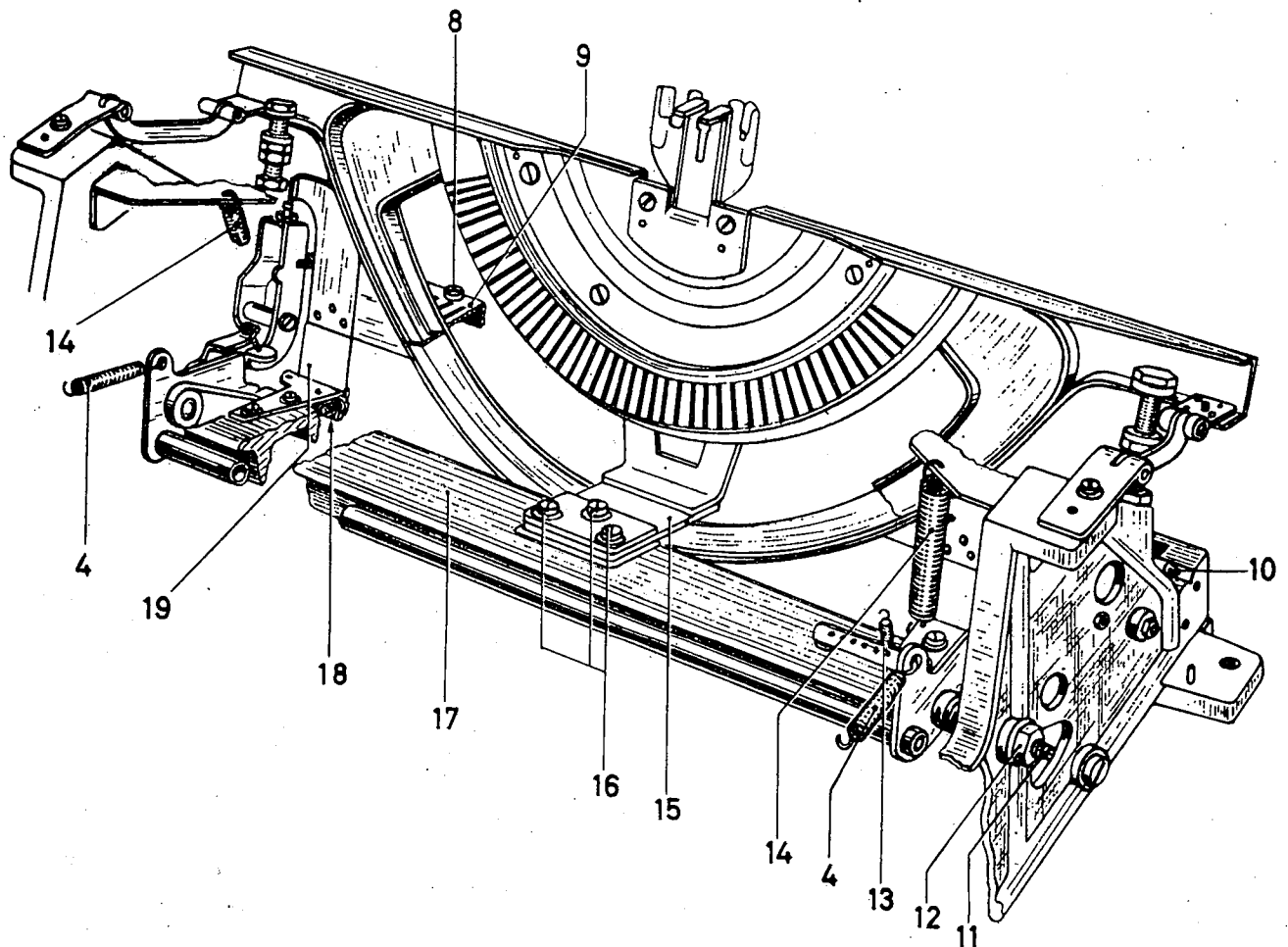
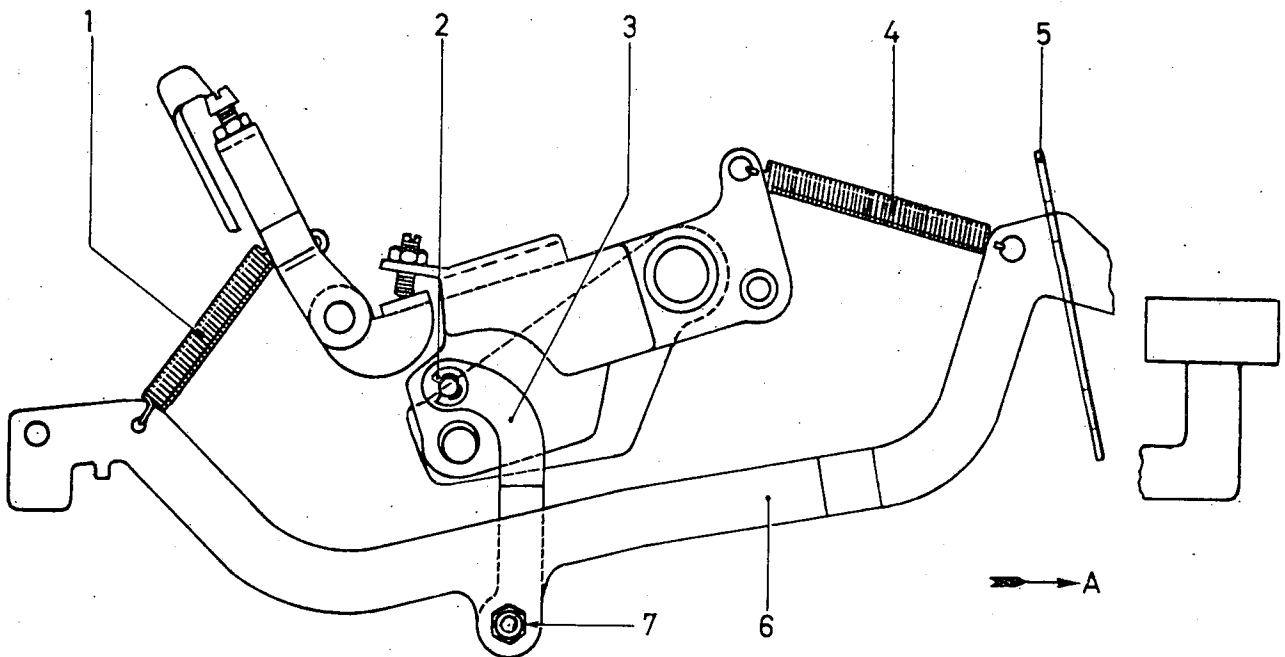
The key lever comb (5) should be positioned in such a way that the type bars snugly rest on the type bar rest.

- Re b) Adjust bearing bolts (11) without play in such a way that the shifting mechanism will not jam and that the shift key can be easily depressed by means of the little finger. The shifting mechanism should respond to a pressure of 200 grams.

**ADLER
special**

To dismount and mount the Shift Key
Lever and the Shift Rocker

S.M. 221-2b
p. 2



**ADLER
special**

Dismounting, Mounting and Adjustment
of the Interlock of the Segment Shift-
ing

S.M. 221-3, P.1

Remove the carriage from the machine (S.M. 100-1a)

Dismount inner main frame (S.M. 200-1a, 1b)

Dismounting

- 1) Unhook spring (1) at "a"
- 2) Unscrew hexagon nut (2)
- 3) Press shift lock latch (3) with fillister head screw (4) sideways out of the hole and withdraw it backwards.

Mounting

Mount parts in inverted sequence.

Adjustment

Set shift lock latch (3) into position shown in fig. 1. Loosen hex head nut (5) and turn set screw (6) towards stop piece (7) so far that the lock latch can easily be tipped backwards. The segment bracket should have no perceptible play after tightening hex head nut (5).

Loosen hex head nut (8), turn set screw (9) downwards until it rests on surface (10) without pressure. Tighten nut (8).

Observe that all shifting and locking parts move freely without jamming.

**ADLER
special**

To Dismount, Mount and Adjust the
Interlock of the Segment
Shifting

S.M.221-3,
p. 2

Fig. 1

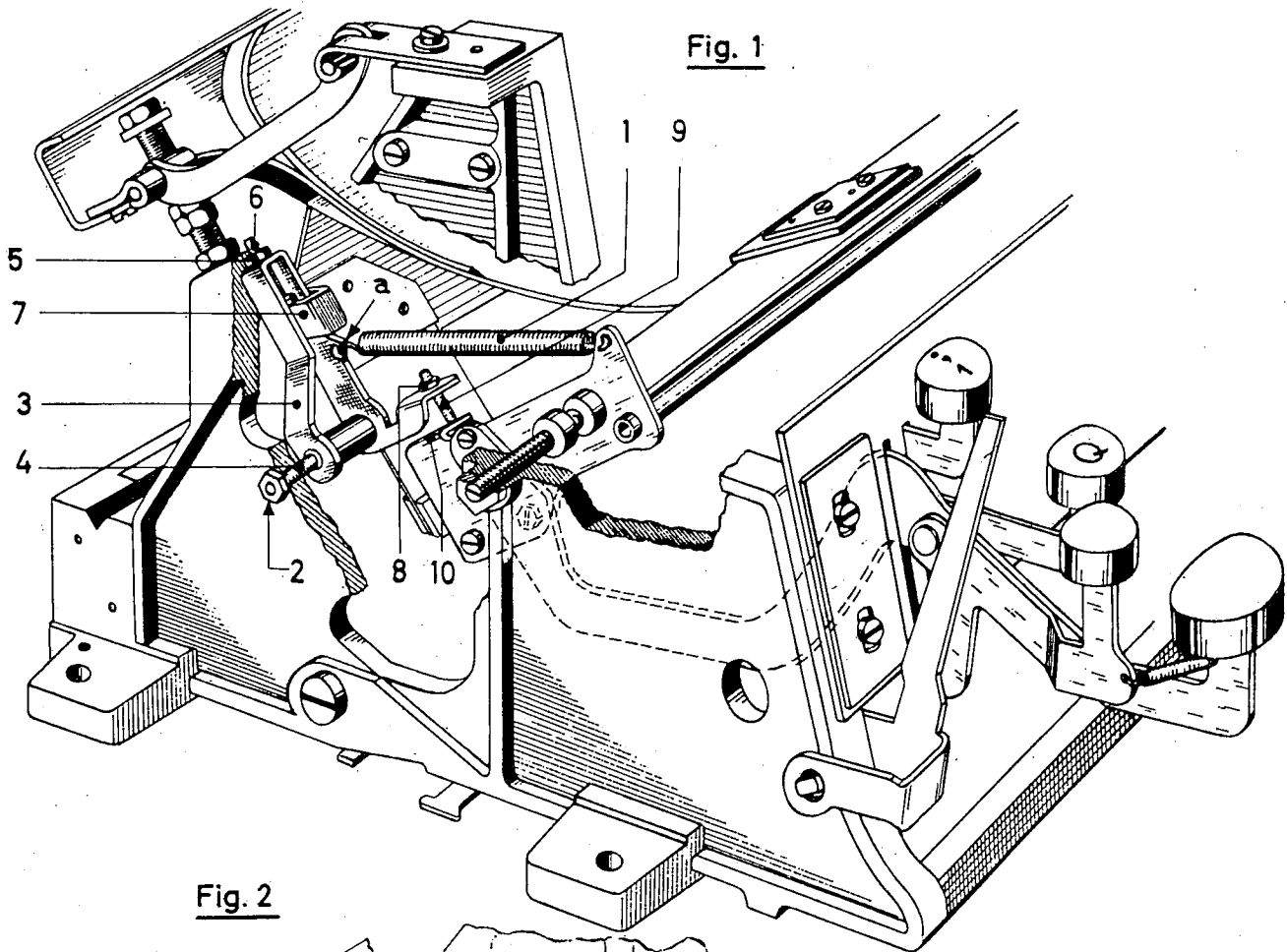
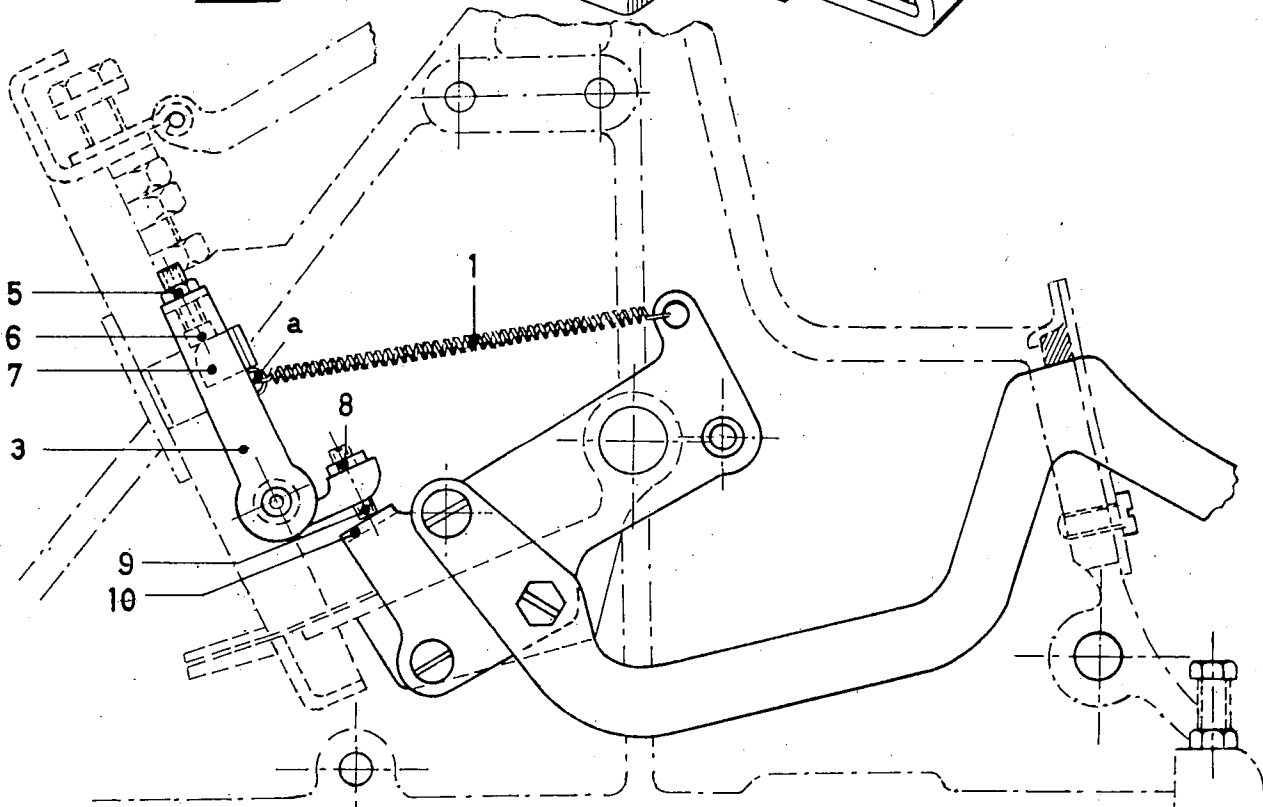


Fig. 2



ADLER special	To mount, dismount and adjust the Interlock of the Segment Shifting	S.M. 221-3a p. 1
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Remove the carriage from the machine (see S.M. 100-1a).

Dismount the inner main frame (see S.M. 200-1a, 200-1b, 200-1c).

To dismount:

- 1) Unhook spring (6) at point (5).
- 2) Unscrew hex head nut (7).
- 3) Press shift lock latch (4) with fillister head screw (8) sideways out of the borehole and withdraw it backwards from the inner main frame.

To mount:

Mount the parts in inverted sequence.

Adjustment:

Shift latch (4) into the position shown in figure 1.

Loosen hex head nut (3) and screw set screw (2) towards stop piece (1) until latch (4) can still be easily lifted out forwards. The segment bracket should have no perceptible play after tightening hex head nut (3).

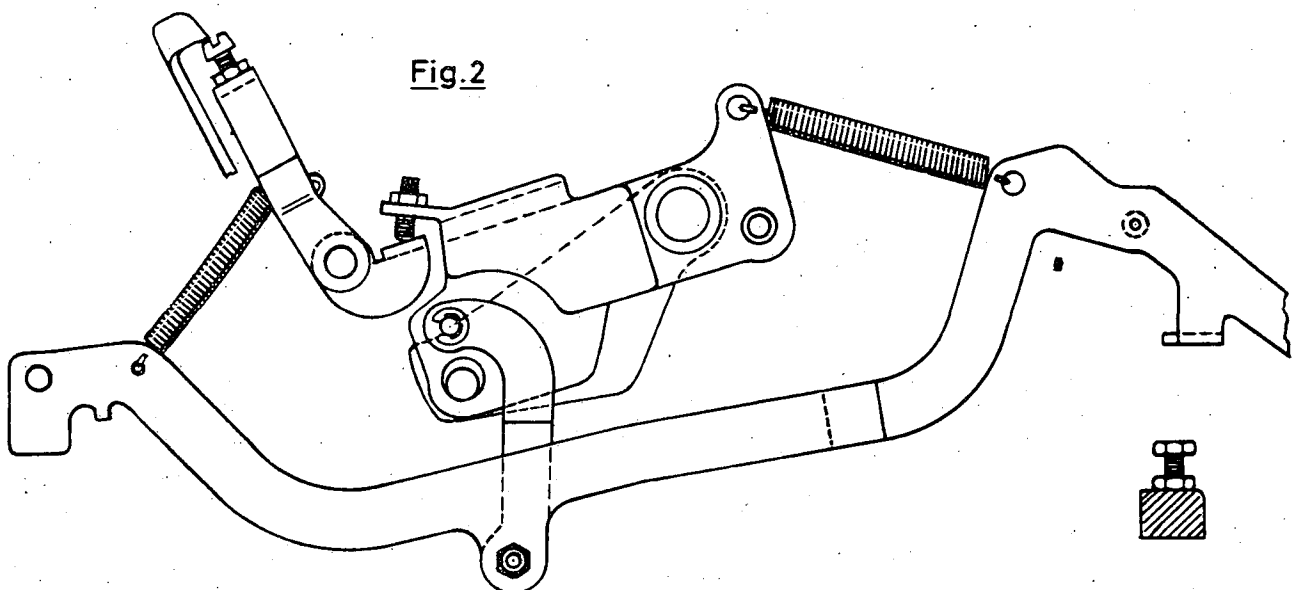
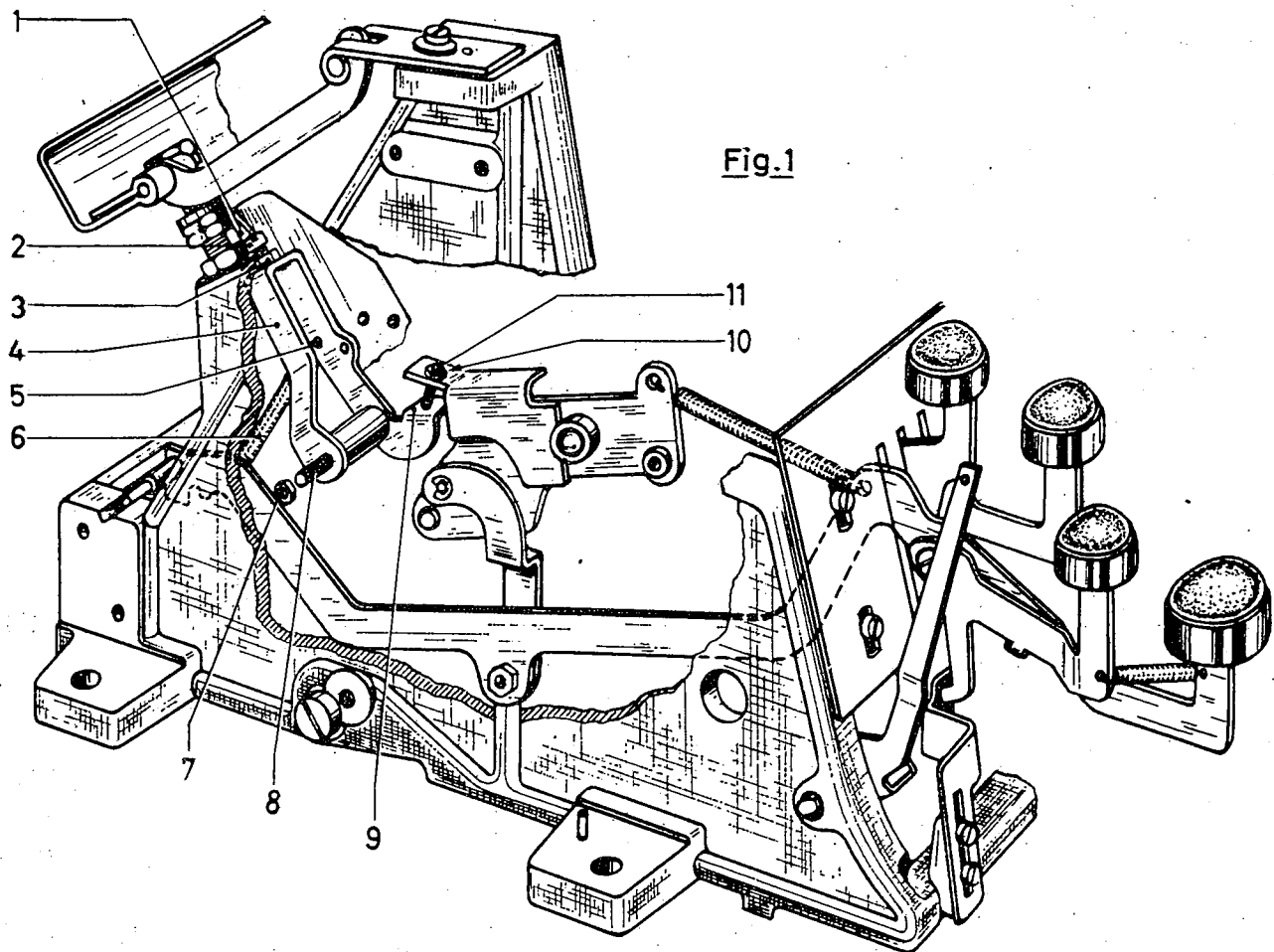
Loosen hex head nut (10) and screw down set screw (11) until it rests on surface (9) without pressure.

Retighten hex head nut (10). See that all locking parts move freely without jamming.

**ADLER
special**

To Dismount, Mount and Adjust the
Interlock of the Segment
Shifting

S.M. 221-3a,
p. 2



Dismount inner main frame (s. S.M. 200-1a, 200-1b, 200-1c).

Dismounting (s. fig. 2)

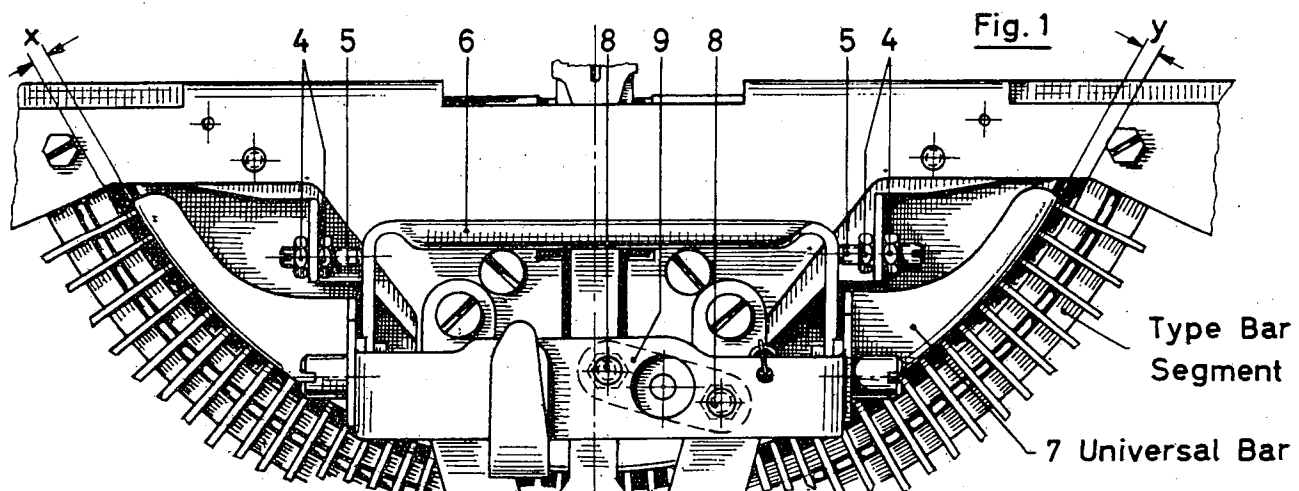
- 1) Bend back retainer finger (1a) of vibrator (1).
- 2) Shove out straight pin (2) from the eyelet of vibrator (1).
- 3) Unhook extension spring (3) at "a".
- 4) Loosen nuts (4) and bearing screws (5) so far that universal bar rocker (6) becomes free.
- 5) Slightly lift vibrator (1) and remove universal bar (7) - cpl.

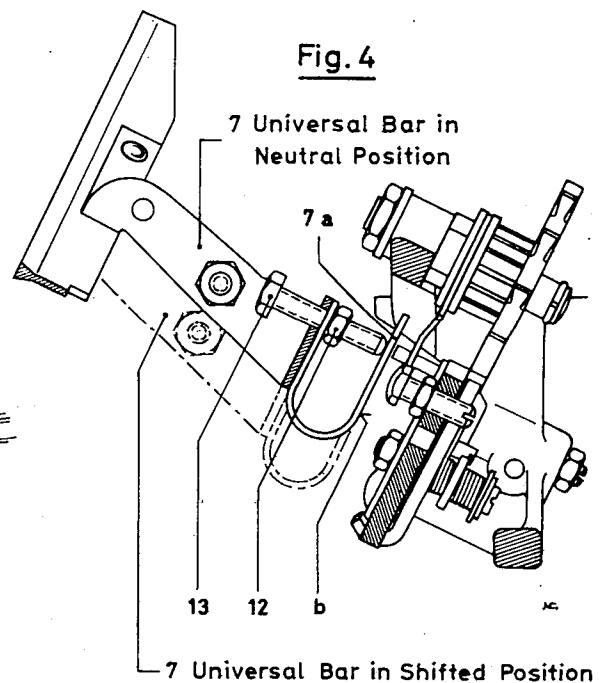
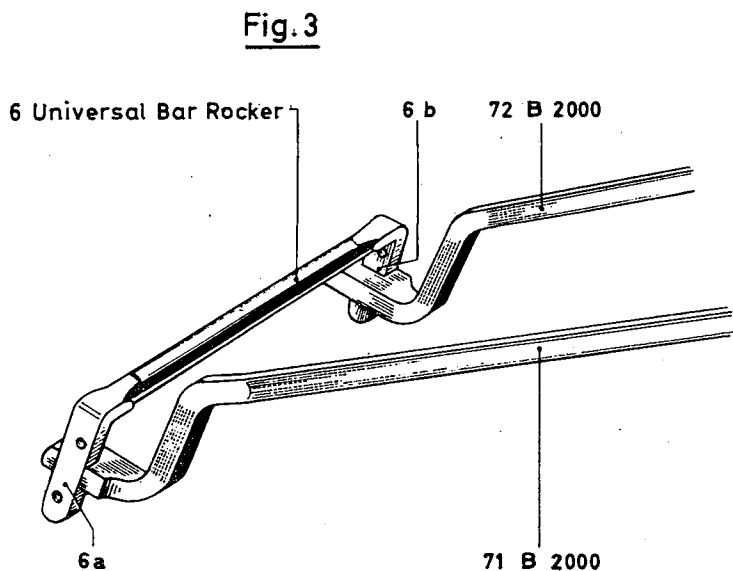
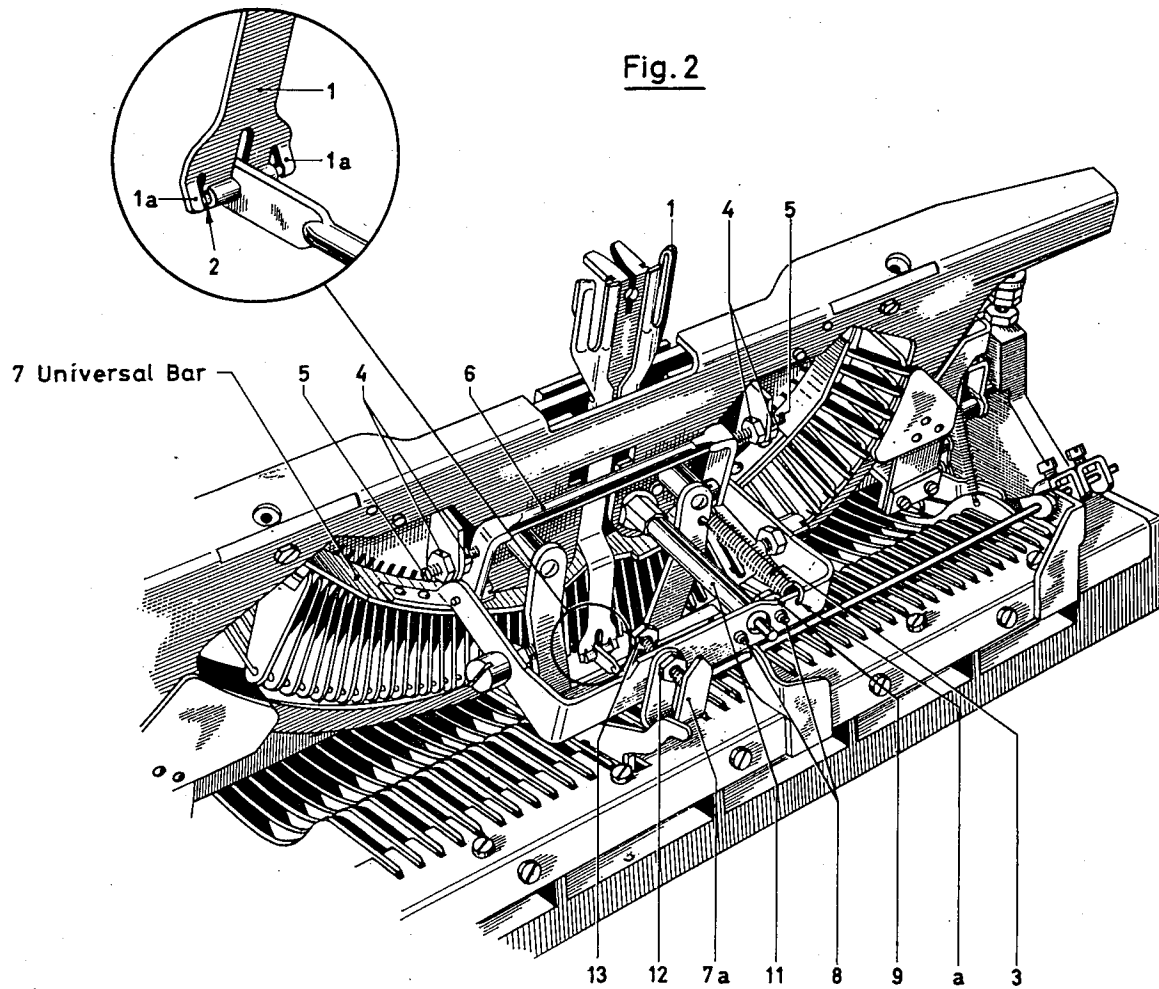
Mounting

Mount in inverted sequence.

Adjustment

- 1) Adjust universal bar (7) exactly to the center of the segment by setting bearing screws (5). Distances "x" and "y" should be exactly alike (s. fig. 1).
- 2) If the outer type bars actuate the trip earlier or later than the middle type bars, guide plate (9) should be raised or lowered in the slots after loosening hexagon screws (8) - (see fig. 1 and 2).
- 3) If the trip is not uniformly actuated by the outer type bars, e.g. earlier by the left- than by the right-hand type bars, slip universal bar (7) off guide pin (11). Then adjust arms (6a and 6b) of the universal bar rocker (6) accordingly by means of aligning wrenches 71 B 2000 and 72 B 2000 (s. fig. 2 and 3).
- 4) If the trip is differently actuated by the type bars in neutral and in shifted position, i.e. earlier or later, loosen hexagon nut (12) and shift release lug (7a) forward or backwards by adjusting hexagon screw (13) - see fig. 2. To obtain a uniform actuation of the trip both in neutral and shifted position, surface (b) of release lug (7a) should be exactly parallel to the inclined position of the segment (s. fig. 4).





Dismounting:

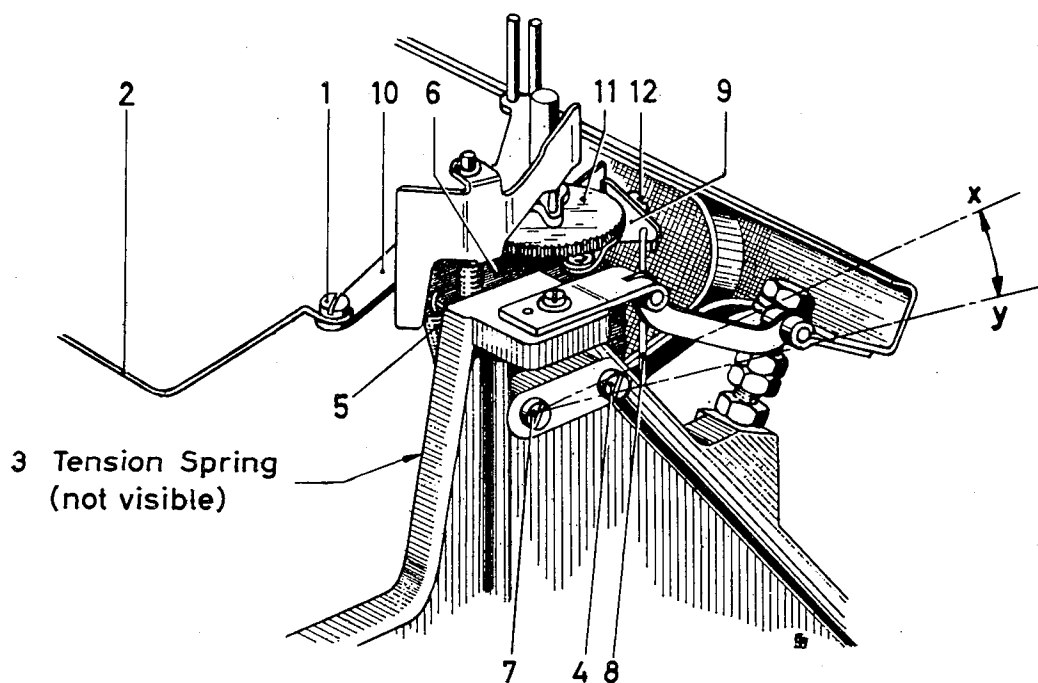
- 1) Unscrew shoulder screws (1) on the left- and right-hand ribbon feed and remove connection wire (2).
- 2) Unhook tension spring (3) from fillister head screw (4) - only up to serial No. 2156001 - and tension spring (5) from bracket (6).
- 3) Unscrew fillister head screws (4) and (7).
- 4) Unhook wire connection (8) from ribbon feed pawl (9) and remove ribbon feed.

Mounting:

Mount parts in inverted sequence.

Adjustment:

- 1) When shift levers (10) are in central position ribbon feed pawls (9) of both ribbon feed units should be uniformly disengaged from ribbon feed ratchet (11). The correct adjustment is made by bending the ribbon feed control link (2) to make it shorter or longer.
- 2) Travel of pawl (9) on the ribbon feed ratchet at least 2 teeth. Shorten the travel of the pawl by inclining the ribbon feed unit in direction of arrow y lengthen it by lifting the unit in direction of arrow x. Observe S.M. 241-1a, p. 2, par. b.



Dismount inner main frame (see S.M. 200-1a, 200-1b).

Dismounting:

All groups can be dismounted independently from each other.

a) Ribbon adjuster for ribbon throw

- 1) Unscrew shoulder screw (1) from ribbon adjuster (2) of the ribbon throw through the maintenance vent of the inner main frame.
- 2) Loosen cup point set screw (3) of adjusting collar (4) and shove axle (5) in the direction of the arrow until the ribbon adjuster is free.
- 3) Dismount ribbon adjuster (2) from inner main frame removing adjusting collar (4) at the same time.

b) Control link with connection rod

- 1) Unscrew shoulder screw (1) from ribbon adjuster (2) through the maintenance vent of the inner main frame.
- 2) Unscrew shoulder screw (6) from control link (7).
- 3) Unscrew fillister head screw (8) from shoulder nut (9).
- 4) Loosen bearing screw (10) for ribbon universal bar (11).
- 5) Lift ribbon universal bar (11) and remove control link (7) with connection rod (12) from inner main frame.

c) Ribbon universal bar

- 1) Unscrew bearing screws (12) from pawls (9) and unhook wire connections (8) - see S.M. 231-1.
- 2) Unhook tension spring (13) at "a" on the right side of the inner main frame.
- 3) Unhook tension springs (14) on the right and left sides of the ribbon universal bar.
- 4) Loosen both bearing screws (10) of the ribbon universal bar (11).
- 5) Unscrew shoulder screw (6) on control link (7).
- 6) Dismount ribbon universal bar (11) with wire connections (15) from inner main frame.

d) Ribbon throw shaft with toggle link

- 1) Bend up retainer finger (16a) of vibrator (16) and shove out straight pin (17).
- 2) Loosen cup point set screws (18), withdraw ribbon throw shaft (19) from brackets (20) and (21) in the direction of the arrow removing toggle link (22) at the same time.

e) Vibrator

- 1) Bend up retainer fingers (16a) and shove out straight pin (17) from the eyelet of vibrator (16).
- 2) See par. 4 of S.M. 211-1a.
- 3) Draw forward segment (23) far enough to allow vibrator (16) to be lifted out between segment carrier (24) and segment (23).

Adjustment

a) Neutral position of vibrator (stencil)

- 1) Loosen cup point set screws (18) on toggle link (22).
- 2) Set lower arm (20a) of bracket (20) for ribbon throw shaft (19) in such a way that the distance between the top edge of type guide (25) and the top edge of vibrator (16) is 9.15 mm.
- 3) Set ribbon adjuster (2) to "stencil" and retighten cup point set screws (18).

b) Ribbon universal bar (11)

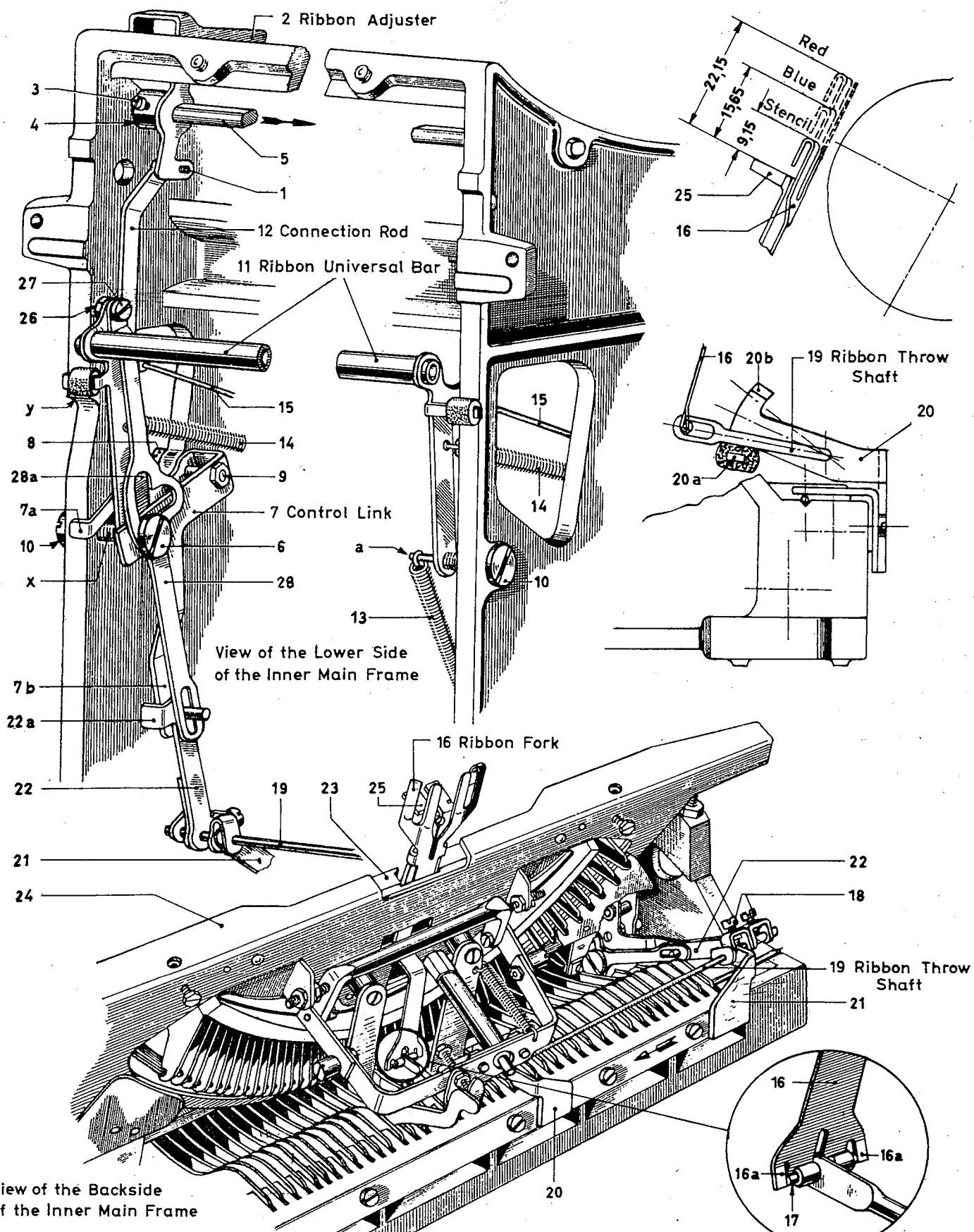
Loosen hexagon nut (26) of fillister head screw (27) and adjust ribbon universal bar (11) in such a way that it comes to rest in front of the lugs of the bottom row of keys with a barely perceptible play of approx. 0.1 mm. Tighten hexagon nut (26).

c) Setting the ribbon to "blue".

- 1) Set ribbon adjuster to "blue".
- 2) Adjust arm (7a) to limit screw "x" in such a way that ribbon adjuster (2) cannot be pressed beyond the notch for "blue" and that recess (28a) has a slight clearance at the shoulder of screw (6).
- 3) According to the difference adjust angle (22a) - for small deviations - or arm (7b) - for large deviations - so that, when a key is depressed ribbon throw shaft (19) will lift vibrator (16) to a distance of 15.65 mm and that, moreover, the ribbon universal bar (11) has a pass-over of approx. 0.1 to 0.2 mm.

d) Setting the ribbon to "red"

- 1) Set the ribbon adjuster to "red".
- 2) Adjust lever (7a) to stop "y" in such a way that ribbon adjuster (2) cannot be pressed beyond the notch for "red", and that recess (28a) has a slight clearance also in this position at the shoulder of screw (6).
- 3) If necessary adjust upper arm (20b) of bracket (20) for ribbon throw shaft (19) so that when a key is depressed ribbon throw shaft (19) will lift vibrator (16) to a distance of 22.15 mm, and that, moreover, the ribbon universal bar (11) has a pass-over of approx. 0.1 to 0.2 mm.



ADLER special	Exchange and Adjustment of the Ribbon Throw	S.M. 241-1b. p. 1
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Dismount the inner main frame (see S.M. 200-1b, 200-1c).

To dismount:

All groups can be dismounted independently from each other.

a) Ribbon adjuster for ribbon throw

- 1) Unscrew shoulder screw (1) from ribbon adjuster (2) of the ribbon throw through the hole of the inner main frame.
- 2) Loosen cup point set screw (3) of set collar (4) and shove shaft (5) in the direction of the arrow until the ribbon adjuster is free.
- 3) Remove ribbon adjuster (2) from the inner main frame taking off set collar (4) at the same time.

b) Ribbon throw control link with connecting rod

- 1) Unscrew shoulder screw (1) from ribbon adjuster (2) of the ribbon throw through the hole of the inner main frame.
- 2) Unscrew shoulder screw (6) from control link (7).
- 3) Loosen set collar (8) and unscrew hex head screw (9).
- 4) Loosen bearing bolt (10) for ribbon universal bar (11).
- 5) Lift ribbon universal bar (11) and withdraw control link (7) with connecting rod (12) from the inner main frame.

c) Ribbon universal bar

- 1) Unscrew bearing bolts (12) of pawl (9) and unhook wire connections (8) (see S.M. 231-1).
- 2) Unhook tension spring (13) at point a on the right side of the inner main frame.
- 3) Unhook tension springs (14) on the right and left side of the ribbon universal bar.
- 4) Loosen both bearing bolts (10) of ribbon universal bar (11).
- 5) Unscrew shoulder screw (6) on control lever (7).
- 6) Withdraw ribbon universal bar (11) with wire connections (15) from the inner main frame.

d) Ribbon throw shaft with toggle link

- 1) Bend up retainer finger (16a) of ribbon fork (16) and shove out straight pin (17).
- 2) Loosen cup point set screws (18), withdraw ribbon throw shaft (19) from brackets (20) and (21) in direction of the arrow and remove the toggle link (22) at the same time.

e) Ribbon fork

- 1) Bend up retainer finger (16a) and shove straight pin (17) out of the eyelet of ribbon fork (16).
- 2) See S.M. 211-1b, par. 5.
- 3) Pull forward segment (23) far enough to lift out ribbon fork (16) between segment carrier (24) and segment (23).

ADLER special	Exchange and Adjustment of the Ribbon Throw	S.M. 241-1b p. 2
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Adjustment:

Ribbon set to "stencil"

Adjust the lower branch (20a) of bracket (20) for ribbon throw shaft (19) in such a way that the clearance between the upper edge of type guide (25) and the upper edge of ribbon fork (16) is 1.5 mm.

Detent plate:

After loosening fillister head screws (2b) adjust detent plate (2a) in such a way that in all 3 positions the ribbon adjuster (2) is dependably locked and that at the same time the shoulder of screw (6) slides into the corresponding position of recess (28a) when ribbon adjuster (2) is actuated.

Ribbon universal bar

Loosen hexagon nut (26) of fillister head screw (27) and adjust the ribbon universal bar in such a way that it rests in front of the lugs of the lower row of key levers with a slight play. Thoroughly tighten hexagon nut.

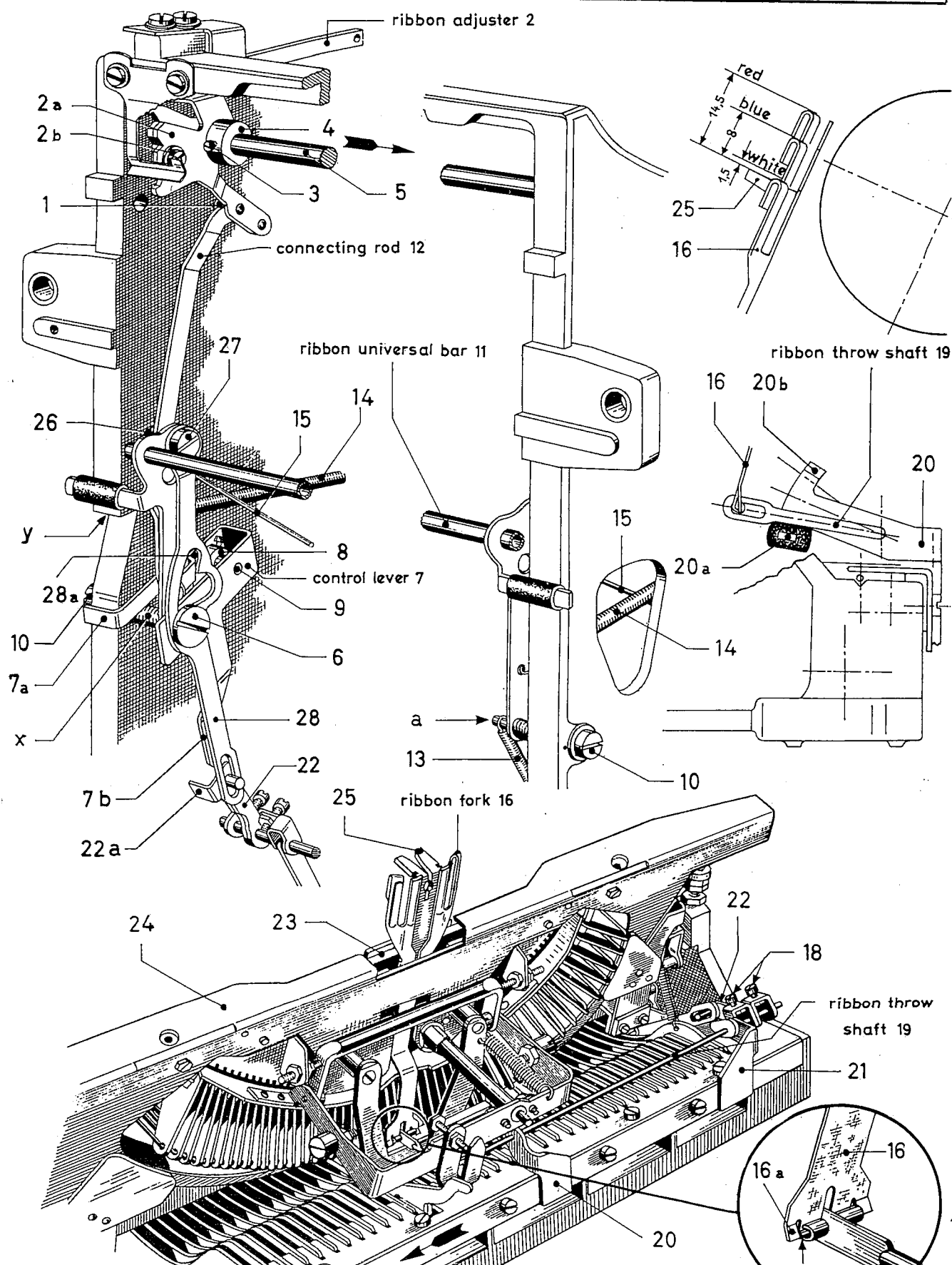
Ribbon set to "blue"

Set ribbon adjuster (2) to "blue". Loosen cup point set screws (18) of toggle link (22). Put a type bar into type guide (25) and lift ribbon fork (16) as far as the upper edge of the character coincides with that of the ribbon. Tighten cup point set screws (18).

Adjust branch (7b) of control lever (7) that lug (22a) has a play of 0.1-0.2 mm when a type bar is hit. Examine it by moving the ribbon universal bar.

Ribbon set to "red"

While having pressed a key lever adjust stop (20b) of bracket (20) so that there is a play of 0.2-0.3 mm at ribbon universal bar (11).



ADLER special	Dismounting and Mounting of the Bellcranks	S.M. 251-1
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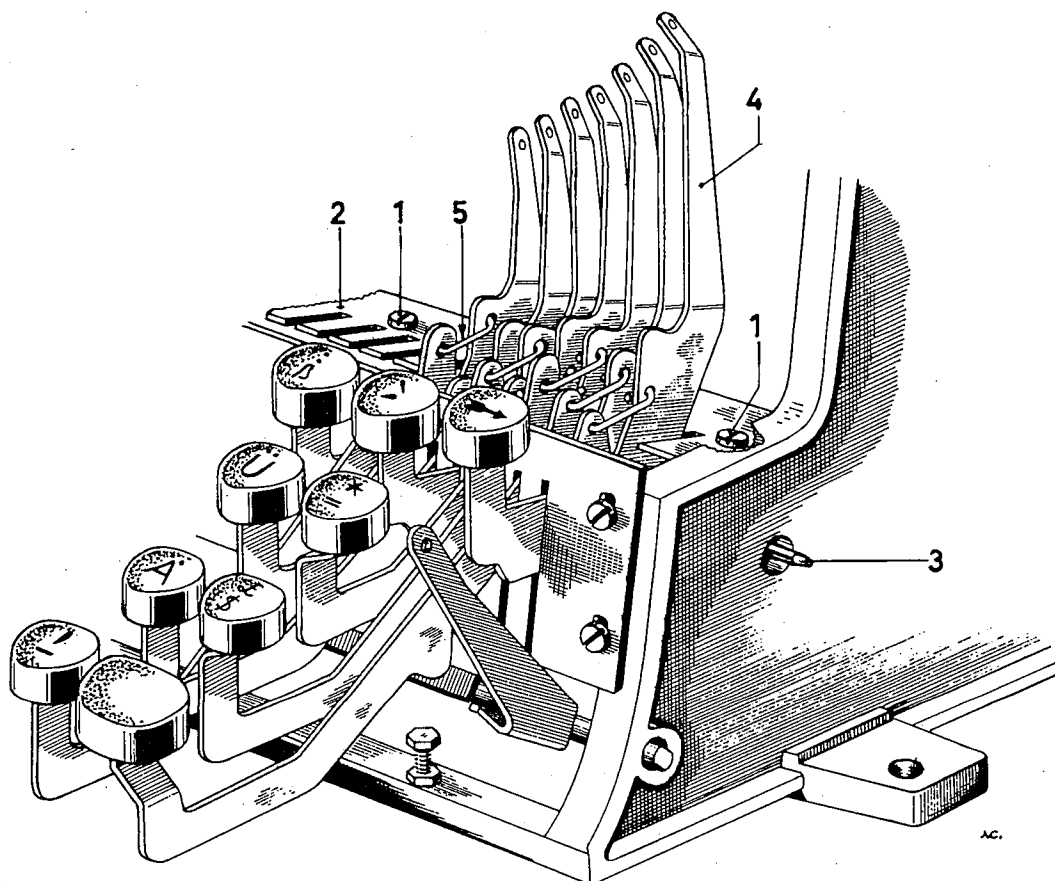
Dismount inner main frame (see S.M. 200-1a, 200-1b).

Dismounting:

- 1) Dismount type bars (see S.M. 211-1a, par. 1 and 2).
- 2) Unscrew fillister screws (1) of bellcrank comb (2) and shove bellcrank fulcrum wire (3) out of the groove of the inner main frame by means of follow through wire 114/B 2000.
- 3) Withdraw bellcranks (4) from bellcrank comb (2) and unhook from wire connections (5).

Mounting:

Mount parts in inverted sequence.



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To dismount and mount the Bellcranks

S.M. 251-1a

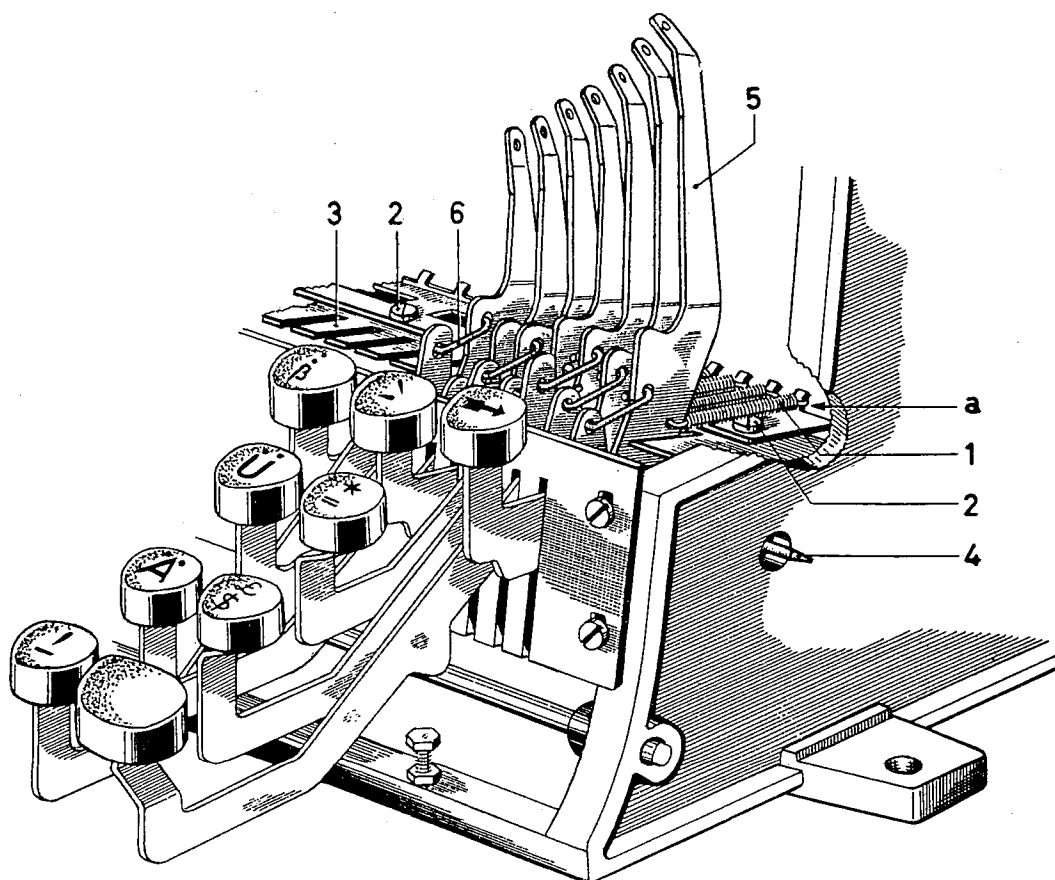
Dismount the inner main frame (see Service Manual 200-1a, 200-1b)

To dismount

1. Dismount the type bars (see Service Manual 211-1a, par. 1 + 2)
2. Unhook tension springs (1) at point "a".
3. Loosen the fillister head screws (2) on bell crank bracket (3) and shove fulcrum wire (4) of the bell crank out of the groove of the inner main frame by means of follow through wire 114/B 2000.
4. Withdraw bell crank (5) from bell crank bracket (3) and unhook it from wire connection (6).

To mount

Mount the parts in inverted sequence.



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ADLER special	Dismounting and Mounting of the key levers	S.M. 251-2
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Dismount inner main frame (S.M. 200-1a, 1b)

Dismount space bar and anti-jam device (S.M. 261-1)

Dismount bellcranks (S.M. 251-1)

Dismounting

1) Loosen cylinder head screws (1) of spring plate (2) until pressure springs (3) of key levers (4) are released.

2) Shove out key lever fulcrum wire (5) by means of follow through wire 114/B2000 and withdraw key levers (4) from inner main frame in direction of arrow. When doing so remove pressure springs.

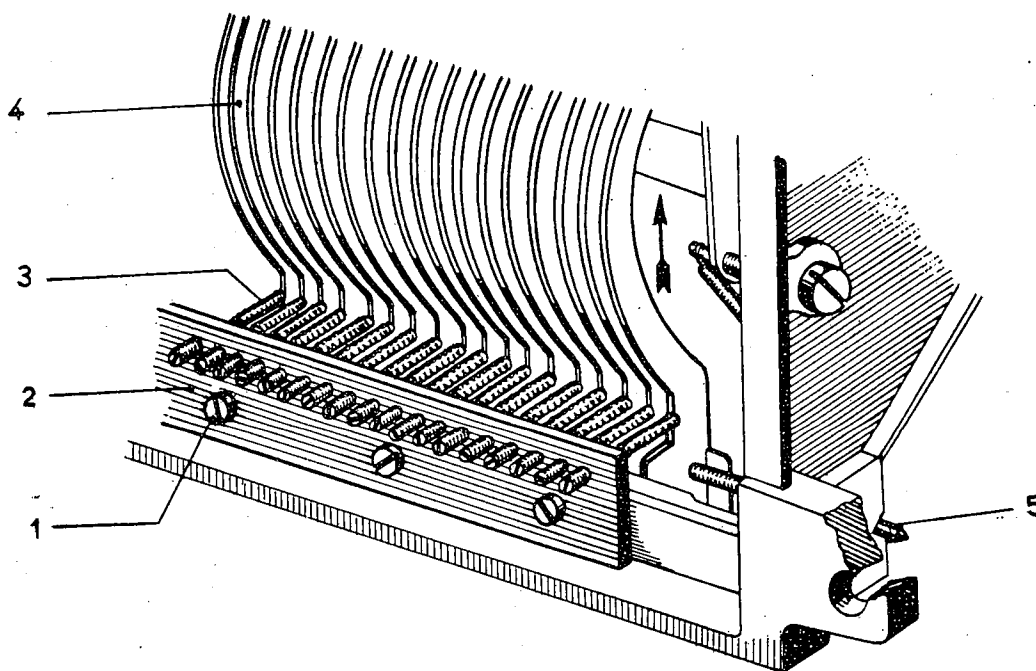
Mounting

Mount parts in inverted sequence.

Adjustment of pressure springs

Withdraw universal bar (7) from guide bolt (11) and set it out of action by placing it on the bolt (S.M. 222-1, p.2).

Unhook tension springs (14) on both sides of ribbon universal bar (11) to have this bar release the key levers (S.M. 241-1a, p. 3). Adjust pressure springs (3) that the type bars are lifted to the rebound of the segment when a weight of 55 gr. (=2oz) is laid on the keytops.



**ADLER
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Dismounting and Mounting of the
Key Levers

S.M. 251-2a

Dismount inner main frame (see S.M. 200-1a, 1b,).

Dismount space bar and anti-jam device (see S.M. 261-1).

Dismount bellcranks (see S.M. 251-1).

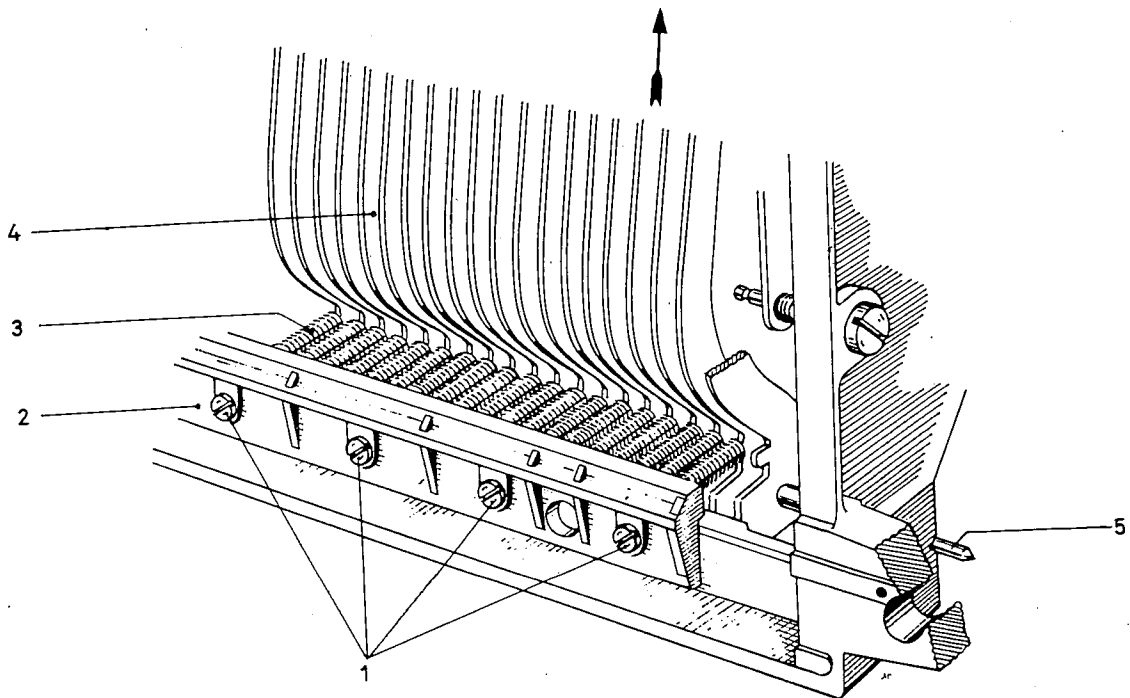
Dismounting:

- 1) Loosen fillister head screws (1) from key lever spring plate (2) until pressure springs (3) of key levers (4) are relieved.
- 2) Shove out key lever fulcrum wire (5) by means of follow through wire 114/B 2000 and withdraw key levers (4) from the inner frame in the direction of the arrow.

Mounting:

Mount parts in inverted sequence.

The pressure springs must not be adjusted, as the bolts have shoulders of the corresponding height.



**ADLER
special**

Dismounting and Mounting of the
Space Bar and the anti-jam Device*

S.M. 261-1

Dismount the inner main frame (see S.M. 200-1a, 200-1b).

Dismounting:

- 1) Loosen ribbon universal bar (1) on the right side of the inner main frame (see S.M. 241-1a, par. c).
- 2) Press connection rod (2) off the journal of set screw (3) and shove it aside.
- 3) Lift right side of ribbon universal bar (1) and remove connection rod (2) from inner main frame.
- 4) Loosen cup point set screw (4) on adjusting collar (5). Loosen screws (6a) and withdraw axle (7) from inner main frame, removing adjusting collar (5), anti-jam device (8)* with torsion spring (9), and space bar frame (10) with torsion spring (11).

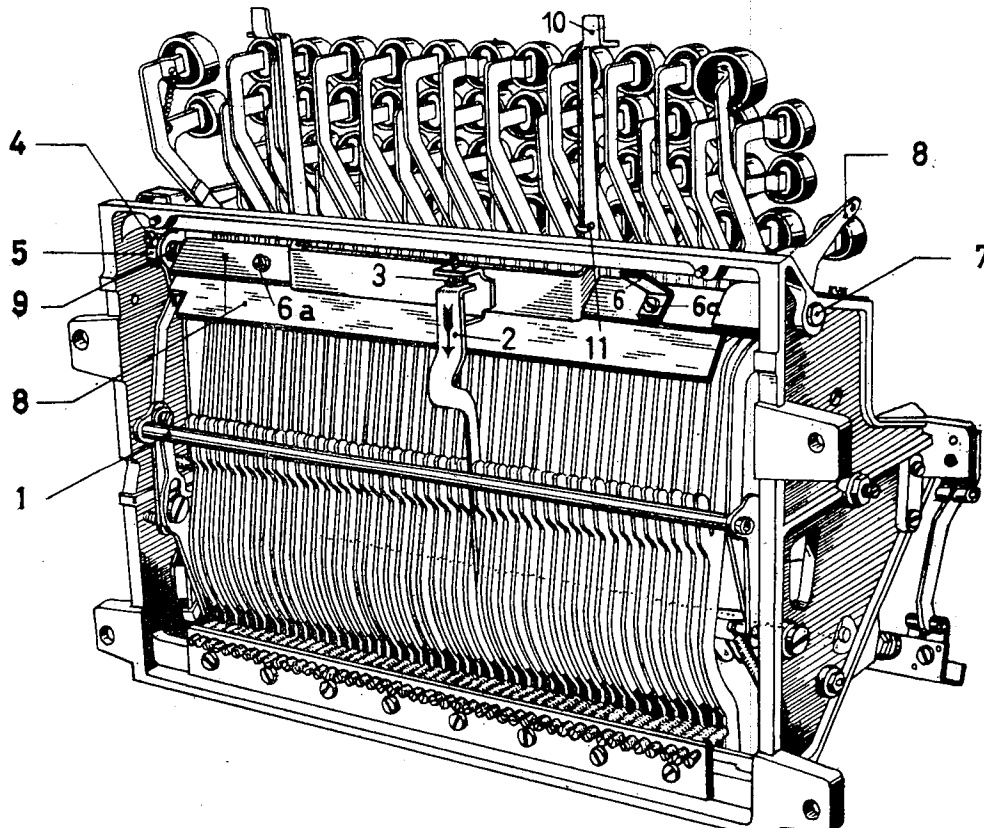
Mounting:

Mount parts in inverted sequence.

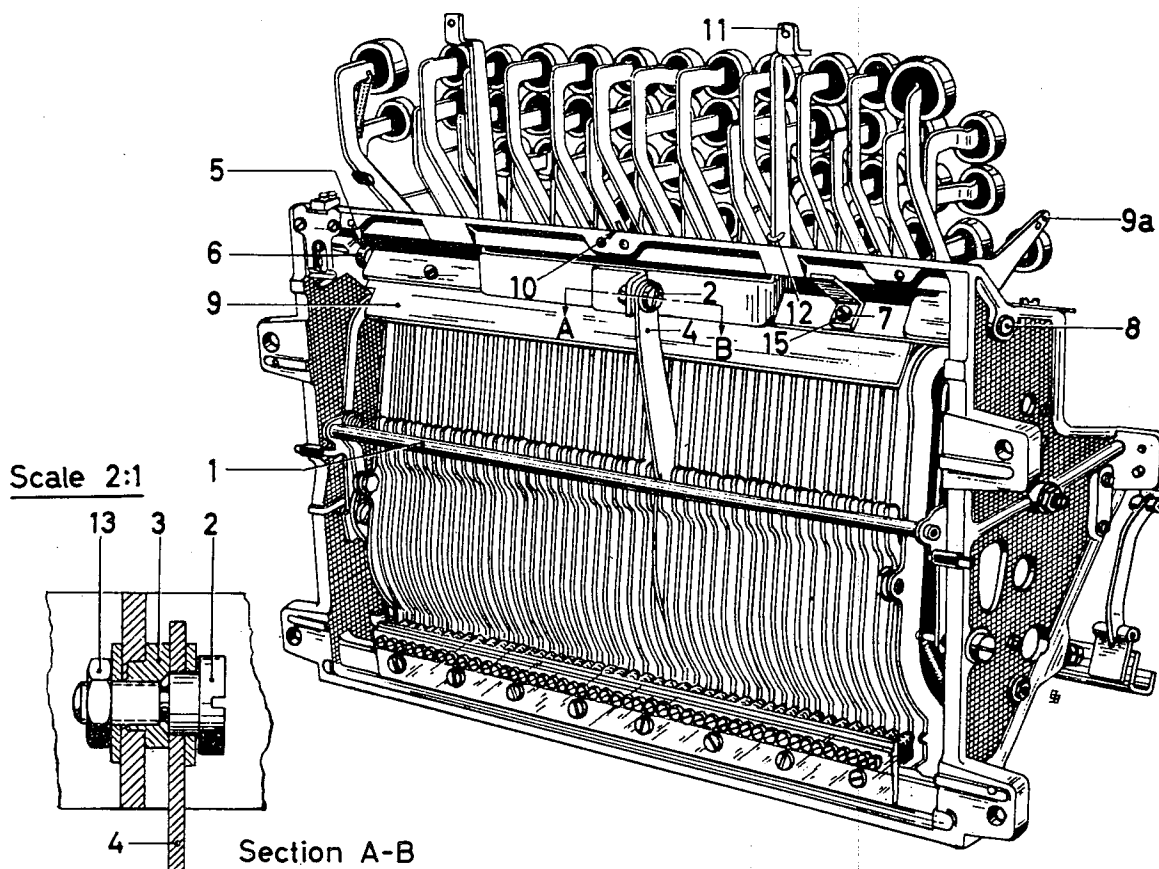
Adjustment:

Adjust set screw (3) in such a way that the trip is released when the space bar is 2 mm before the rubber buffers. (Also see S.M. 400-2). The position of the anti-jam device (8)* can be adjusted by means of angle (6).

*anti-jam device only up to serial No. 2184350



S.M. 261-1a



**ADLER
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Dismounting and Mounting of the
Back Space Lever

S.M. 271-1

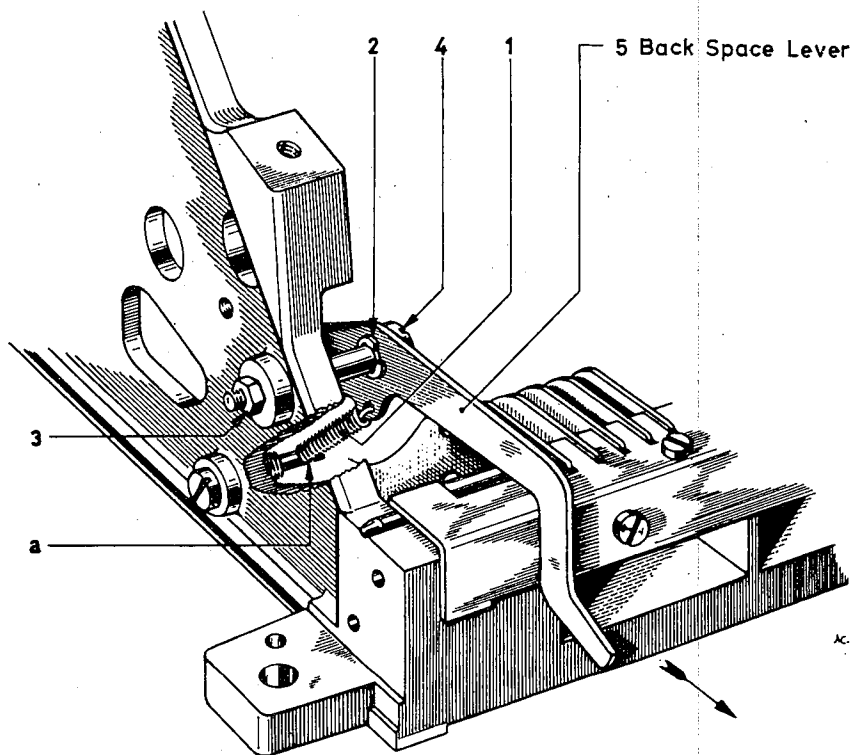
Dismount space bar and anti-jam device (according to design SM 261-1, 1a)

Dismounting:

- 1) Unhook tension spring (1) at point "a" (only up to serial No. 2260145).
- 2) Remove circlip (2).
- 3) Unscrew hexagon nut (3) and withdraw shoulder screw (4) from back space lever (5).
- 4) Withdraw back space lever (5) from the inner frame in the direction of the arrow.

Mounting:

Mount the parts in inverted sequence.

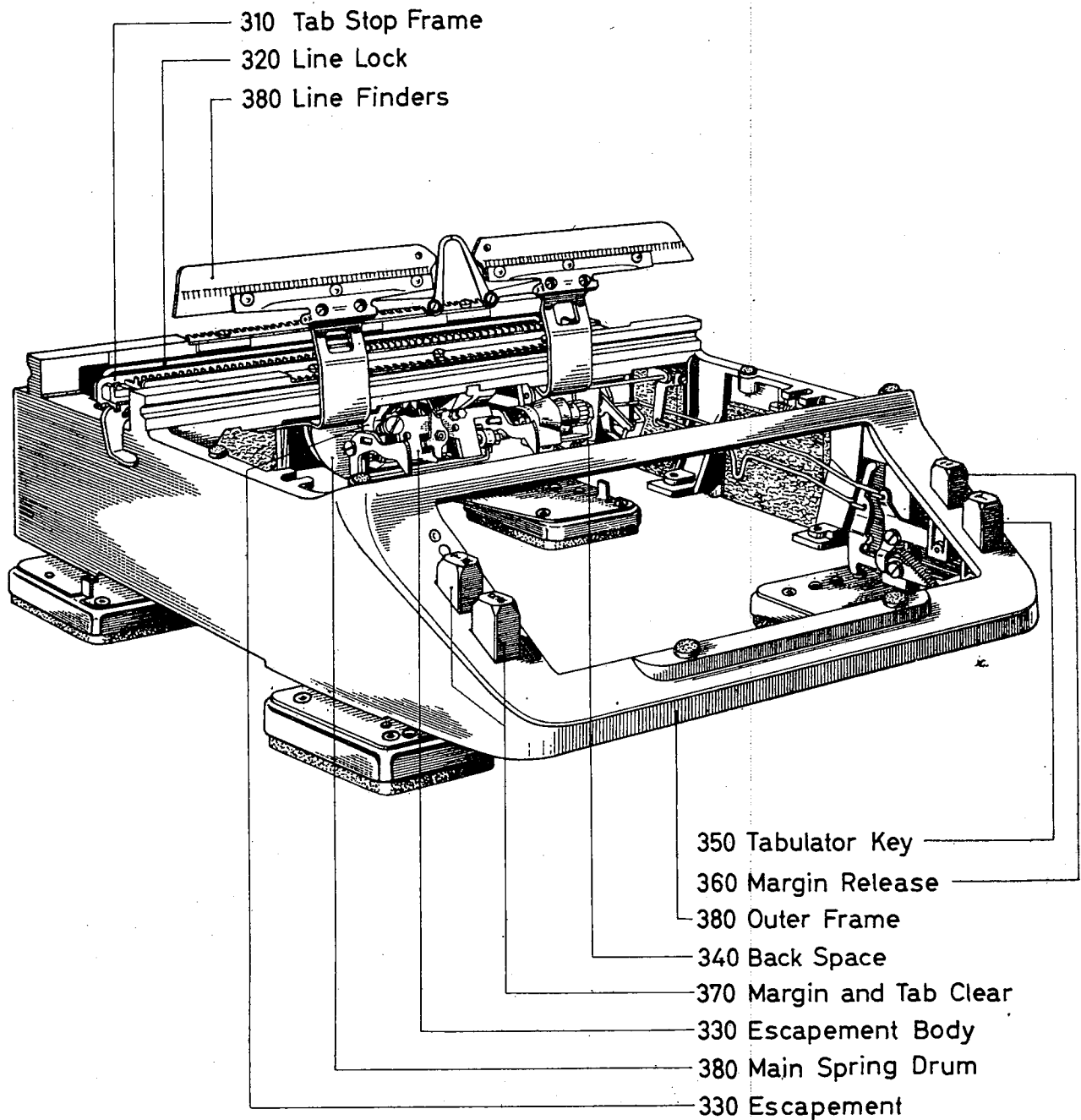


View of the Backside of the Inner Main Frame

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Outer Frame, Complete

S.M. 300



Remove the carriage (see S.M. 100-1a).

Dismount the inner main frame (see S.M. 200-1a, 1b, 1c).

Dismount the line lock (see S.M. 321-1).

Dismount the margin release lever (see S.M. 361-1).

Dismounting:

- 1) Withdraw split pins (1) and shove wire connection (2) to the left out of its bearing (see fig. 1).
- 2) Unscrew fillister head screws (3) on the left and right side of frame (4) and withdraw tab stop frame (5) complete with left and right bracket (6) from frame (4) - see fig. 2.

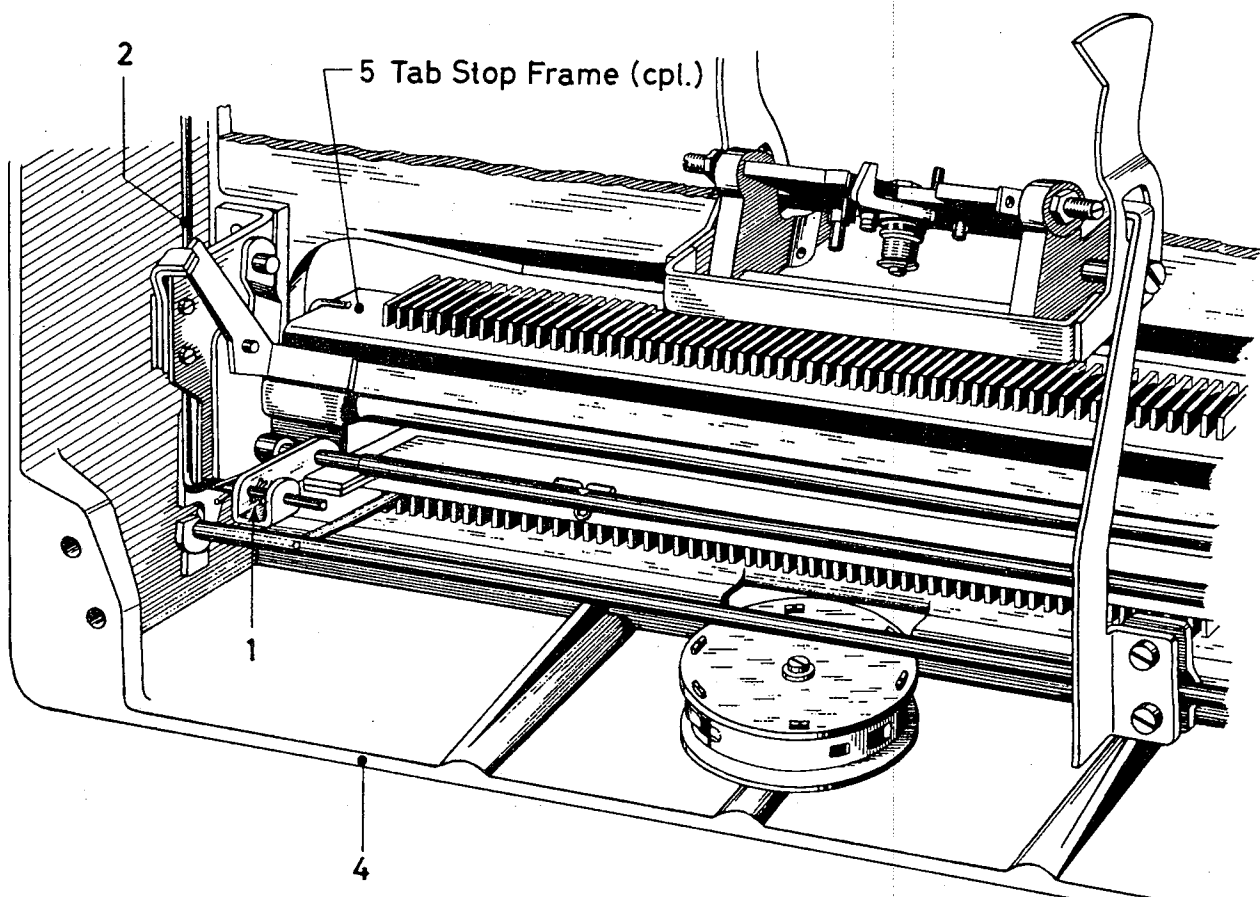
Mounting:

Mount parts in inverted sequence. Mount right-hand bracket (6) first.

Adjustment:

Adjust buffer (7) in such a way that between the tab set lever and the upper edge of tab stops (9) resp. space pieces the clearance is 0.2 - 0.4 mm (see fig. 3) - Continued on p. 2.

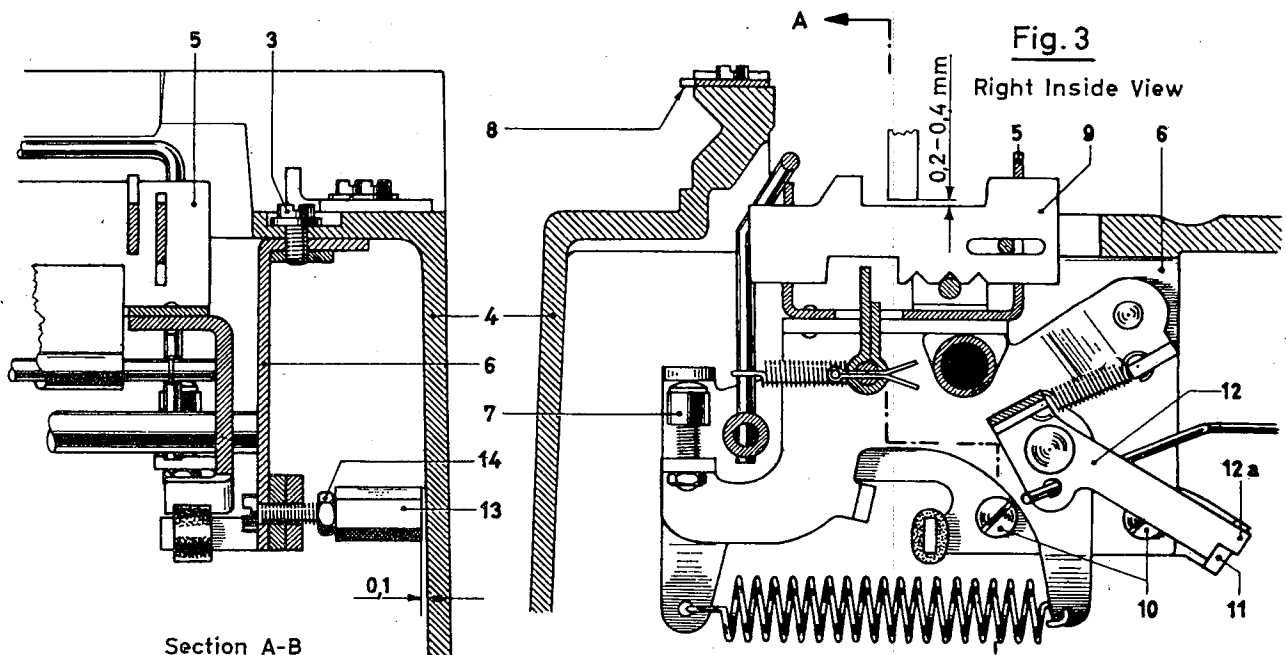
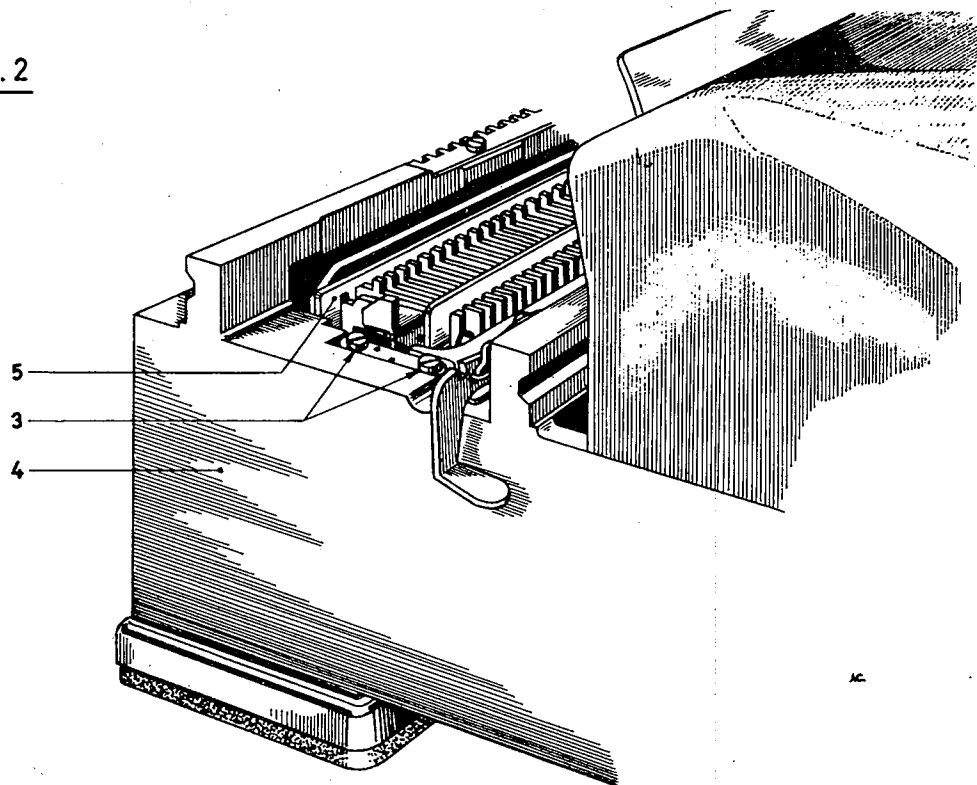
Fig. 1



After adjusting buffer (7) loosen fillister head screws (10) on the left- and right-hand side and set stops (11) for tab stop frame (5) against lugs (12a) of locking arms (12) so that the locking of the tab stop frame is ensured.

Screw threaded sleeve (13) to the inside of the outer frame with approx. 0.1 mm play. Secure with hexagon nut.

Fig. 2



**ADLER
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Dismounting and Mounting of the Tab
Stops and the Tab Stop Clearing Bar

S.M. 312-1

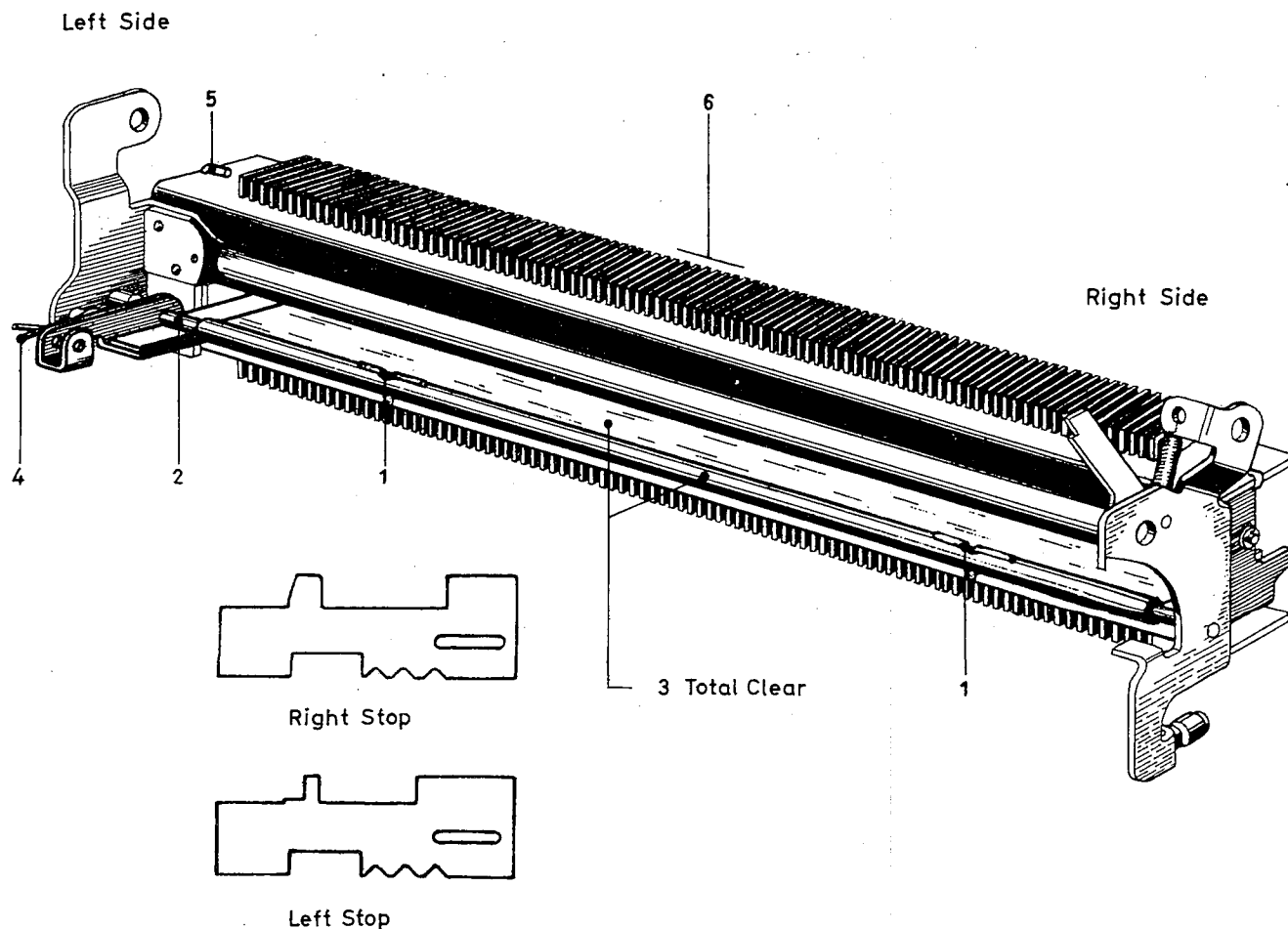
Dismount the tab stop frame (see S.M. 311-1).

Dismounting:

- 1) Remove split pins (1).
- 2) Withdraw axle (2) from tab stop frame and remove lever (3) for simultaneous clearing of all tab stops with torsion spring (4).
- 3) Bend up cotter wire (5) on one side and withdraw it from the tab stop frame.
- 4) Remove tab stops (6).

Mounting:

Mount parts in inverted sequence, being careful to place 46 left-hand tab stops on the left side of the tab stop frame and 53 right-hand tab stops on the right side of the tab stop frame.



ADLER special	Interchanging and Adjustment of the Line Lock Bail	S.M. 321-1 p. 1
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Remove carriage from the machine (see S.M. 100-1a).

Dismounting:

- 1) Press all tab stops (1) by hand in the direction of arrow "a".
- 2) Lay machine on back side.
- 3) Loosen fillister head screws (2) and shove locking lever (3) on shaft (4) to the right in the direction of arrow "b".
- 4) Press aside plate spring (5) and swing it in the direction of the arrow.
- 5) Unhook tension spring (6).
- 6) Lift shaft (4) with locking lever (3) and wire bow (7) from the left-hand bearing, pull it to the left from the right-hand bearing, and withdraw it from the frame.
- 7) Unscrew shoulder screws (8) and remove locking rocker (9).

Mounting:

Mount parts in inverted sequence.

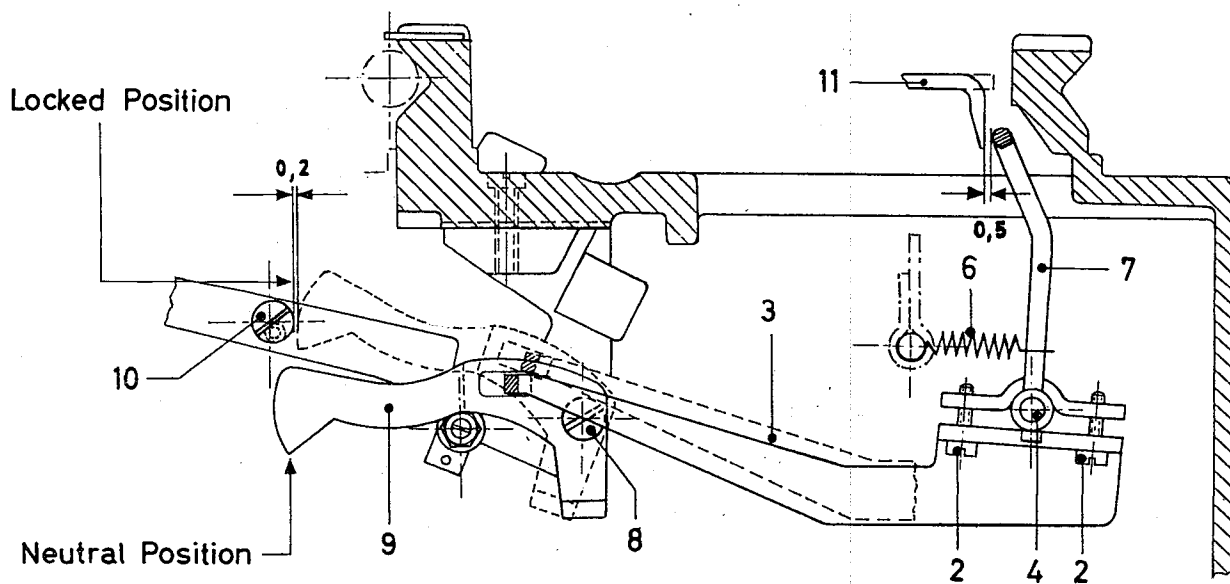
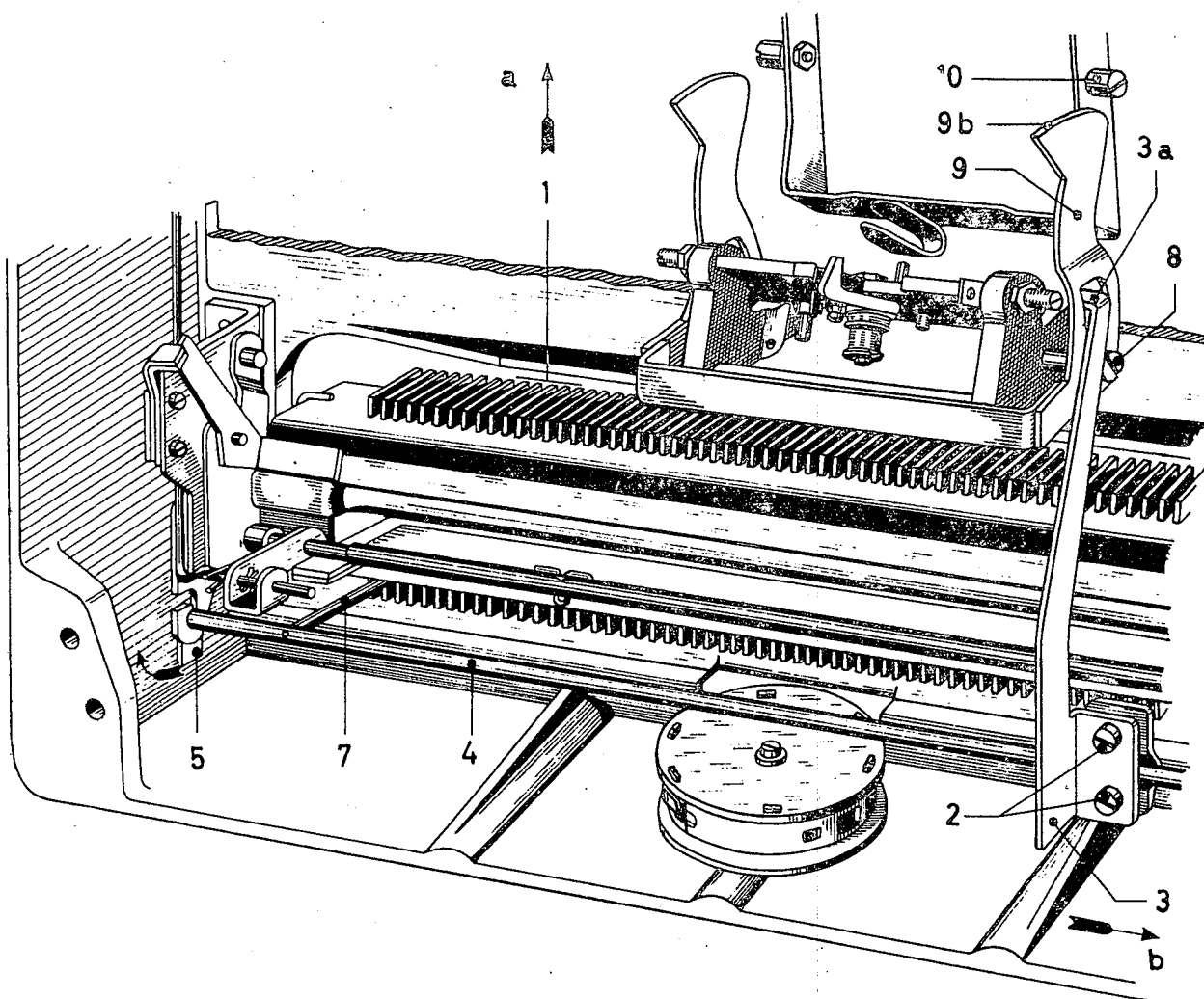
Adjustment:

- 1) Bring wire bow (7) and locking rocker (9) into locking position (see ill.). Insert lug (3a) of locking lever (3) into the slot of locking rocker (9) and tighten fillister head screws (2).
- 2) See that - when the line lock is actuated - the eccentric screws (10) are sure to hit stop face (9b) of locking rocker (9) also when the shift key is depressed. If they do not, loosen fillister head screws (2), turn locking lever (3) accordingly on shaft (4), and retighten fillister head screws (2).
- 3) Between eccentric screws (10) and stop faces (9b) of locking rocker (9) should be a clearance of 0.2 mm.
- 4) When the line lock bail is in neutral position there should only be a clearance of 0.5 mm between wire bow (7) and lug (11) of the right-hand carriage stop (see ill.).

**ADLER
special**

Interchanging and Adjusting
the Line Lock Bail

S.M. 321-1,
p. 2



ADLER special	Interchange and Adjustment of the Escapement Frame	S.M. 331-1 p. 1
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Remove carriage (s. S.M. 100-1a).

Remove base plate (s. S.M. 200-1a; 200-1b, par. 4 and 5, only up to serial No. 2168550).

Dismounting:

- 1) Loosen locking lever (1) and shove to the right (s. S.M. 321-1, par. 3).
- 2) Unhook tension spring (2) at "a".
- 3) Loosen fillister head screws (3) and remove escapement frame (4) cpl. with back space arm (5) from outer machine frame.

Mounting:

Mount parts in inverted sequence.

Adjustment:

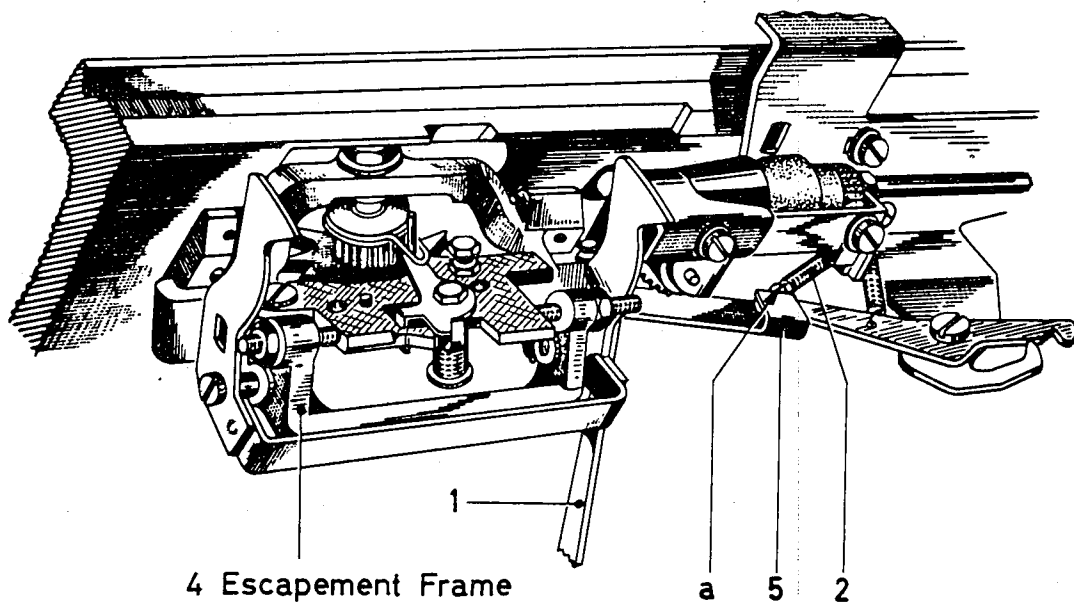
(Only for the mounting of spare escapement frames without pin holes).

- 1) Set several tab stops when the carriage is mounted and test tabulator. If after tabulating the tabulator plunger (s. S.M. 171-1a, part 3) clings to the set tab stops, the escapement frame (4) should be shifted farther to the right side of the machine. If when tabulating the tabulator plunger hits a tab stop instead of coming between two tab stops, the escapement frame (4) should be shifted farther to the left side of the machine. After this adjustment drill and pin the escapement frame (4) from above through the pin holes of the frame.
- 2) Adjust the carriage rack (s. S.M. 152-1).
- 3) Adjust locking lever (3) - see S.M. 321-1 "Adjustment".

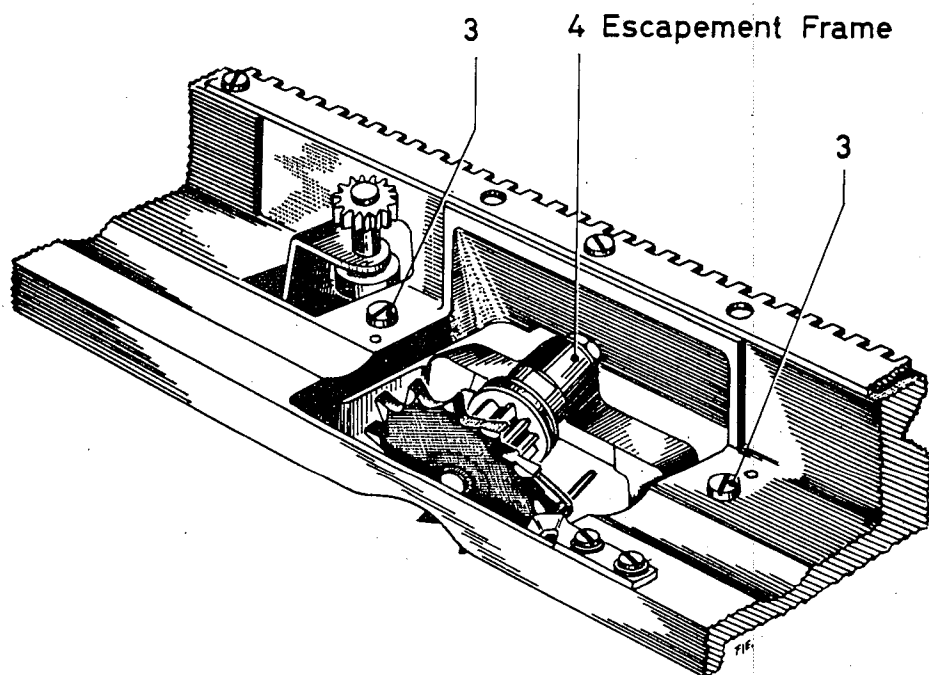
ADLER
special

Interchange and Adjustment
of the Escapement Frame, Complete

S.M. 331-1,
p. 2



4 Escapement Frame



4 Escapement Frame

Dismount inner main frame (s. S.M. 200-1a, 1b, 1c).

Dismounting:

- 1) Unscrew hexagon nut (1).
- 2) Unscrew stop (2) for escapement body (3). Remove plastic disk (4) and pressure spring (5) as well as spring disk.
- 3) Loosen hexagon nuts (6) of bearing screws (7) and turn back bearing screws (7) until escapement body (3) is free.
- 4) Unhook escapement body (3) from trail spring (8) and remove it from escapement frame (9) - see fig. 1.

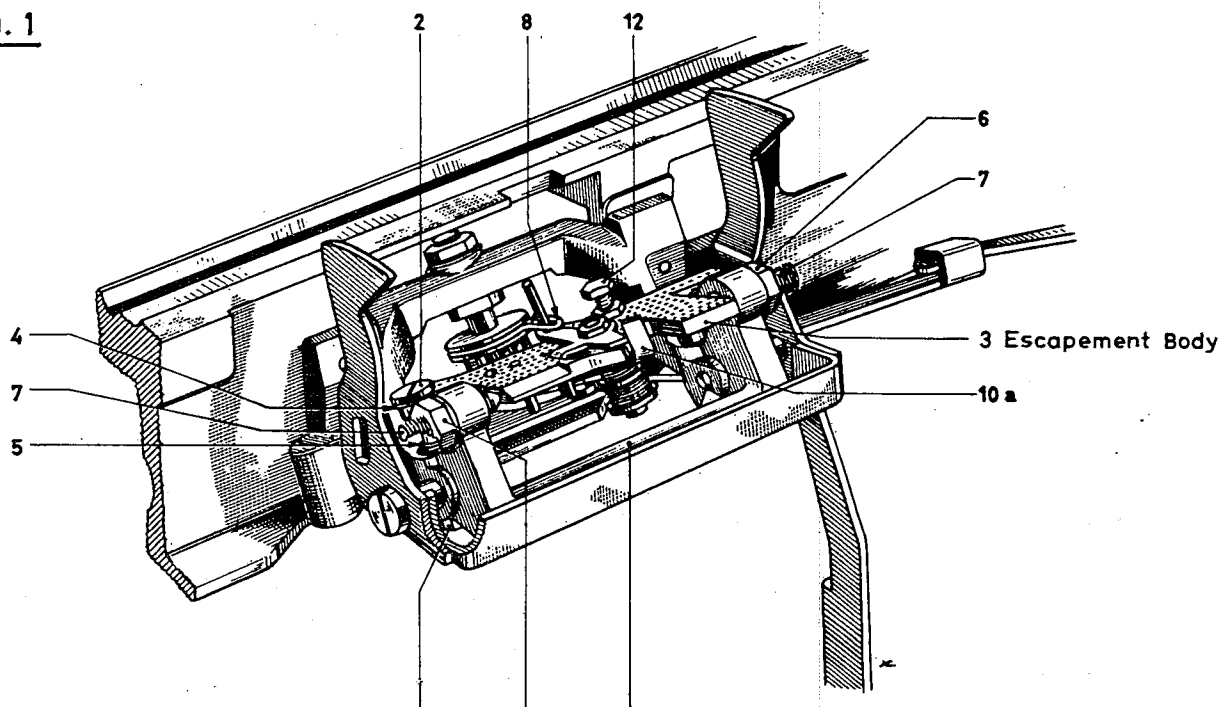
Mounting:

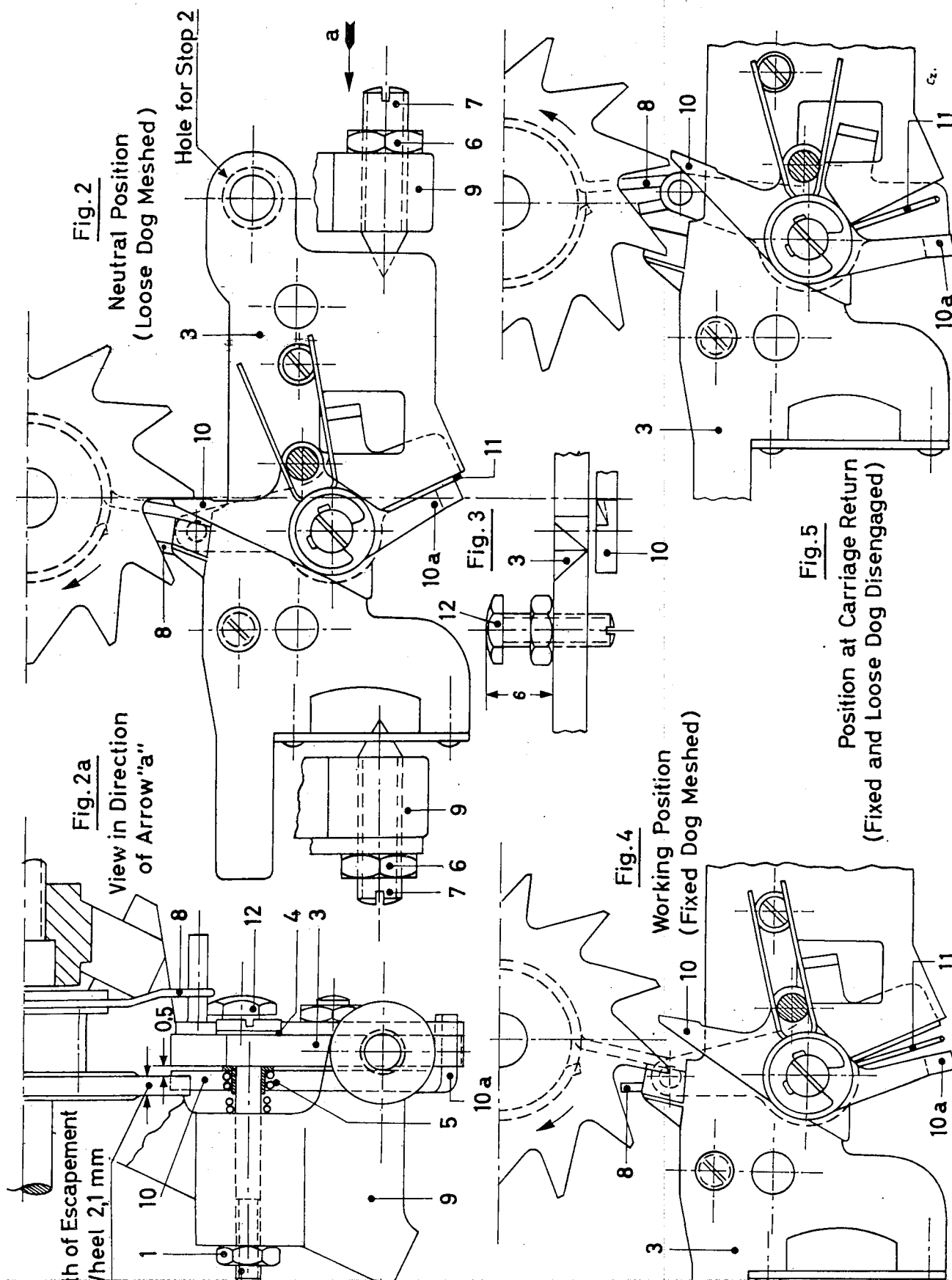
Mount parts in inverted sequence.

Adjustment:

- 1) Adjust escapement body (3) without perceptible play by adjusting bearing screws (7) in such a way that the loose dog (10) fully rests against the face of the tooth of the escapement wheel and that the offset end (10a) firmly presses damping spring (11) against the stop face of escapement body (3) - see fig. 2.
- 2) Adjust trip release by means of set screw (12) of escapement body (3) - see fig., release S.M. 400-1.
- 3) Set clearance between escapement wheel and escapement body (3) to 0.5 mm (fig. 2a) by adjustment of stop (2).

Fig. 1





ADLER
special

Dismounting and Mounting of
the Loose Dog

S.M. 332-3

Dismount the escapement body (s. S.M. 332-1a).

Dismounting:

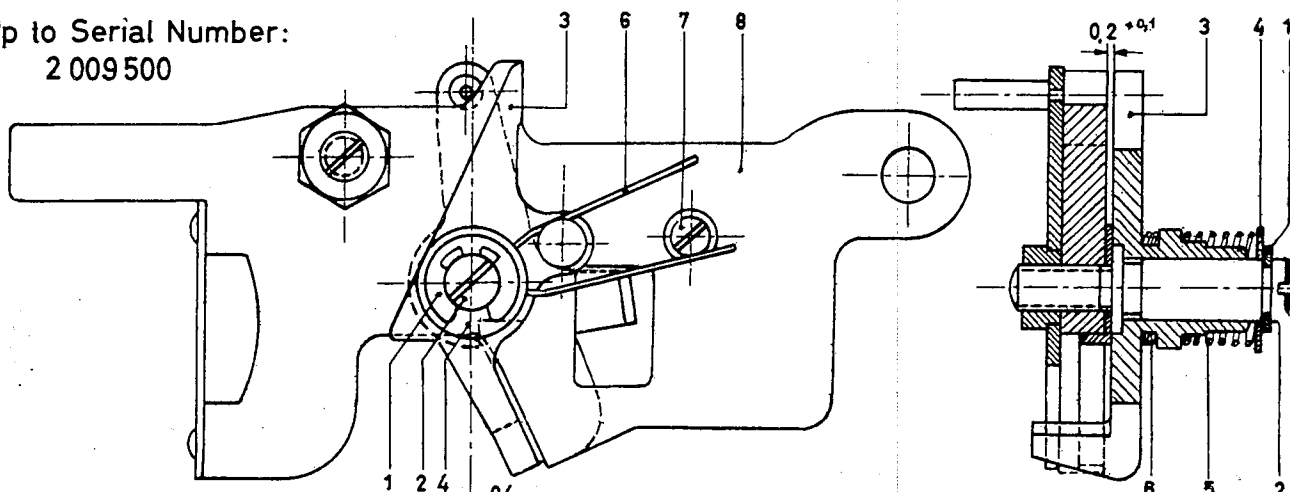
Press off circlip (1) from guide pin (2) and remove loose dog (3) with washer (4), pressure spring (5) and torsion spring (6).

Mounting:

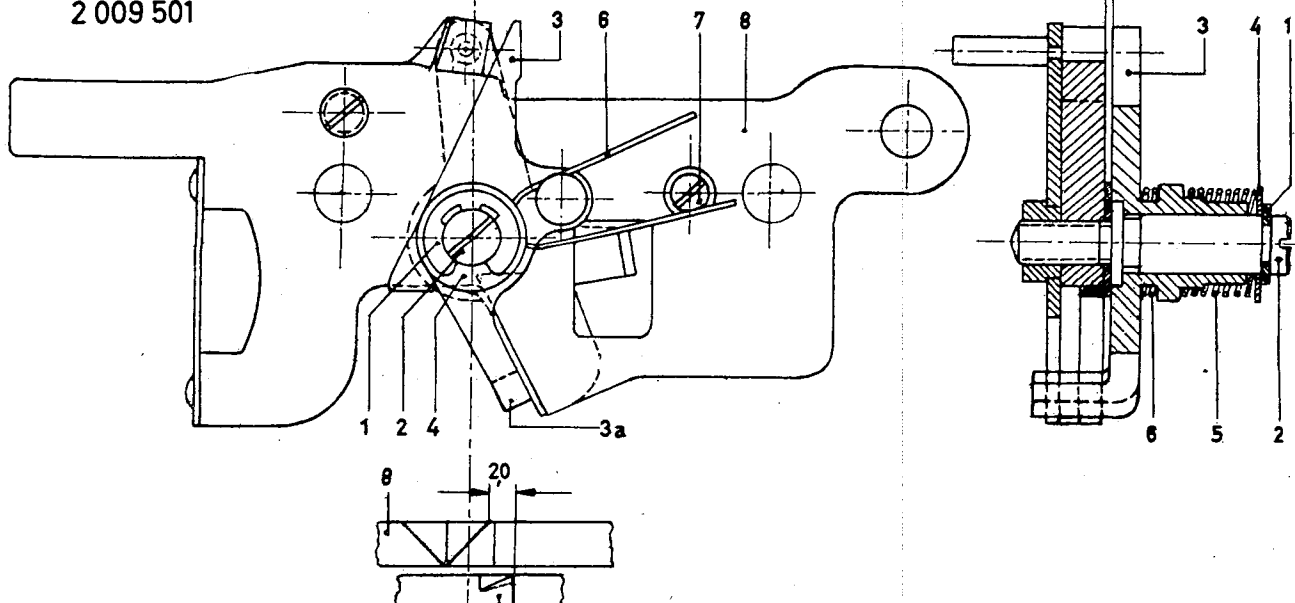
Mount parts in inverted sequence.

Note: When mounting see that stop (7) is placed between the arms of torsion spring (6).

Up to Serial Number:
2 009 500



From Serial Number:
2 009 501



ADLER special	Dismounting and Mounting of the Back Space Pawl	S.M. 341-1
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Remove carriage from the machine (s. S.M. 100-1a).

Remove base plate (s. S.M. 200-1a, 200-1b, par. 4 and 5).

Dismount escapement frame (s. S.M. 331-1).

Dismounting:

a) Up to serial No. 2020000 - see fig. 1

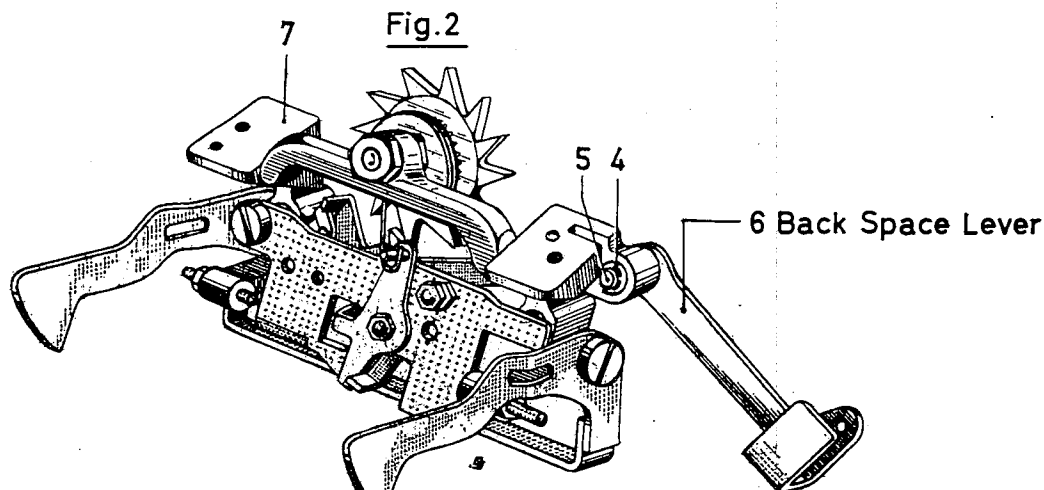
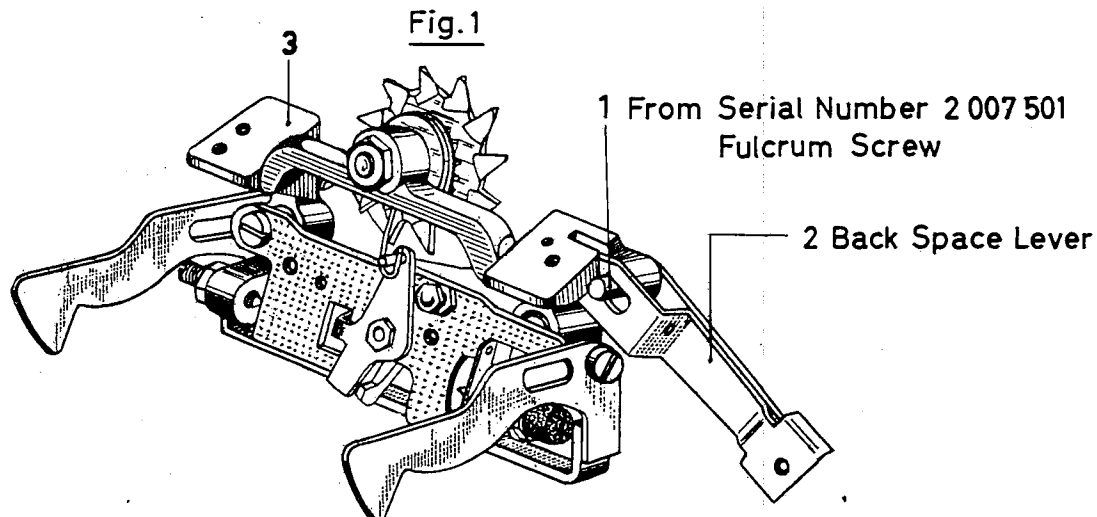
- 1) Knock straight pin (1) out of hole.
- 2) Remove back space pawl (2) from escapement frame (3).

b) From serial No. 2020001 - see fig. 2

- 1) Slip off circlip (4) from bearing bolt (5).
- 2) Remove back space pawl (6) with bearing bolt (5) from escapement frame (7).

Mounting:

Mount parts in inverted sequence.



Remove carriage from the machine (s. S.M. 100-1a).
Dismount inner main frame (s. S.M. 200-1a, 1b, 1c).

Dismounting:

a) Tab release (fig. 1)

- 1) Unhook tension spring (1) at "x".
- 2) Unscrew shoulder screw (2).
- 3) Remove tab key lever (3) and unhook wire connection (4).
- 4) Unhook wire connection (4) from toggle link (5).
- 5) Loosen cup point set screws (6 and 7).
- 6) Unscrew cylinder head screws (8 and 9).
- 7) Slightly lift forward brake (10), with axle (11), brackets (12 and 13) and toggle link (5). Remove brake (10) and bracket (12) to the left, toggle link (5) and bracket (13) to the right of axle (11).

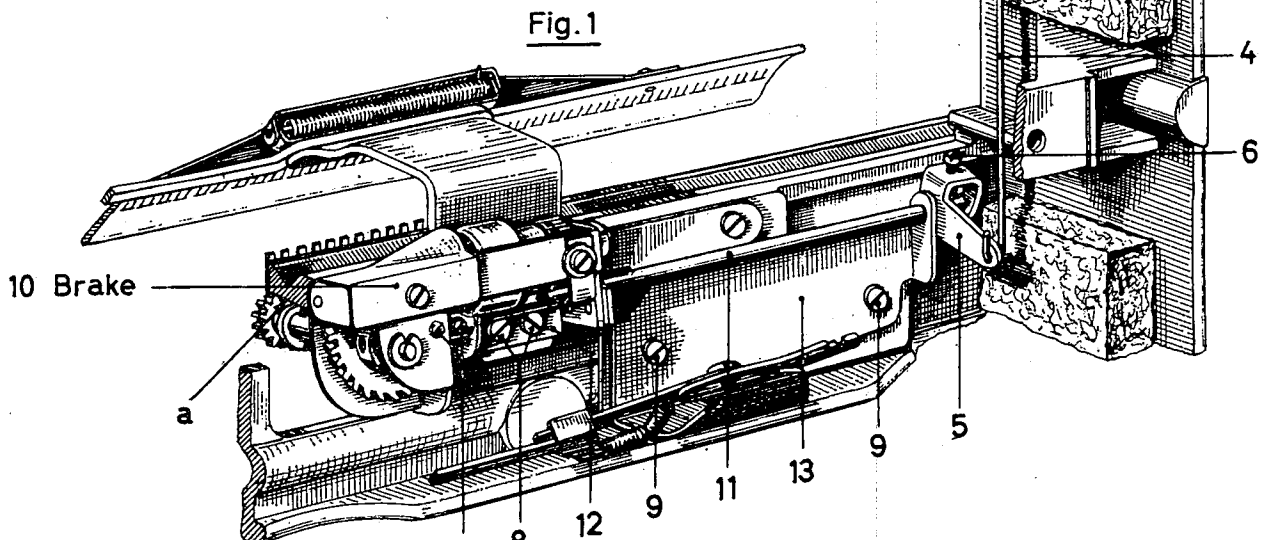
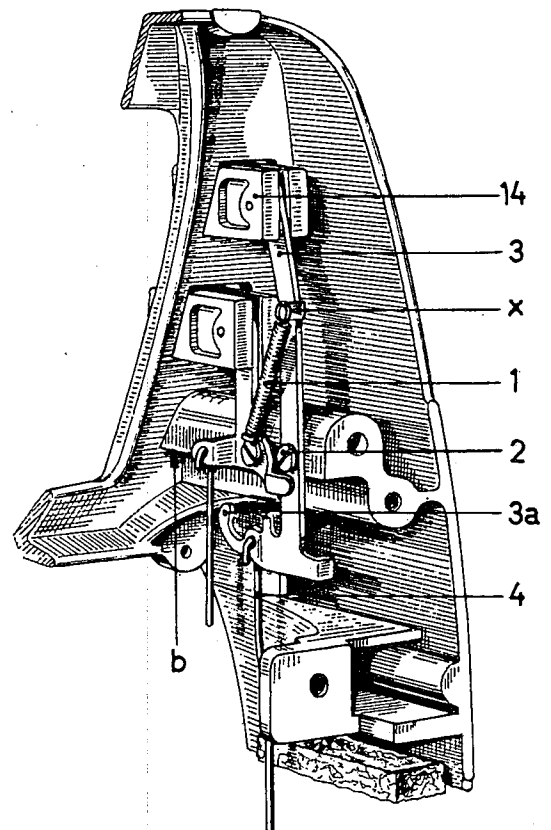
b) Brake (fig. 1)

(Can be dismounted independently from a).

- 1) Loosen cup point set screws (7).
- 2) Unscrew fillister head screws (8 and 9).
- 3) Slightly lift forward brake (10) with axle (11), brackets (12 and 13) and toggle link (5). Remove brake (10) and bracket (12) toward the left of axle (11).

Mounting:

Mount in inverted sequence.

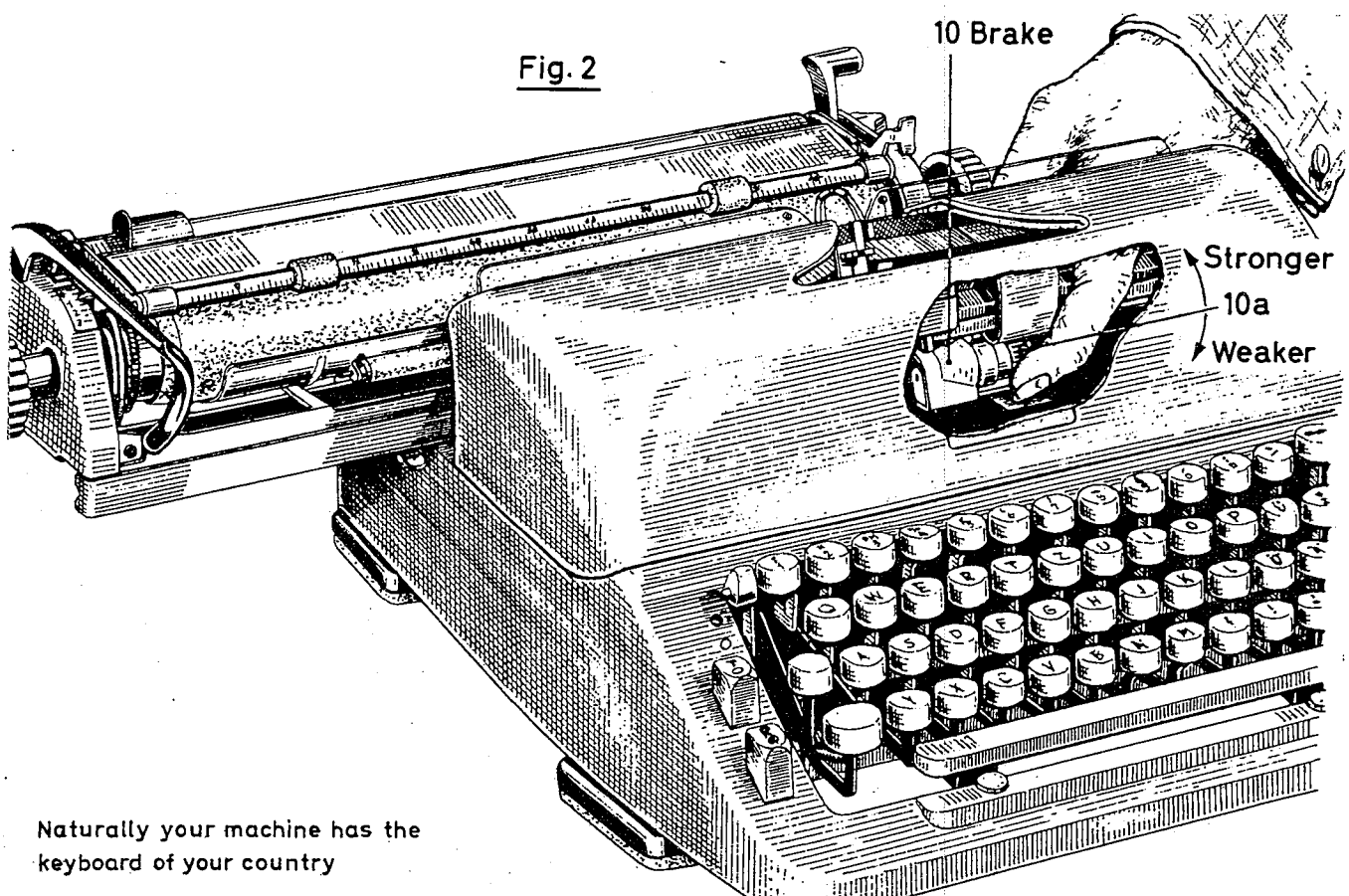


Adjustment (fig. 1)

- Re: a) 1) Tighten cup point set screw (6) of toggle link (5) on the flat side of shaft (11). Set brake (10) against surface "a" of the outer frame and tighten cup point set screws (7) while tab key lever (3) is in neutral position. See that the brake does not obstruct the locking rocker (s. S.M. 321-1, part 9).
- 2) If the brake acts too strongly on the carriage when tab key lever (14) is depressed, bend lug (3a) of tab key lever (3) nearer to stop face (b) of the outer frame.
- 3) If the carriage is not released bend lug (3a) farther away from stop face "b".
- Re: b) Set brake (10) against surface "a" of the outer frame and tighten cup point set screws (7) while tab key lever (3) is in neutral position. See that the brake does not obstruct the locking rocker (s. S.M. 321-1, part 9).

Adjustment of the braking power (fig. 2)

Slide the carriage to the left carriage stop. Insert index finger between carriage rail and inner main frame and adjust braking power as desired by turning adjusting nut (10a) clockwise or anticlockwise.



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keyboard of your country

Dismount the brake (S.M. 351-1a, par. b)

Dismounting

a) Brake drum (9) - fig. 1 to 3
(Can be dismounted independently from b)

- 1) Unscrew fillister head screw (1) and remove cover (2) - see fig. 2.
- 2) Loosen hexagon nut (3) and unscrew bearing screw (4) with hexagon nut (3) and ball (5), removing at the same time worm shaft (6) with adjusting nut (7), brake body (8), and brake drum (9).
- 3) Remove adjusting nut (7) and brake body (8) from worm shaft (6), and be careful not to drop balls (10) - (2 balls).

b) Worm Wheel (17) - fig. 2

Can be dismounted independently from a)

- 1) Loosen threaded pin (11) of set collar (12).
- 2) Loosen threaded pin (13) and withdraw pinion shaft (14) upward from U-bracket (15), at the same time removing sleeve (16) with worm wheel (17), lock washer (18), washer (19) and hexagon nut (20).
- 3) Unscrew hexagon nut (20), and remove washer (19), lock washer (18) and worm wheel (17) from sleeve (16).

Mounting

Mount in inverted sequence.

Adjustment

- Re: a) 1) Turn in bearing screw (4) so as to allow worm shaft (6) to run smoothly without perceptible axial play, and secure with hexagon nut (3).
- 2) Turn adjusting nut (7) up to the stop in direction of arrow "x" (see fig. 1).
 - 3) Turn pinion shaft (14) by hand with worm shaft (6) in vertical position (bearing screw (4) on top) and test whether brake body (8) lifted by the centrifugal force of balls (10) does not run against adjusting nut (7), which means that it should have a clearance of appr. 0.2 mm (= .0079"). If necessary adjust brake drum (9) accordingly on worm shaft (6) - see fig. 1.

Re: b) Tighten threaded pin (13) on surface "a" of pinion shaft (14) in such a way as to allow the smooth running of pinion shaft (14) with little axial play (see fig. 2)

Fig.1 (Section A-B)

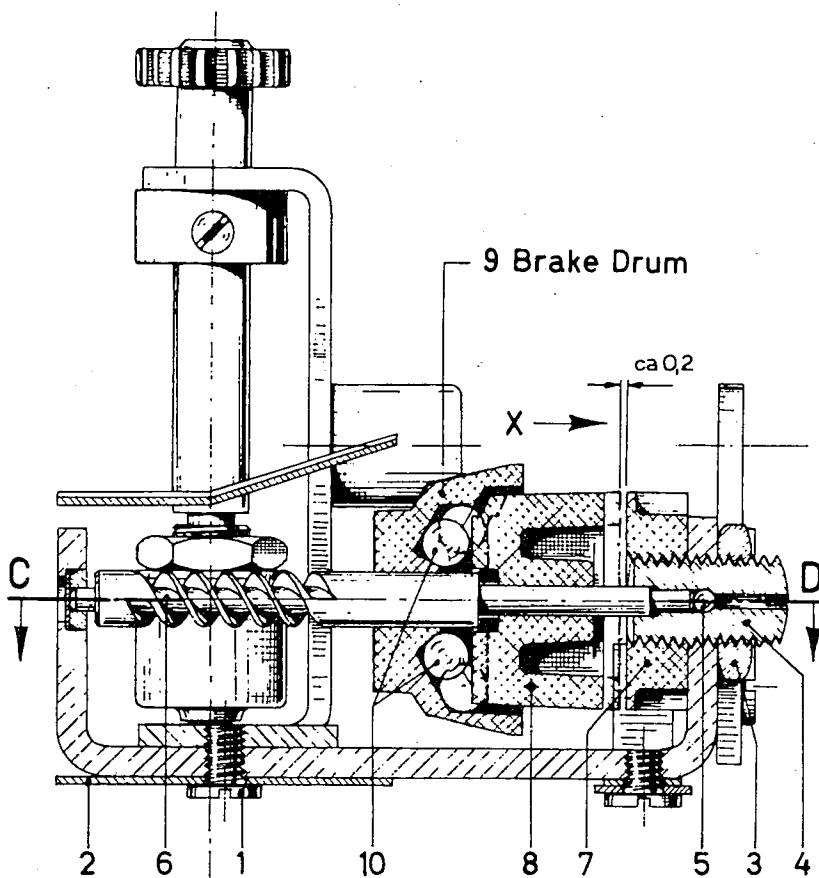


Fig.2 (Section E-F)

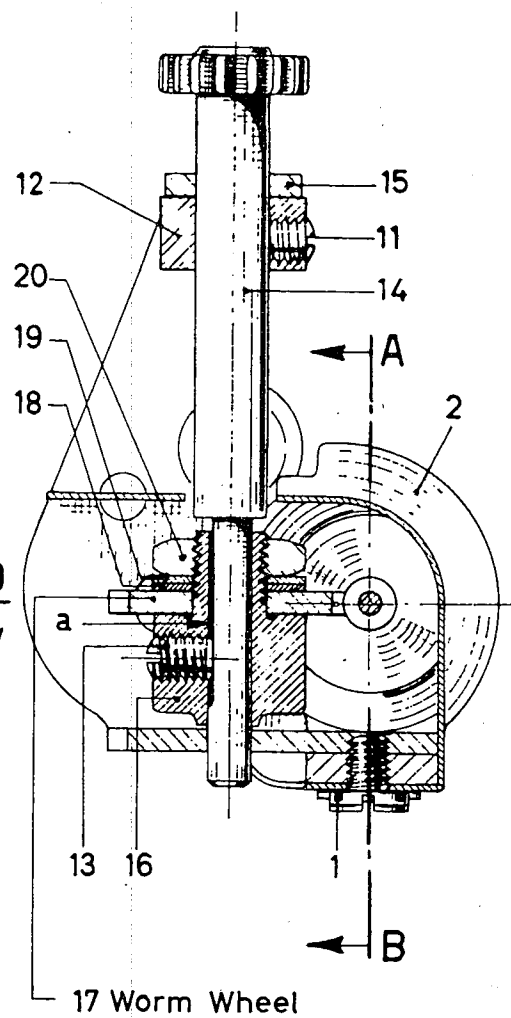
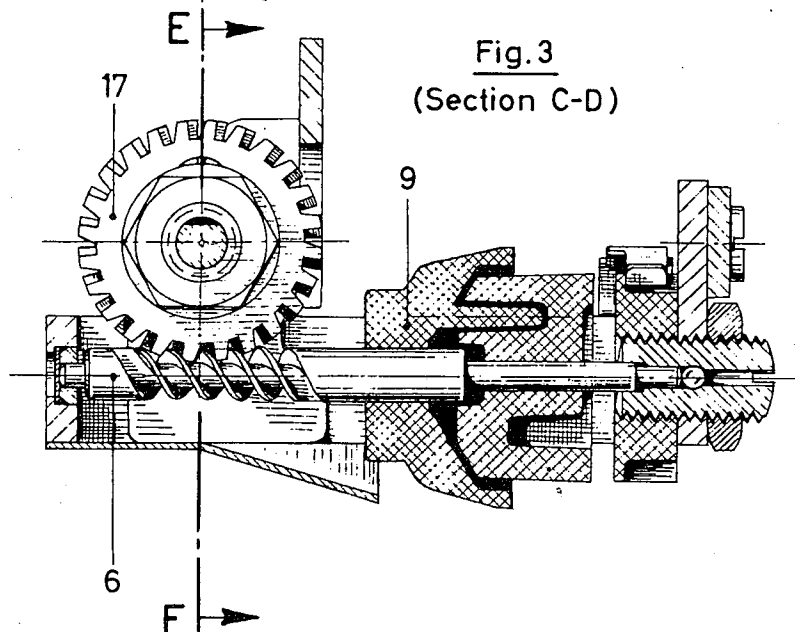


Fig.3
(Section C-D)



**ADLER
special**

Dismounting and Mounting of
the Margin Release

S.M. 362-1

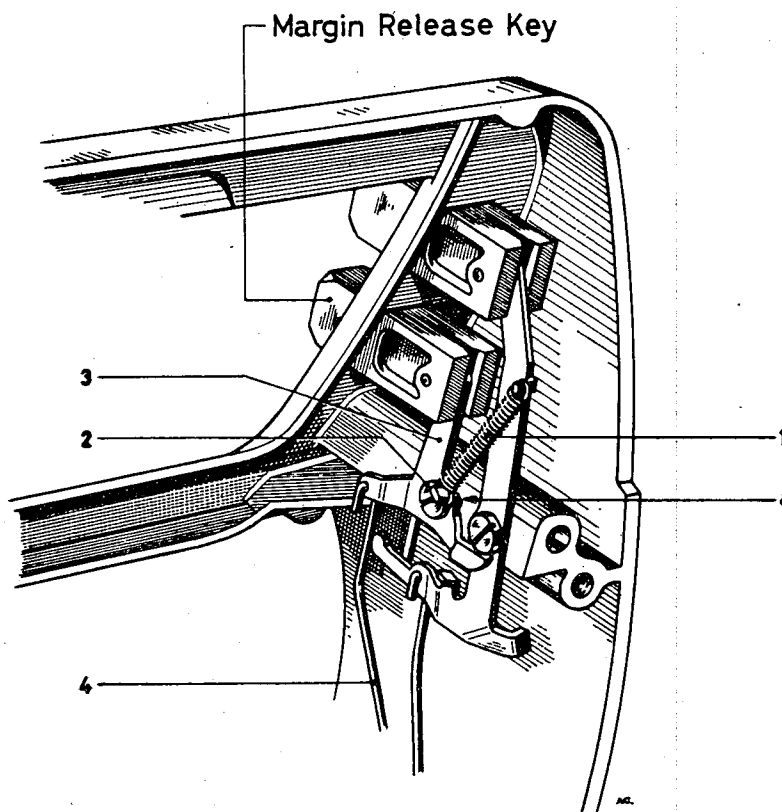
Dismount inner main frame (s. S.M. 200-1a, 1b, 1c).

Dismounting:

- 1) Unhook tension spring (1) at "a".
- 2) Unscrew shoulder screw (2).
- 3) Remove margin release key lever (3) and unhook wire connection (4).

Mounting:

Mount parts in inverted sequence.



ADLER special	Dismounting and Mounting of the Tab Clear Lever	S.M. 371-1
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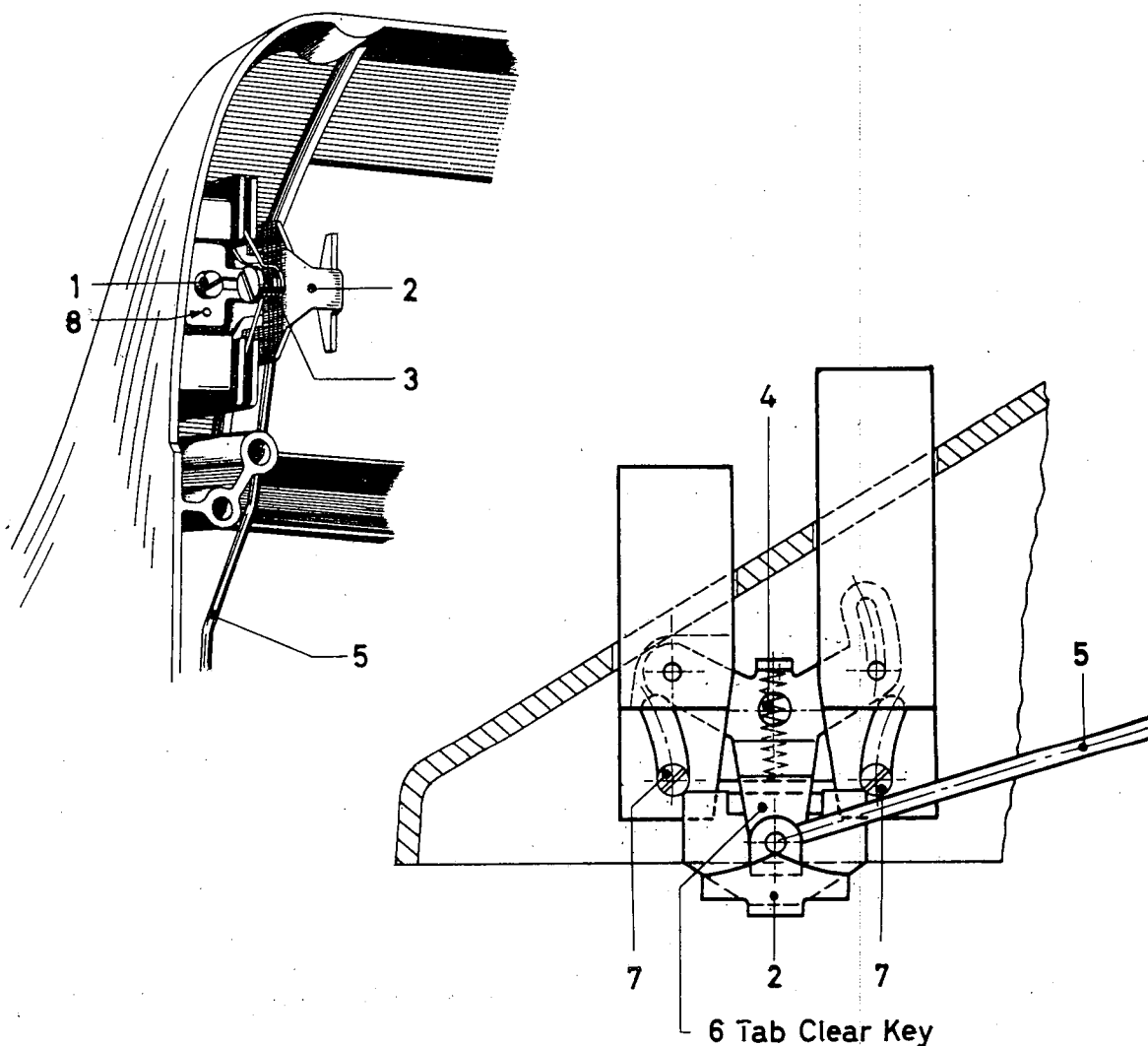
Dismount the inner main frame (s. S.M. 200-1a, 1b, 1c).

Dismounting:

- 1) Unscrew fillister head screw (1) and lift spring plate (2) with torsion spring (3) and pressure spring (4) off fitting pin (8).
- 2) Remove wire connection (5) from tab stop frame (s. S.M. 311-1).
- 3) Remove wire connection (5) from clear lever (6) toward the left.
- 4) Unscrew shaft screws (7) and remove clear lever (6) from frame.

Mounting:

Mount in inverted sequence.



**ADLER
special**

Interchange and Adjustment of
the Line Finders

S.M. 381-1a

Remove the carriage from the machine (s. S.M. 100-1a).

Remove base plate (s. S.M. 200-1a, 200-1b, par. 4 and 5, only up to serial No. 2168550).

Dismounting:

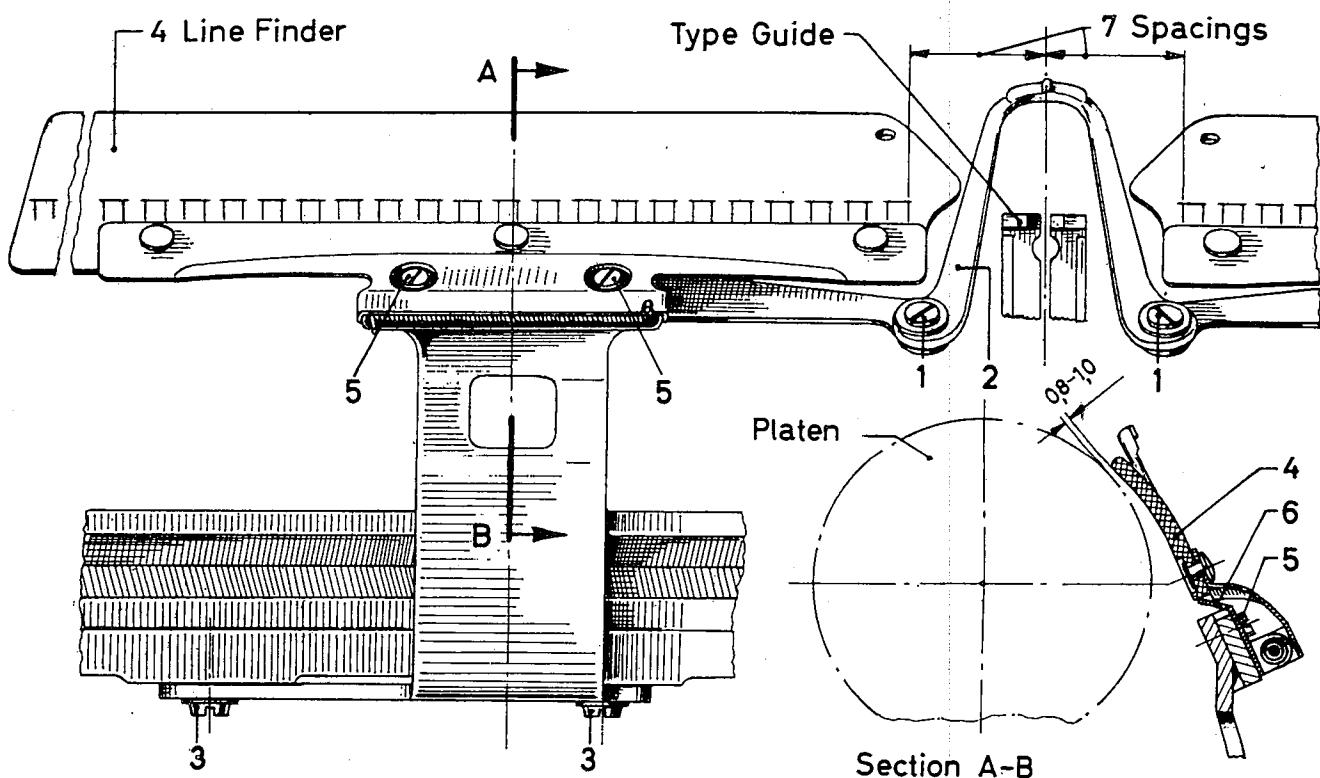
- 1) Unscrew fillister head screws (1) and remove card holder (2).
- 2) Place machine on back side and unscrew fillister head screws (3) on the left and right line finder (4) and remove latters.

Mounting:

Mount parts in inverted sequence. Screw on card holder AFTER the adjustment of the line finders.

Adjustment:

- 1) mount the carriage, insert a sheet of paper, and type one row of "M"s.
- 2) Loosen fillister head screws (5) and adjust the longitudinal lines of the line finders (4) to the bottom edge of letters "M".
- 3) Loosen fillister head screws (3) and adjust the graduation of line finders (4) exactly to the centers of the letters "M". Distance from the first graduation to the center of the type guide = 7 graduations.
- 4) Screw on card holder (2).
- 5) The normal distance between the line finders and the platen is 0.8-1.0 mm. Bend stop lugs (6) of the line finders accordingly.



**ADLER
special**

Interchange and Adjustment
of the Main Spring Drum

S.M. 381-2

Remove carriage from the machine (s. S.M. 100-1a).

Remove base plate (s. S.M. 200-1a, 200-1b, par. 4 and 5, only up to serial No. 2168550).

Dismount wire bow for line lock (s. S.M. 321-1 par. 1 to 6).

Dismounting:

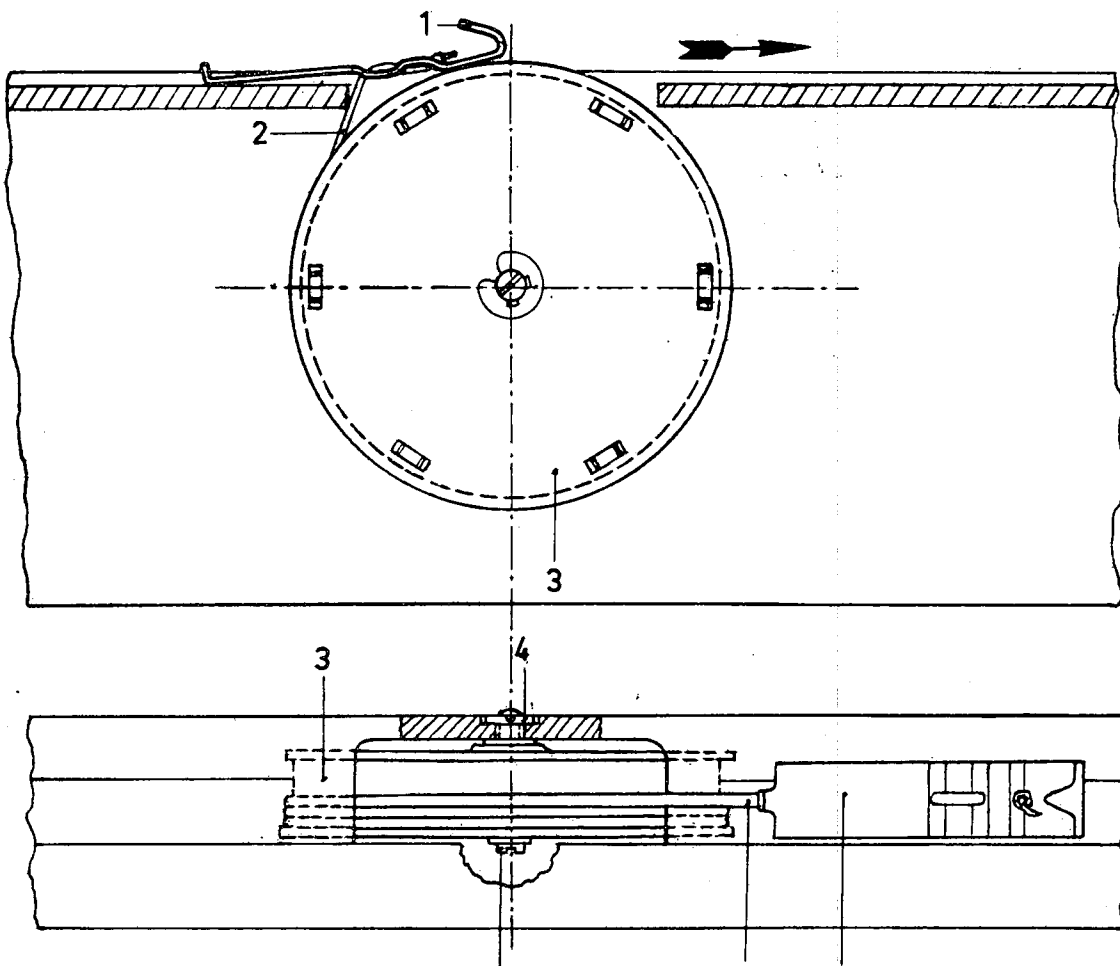
- 1) Draw out eyelet (1) with draw cord (2) all the way in the direction of the arrow.
- 2) Hold fast main spring drum (3), remove the draw cord from the slot of the main spring drum, then release main spring drum.
- 3) Loosen slotted circular nut (4) on the rear wall of the outer frame and unscrew axle (5) of main spring drum from the rear wall of the outer frame.

Mounting:

Mount parts in inverted sequence.

Adjustment of the main spring

Set left side of machine on a support of 7 cm height. In this position the carriage should run freely to the 50th graduation of the paper bail. This corresponds to 6 - 7 turns of the main spring drum. (Tension about 750 gr.).



**-ADLER
special**

Interchange and Adjustment
of the Main Spring Drum

S.M. 381-2a

Remove carriage from the machine (see S.M. 100-1a).

Remove base plate (see S.M. 200-1a, par. 4 and 5 up to serial No. 2168550).

Dismount wire bow for line lock (see S.M. 321-1, par 1 to 6).

Dismounting:

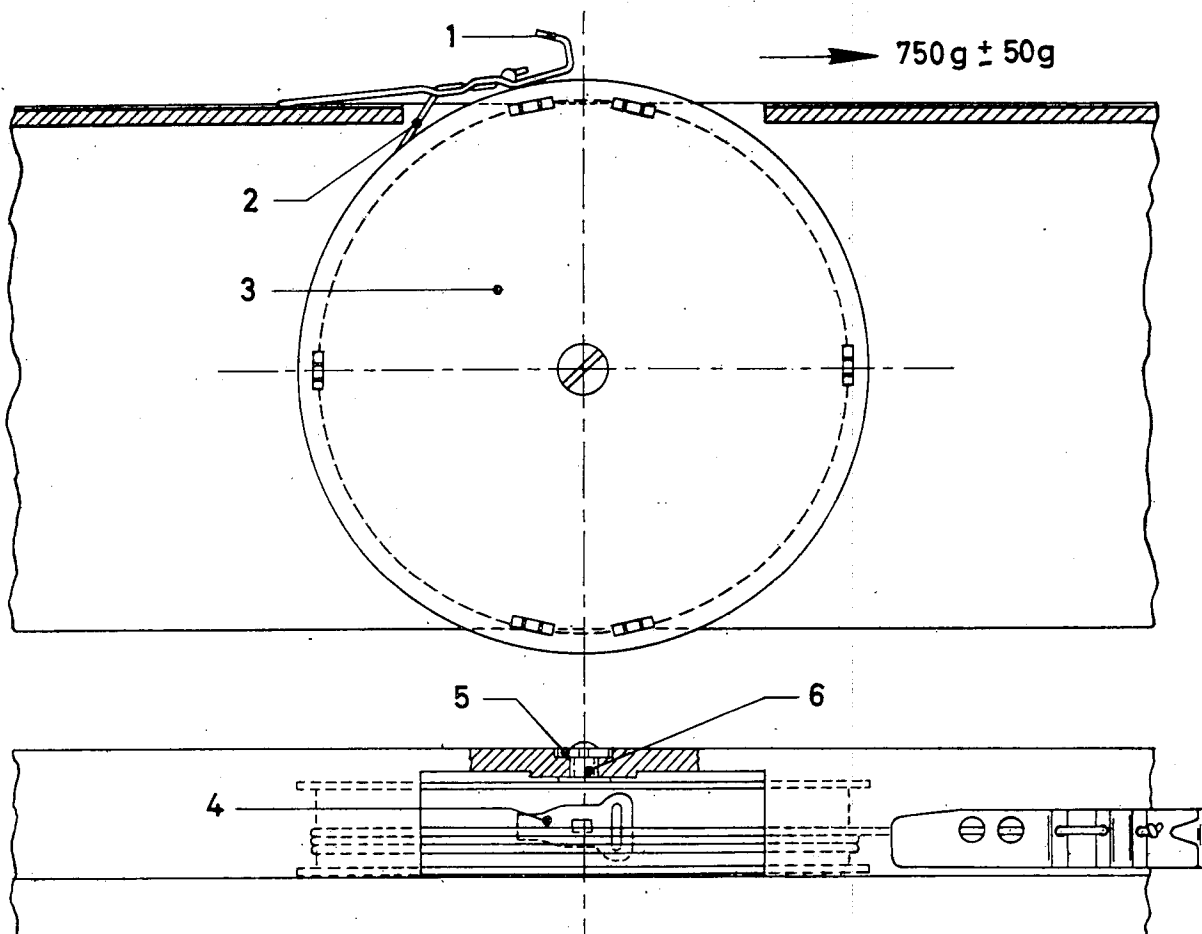
- 1) Draw out eyelet (1) with draw cord (2) all the way in the direction of the arrow.
- 2) Hold fast main spring drum (3), remove the draw cord from the slot of the main spring drum, then release main spring drum.
- 3) Loosen slotted nut (5) on the rear wall of the outer frame and unscrew axle (6) with main spring drum from rear wall of the outer frame.

Mounting:

Mount parts in inverted sequence.

Adjustment of the main spring:

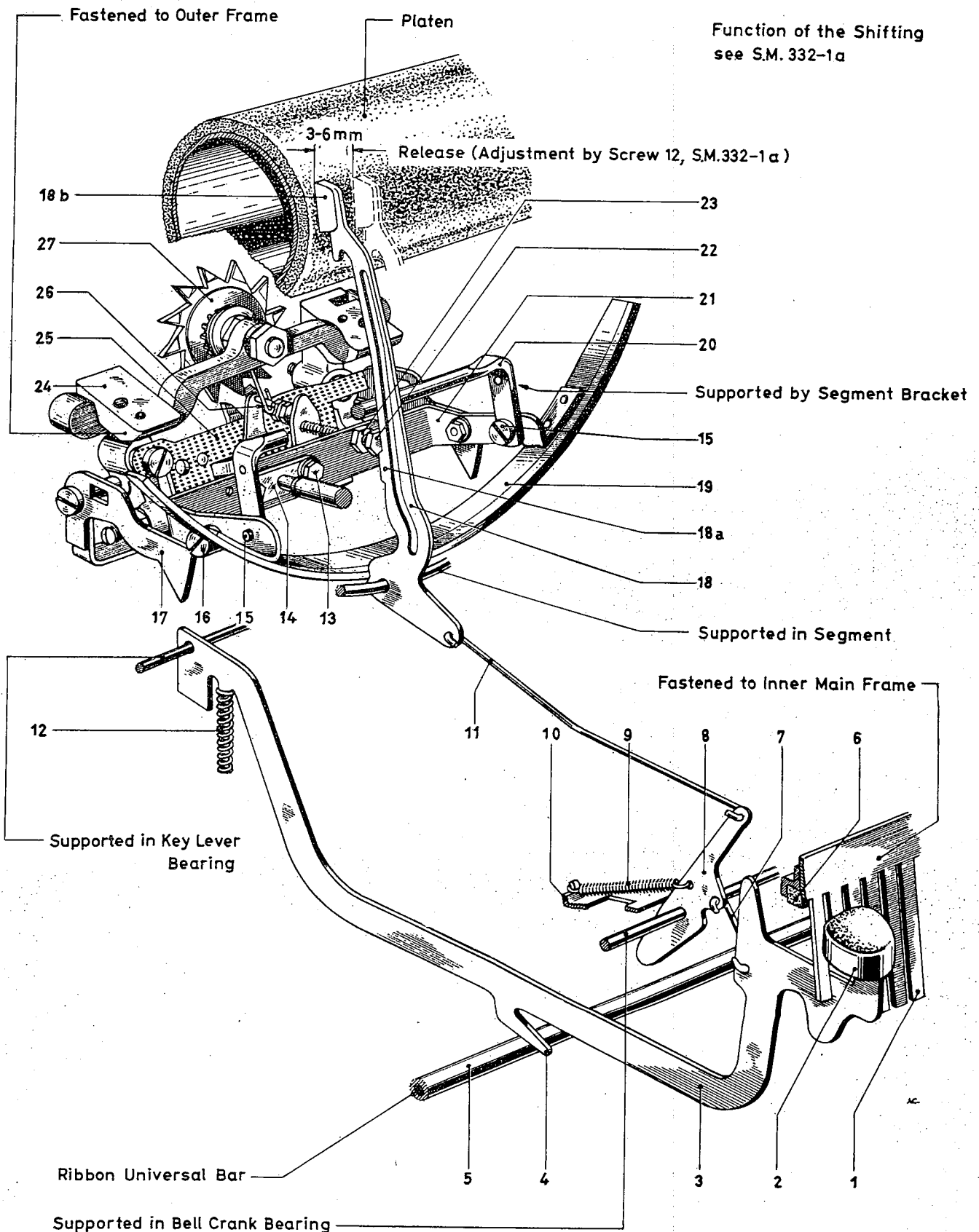
Set left side of machine on a support of 7 cm height. In this position the carriage should run freely to the 50th graduation of the paper bail. This corresponds to 3 - 4 turns of the main spring drum.



**ADLER
special**

Key Lever and Type Bar Mechanism with
Escapement

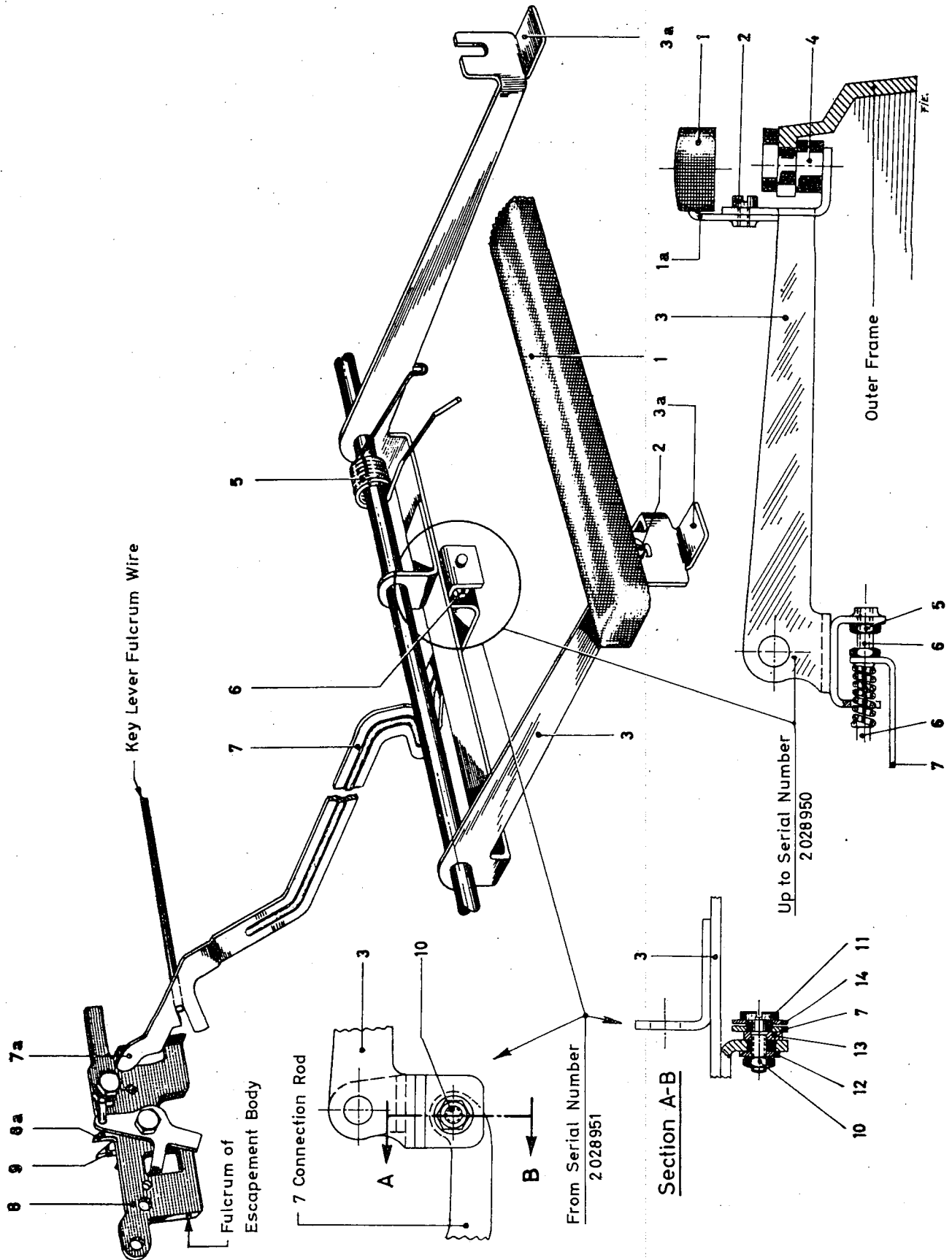
S.M. 400-1



ADLER
special

Space Bar

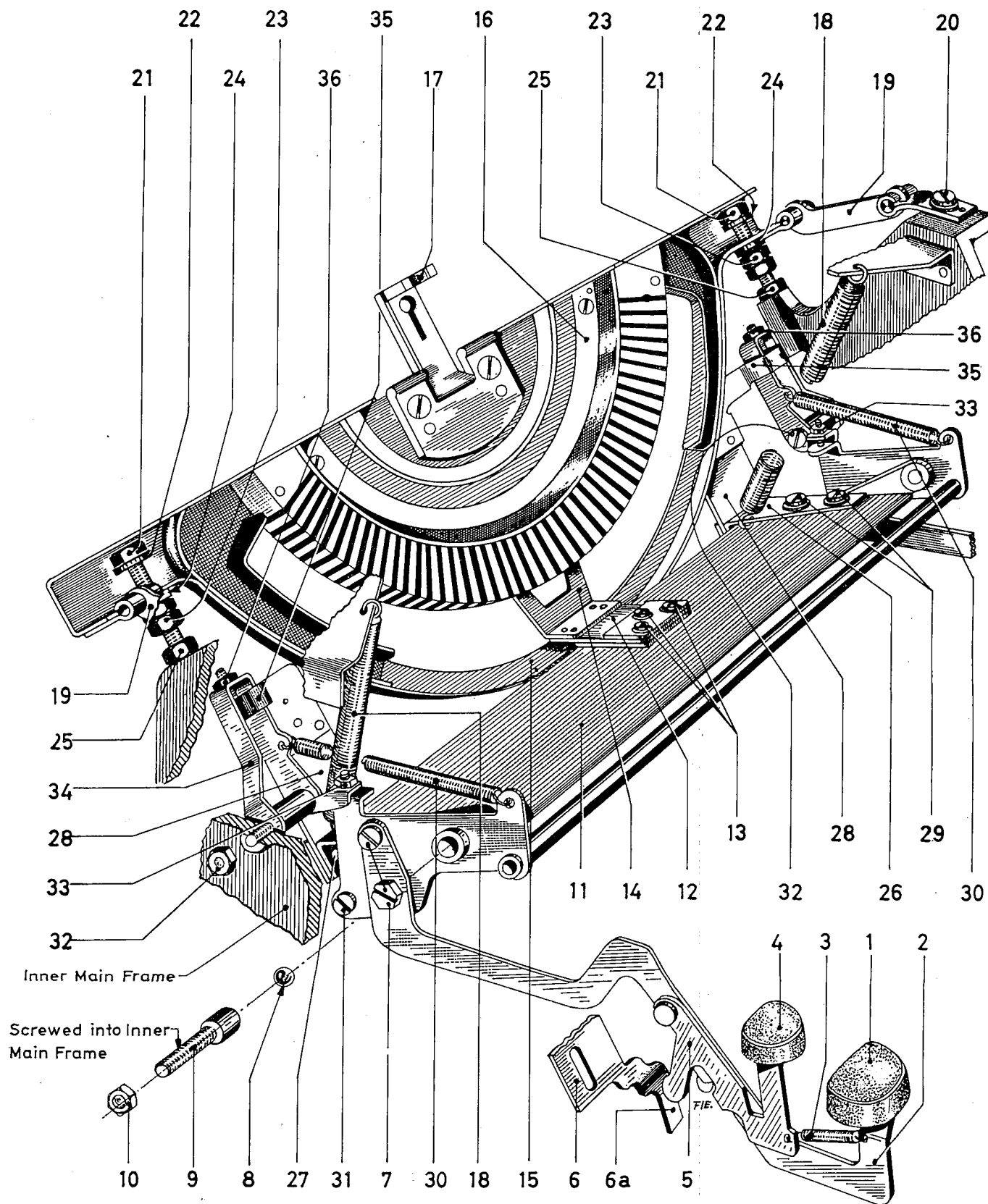
S.M. 400-2



**ADLER
special**

Segment Shift with Lock

S.M. 400-3a,
p. 1



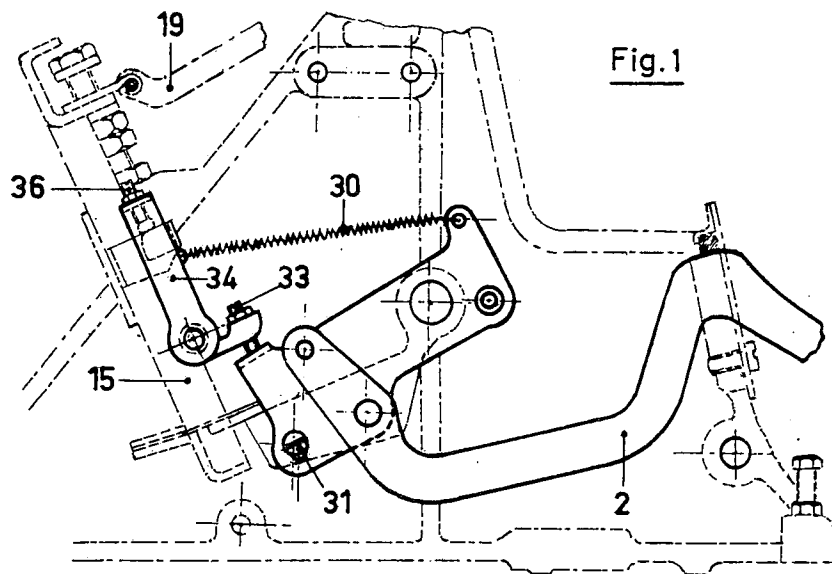


Fig. 1

Segment Bracket Locked
(Neutral Position)

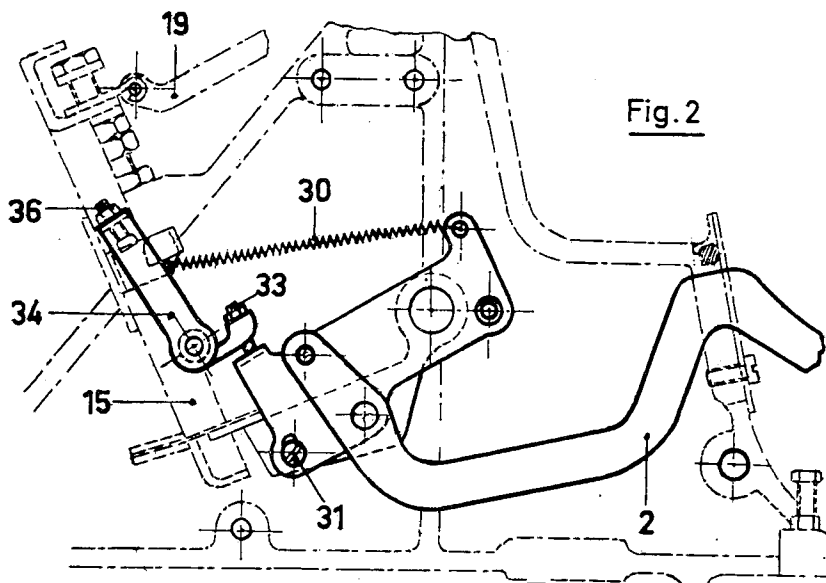


Fig. 2

Segment Bracket Unlocked

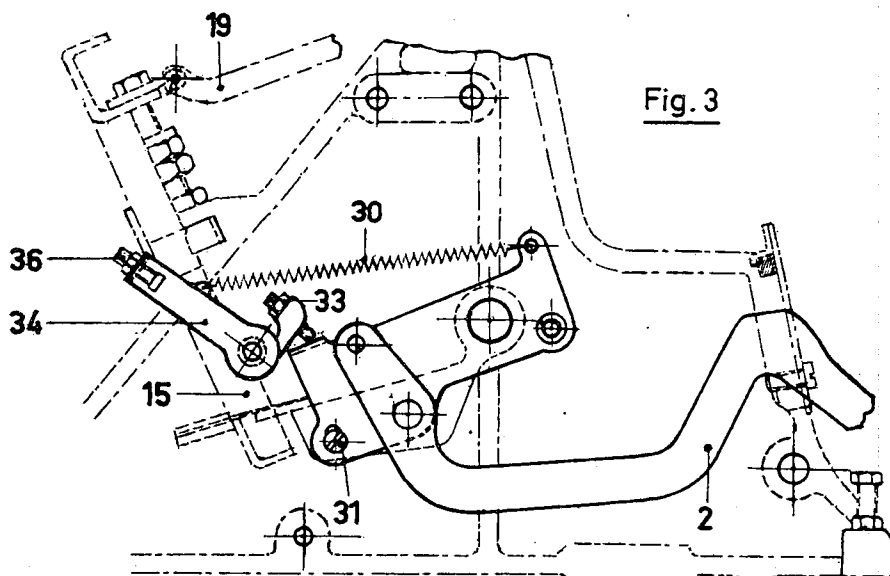


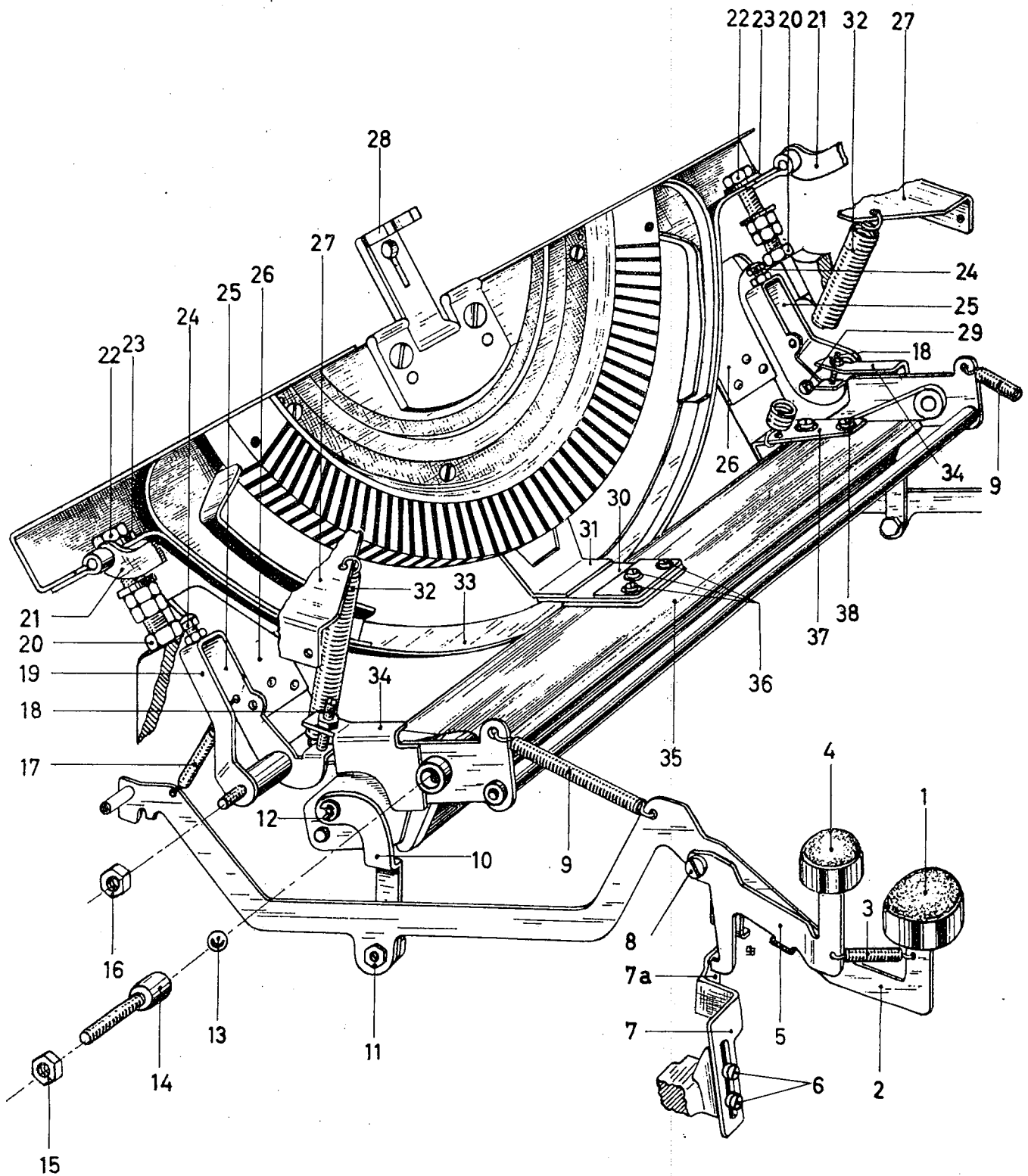
Fig. 3

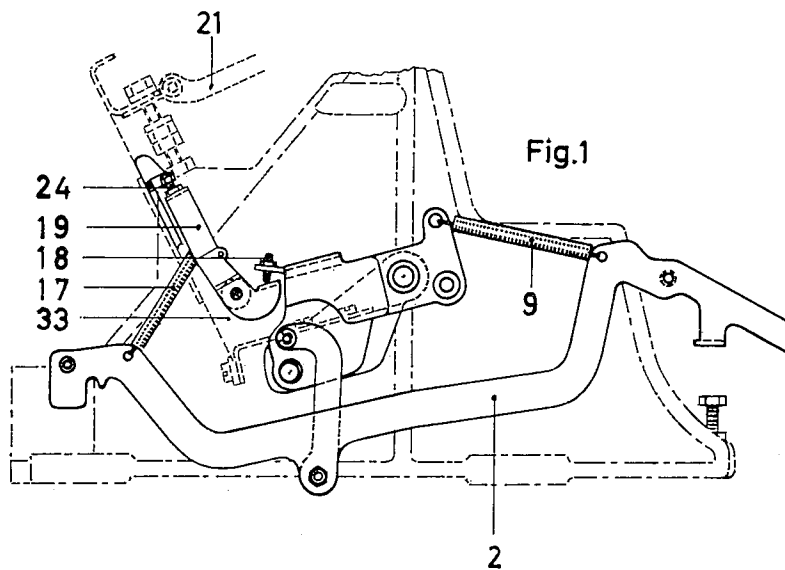
Shifted Position

ADLER
special

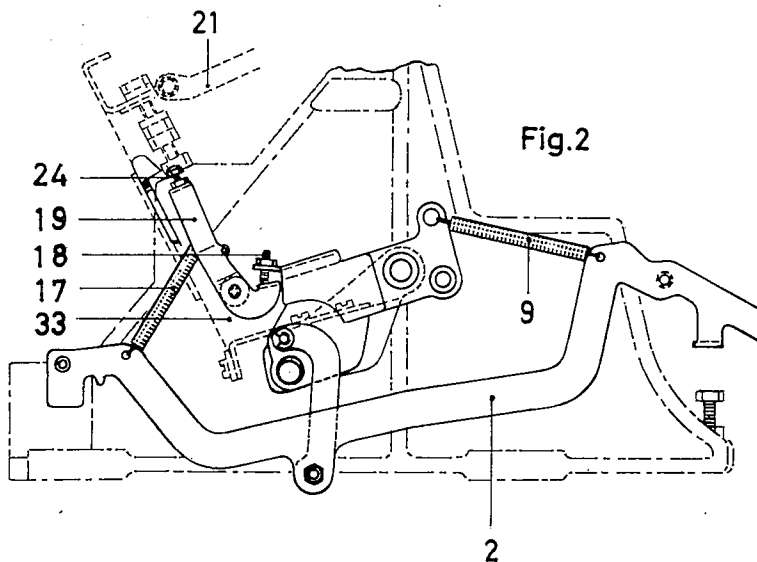
Segment Shift with Locking Device

S.M. 400-3b
p. 1

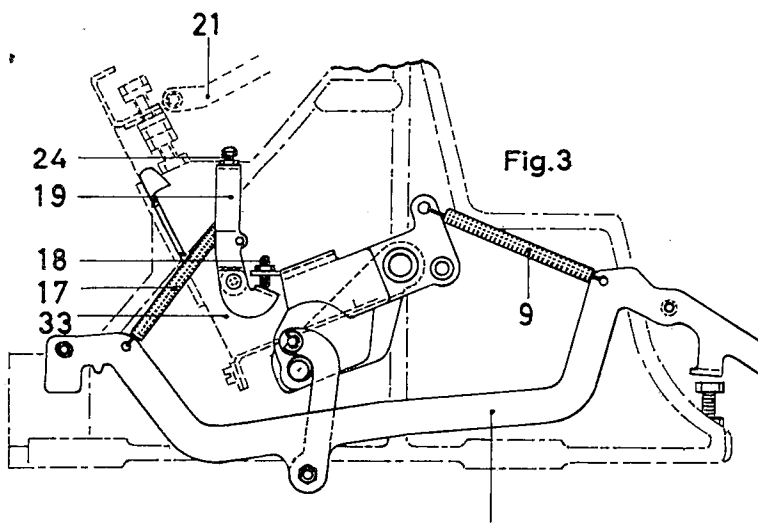




Segment bracket
locked



Segment bracket
released



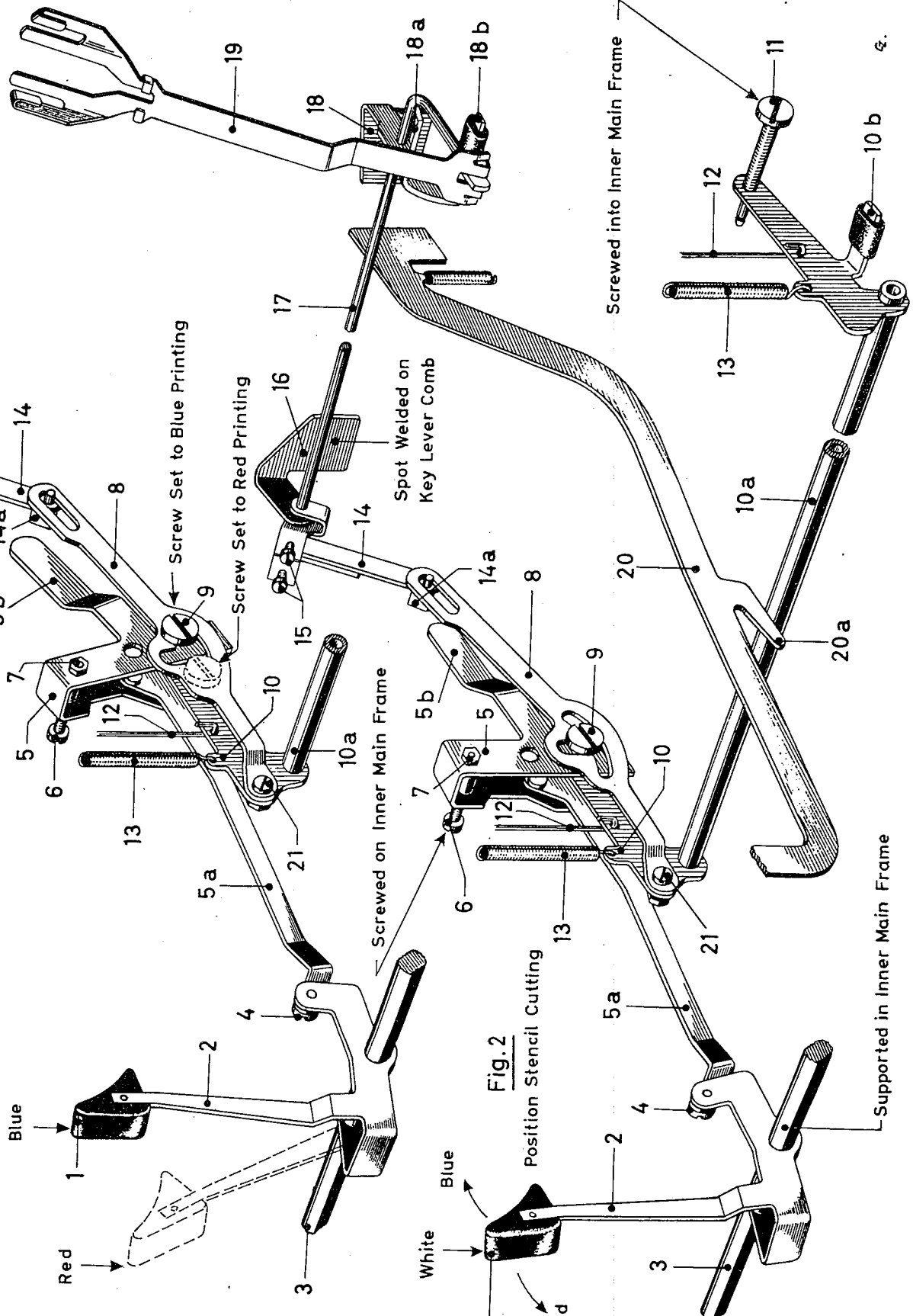
Shifting position

ADLER
special

Ribbon Throw

S.M. 400-4

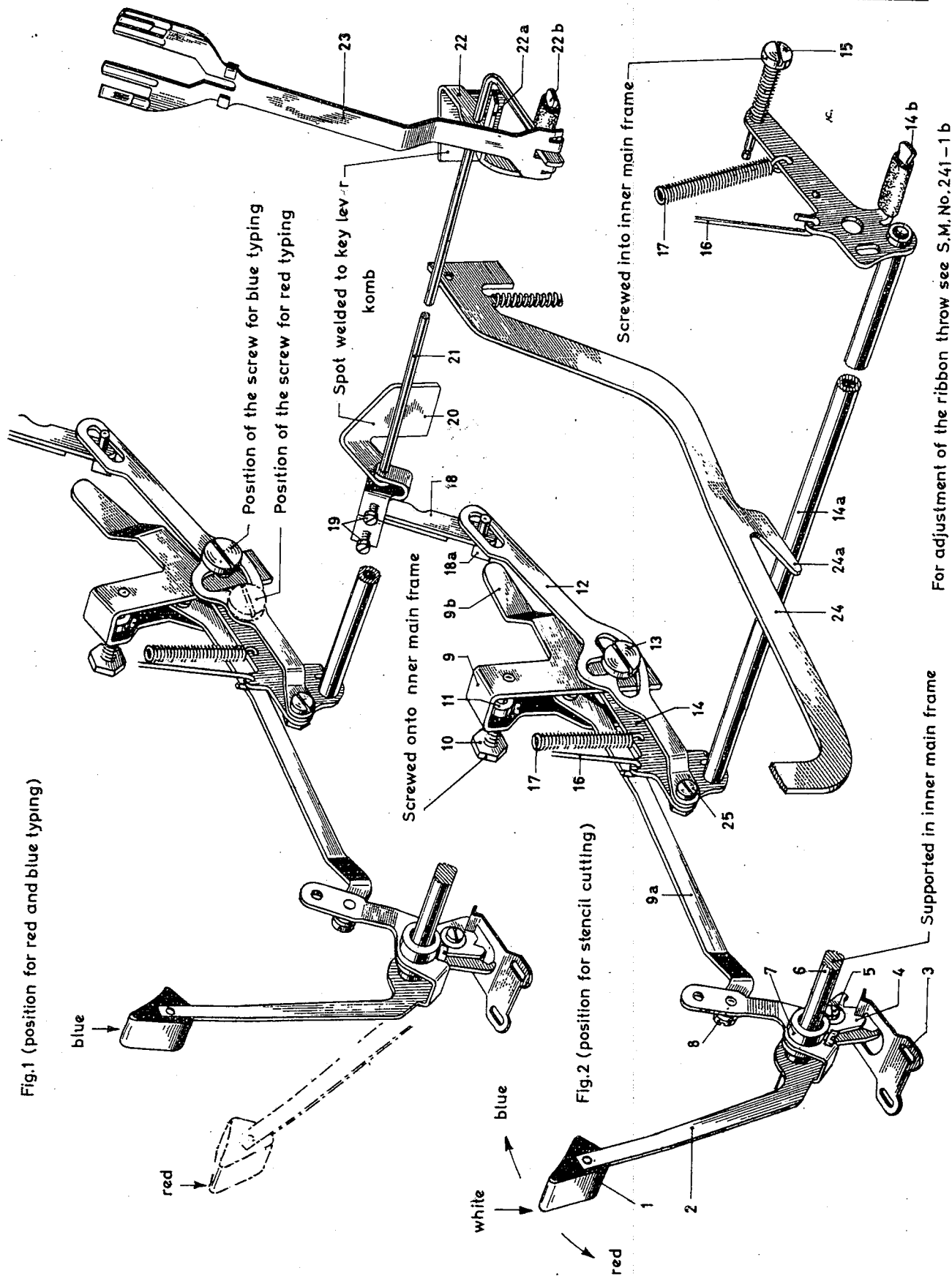
Fig.1 (Position Red and Blue Printing)



**ADLER
special**

Ribbon Throw

S.M. 400-4a



For adjustment of the ribbon throw see S.M. No. 241-1b

**ADLER
special**

Back Spacing

S.M. 400-5

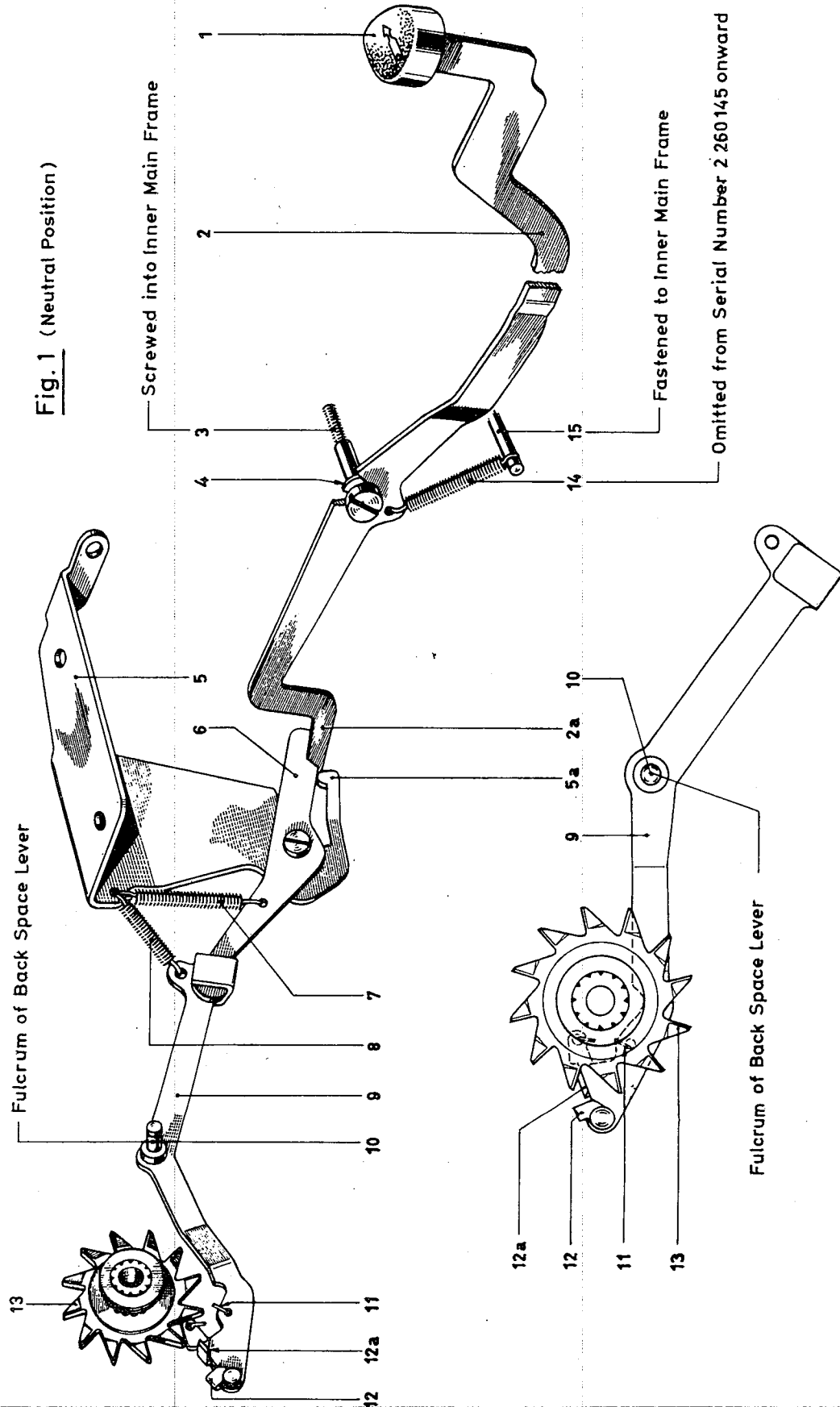
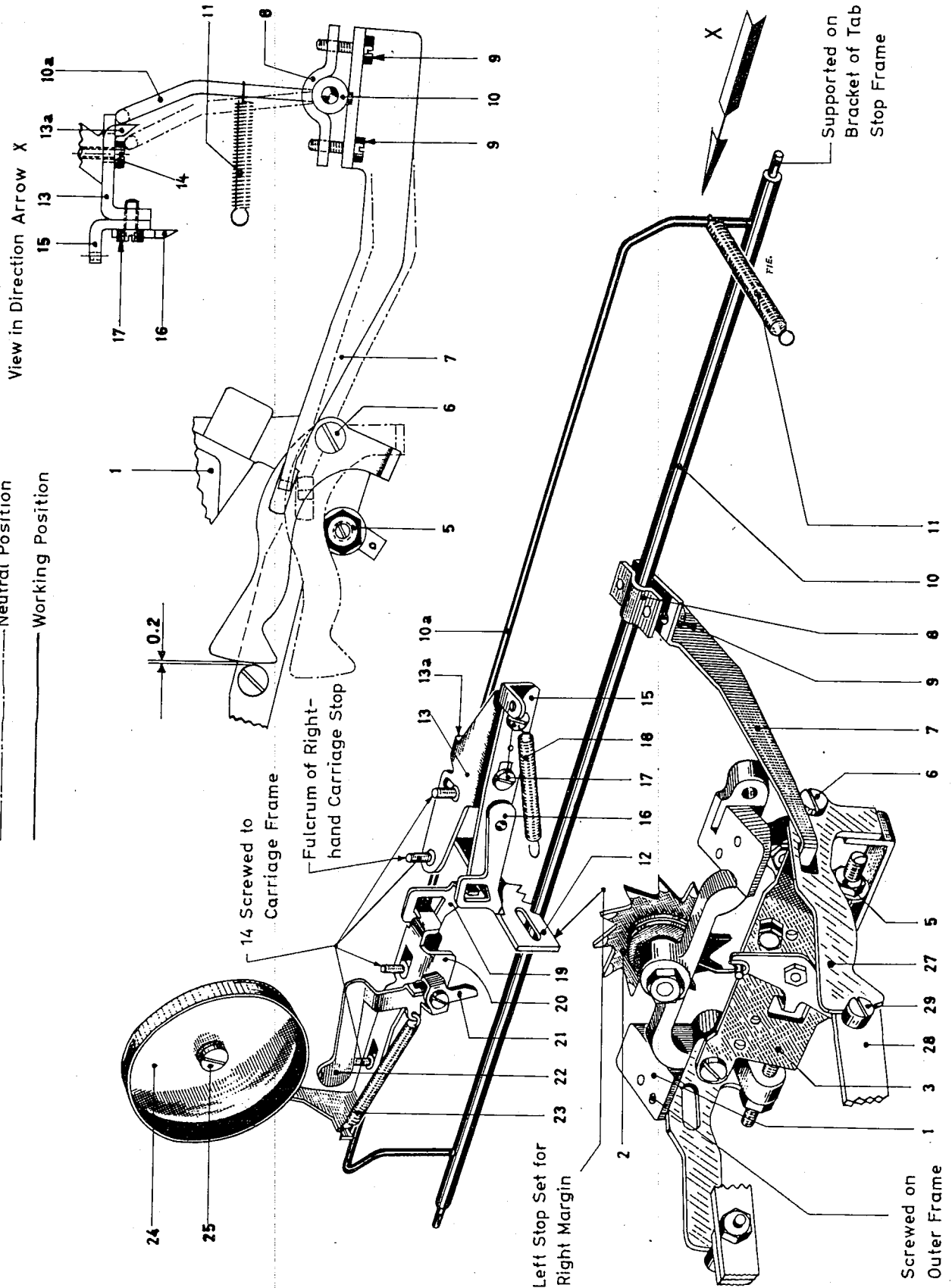


Fig. 2 (Working Position)

ADLER
special

Line Lock Bail

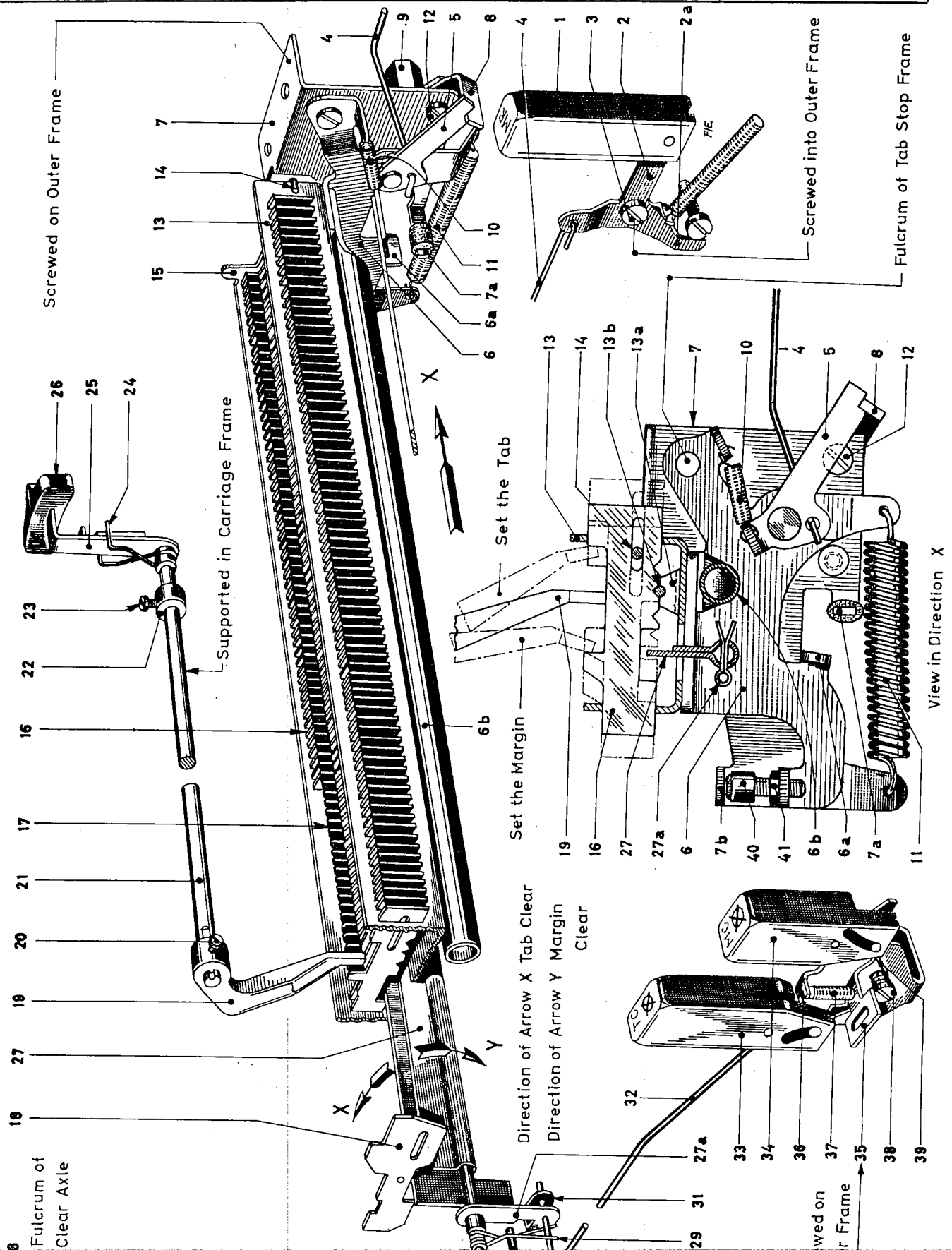
S.M. 400-6



**ADLER
special**

Tab Set, Tab Clear and
Margin Release

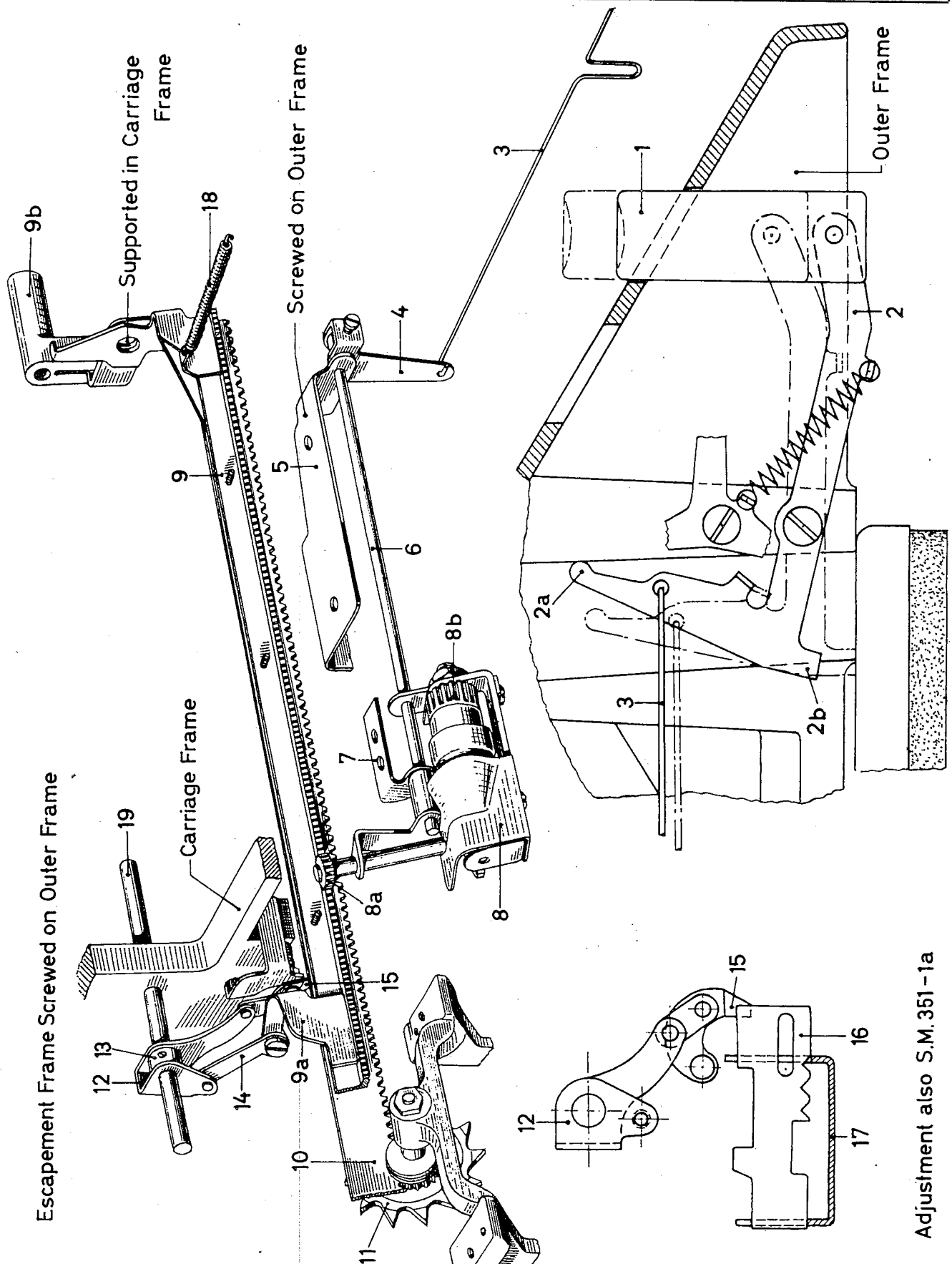
S.M. 400-7



ADLER
special

Tab Release with Brake

S.M. 400-8a



Adjustment also S.M. 351-1a

ADLER special	Faulty Action	S.M. 403-1
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Fault	Cause	Remedy
1) <u>Key Lever and Type Bar Mechanism</u>		
a) Type bars do not strike platen, types in general do not print.	1) Ring and cylinder adjustment wrong or platen is set too far to the rear.	Readjust ring and cylinder by adjusting platen S.M. 501-1, p. 1
b) Individual types do not print.	1) Ring and cylinder adjusted too far.	Hone lug of type bar with oil stone S.M. 400-1
c) Types strike platen on one half only.	1) Platen is not parallel.	Adjust ring and cylinder S.M. 501-1, p. 1
d) Type bars are binding and do not relapse.	1) Type bars are slightly deformed and jam in the type guide.	Fit type bars into type guide.
	2) Segment slots are dirty.	Clean the segment.
e) The trip is not uniformly released by the type bars in relation to each other.	1) Misadjustment of guide plate (9) - S.M. 222-1, p. 2	Adjustment - S.M. 222-1, p. 1, par.2
	2) Arms (6a and 6b) of universal bar rocker (6) are deformed - S.M. 222-1, p. 2	Adjustment - S.M. 222-1, p. 1, par. 3
f) Trip release fails only when segment is shifted.	1) Lug (7a) of universal bar (7) is incorrectly positioned - S.M. 222-1, p. 2	Adjust lug by means of hexagon screw - 13.
2) <u>Segment Shift</u>		
a) Shift jams and works heavily.	1) Shift rocker has too little clearance in the bearing - S.M. 221-2a	Adjustment of shift rocker - S.M. 221-2a
	2) Shift key lever jams in Re-bend shift key lever. the slot of the key lever comb.	
	3) Rocker arms (14) jam	Adjust rocker arms. S.M. 221-2a

ADLER special	Faulty Action	S.M. 403-2
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Fault	Cause	Remedy
b) Shift works too lightly or too heavily.	1) Tension springs (1) are too strong or too weak. S.M. 221-1	Exchange tension springs. Shift should respond to 200 grams.
c) Basic position of shift is incorrect (small letters).	1) Adjustment of hexagon nuts (15) is wrong. S.M. 221-1	Adjustment - S.M. 221-1
d) Shift motion is incorrect (capitals).	1) Adjustment of hexagon screws (12) is wrong. S.M. 221-2a, p. 2	Adjustment - S.M. 221-2a, p. 1, par. a
	2) Pass over is incorrectly adjusted by stop screws (13). S.M. 221-2a, p. 2	Adjustment S.M. 221-2a, p. 1, par. a
3) <u>Carriage Movement</u>		
a) carriage runs roughly.	1) Rack (2) does not fully mesh with pinion (3a) or presses on root of teeth.	Adjustment S.M. 152-1, p. 1
	2) Burr appears on rack.	Remove with oil stone.
	3) Pinion of ball retainer grazes side of ball retainer.	Fit in ball retainer without draw cord after dismounting escapement frame.
b) Carriage does not follow the typing speed.	1) Tension of carriage spring is too weak.	Increase tension of main spring (3) by 1/2 or 1 turn. S.M. 381-2
	2) Trail spring (8) around escapement wheel is too tight. S.M. 332-1a	Slightly bend up arms of trail spring.
c) Carriage return rattles.	1) Trail spring (8) is too loose. Loose dog is not disengaged. S.M. 332-1a, p. 2	Bend arms of trail spring.
4) <u>Carriage release</u>		
A) Carriage is not released.	1) Escapement wheel is not disengaged by loose dog (10). S. M. 332-1a	Adjust angle (10b) resp. (8a) that rack (9) disengages the escapement wheel. S.M. 151-1

ADLER special	Faulty Action	S.M. 403-3
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Fault	Cause	Remedy
5) <u>Trip release</u>		
a) Trip is not re-leased uniformly at small and capital letters.	1) Lug (7a) of universal bar (7) is deformed S.M. 222-1	Adjust lug in such a way that trip is re-leased at equal distance of platen both for small letters and capitals. Do not deform universal bar (7) S.M. 222-1
b) Carriage does not move when keys are hit.	1) Release too late. Loose dog is not released from escapement wheel.	Adjust release - S.M. p. 1 332-1a,
c) Carriage rushes through.	1) Carriage rack jams. Escapement wheel does not mesh.	Make escapement wheel or carriage rack work freely.
6) <u>Variable interliner</u>		
a) Line space ratchet slips.	1) Misadjustment of eccentric screws (17) - S.M. 112-1b	Readjust eccentric screws (17) - S.M. 112-1b
7) <u>Space Bar</u>		
a) Space bar does not release trip.	1) Space bar has too much lost motion.	Adjust set screw (6) in such a way that while pressing down the space bar the escapement is actuated at a distance of 2 to 2.5 mm from rubber buffer (4) - S.M. 400-2
8) <u>Back Spacing</u>		
a) Back spacer fails.	1) Motion of back space lever (2) is too short S.M. 400-5	Adjust lug (2a) of back space lever (2) with bender S.M. 400-5
9) <u>Ribbon Feed</u>		
a) Ribbon feed fails to operate or pauses.	1) Travel of ribbon feed pawl (9) is too short S.M. 231-1	Adjustment - S.M. 231-1, par. 2
b) Ribbon reverse fails to work.	Connection rod (2) is deformed - S.M. 231-1	Adjustment - S.M. 231-1, par. 1

ADLER special	Faulty Action	S.M. 403-4
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Fault	Cause	Remedy
10) <u>Ribbon Throw</u>		
a) Vibrator fails to relapse.	1) Vibrator (19) jams in type guide - S.M. 400-4	Adjust vibrator.
	2) Ribbon throw shaft (19) jams in bracket (21). Toggle link (22) or control lever (7) is deformed.	Adjust parts to make them move freely. S.M. 241-1a
b) In basic position vibrator is too high or to low.	1) Arm (20a) of bracket (20) is deformed S.M. 241-1a	Adjustment - S.M. 241-1a
c) Vibrator lifts too high or not high enough (Blue printing)	1) Angle (22a) or arm (7b) is deformed S.M. 241-1a	Adjustment - S.M. 241-1a par. b
d) Vibrator lifts too high or not high enough (Red printing)	1) Arm (20b) of bracket (20) is deformed S.M. 241-1a	Adjustment - S.M. 241-1a, par. c
e) Vibrator lifts insufficiently only with individual letters.	1) Lug (3) of key lever (2) is positioned too high S.M. 400-1	Lower lug (4) on key lever - S.M. 400-1
11) <u>Margin Set</u>		
a) Margin and tab set lever does not return to normal position.	1) Tab stop frame (5) has too much clearance in the locking device - S.M. 311-1	Adjustment - S.M. 311-1, p. 2
	2) Set lever (4) trails on bell crank (9) - S.M. 141-1, p. 1	Adjust bell crank (9) S.M. 141-1
b) Incorrect left margin.	1) Left hand carriage stop (2) has too much or too little pass-over - S.M. 161-1	Adjustment - S.M. 161-1
	2) Trail spring (8) is too loose - S.M. 332-1a	Compress arms of trail spring.
	3) Torsion spring (6) is deformed - S.M. 332-3	Adjust torsion spring (6) so as to have appr. 3 mm clearance between the offset end (3a) of

ADLER special	Faulty Action	S.M. 403-5
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Fault

Cause

Remedy

12) Line Lock and Margin Release

- | | | |
|---|---|--|
| a) Type bars are not locked. | 1) Locking lever (3) is deformed and jams
S. M. 321-1 | Straighten and readjust locking lever
S. M. 321-1, p. 1 |
| b) Type bars strike regardless of actuated line lock. | 1) Retarded adjustment of set screw (12) S.M.332-1a | Trip release of type bars up to 6 mm in front of platen S.M. 400-1 |
| c) Carriage skips when margin is released. | 1) Right-hand carriage stop (8) is set too far to the right S. M. 161-1 | Shift carriage stop slightly to the left and secure again by pin S. M. 161-1 |

13) Tabulator

- | | | |
|-----------------------------------|---|--|
| a) Tabulator does not release. | 1) Lug (3a) on tab key lever (3) is too close to stop face (b) S.M.351-1a | Adjustment S.M. 351-1a |
| b) Excessive carriage braking. | 1) Lug (3a) is too far from stop face (b) S.M.351-1a
2) Braking adjustment too strong. | Adjustment S.M. 351-1a
Adjustment S.M. 351-1a |
| c) Insufficient carriage braking. | 1) Brake body (8b) is worn out. S.M. 400-8a
2) Braking adjustment too soft. | Readjust brake body.
Adjustment S.M. 351-1a |

14) Paper Guide

- | | | |
|--------------------------|--|---|
| a) Paper creases | 1) Paper feed rolls (4 or 6) are conic. S.M. 121-1, p.2 | Exchange feed rolls. See that the feed rolls are parallel with the platen and paper deflector |
| b) Paper slips when fed. | 1) Variable interliner is damaged.
2) Surface of platen or feed rolls too smooth.
3) Uneven adjustment of plate springs (8) S.M. 121-1 | S.M. 403-3, par. 6
Roughen platen and feed rolls lengthwise.
Adjustment S.M. 121-1 |

ADLER special	Faulty Action	S.M. 403-6
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Fault	Cause	Remedy
c) Carbon paper makes streaks on copies	1) Excessive pressure of feed rolls. 2) Badly chamfered edges of feed rolls.	Adjust plate springs (8) - S.M. 121-1, p.1 Round off edges.
d) Carbon paper makes transversal streaks on copies.	1) Line finder or card holder contact platen S.M. 381-1a.	Adjust clearance to platen to 0.7 mm S.M. 381-1a.
15) <u>Paper Release</u>		
a) Paper is not released.	1) Disengaging cams (4) and (5) on shaft (9a) are loose S.M. 121-2a.	Adjust disengaging cams S.M. 121-2a.
16) <u>Line Spacing</u>		
a) Line spacing is uneven.	1) Variable interliner is damaged. 2) Line space pawl (10) does not mesh properly with teeth of line space ratchet - S.M. 131-1, p. 2 3) Locking roller (13) has clearance on the shaft S.M. 131-1a.	S.M. 403-3, par. 6 S.M. 131-1a, par. b Replace locking roller.
b) Line spacer does not turn platen.	1) Variable interliner is damaged.	S.M. 403-3, par. 6
17) <u>Line Space Adjustment</u>		
a) Line space regulator works heavily.	1) Excessive pressure of retainer (5) on line space lever - S.M. 131-1, p. 2	Slightly bend up retainer.
b) Line space lever does not catch at "0" and "3".	1) Misadjustment of locking roller (13) - S.M. 131-1a.	Adjustment - S.M. 131-1a, par. c
c) Platen slips forward	or 1) Misadjustment of limit stop	Adjustment -

ADLER special	Printwork	S.M. 500-1
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The types are soldered on true to gauge, independently of the dexterity of the mechanic. Thus, with the exception of small faults which cannot be gauged, all characters are perfectly adjusted in regard to alignment, spacing and stroke. The aforementioned small faults are corrected subsequently after optical checking.

After exact adjustment of the segment shift (see S.M. 221-1 and 221-1a) and of the platen (see S.M. 501-1), specimen lines are typed out and their appearance is checked, all remaining inaccuracies being eliminated by trained adjusters using ordinary type adjusting tools.

The last typing specimen, signed by the controller, is enclosed with each machine to be delivered to show that prior to shipment the printwork was found to be in order at the works.

For the exchange of types and as spares we also supply the type bars complete with types, ready for mounting into the segment, in all type styles provided by us.

Types for hand adjustment with narrow slot should be directly ordered from the type manufacturer. When soldering types with wide slot as used in our series production, foils which can also be supplied by the type manufacturer should be inserted in the type slots.

ADLER special	Alignment of the Types and Adjustment of Ring and Cylinder	S.M. 501-1 p. 1
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Remove left- and right-hand carriage casing (see S.M. 181-1).

Type some characters, e.g. "m" and "M" on the left and right side of the platen.

According to the printing and impression of the characters adjust height of platen and ring and cylinder.

1) Adjustment of platen regarding ring and cylinder

Loosen fillister head screws (1) and (2) on the right side of the carriage or hexagon screw (3) with eccentric (4) and hex head screw (5) on the left side of the carriage and shift platen bearing (6 resp. 7) in slot of screw (1) or eccentric (4) forward or backward as required to adjust ring and cylinder. The adjustment is correct when the ribbon can be easily drawn between the platen and an actuated type (approx. 0.1mm clearance).

If the platen needs grinding ring and cylinder should be readjusted.

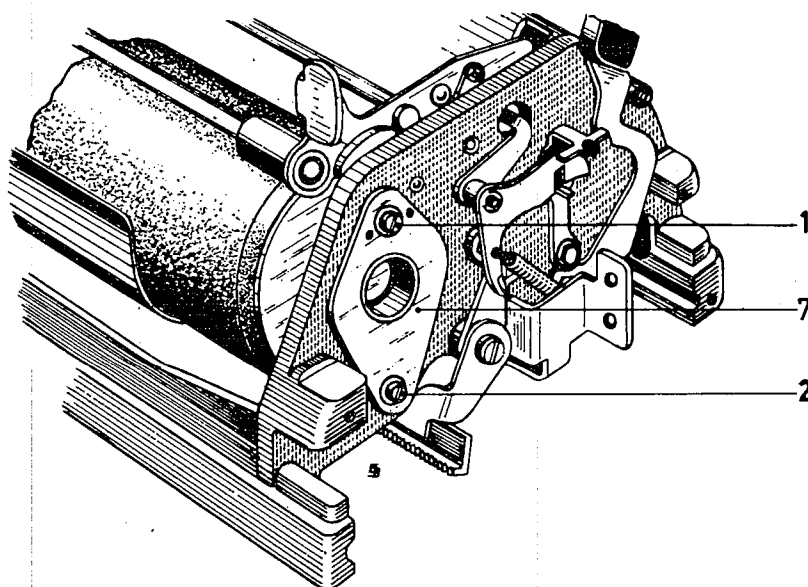
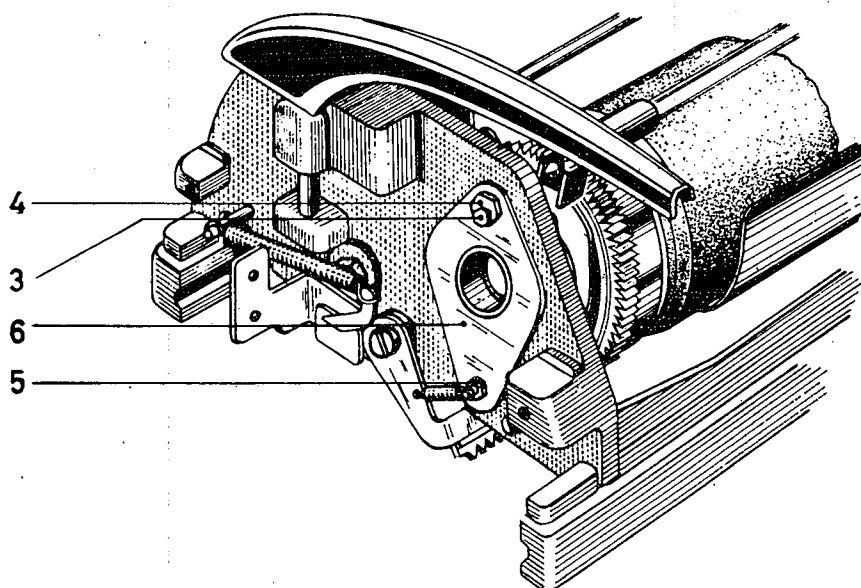
2) Adjustment of the platen height

Inaccuracies in the horizontal alignment of the small and capital letters should be compensated by adjustment of the segment bracket (s. S.M. 221-1). Faulty impression (uneven impression of the tops and feet of the majority of the characters on one side of the writing line) should be remedied by loosening fillister head screws (1) and (2) on the right side of the carriage and by adjusting the platen parallelism by raising or lowering platen bearing (7) accordingly. In case of any further deviations the segment bracket should be adjusted (see S.M. 221-1).

ADLER
special

Alignment of the Types and Adjustment
of Ring and Cylinder

S.M. 501-1,
p. 2



ADLER special	Removing and Replacing of the Key Tops	S.M. 501-2
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Key tops should be interchanged as follows:

Removing key tops

Hold fast key lever right underneath key top by means of flat pliers. Insert screw driver, loosen key top on all sides and press upwards.

Replacing key tops

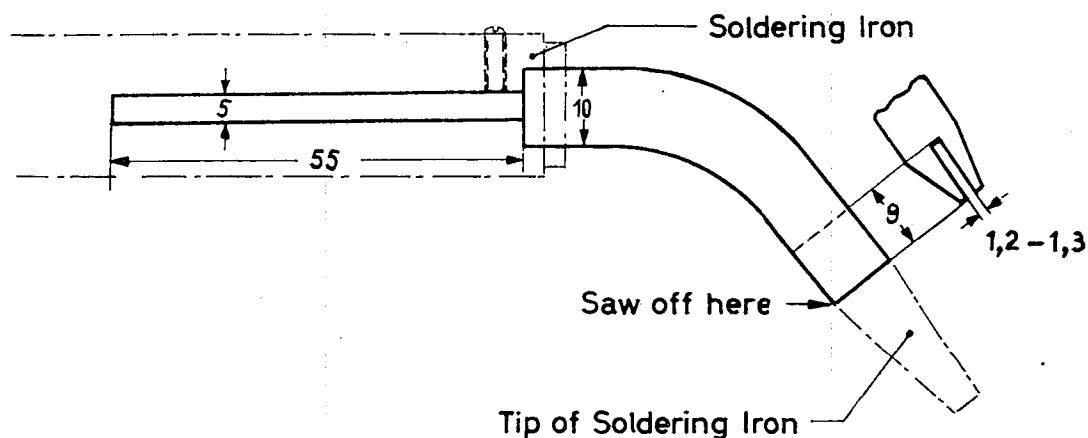
Key tops can be mounted by two different procedures:

a) Cold setting of key tops

For cold setting fill the seating slots with adhesive. When the key tops are mounted the key levers should be placed on a support and the key tops then lightly driven in by means of a wooden bolt and hammer.

b) Warm setting of key tops

Conversely to cold setting warm setting of key tops safeguards the key tops against cracking when driven in. This is best done by means of a soldering iron, e.g. the 80 watt ERSA brand soldering iron with interchangeable tip. A spare tip is sawed off as shown in the drawing hereunder. A 1.2 to 1.3 mm wide groove is made into the front end of the tip. When the soldering iron is properly heated this groove is placed over the upper end of the key lever. After a few moments the key top can be easily pressed on by hand.



ADLER special

Faulty Typing

S.M. 503-1

Fault	Cause	Remedy
a) Capitals and small letters are out of alignment.	1) See Service Manual 403-1, 2a and 2b. 2) See Service Manual 403-2, 2c and 2d.	
b) Spacing is uneven, letters pile.	1) See Service Manual 403-2, 3b. 2) See Service Manual 403-3, 5b, 5c, 7a.	
c) Printwork lacks uniformity. Impression of individual letters too soft.	1) See Service Manual 403-1, 1b and 1d.	
d) Non-printing of letters in general.	1) See Service Manual 403-1, 1a.	
e) Letters are red at the bottom or black at the top or impression too soft.	1) See Service Manual 403-4, 10a to 10e.	
f) Letters cut through paper.	1) Ring and cylinder, misadjusted in general. 2) Ring and cylinder of individual type bars misadjusted.	Set back platen - S.M. 501-1. Press forward by means of ball peen pliers (11a) lug of the corresponding type bars (S.M. 400-1)

ADLER special	Checking the Machine	S.M. 600-1 p. 1
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When checking a machine after repair the following points should be especially observed before the machine is returned to the customer:

To remedy faults found when checking the machine, see S.M. 403 "Faulty Action" and S.M. 503 "Faulty Typing" and further respective sheets.

A) Machine without carriage

a) Escapement wheel

- 1) Smooth running of the wheel on the shaft.

b) Escapement body

- 1) Snug fit and smooth action of bearing.
- 2) In neutral position meshing of the loose dog, in working position meshing of the fixed dog with escapement wheel, in position of carriage return: both fixed and loose dog disengaged (S.M. 332-1a, p. 2, fig. 2, 4, and 5).

c) Universal Bar

- 1) Snug fit and smooth action.

d) Tabulator

- 1) Free engaging of the brake when the tab key is depressed.

e) Segment shift

- 1) Smooth shifting. Bearing of shift rocker without play.

f) Key levers and type bars

- 1) Snug guiding of type bars in the segment slots and in the type guide.
- 2) Easy relapsing of all type bars when the universal bar is pushed back.

B) Machine with carriage

a) Carriage movement

- 1) Easy and nearly noiseless running.
- 2) Meshing of the rack with the escapement pinion at the right and left side of the carriage without touching base of teeth.

b) Carriage release

- 1) Full disengagement of the escapement wheel by the carriage release lever when the carriage is slid along its entire length.

- 2) In neutral position of the rack the escapement wheel should contact the escapement frame with a play of 0,2 mm (S.M. 151-1, p.2).
 - 3) In neutral position brake pinion is disengaged from carriage release bar.
 - 4) Distance between carriage release bar and carriage rack 2.2 - 2.5 mm (S.M. 151-1, p. 2, fig. 1).
 - 5) Clearance between set screws and carriage rack 0.5 mm (S.M. 151-1, p. 2, fig. 2).
- c) Platen and variable interliner
- 1) Right fit of platen bearing.
 - 2) Snug fit of line space ratchet when actuating line space lever.
 - 3) Perfect disengagement when variable interliner is operated.
 - 4) Exact adjustment of the ring and cylinder and of the height of the platen (S.M. 501-1).
- d) Paper guide and release
- 1) Smooth running of feed rolls.
 - 2) Even tension of carrier springs.
- e) Escapement
- 1) Uniform trip release by all type bars approx. 6 mm before platen (S.M. 400-1).
- f) Segment shift
- 1) Exact alignment when actuating right- and left-hand shift key.
- g) Ribbon feed
- 1) Dependable ribbon transport.
 - 2) Dependable ribbon reverse.
- h) Ribbon throw
- 1) Easy relapse of vibrator from lifted position.
 - 2) Dependable shifting from blue to red printing without movement of vibrator. Printing without blue resp. red tops or feet.
 - 3) No ribbon throw when cutting stencils. Vibrator should remain in neutral position.
- j) Back spacer
- 1) Dependable back spacing throughout length of carriage.
- k) Space bar
- 1) Dependable trip release when hitting the space bar.

l) Line spacing

- 1) Dependable locking of the platen in the line space ratchet. No slipping forward or backwards of the platen.
- 2) When the line space lever is fully pressed the locking roller should stand between two teeth of the line space ratchet.

m) Paper bail

- 1) Light pressure of the feed rolls on the platen.
- 2) The feed rolls must hold postcards securely down to the last writing line.

n) Line lock, margin stops, margin release

- 1) Dependable locking of type bars when the right margin has been reached (s. S.M. 321-1, Adjustment).
- 2) Dependable release of line lock.

o) Tabulator

- 1) Dependable setting and clearing of tab stops.
- 2) Dependable tabulating.

p) Line finders

- 1) The horizontal lines of the line finders should coincide with the typing line.
- 2) Adjust graduation lines to the exact centre of letter "M". Distance from the first graduation line to the centre of the type guide = 7 divisions (s. S.M. 381-1a).

r) Printwork and impression

- 1) Perfect blue and red printing, clear copies. Enclose typing specimen.

s) Touch and typing speed

- 1) Light touch and speedy operation of the machine.

ADLER special	Cleaning and Oiling	S.M. 700-1
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Use only nonresinous (Dippel's) oil for lubrication.

a) Cleaning the types in the machine

- 1) Remove top cover.
- 2) Lift all types and place a sheet of paper underneath.
- 3) Clean types with type brush, then rub with petrol soaked cloth. Next clean with plastic type cleaner. (When cleaning, rub types lengthwise only).

b) General cleaning

I Cleaning the carriage

- 1) Remove carriage from the machine (s. S.M. 100-1a).
- 2) Dismount platen (S.M. 111-1), rub lengthwise with an emery cloth, then wipe with a dry cloth.
- 3) Dismount paper deflector with feed rolls (S.M. 121-1) and rub feed rolls lengthwise with a fine emery cloth from underside of paper deflector.
- 4) Clean carriage, if necessary wash or douche it with petrol. Wipe out carriage rail with oil soaked cloth.
- 5) Mount parts in inverted sequence.

II Cleaning the inner main frame

- 1) Dismount inner main frame (S.M. 200-1a, 1b, 1c).
- 2) Remove ribbon and ribbon spools.
- 3) Dismount type bar segment (s. S.M. 211-1, 1a)
- 4) Clean types with plastic type cleaner, wipe type bars with woolen cloth and thoroughly rinse segment in a petrol bath.
- 5) Douche inner main frame with petrol. Protect keyboard from cleaning liquid by a protective hood.
- 6) Mount parts in inverted sequence.

III Cleaning the outer frame

- 1) Douche all mechanisms in the outer frame with petrol, being careful to protect the main spring drum from the petrol.
- 2) Clean the parts not covered with felt with an oil soaked rag.
- 3) Wipe out carriage rails with an oil soaked rag.

IV Oiling the machine

- 1) After cleaning the machine oil all joints and bearings - excepting segment slots - with typewriter oil.
- 2) Mount inner main frame and carriage.

ADLER special	Ungreasing and Re-oiling the Machine	S.M. 700-2
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The nickel or chrome parts of certain export models including the type bar segment, key lever and bellcrank bearings are protected against rust by a coat of vaseline. After unpacking the machine or before setting it to work this grease should be removed as follows:

A) Carriage

- 1) Dismount platen (S.M. 111-1).
- 2) Dismount paper feed rolls (see S.M. 121-1, p. 1, par. b).
- 3) Remove vaseline with a soft rag. Thoroughly clean greased parts with petrol (gasoline for cleaning) by means of a squirt can and remove remaining grease with a soft brush.
- 4) Mount platen and paper feed rolls.

B) Inner Frame (machine without carriage)

- 1) Dismount inner main frame (s. S.M. 200-1a, 1b, 1c).
- 2) Dismount type bar rest (S.M. 211-1a).
- 3) Remove upper layer of grease with a soft rag (especially from the segment).
- 4) Cover the keyboard and remove remaining grease from greased parts and mechanisms with gasoline for cleaning, using a squirt can and a soft brush.
- 5) Douche the entire inner main frame softly with a gasoline-oil mixture (2 - 3% pure Dippel's oil) by means of a squirt can. Then lubricate all joints and bearings with good quality typewriter oil, there-by excepting the segment slots.

C) Outer Frame

- 1) Remove upper layer of grease with a soft rag.
- 2) Thoroughly remove remaining grease from greased parts and mechanisms with gasoline for cleaning and a soft brush. See that none of the cleaning liquid reaches the felt linings on the outer walls.
- 3) Next lubricate all joints and bearings with good quality typewriter oil.

Mount inner main frame.

Note: Do not use cleaning fluids with more than 40% of alcohol nor benzol for machines with plastic key tops!

Provide the following safety devices to secure the machine during transport:

- 1) Depress the margin release key and place rubber cushions (11) between bracket (9) for the tab and margin stops and outer frame (10) on the left and right side.
- 2) Press 2 plugs (1) each into the carriage rails on both sides of the carriage.
- 3) Lift out carriage release lever (2) and lock it on both sides by means of a rubber ring (3) on platen knob (4).
- 4) Clamp rubber cushion (5) between bracket (6) and stop nut (7).
- 5) Lock the type bars in the type bar basket by means of a piece of cardboard (8).
- 6) Slip rubber ring (12) over the left- and right-hand stop pieces (13) in such a way that locking pawls (14) on the left and right side cannot catch.

ADLER
special

Packing the Machine

S.M. 800-1a
p. 2

