



# **Service Manual**

**-759/06-39/02;**

**-759/08-39/04**

**for Pfaff 3306 machines**

Specifications of the  
Pfaff 3306-759/06-39/02-966/01 and  
3306-759/39/04-966/11

Attaching stitches: 2 x 10

Wrapping stitches: 22

Sewing speed: 1.045 s.p.m.

Motor output rating: 0.250 kW (1/3 h.p.)

Motor speed: 1.400 r.p.m.

Needle system: 332 LGHK-SP

Needle thickness in 1/100 mm: 120

Button sizes: from 24 to 40 ligne (= 15 - 25 mm)

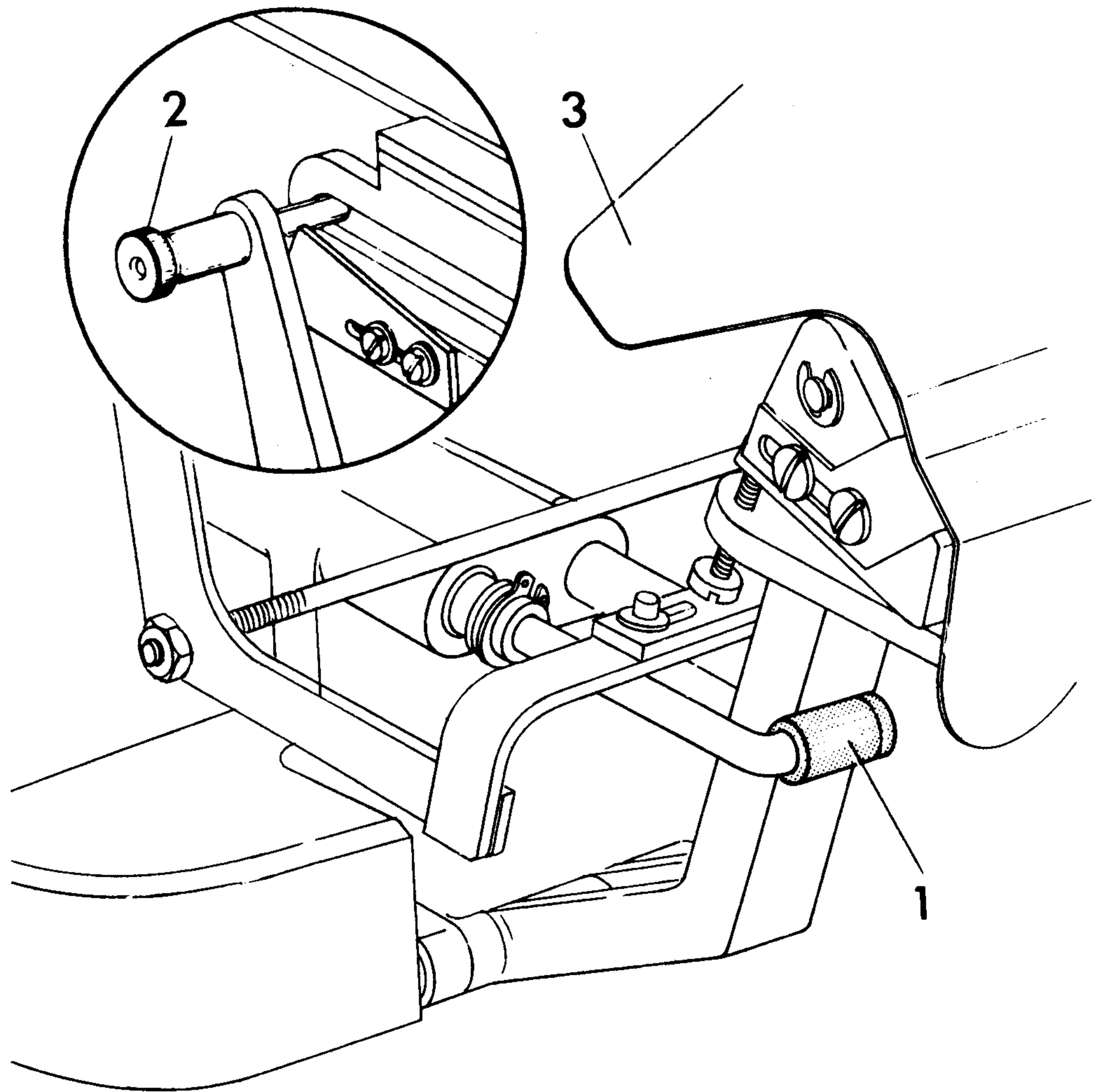
Hole distances: 3.2 to 3.7 mm

Maximum button thickness: 5 mm

Maximum fabric thickness: 7 mm

Maximum stem height: 4 mm

- 1 Preparations
- 1.1 Remove belt guard.
- 1.2 Switch on master switch. Compressed air on.
- 1.3 Push in toggle 1 (Fig. 1.0.1), then turn it downwards. Pull out the two guide pins 2, one at either side of feed plate 3, and swing out the latter.
- 1.4 Switch off the master switch again.
- 1.5 Unscrew and remove the faceplate.



**1.0.1**

Nipper actuating trip on control cam

The length of time the thread nipper remains closed is determined by the lengths of the trips.

## Requirement:

When the machine is at the end of its cycle the thread nipper must be closed.

When the needle bar is 10 to 15 mm before t.d.c. after the first stitch, the thread nipper must be open (1st trip on cam as seen in rotating direction, see arrow).

After the 11th stitch, with the needle bar at t.d.c., the thread nipper must be open again (2nd trip on cam in rotating direction, see arrow).

After the 20th stitch, with the needle bar at b.d.c., the thread nipper must be closed again (3rd trip on cam in rotating direction, see arrow).

## Condition:

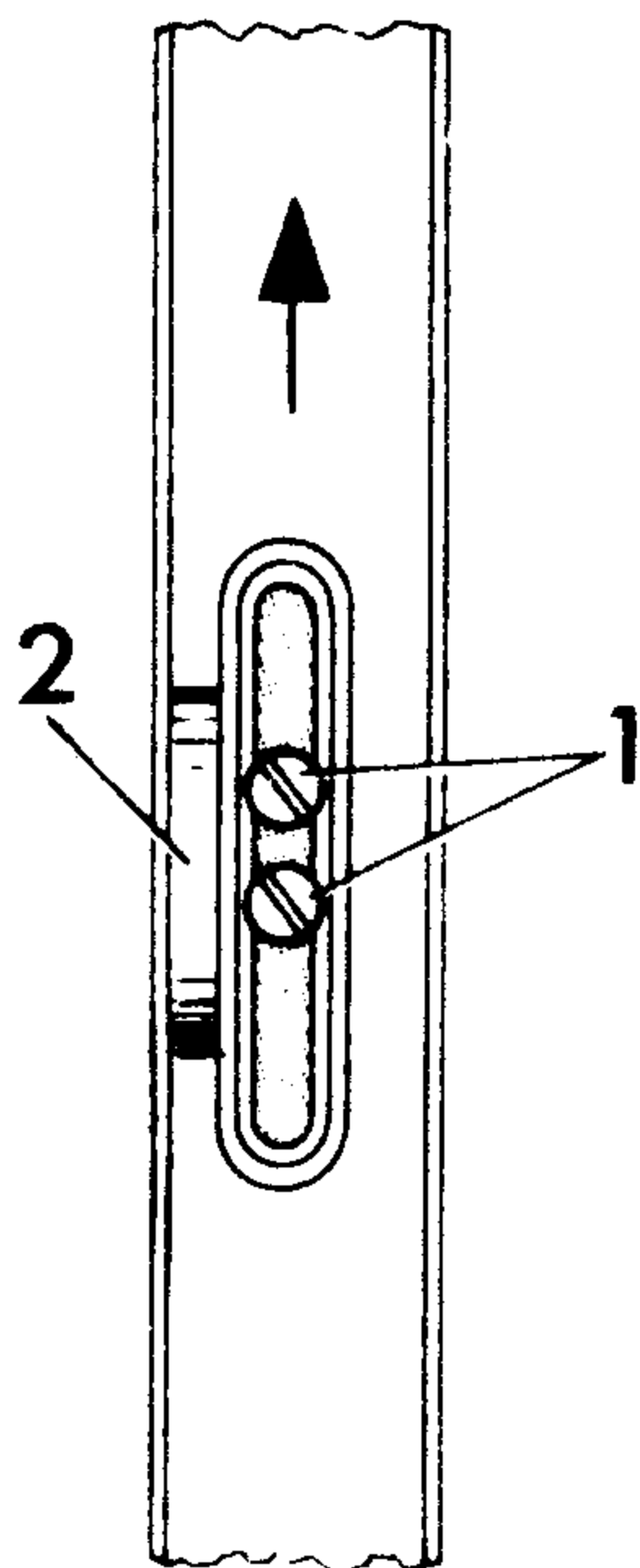
Master switch off, machine at end of cycle, stop-motion mechanism disengaged.

## Adjustment:

Turn the machine by hand to the position described in "requirement". Loosen fixing screws 1 (Fig. 2.0.1) of cam 2 and advance or retard the position of the trip. Tighten fixing screws 1 again. Carry out adjustment of the second and third trips.

## Note:

A slight deviation from this adjustment may be necessary if the thread is not properly pulled out of the button or an end is left on the stem after each trimming action.



**2.0.1**

3 Thread pull-off bar

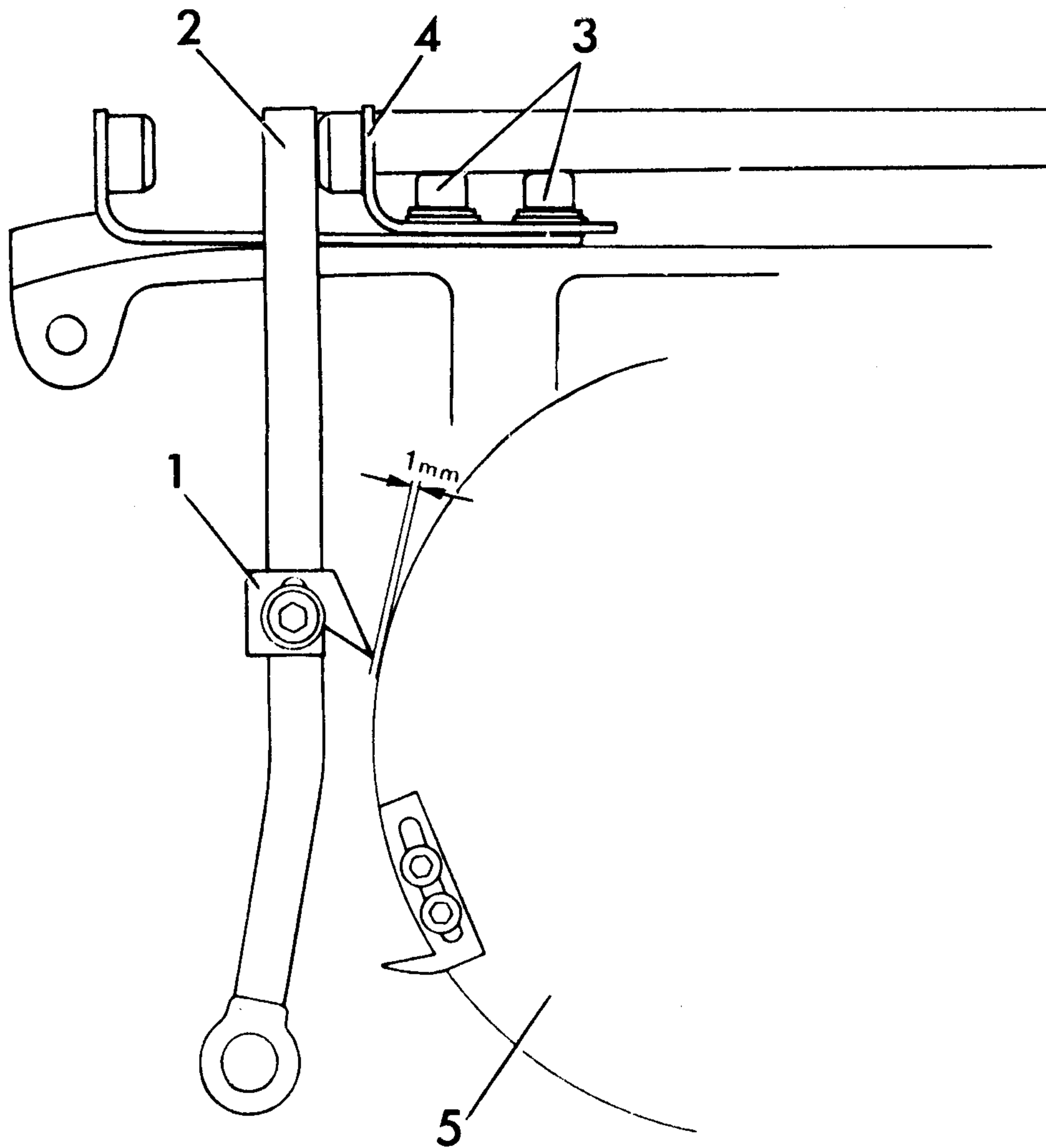
3.1 Basic position

Requirement:

The clearance between the point of trip 1 and the outer edge of knife-control cam 5 must be roughly 1 mm (see Fig. 3.0.1).

Condition: Master switch off.

Adjustment: Position trip 1 (Fig. 3.0.1) on thread pull-off bar in the middle of its elongated hole. Loosen screws 3 and position stop bracket 4 so that there is a clearance of roughly 1 mm between the point of trip 1 and knife control cam 5. Tighten one of screws 3 securely.



**3.0.1**

## Requirement:

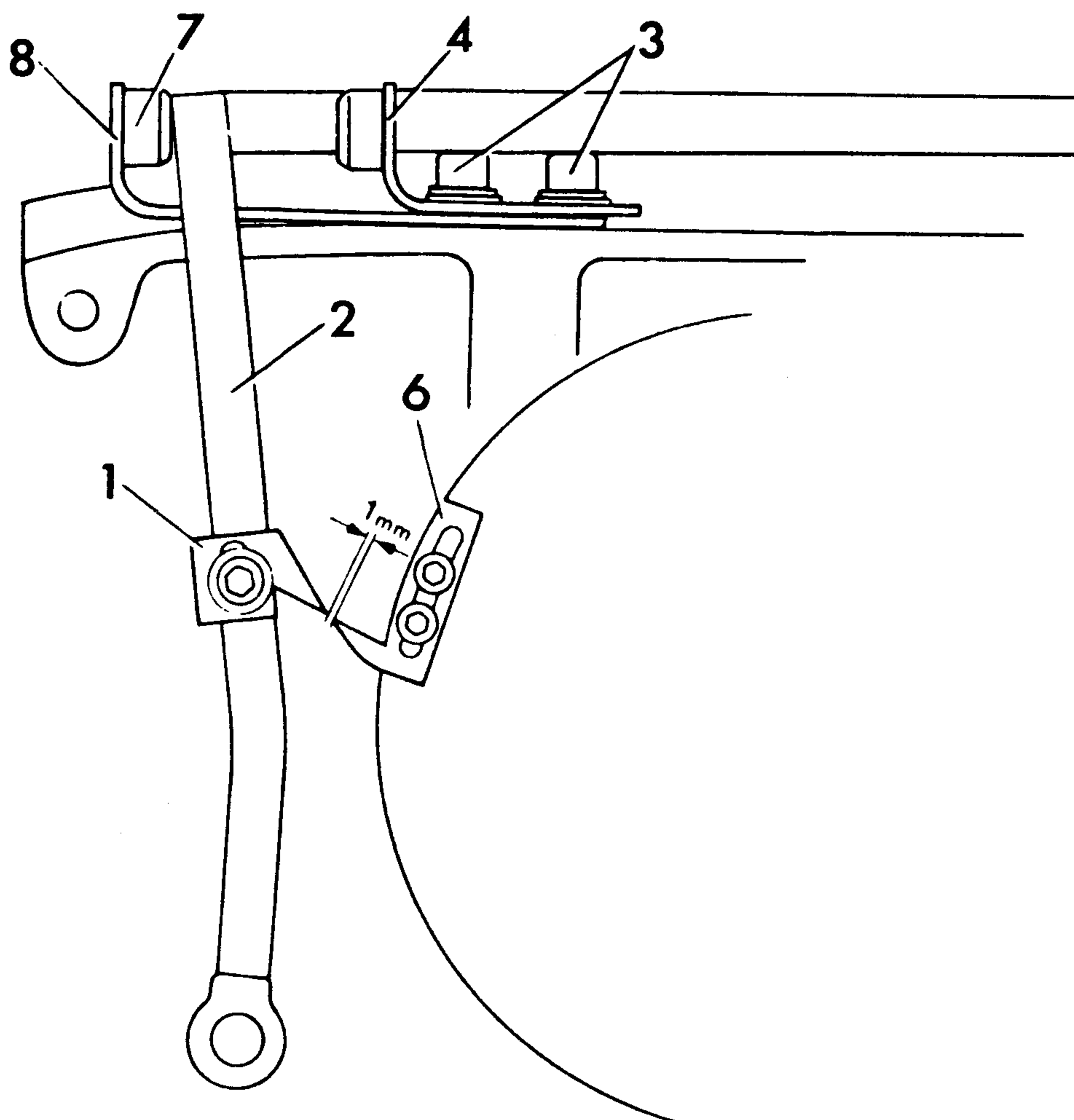
When thread pull-off bar 2 is resting against rubber buffer 7 there must be a clearance of roughly 1 mm between the points of trips 1 and 6 (see Fig. 3.0.2).

## Condition:

Master switch off, stop-motion mechanism disengaged.

## Adjustment:

Turn the machine to the required position (see Fig. 3.0.2). Move trip 3 to the middle of its elongated hole. Push thread pull-off bar 2 by hand against rubber buffer 7. Making sure that stop bracket 4 is not moved, loosen the tightened screw 3 and position stop 8 so that there is a clearance of roughly 1 mm between the two trips 1 and 6. Tighten screw 5 again securely.



**3.0.2**

## Requirement:

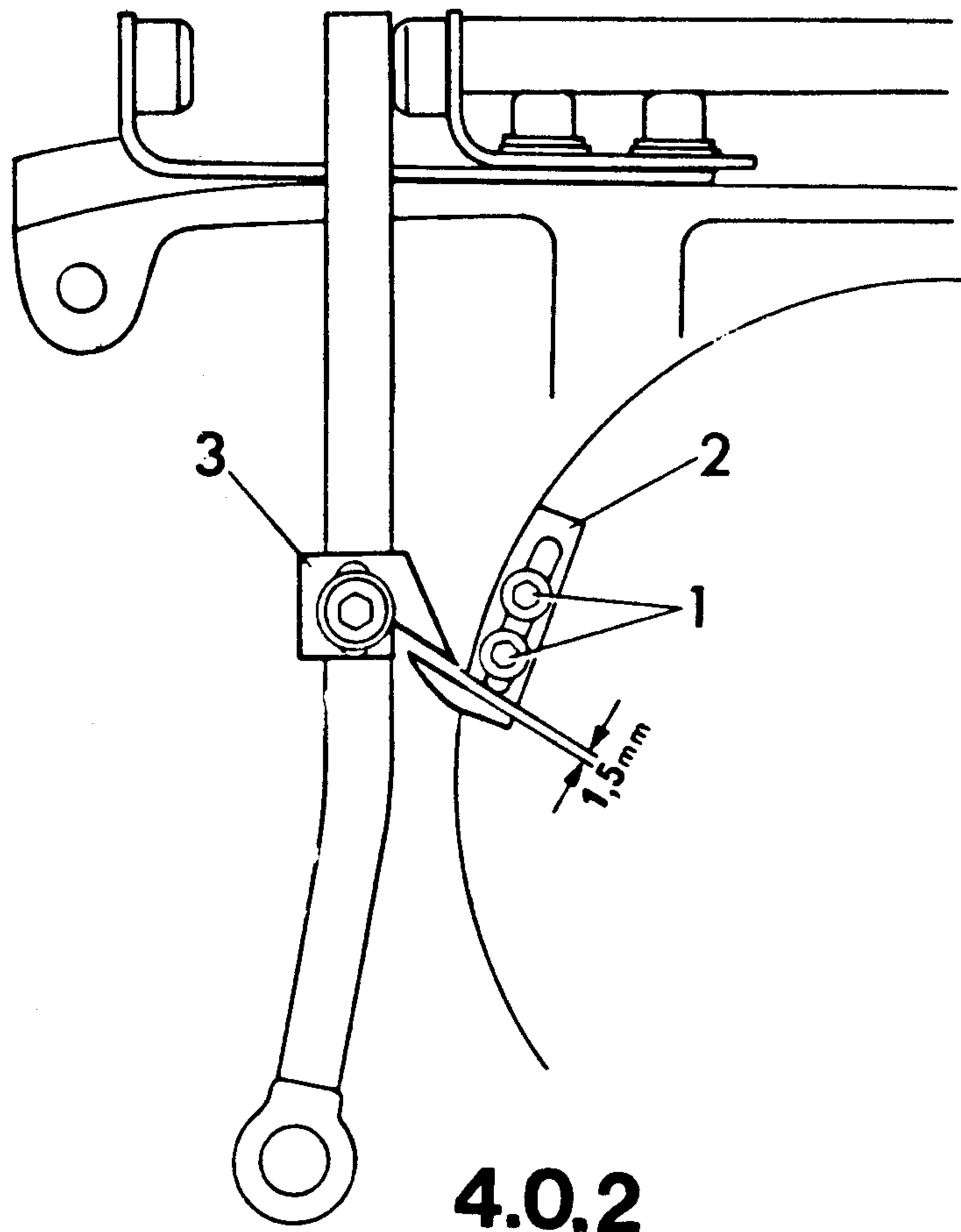
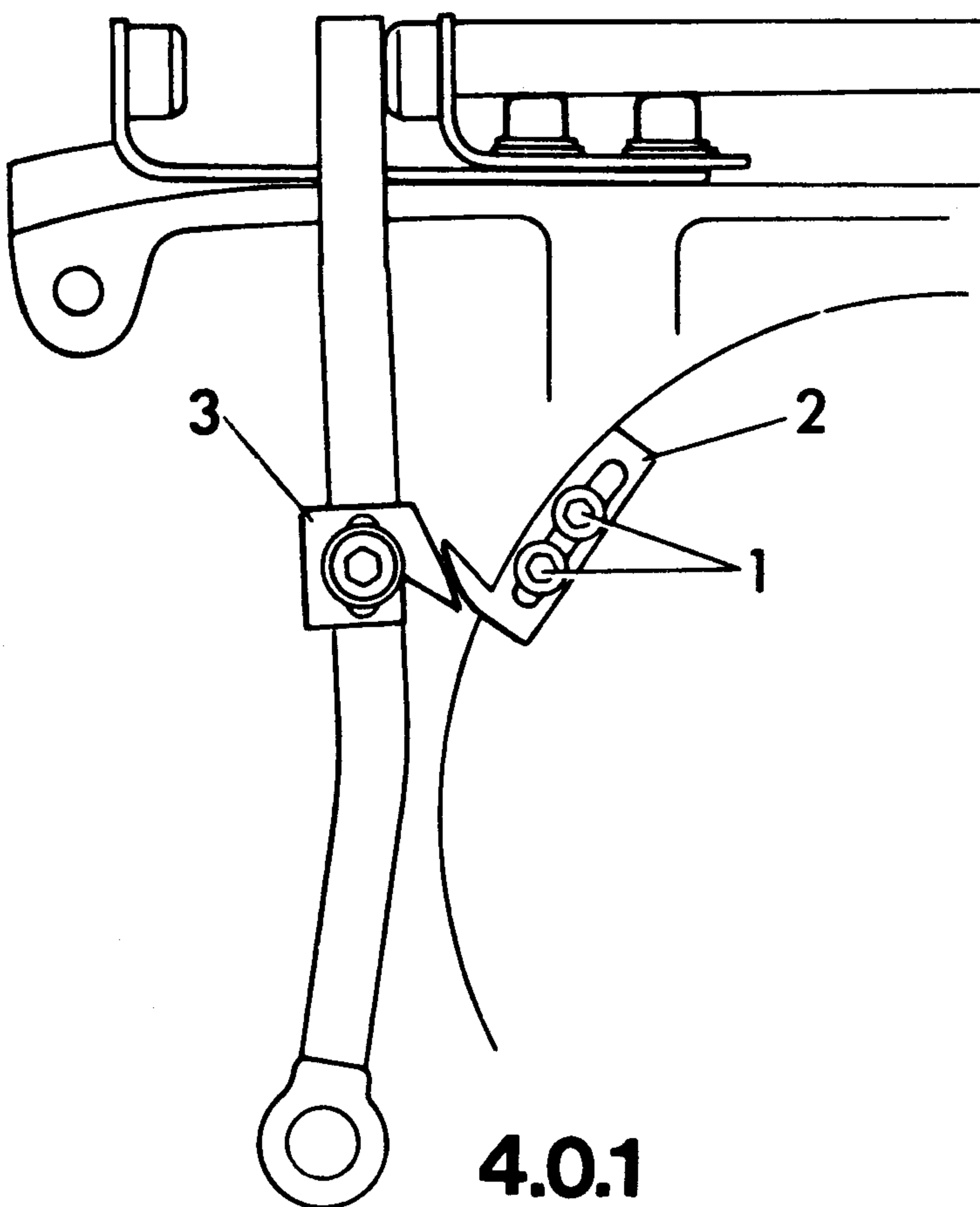
The thread pull-off must not begin to function until the thread nipper is properly closed.

## Condition:

Master switch off, machine at end of cycle and stop-motion mechanism disengaged.

## Adjustment:

Turn the drive pulley until the thread nipper has just closed at the tenth stitch.  
Loosen screws 1 (Fig. 4.0.1) of thread pull-off trip 2 and move it into contact with trip 3 as shown in Fig. 4.0.1. Tighten screws 1 again.  
Turn the drive pulley farther until the thread nipper has just closed at the twentieth stitch.  
Loosen screws 1 in trip 2 and move this trip into contact with 3 (see Fig. 4.0.1). Tighten screws 1 again. Switch on the master switch and allow the machine to run until it reaches the stop-motion position. Switch off the master switch. Loosen screws 1 (Fig. 4.0.2) of the last thread pull-off trip 2 and position the latter so that there is a clearance of 1.5 mm between it and trip 3. Tighten the two screws 1 again. This adjustment ensures that the thread pull-off bar springs back properly when the machine reaches the stop-motion position.



5

## Knife

First check the length of the inside rod (in bed of machine) and the length of outer rod 6 and adjust if necessary.

Inside pull-rod: 170 mm  
Outside pull-rod: 165 mm - measured between hole centres.

5.1

### Front position of knife

Requirement:

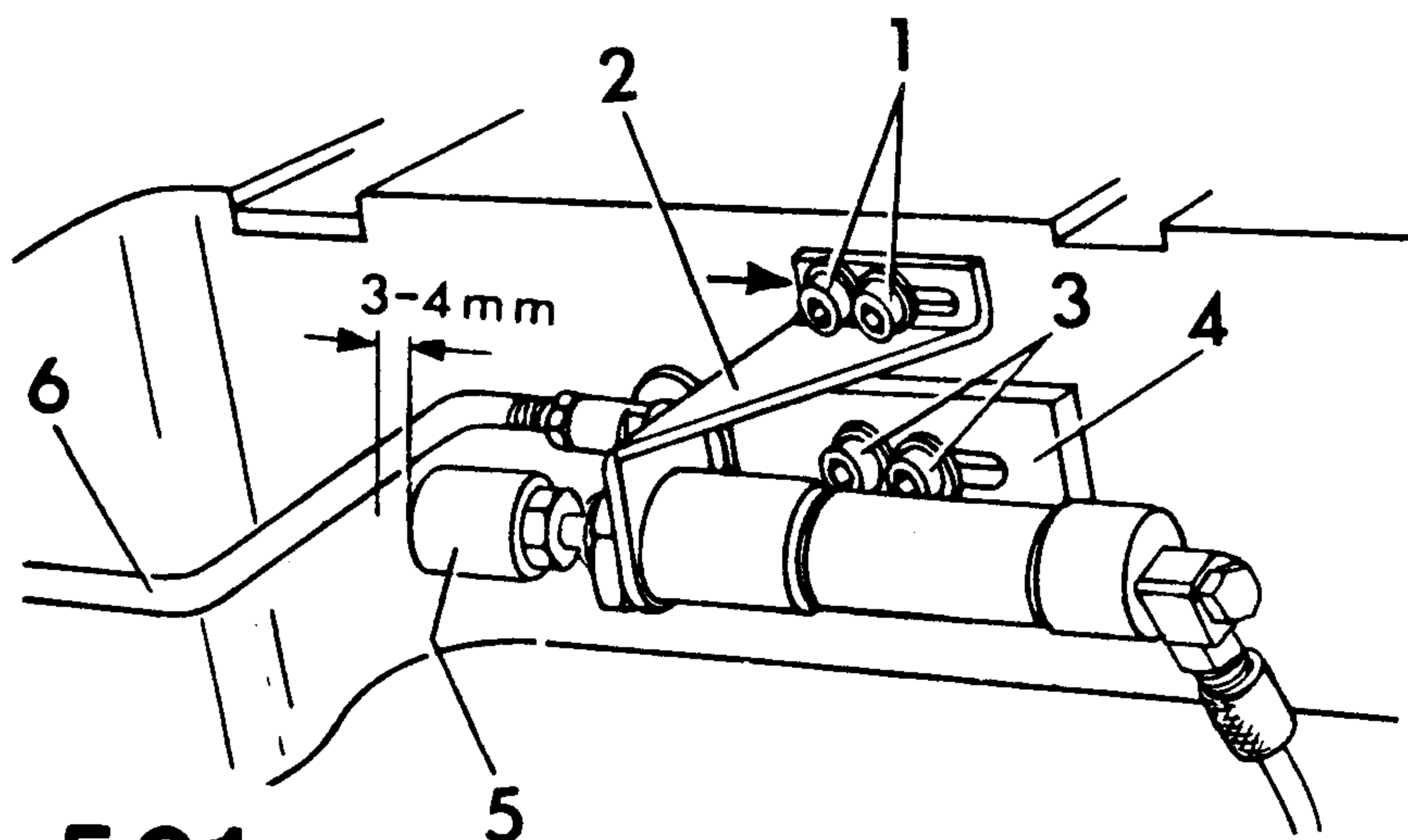
With the machine at the end of its cycle and the master switch off, there must be a clearance of about 2 mm between the knife edge and the needle plate cutout (see Fig. 5.0.2).

Condition:

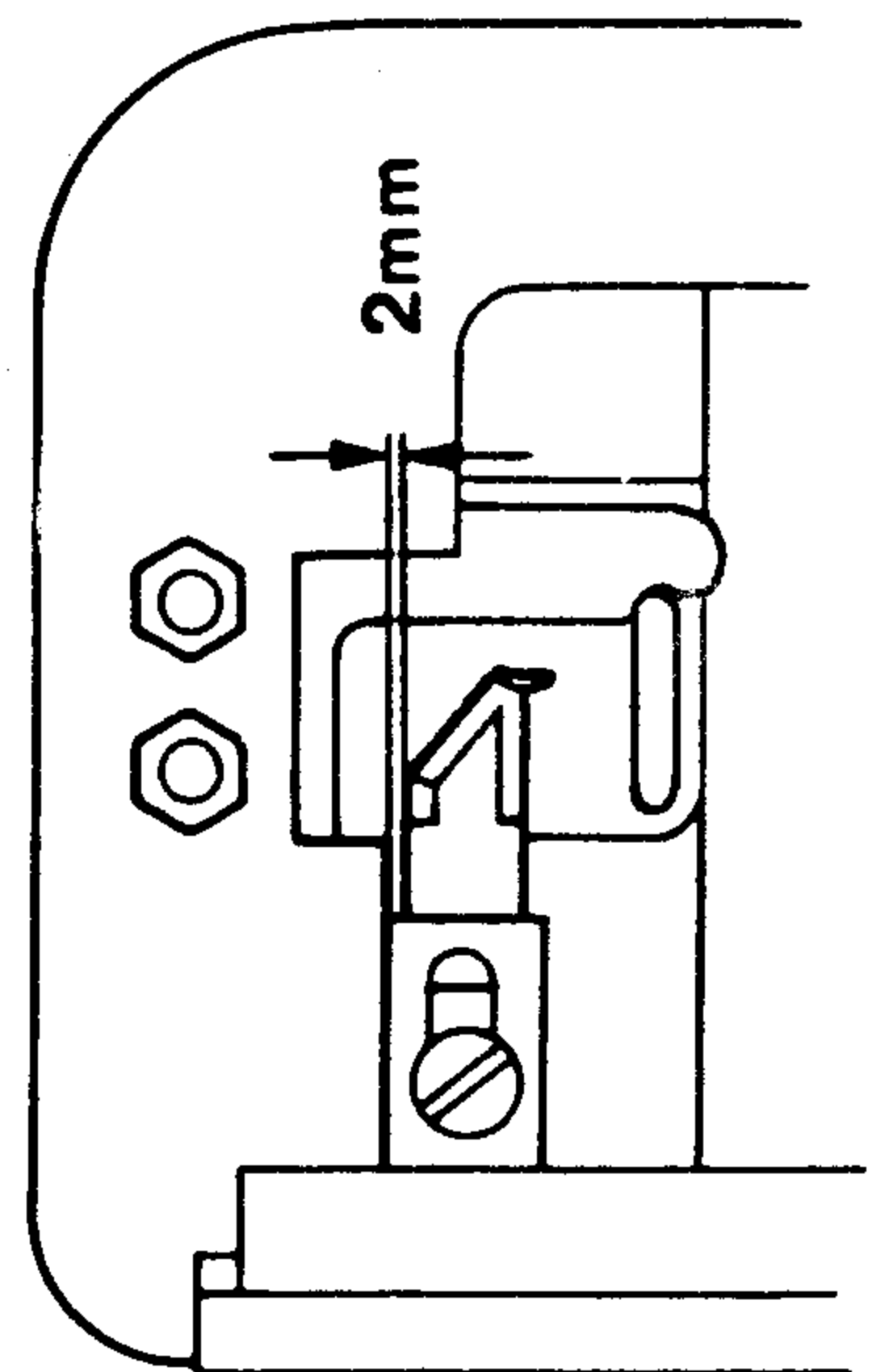
Master switch off, machine at end of cycle, stop-motion mechanism disengaged.

Adjustment:

Loosen fixing screw 1 and push cylinder bracket 2 fully in the direction of the arrow. Loosen fixing screws 3. Position nylon piece 4 in the elongated hole so that there is a clearance of roughly 2 mm between the knife edge and the needle plate cutout. In this position tighten fixing screws 1.



**5.0.1**



**5.0.2**



## Requirement:

When the needle bar is about 4 mm before t.d.c. after the tenth stitch, the backward movement of the knife must begin. When roller 3 runs onto trip 2 knife 4 must be out of the needle slot area (see Fig. 5.0.4).

## Condition:

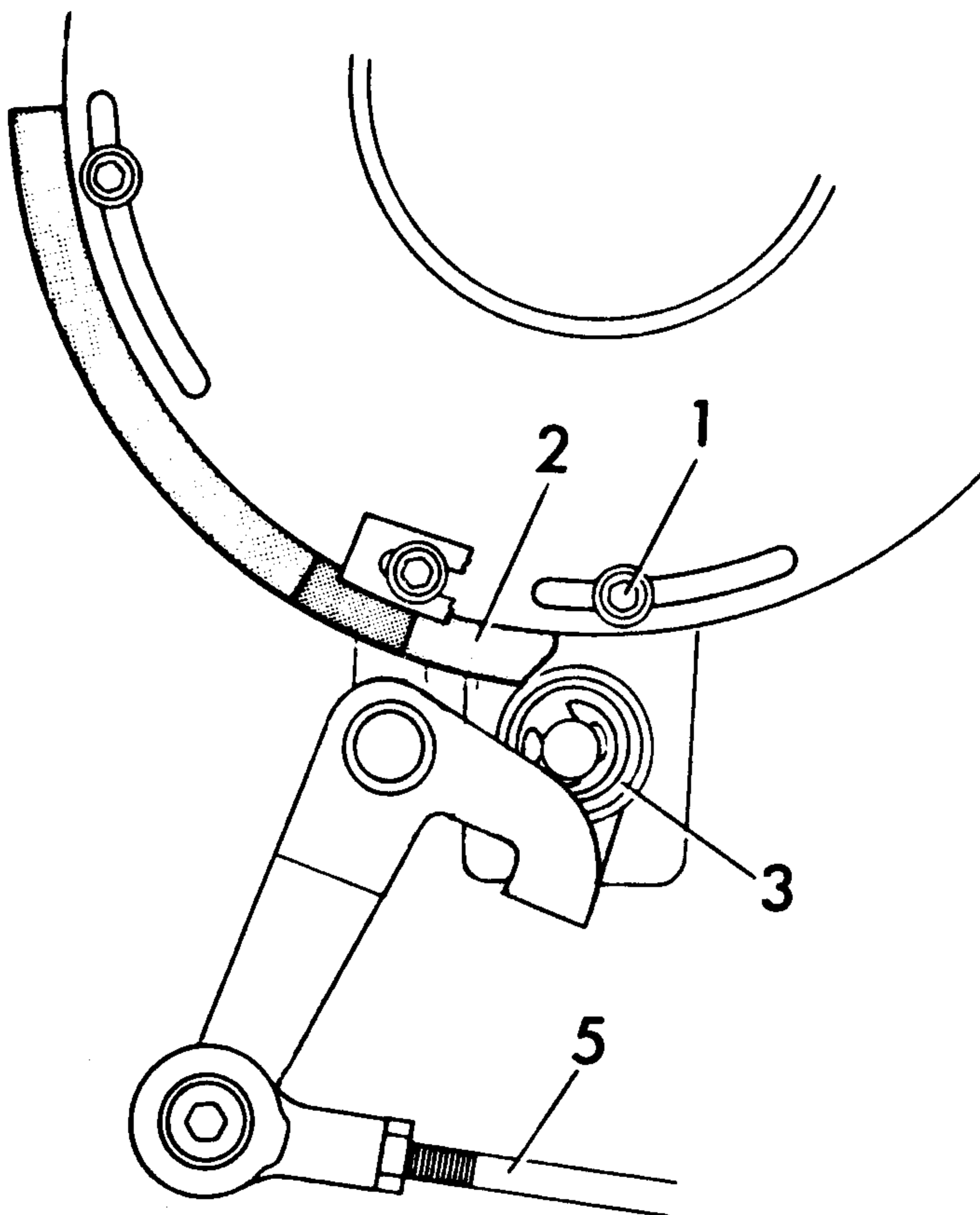
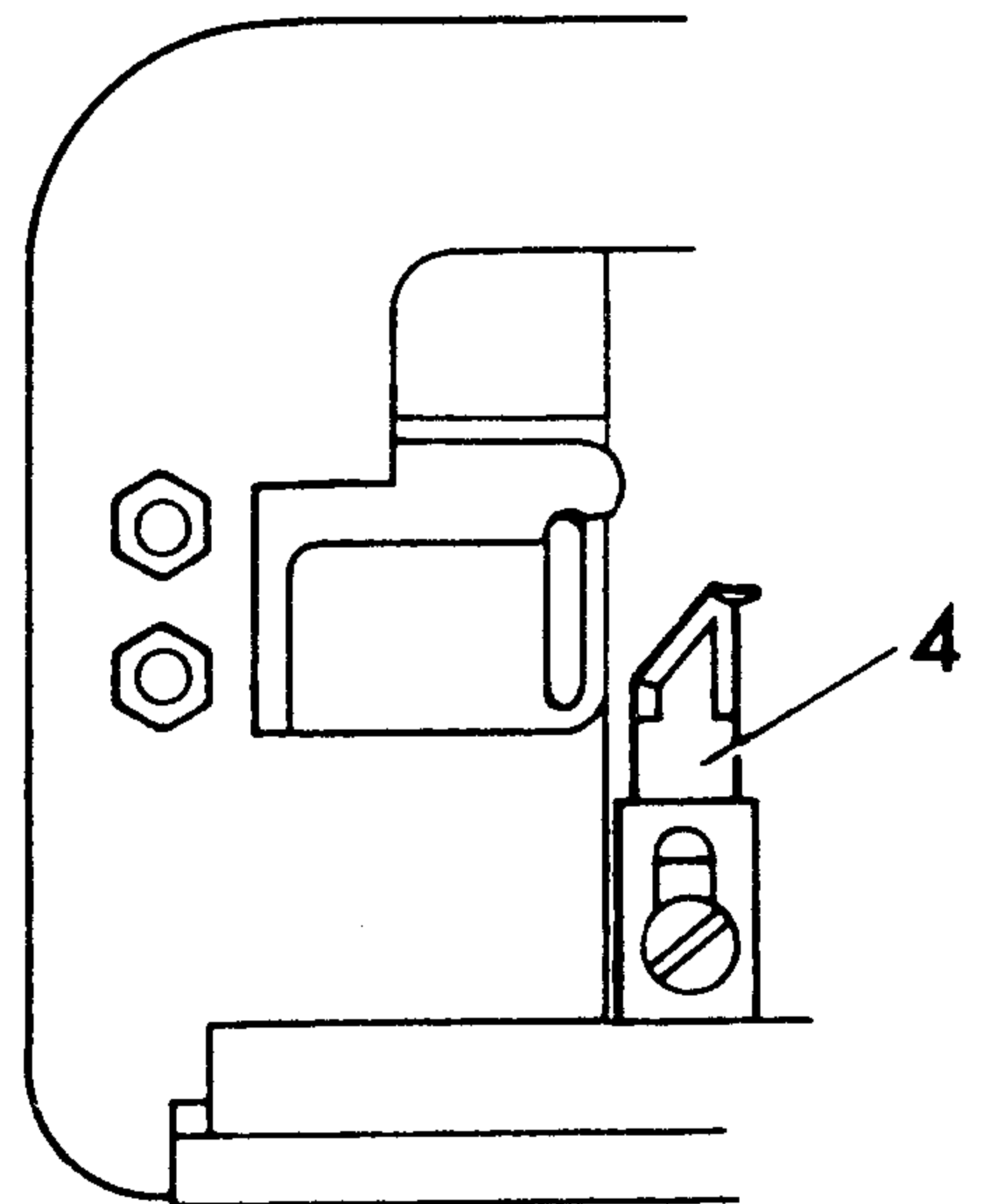
Master switch off, machine at end of cycle, stop-motion mechanism disengaged.

## Adjustment:

Turn the drive pulley until the needle bar is 4 mm before t.d.c. after the tenth stitch. Loosen fixing screw 1 (Fig. 5.0.3) and move trip 2 up against roller 3. Tighten fixing screw 1 again. Continue turning the drive pulley until roller 3 runs up against knife cam 2. In this position knife 4 must be outside of the needle-slot area (see Fig. 5.0.4). If this is not the case, correct the length of outer pull-rod 5 accordingly.

## Note:

Correction of pull-rod 5 necessitates re-adjustment of the knife movement (see requirement).

**5.0.3****5.0.4**

## Requirement:

The forward motion of the knife must begin when the needle bar is in b.d.c. at the twentieth stitch.

## Condition:

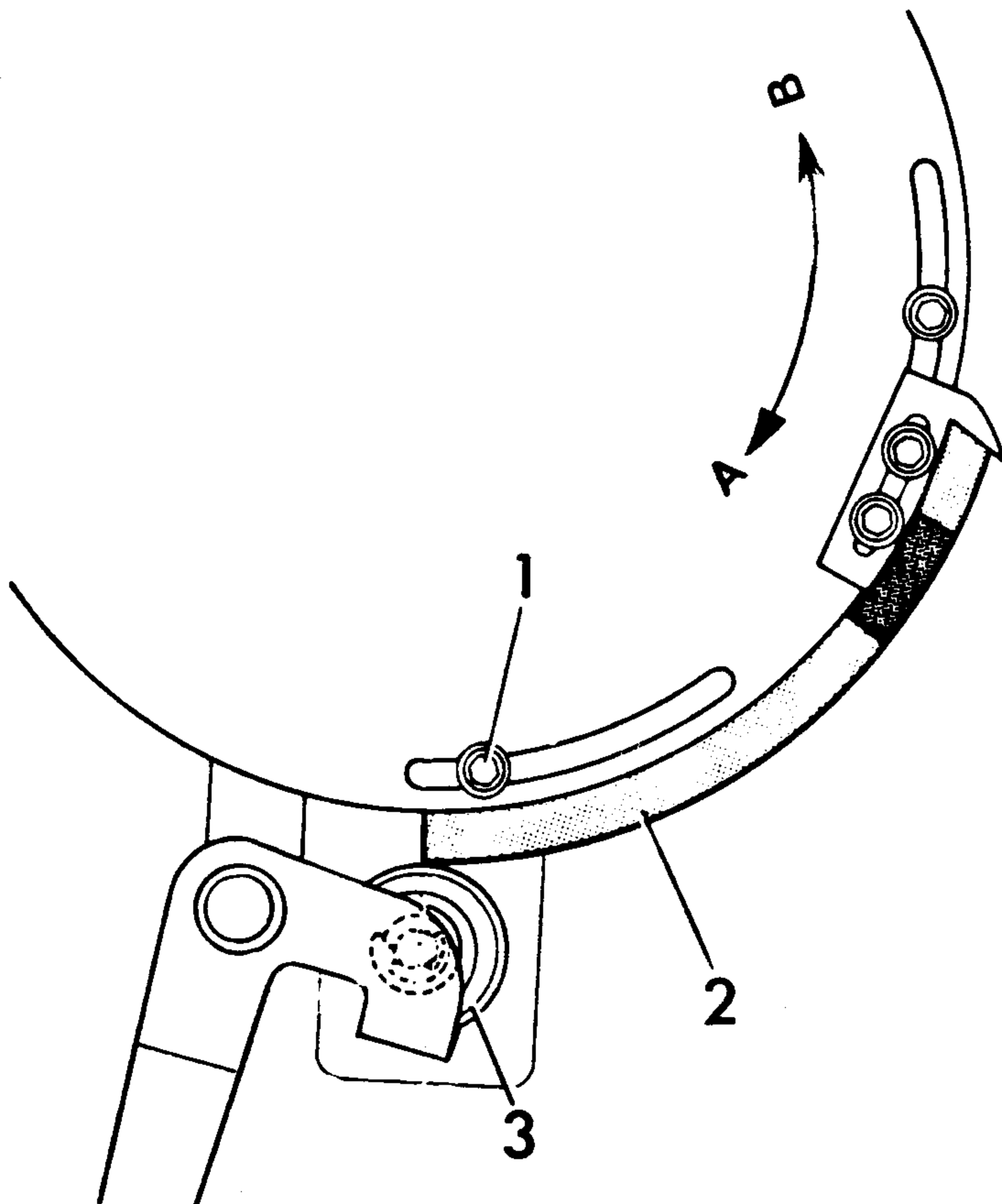
Master switch off, machine at end of cycle, stop-motion mechanism disengaged.

## Adjustment:

Turn the drive pulley and check that the forward knife movement begins when the needle bar is in b.d.c. at the twentieth stitch.

If this is not the case set knife trip 2 earlier or later as required.

Carry out a check (see requirement).



A = later  
B = earlier

**5.0.5**

## Requirement:

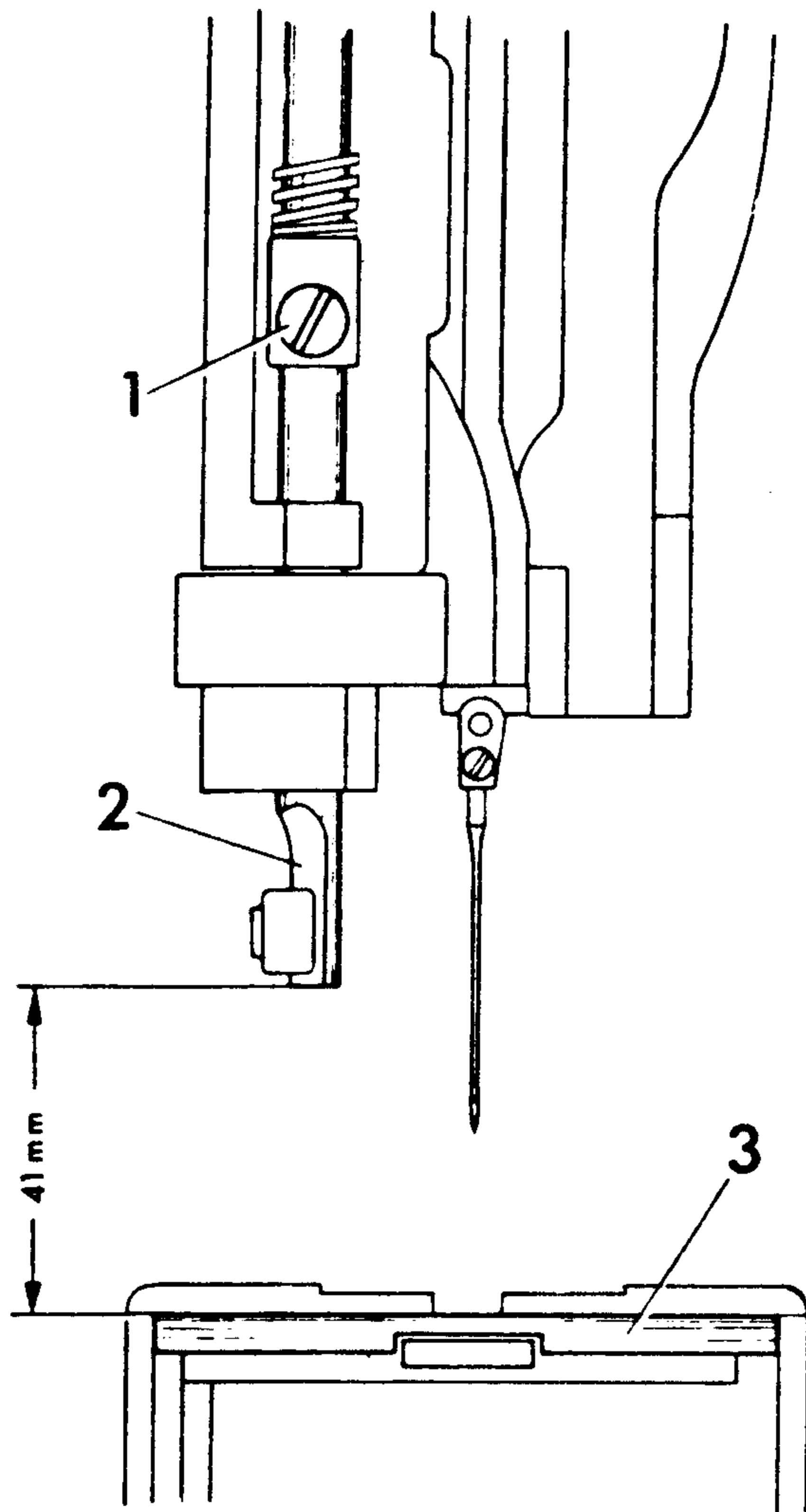
With the machine in the stop-motion position, the master switch on and the button clamp bracket lifted (operated by cylinder Z1) there must be a distance of 41 mm between edge-guide plate 3 and the bottom edge of the presser bar (see Fig. 6.0.1).

## Condition:

Master switch on, compressed air on, machine at end of cycle and stop-motion mechanism engaged.

## Adjustment:

In this position loosen fixing screw 1 (Fig. 6.0.1) and adjust the height of presser 2 so that there is a distance of 41 mm between the bottom edge of the presser bar and edge guide plate 3. Tighten fixing screw 1 again (switch off the master switch).

**6.0.1**

7 Workpiece retainer

7.1 Height adjustment

Requirement:

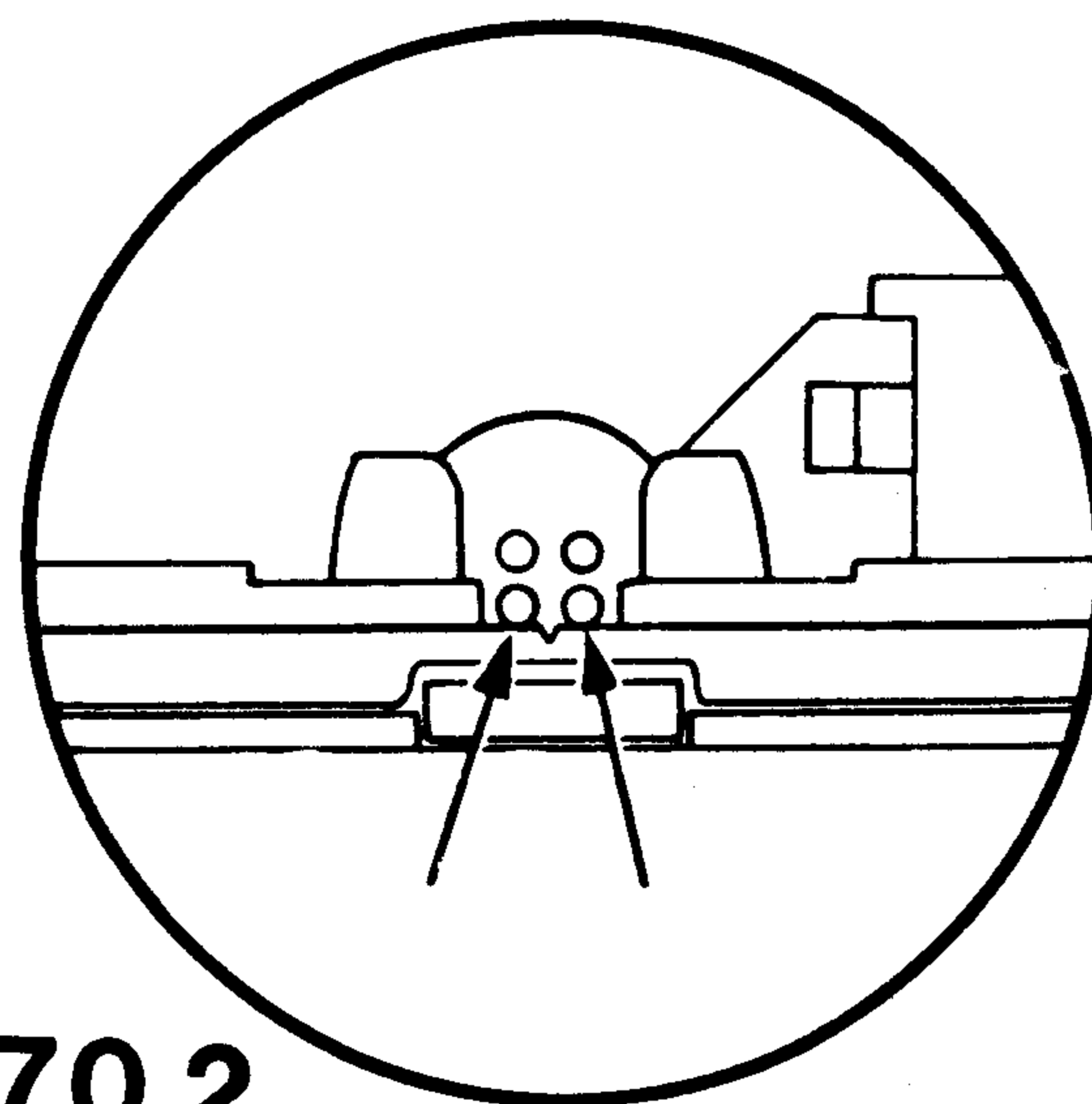
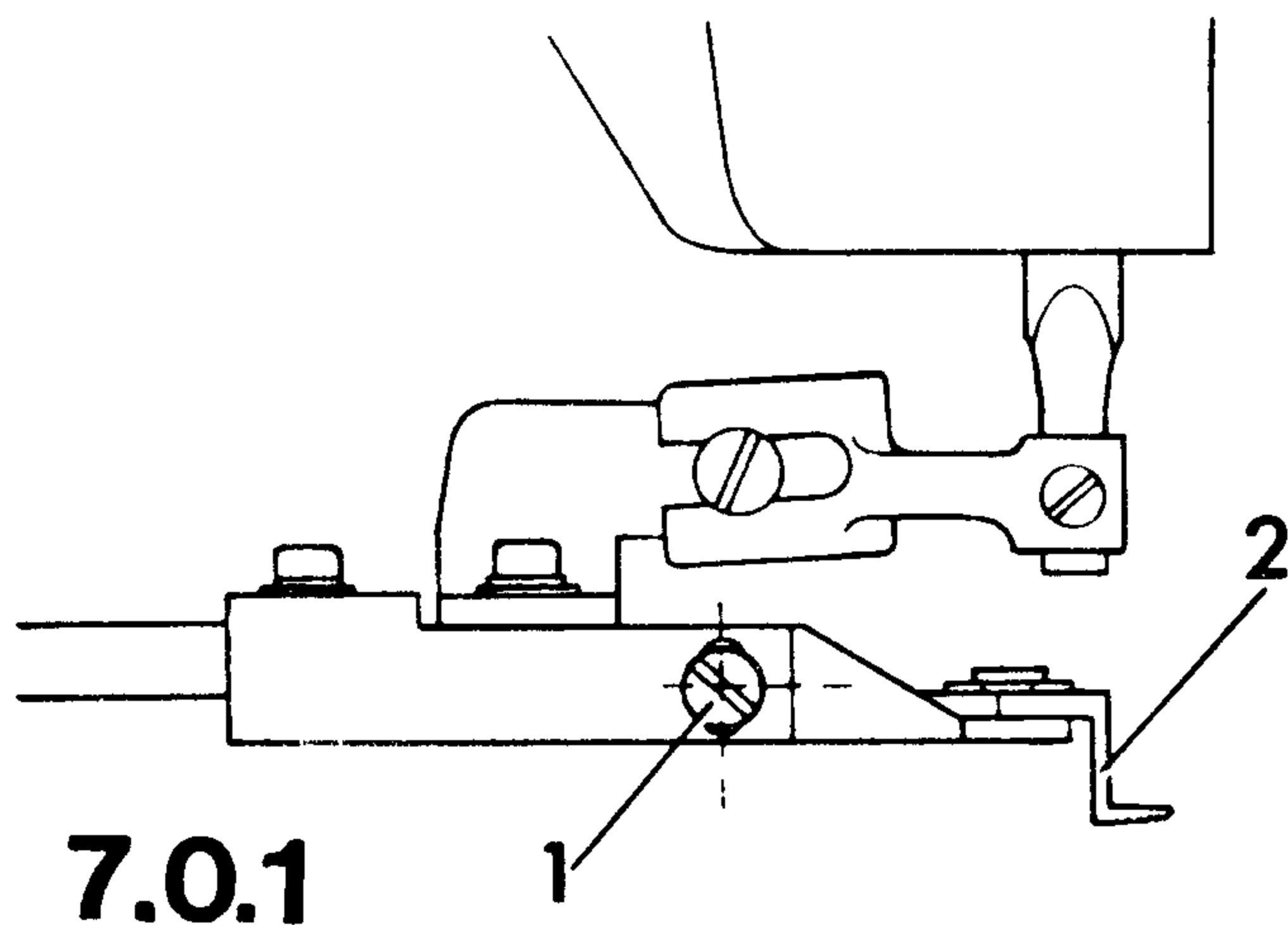
With the workpiece retainer lifted by 5 mm and a button placed vertically in the clamp, the bottom of the lower holes in the button must be flush with the top edge of the needle plate insert (see arrows in Fig. 7.0.2).

Condition:

V-belt removed, master switch on, compressed air on, machine at end of cycle, stop-motion mechanism engaged and button clamp in situ.

Adjustment:

Place an object measuring 5 mm (e.g. allen key) under workpiece retainer 2 (Fig. 7.0.1). Push a button into the clamp as far as it will go. Disengage the stop-motion mechanism. Turn the drive pulley to bring the machine to the button-stem wrapping position (button clamp swivelled to the rear). Loosen fixing screw 1 (Fig. 7.0.1) a little. Adjust the height of workpiece retainer 2 so that the lower edge of the bottom holes in the button are in line with the top edge of the needle plate insert. Tighten fixing screw 1 again. Bring the machine to the end of its cycle (stop-motion mechanism engaged). Remove the 5-mm object from under the retainer and the button from its clamp.



## Requirement:

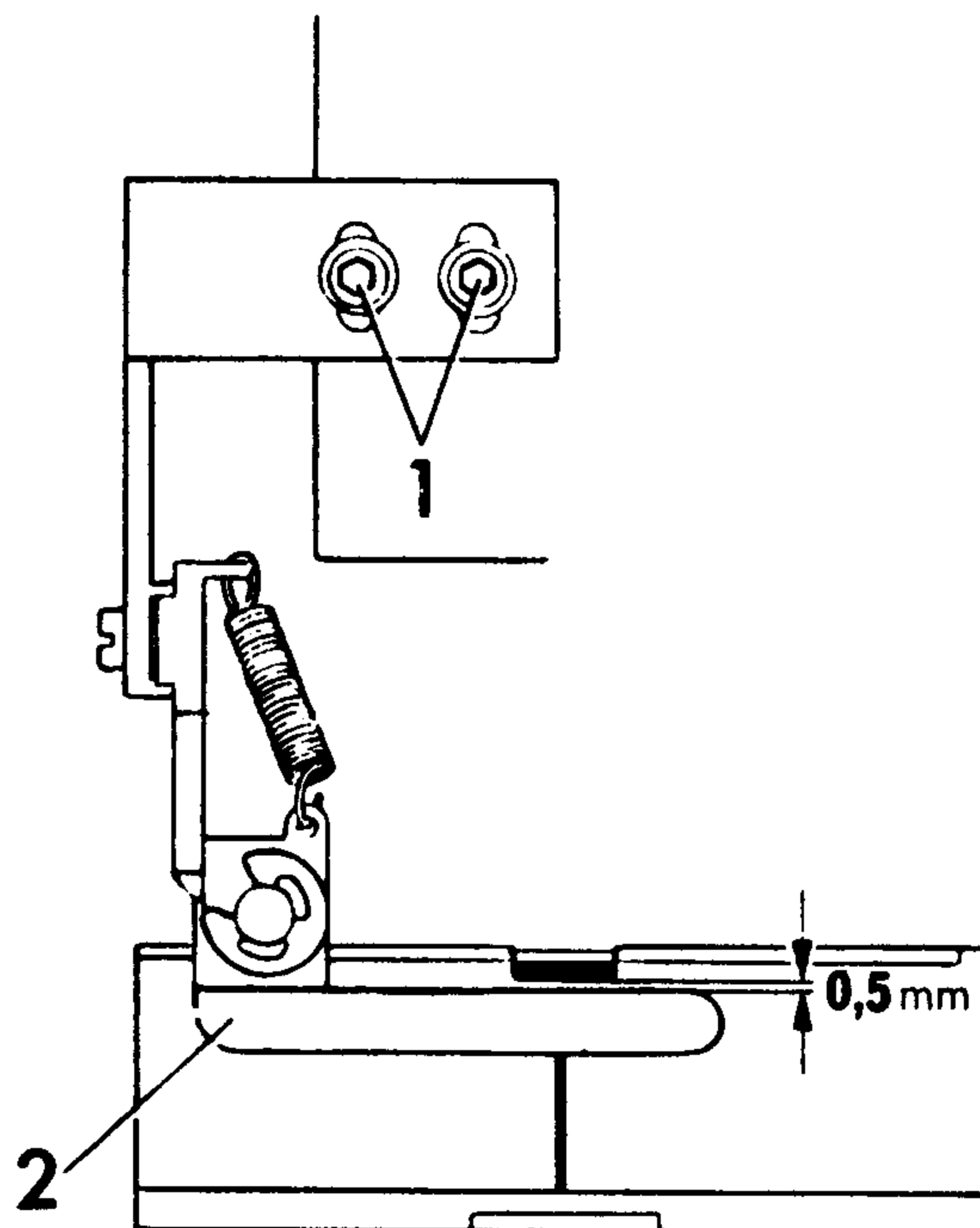
With the machine at the end of its cycle and the stop-motion mechanism engaged there must be a distance of 0.5 mm between the front edge of the needle hole and the back edge of the workpiece retainer (see Fig. 7.0.3).

## Condition:

Master switch off, machine at end of cycle and stop-motion mechanism engaged.

## Adjustment:

In this position loosen fixing screws 1 (Fig. 7.0.3) and adjust workpiece retainer 2 in the arm lengthwise direction so that there is a distance of 0.5 mm between the front edge of the needle hole and the back edge of the workpiece retainer. Make sure that the workpiece retainer remains parallel to the edge guide and fully tighten fixing screw 1.

**7.0.3**

## Requirement:

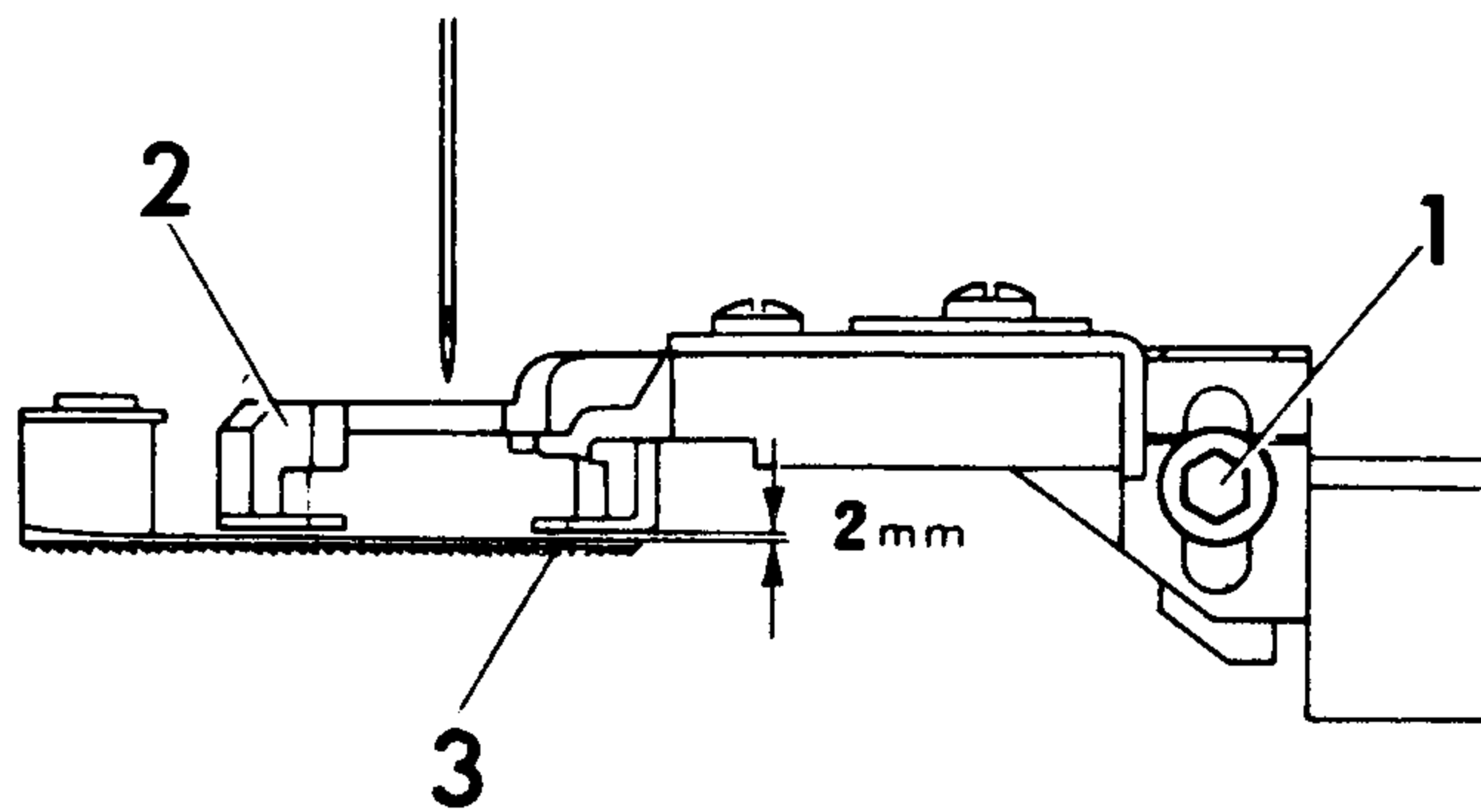
With the machine at the end of its cycle, the stop-motion mechanism engaged, the master switch on and the button clamp raised there must be a clearance of 2 mm between workpiece retainer 3 and the underside of button clamp 2 (See Fig. 8.0.1).

## Condition:

Master switch on, compressed air on (button clamp raised).  
Machine at end of cycle and stop-motion mechanism engaged.

## Adjustment:

Loosen fixing screw 1 (Fig. 8.0.1). Adjust the height of button clamp 2 so that there is a clearance of 2 mm between workpiece retainer 3 and the underside of button clamp 2. Tighten fixing screw 1 again.  
Switch off the master switch.

**8.0.1**

9                    Positioning the button clamp

9.1                 Arm lengthwise direction

Requirement:

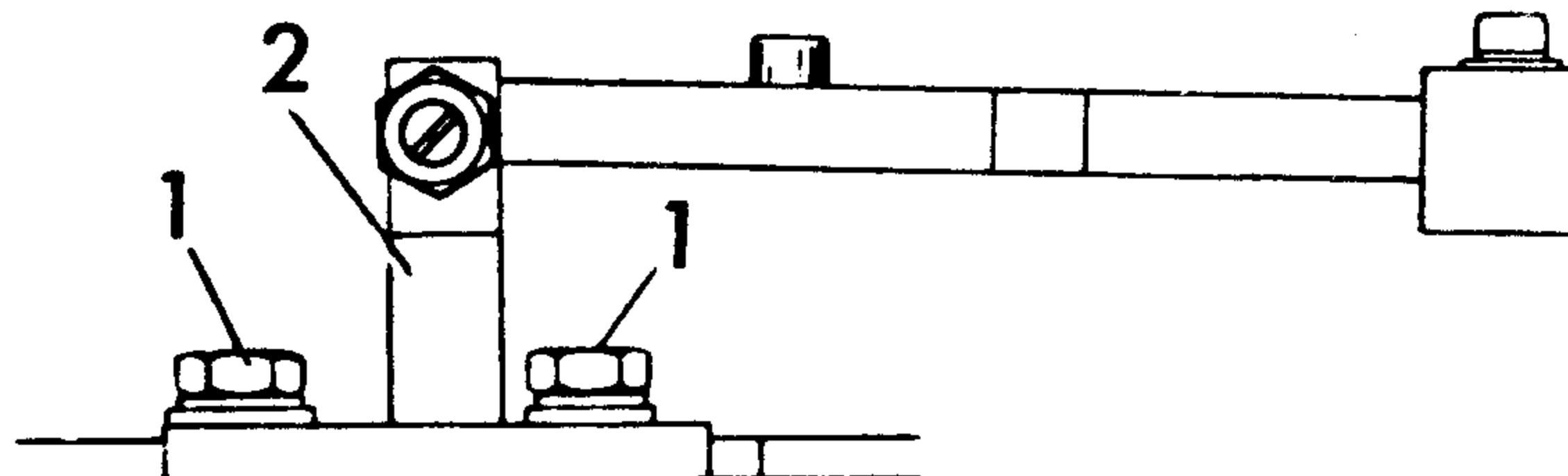
The needle must enter exactly in the centre of the holes in the button.

Condition:

V-belt removed, master switch on, compressed air on, machine at end of cycle and stop-motion mechanism disengaged.

Adjustment:

Insert a button in the clamp. Place a 5-mm thick object (allen key) under the workpiece retainer. Disengage the stop-motion mechanism. Turn the drive pulley by hand and make sure that the needle enters the front right-hand hole of the button. If this is not the case loosen the two screws 1 (Fig. 9.0.1) holding bracket 2, and position the latter so that the needle enters exactly in the centre of the holes in the button when the drive pulley is turned farther.  
Fully tighten the fixing screws 1.



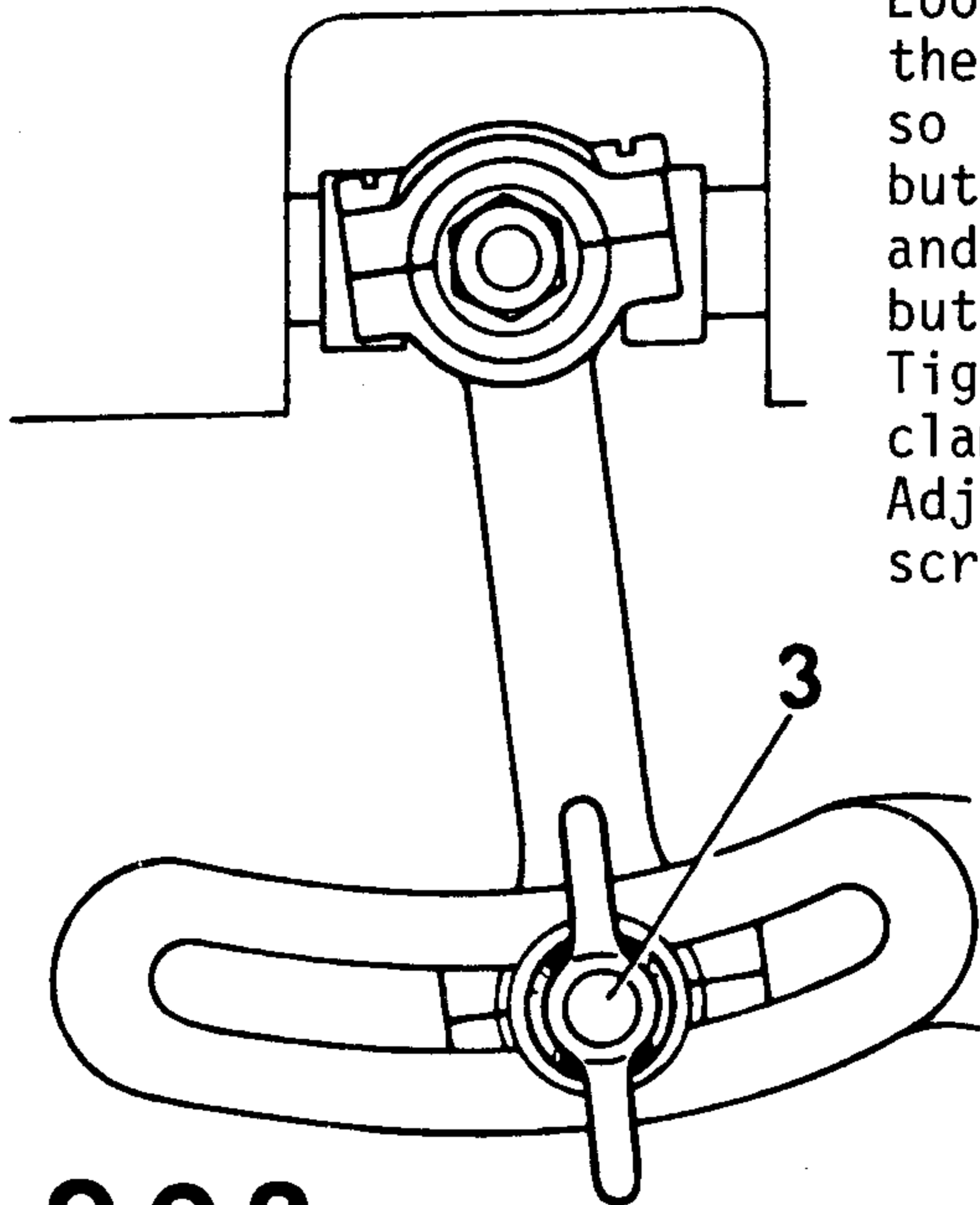
**9.0.1**

## Adjustment:

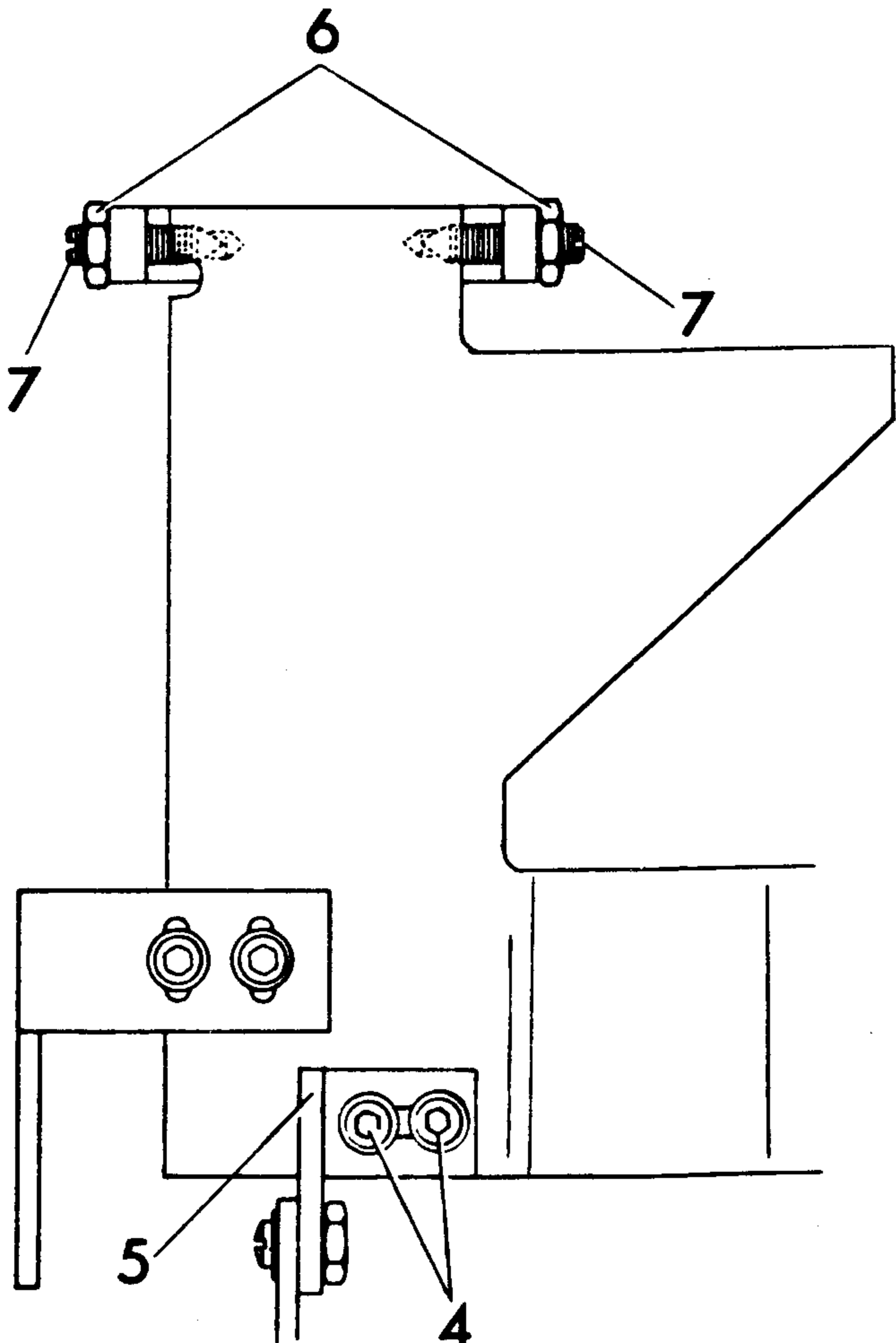
Remove the faceplate. Loosen screw 1 and release the pressure on presser bar 2. Loosen wing nut 3 and adjust the stitch width according to the hole distance by adjusting the pull rod as required. (Arm crosswise motion). Loosen fixing screws 4 of bracket 5 on the clamp lifting piece. Loosen nuts 6 at either side of the mounting bracket. Turn the two centre-screws 7 and adjust the button clamp laterally so that the needle enters exactly in the left hole of the button after its sideward movement. Lock both nuts 6 again and make sure that the button clamp has no lateral play, but can still move freely.

Tighten screws 4 of the clamp lifting piece. Lift the button clamp to check for free movement.

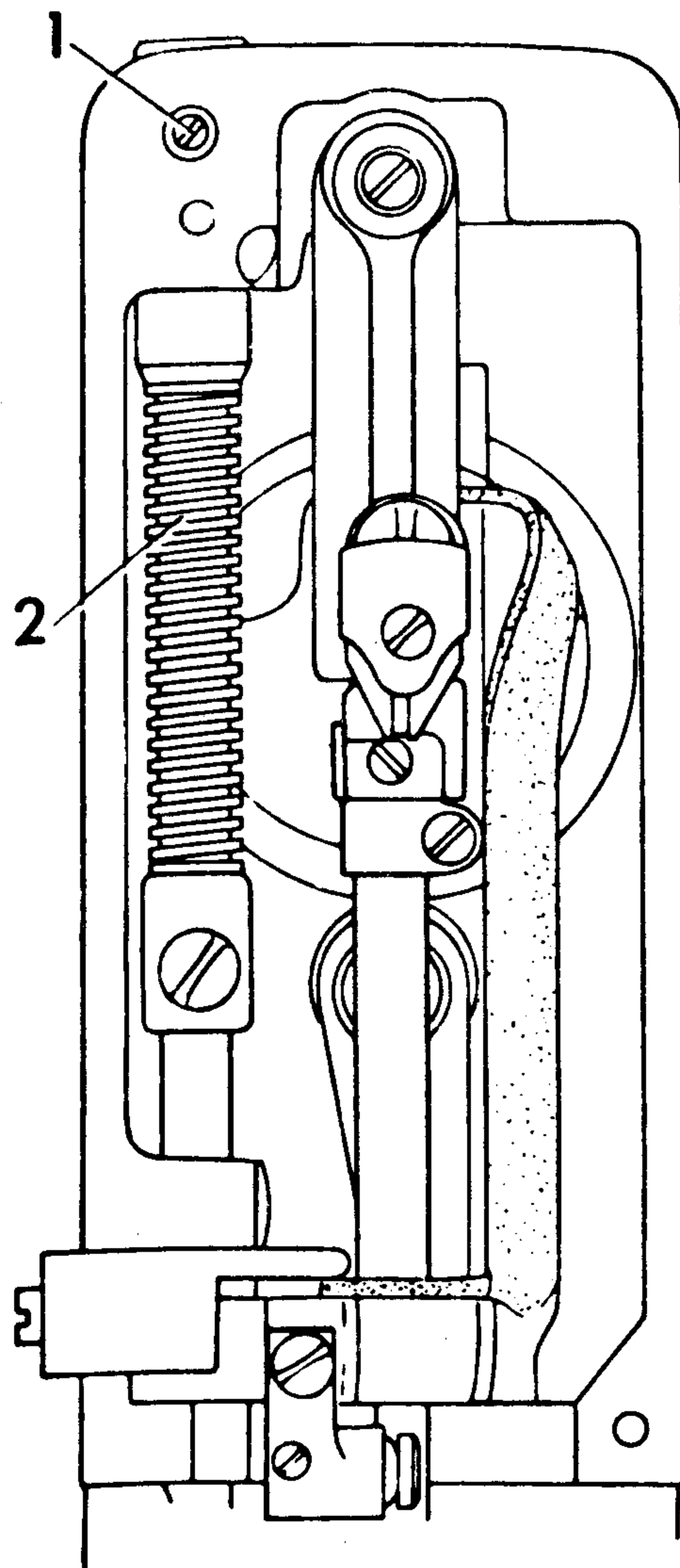
Adjust the pressure on the presser bar again, tighten screw 1 and replace the faceplate.



9.0.3



9.0.4



9.0.5



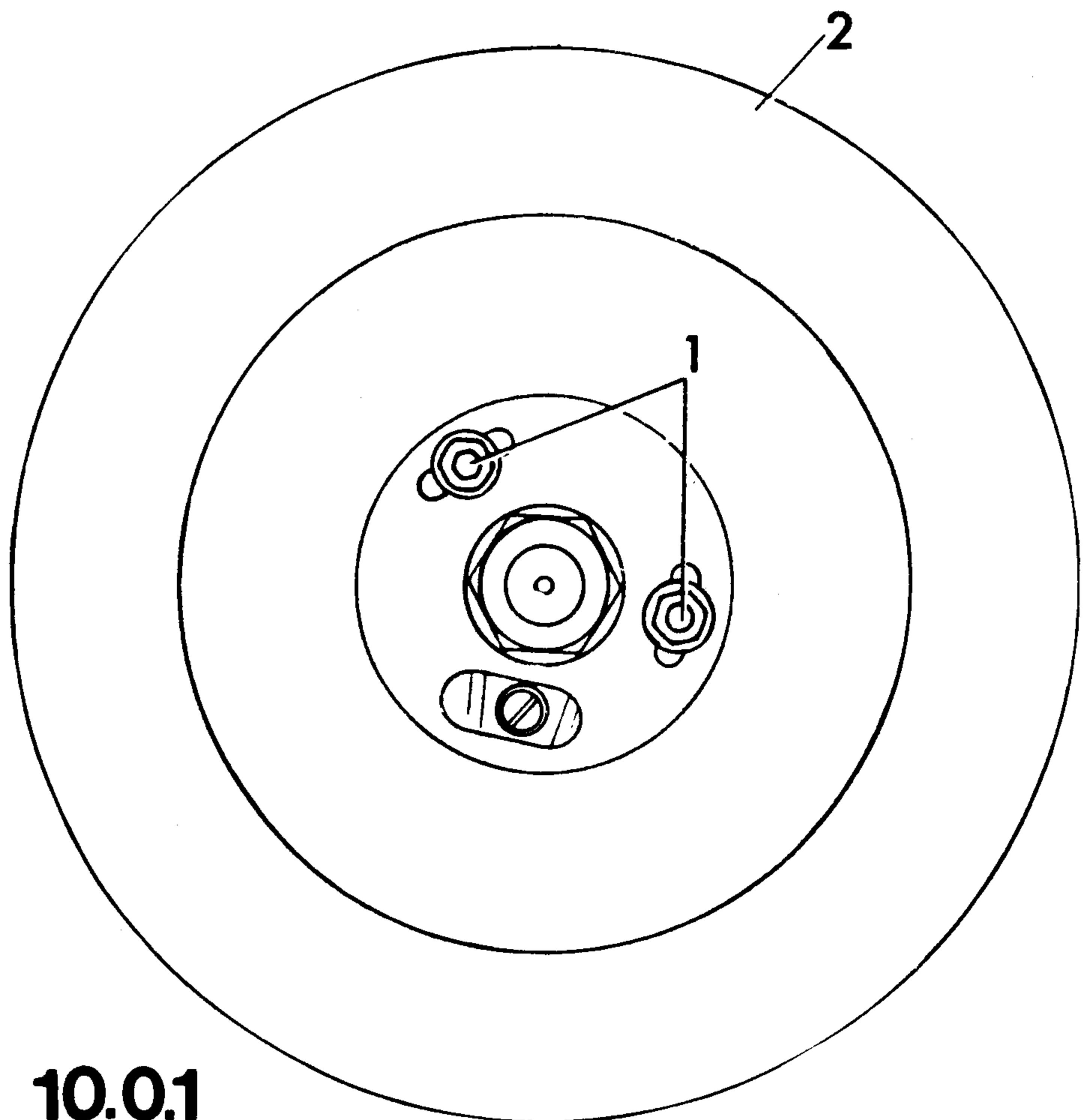
10 Button clamp turning motion

10.1 Timing

Requirement: The turning motion should begin when the needle bar is about 15 mm past b.d.c. after the twenty first stitch.

Condition: V-belt removed, master switch on, compressed air on, machine at end of cycle.

Adjustment: With a button in place in the clamp, insert a 5-mm thick allen key under the workpiece retainer. Disengage the stop-motion mechanism. Turn the drive pulley until the needle bar is at b.d.c. at the twenty first stitch. Switch off the master switch. Place a g-clamp on the needle bar and tighten it just lightly. Measure off a distance of 15 mm between the needle bar frame and the g-clamp, then fully tighten the latter. Turn the drive pulley again until the g-clamp contacts the underside of the needle bar frame. In this position loosen the two nuts 1 (Fig. 10.0.1) on control cam 2. Turn the control cam clockwise until you feel a resistance. Tighten nuts 1 again. Remove the g-clamp from the needle bar and switch on the master switch. Carry out check (see requirement).



**10.0.1**

11 Cylinder Z 3

11.1 Cylinder bracket

Requirement:

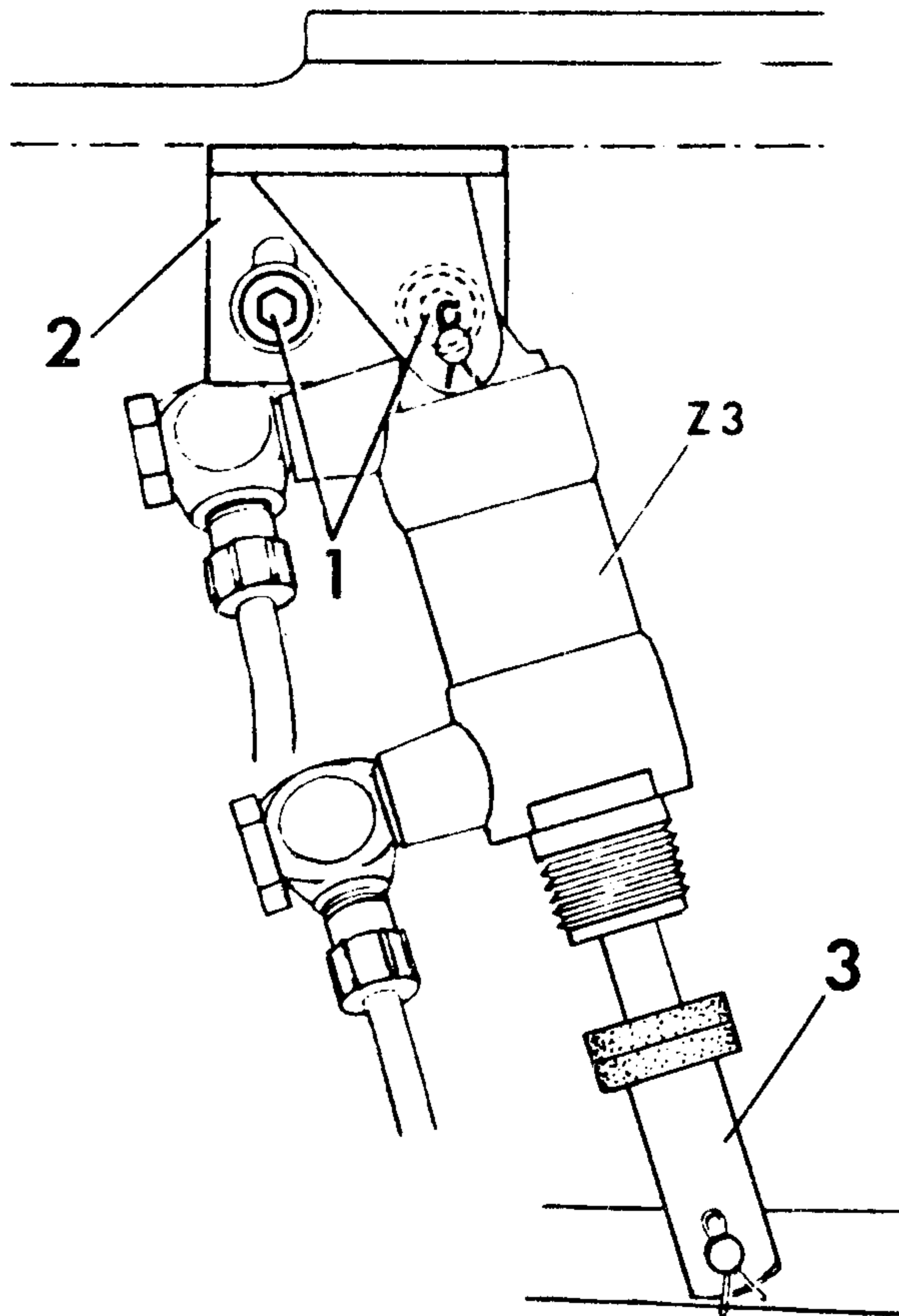
When the machine is positioned at the outer track of the control cam and cylinder Z 3 is extended it must be quite easy to turn the machine by hand.

Condition:

V-belt removed, master switch on, compressed air on (cylinder Z 3 extended) machine at end of cycle, stop-motion mechanism disengaged.

Adjustment:

Turn the drive pulley to carry out a number of stitches. If the machine binds, loosen screws 1 (Fig. 11.0.1) of cylinder bracket 2.  
Make sure that bracket 2 is horizontal (see dash-dot line) and yoke 3 of cylinder Z 3 can be moved freely back and forth, then tighten screws 1 again.  
Switch off the master switch.  
Carry out a check (see requirement).



**11.0.1**

## Requirement:

When the roller of the roller lever is in the inner track of the control cam track and cylinder Z 3 is retracted it must be quite easy to turn the machine by hand. The stroke of the cylinder plunger is limited by means of an 8 mm thick spacer.

## Condition:

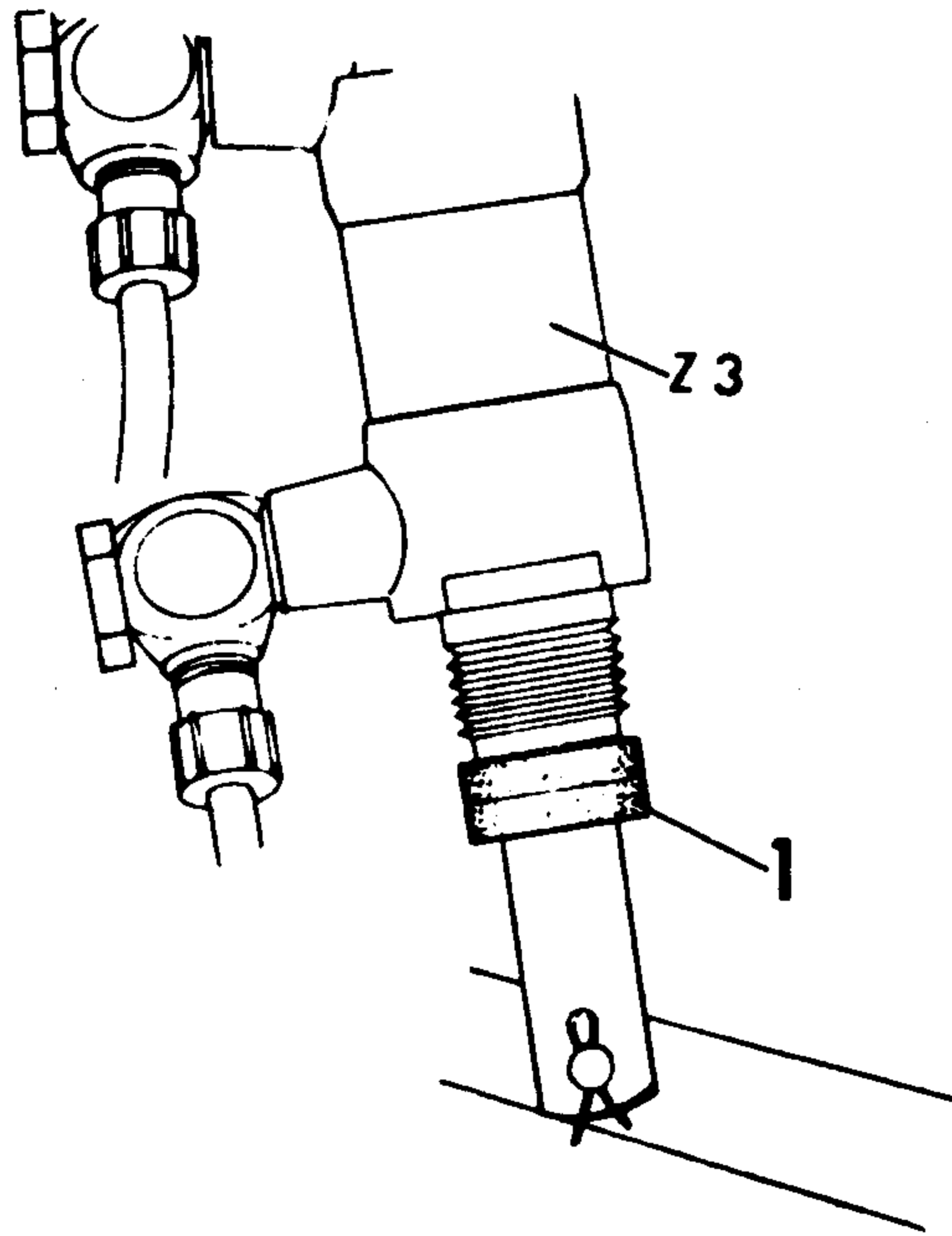
V-belt removed, master switch on, compressed air on, machine at end of cycle and stop-motion mechanism disengaged.

## Adjustment:

Place a 5-mm thick object (allen key) under the workpiece retainer. Turn the drive pulley to move the clamp to the stem-wrapping position (vertical).

Cylinder Z 3 is retracted.

In cases of binding replace the 8 mm thick spacer 1 (Fig. 11.0.3) with a thinner or thicker one. Carry out a check (see requirement).

**11.0.3**

12

Switch "b4"

12.1

Position of the switch after the stop-motion action

Requirement:

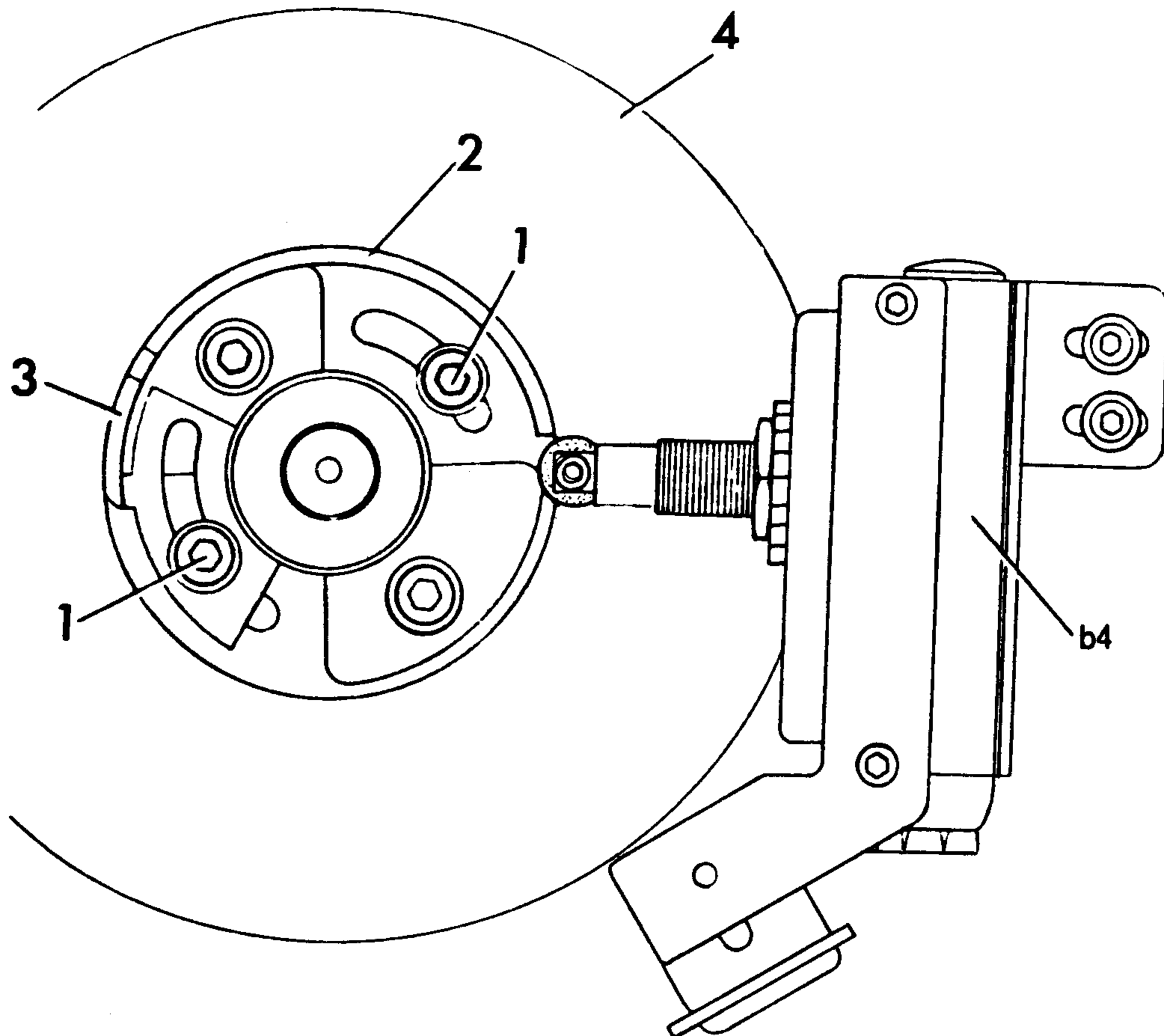
With the machine at the end of its cycle and the stop-motion mechanism engaged switch "b4" must be released.

Condition:

V-belt removed, master switch on, compressed air on, machine at end of cycle and stop-motion mechanism engaged.

Adjustment:

In this position loosen the two screws 1 (Fig. 12.0.1) of trip segments 2 and 3 on knife control cam 4. Position segment 2 so that switch "b4" is released after the stop-motion action. Tighten the two fixing screws 1 again.



**12.0.1**

Requirement:

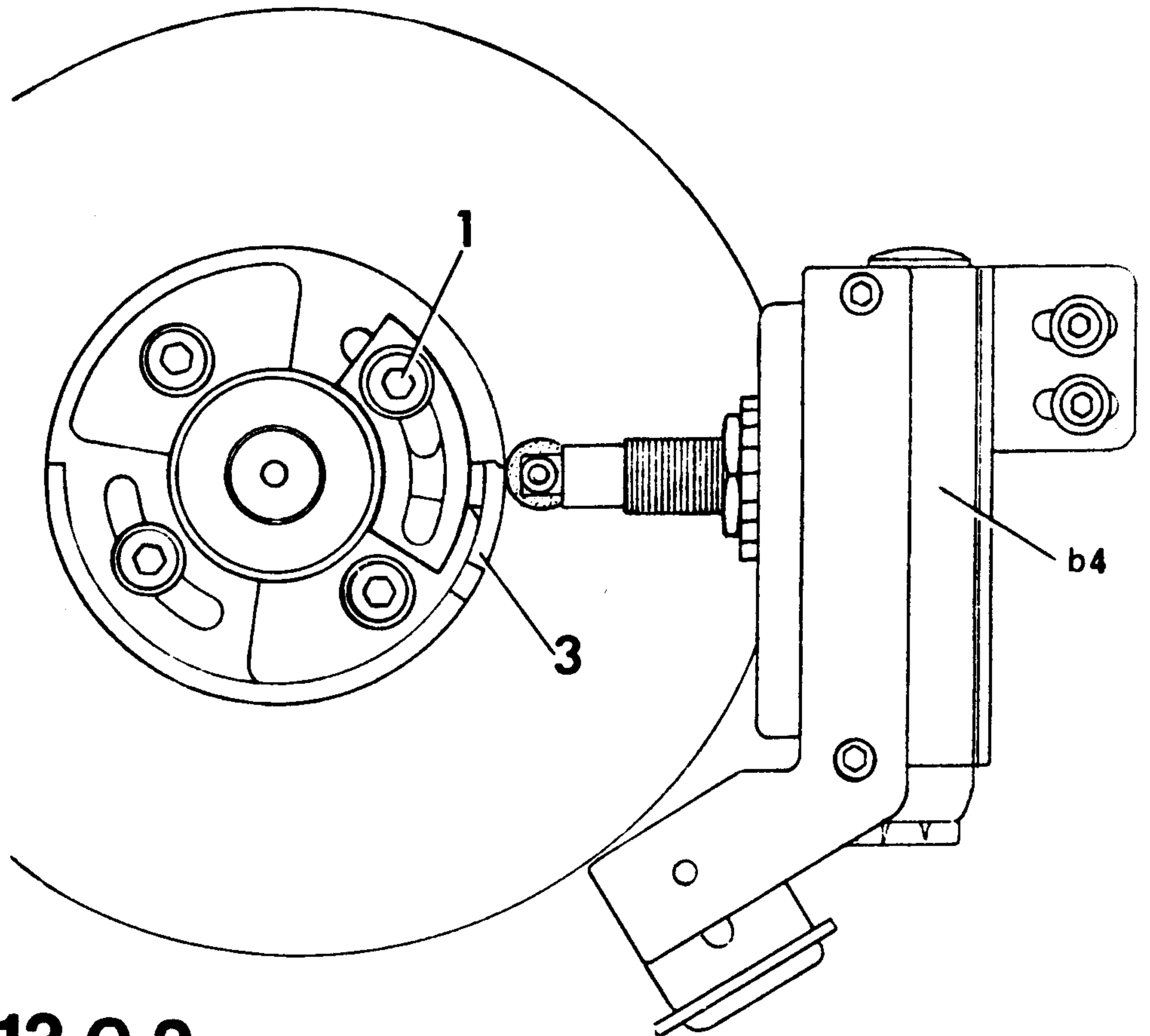
Switch "b4" should be operated between the nineteenth and the twentieth stitch.

Condition:

V-belt removed, master switch on, compressed air on, stop-motion mechanism disengaged.

Adjustment:

Place a 5-mm thick object under the workpiece retainer  
Turn the drive pulley until the needle bar is at t.d.c., after the nineteenth stitch.  
Loosen fixing screw 1 (Fig. 12.0.2) and position trip segment 3 so that the switch is operated.  
Tighten fixing screw 1 again.

**12.0.2**

## Requirement:

In the sewing position the button clamp must be exactly horizontal, and in the wrapping position exactly vertical. Also the button clamp must be locked in both positions.

## Condition:

Master switch on, compressed air on, machine at end of cycle.

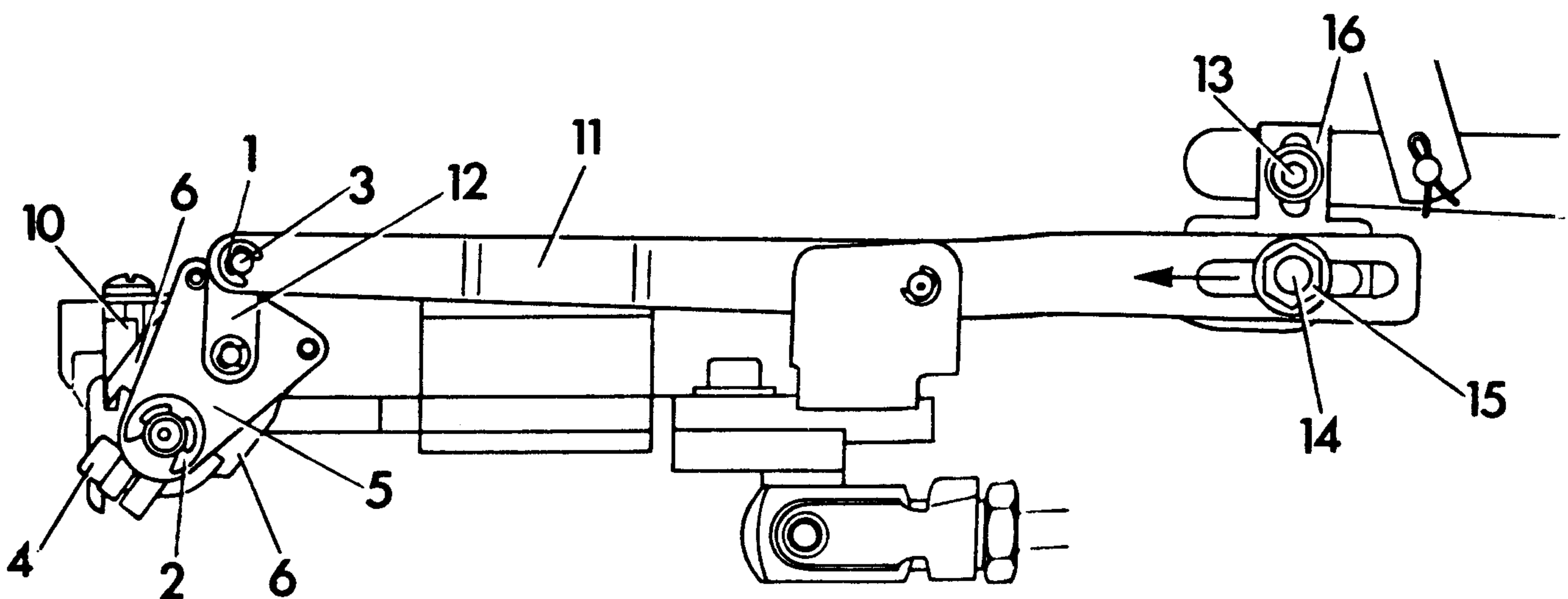
## Adjustment:

Place a 5-mm thick object (allen key) under the workpiece retainer. Remove detent clips 1 and 2 (Fig. 13.0.1). Take out pin 3. Loosen screw 4. Take off linkage plate 5 and the two catches 6 and crank 7 behind it (Fig. 13.0.2). Loosen the two screws 8. Turn eccentric lobe facing right, see arrows), ensuring that clearances A and B are correct. Tighten screws 8 just a little. Replace crank 7 and the two catches 6.

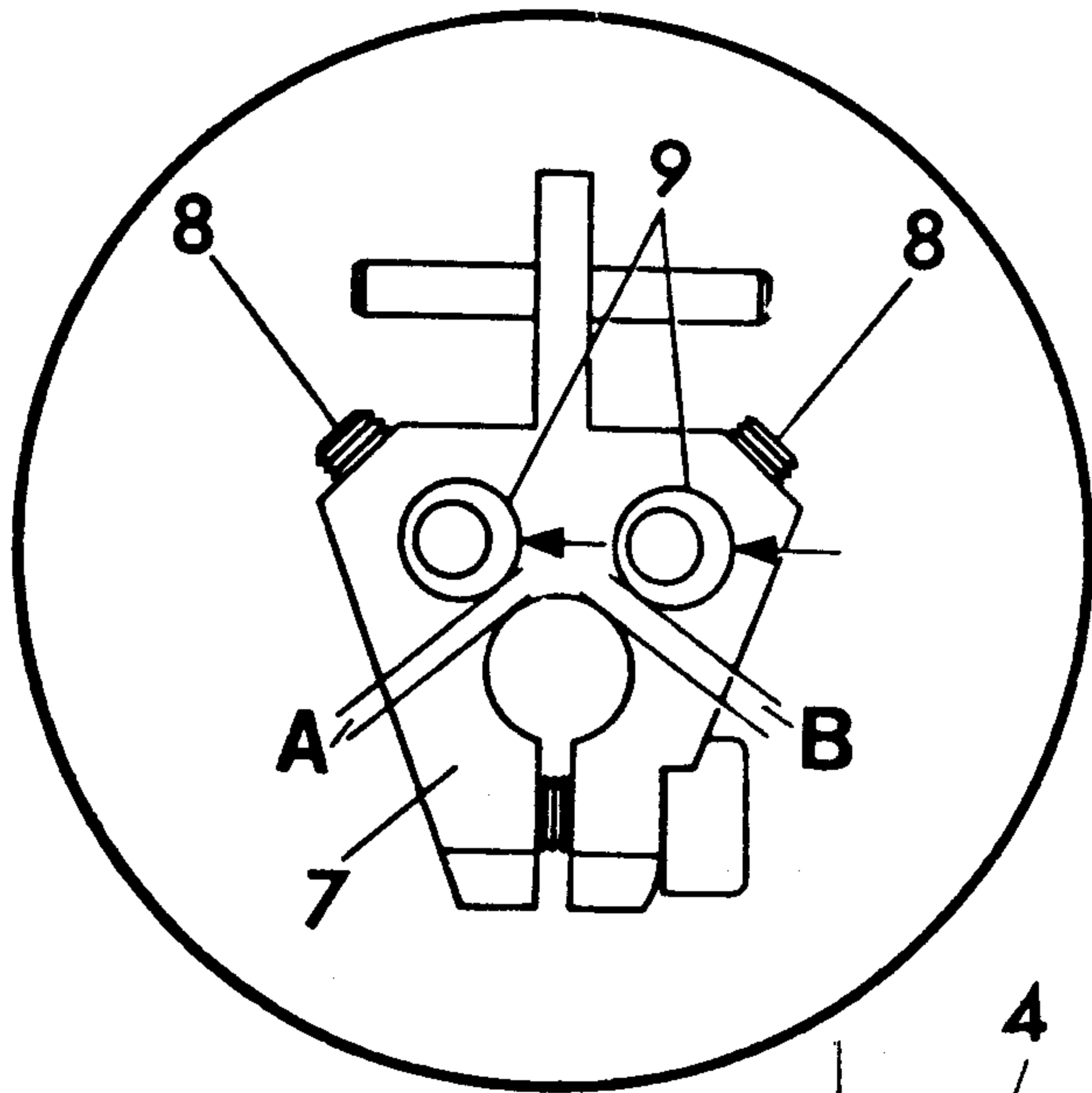
Move the button clamp to the sewing position by hand. In this position the clamp must be exactly horizontal and locked in position. The button clamp must be exactly vertical and also locked. Corrections of this can be made on eccentric pins 9. Afterwards fully tighten screw 8.

Move button clamp 10 to the horizontal position. Replace linkage plate 5 and detent clip 2. Fit pin 3 in connecting bar 11 and link 12 and secure it with detent clip 1. Loosen screw 13 and position linkage plate 5 so that its stop pins are the same distance from catches 6. Tighten screw 13. With switch b4 operated by hand (Fig. 13.0.4) check if button clamp 10 is exactly vertical and locked in position. If this is not the case, adjust pin 14 after loosening nut 15. To increase the turning movement of the button clamp, turn pin 14 as shown by the arrow, and to decrease it turn pin 14 the opposite way. Switch off the master switch and carry out a check (see requirement). Check that when catch 6 engages in the vertical and horizontal button clamp positions the stop pins of linkage plate 5 are the same distance from catches 6.

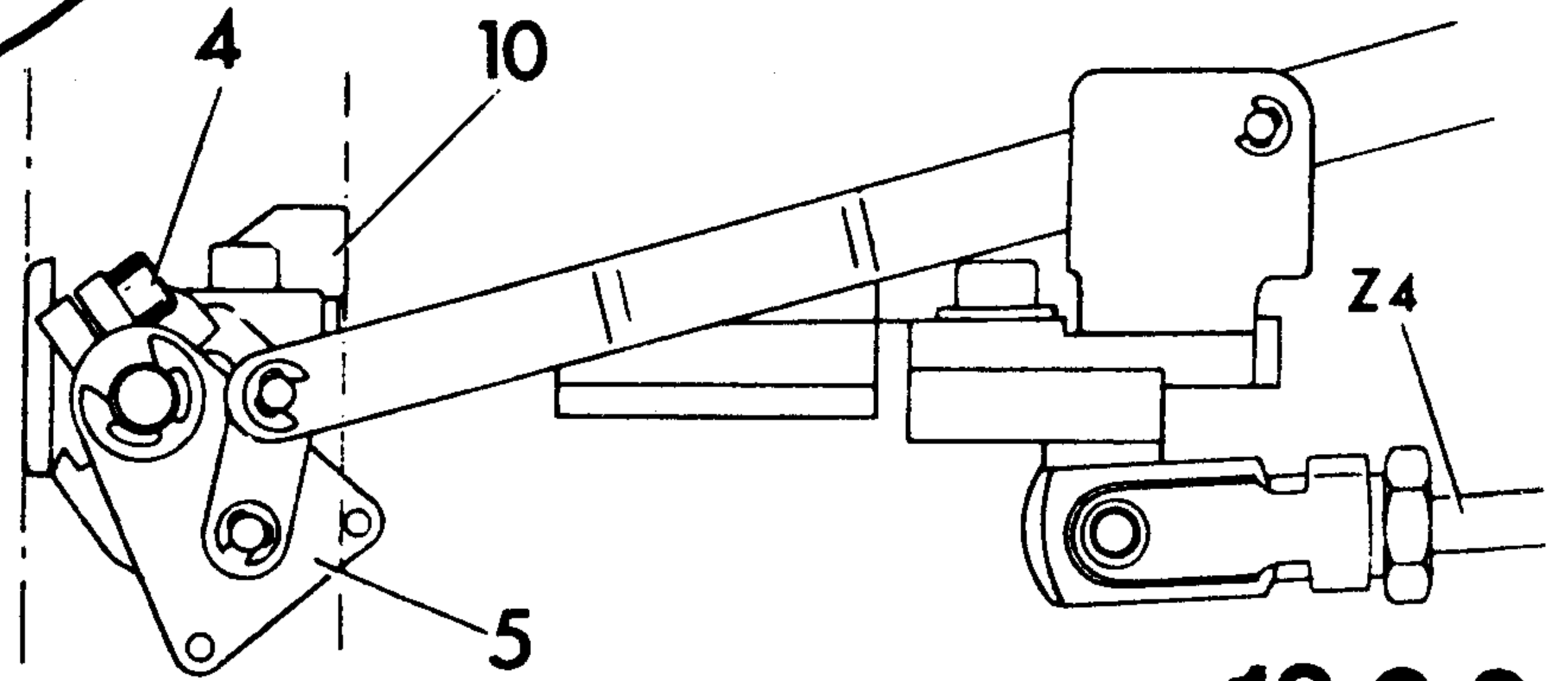
If necessary, adjust the height of link 16 after loosening screw 13.



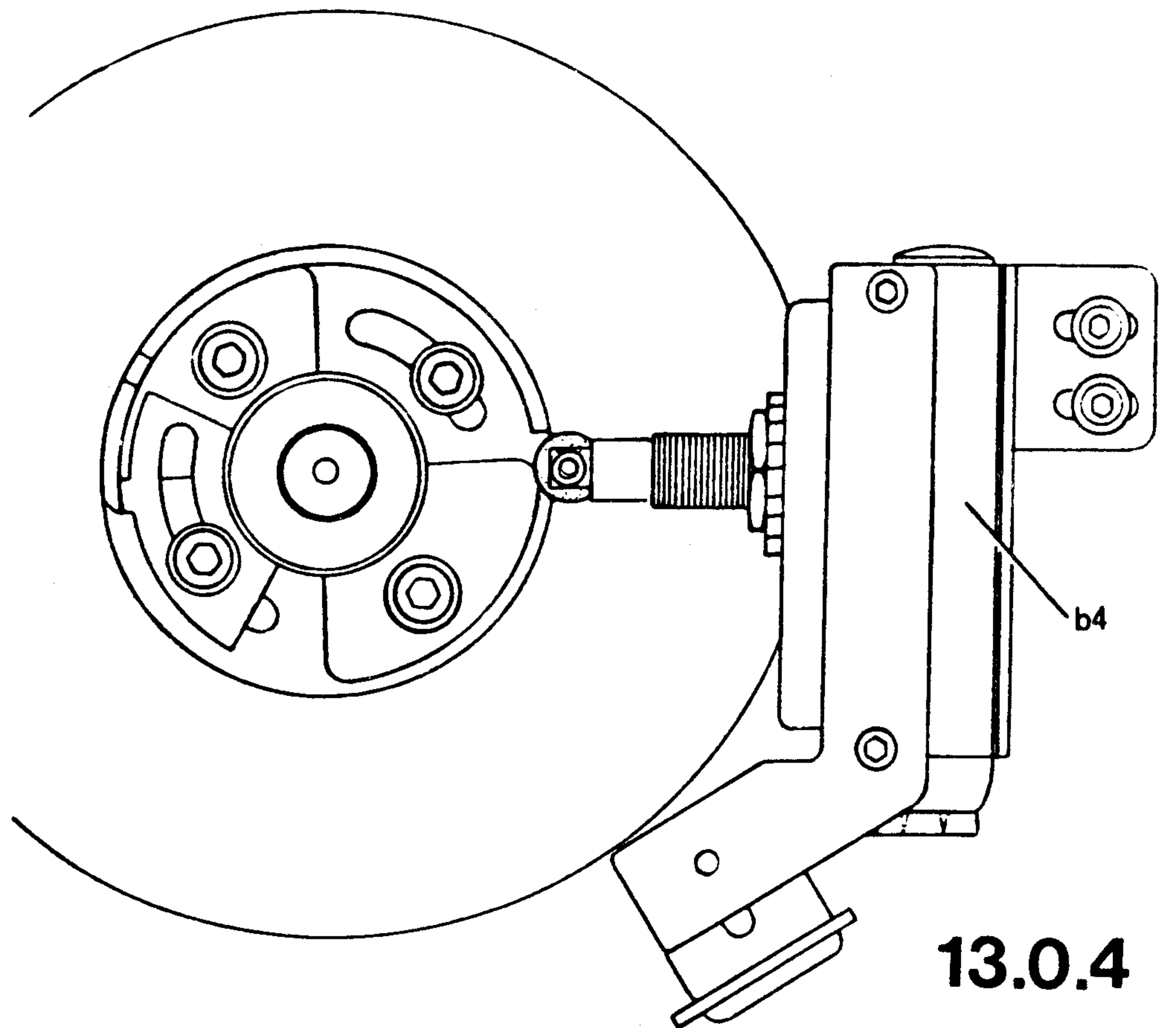
13.0.1



**13.0.2**



**13.0.3**



**13.0.4**

## Requirement:

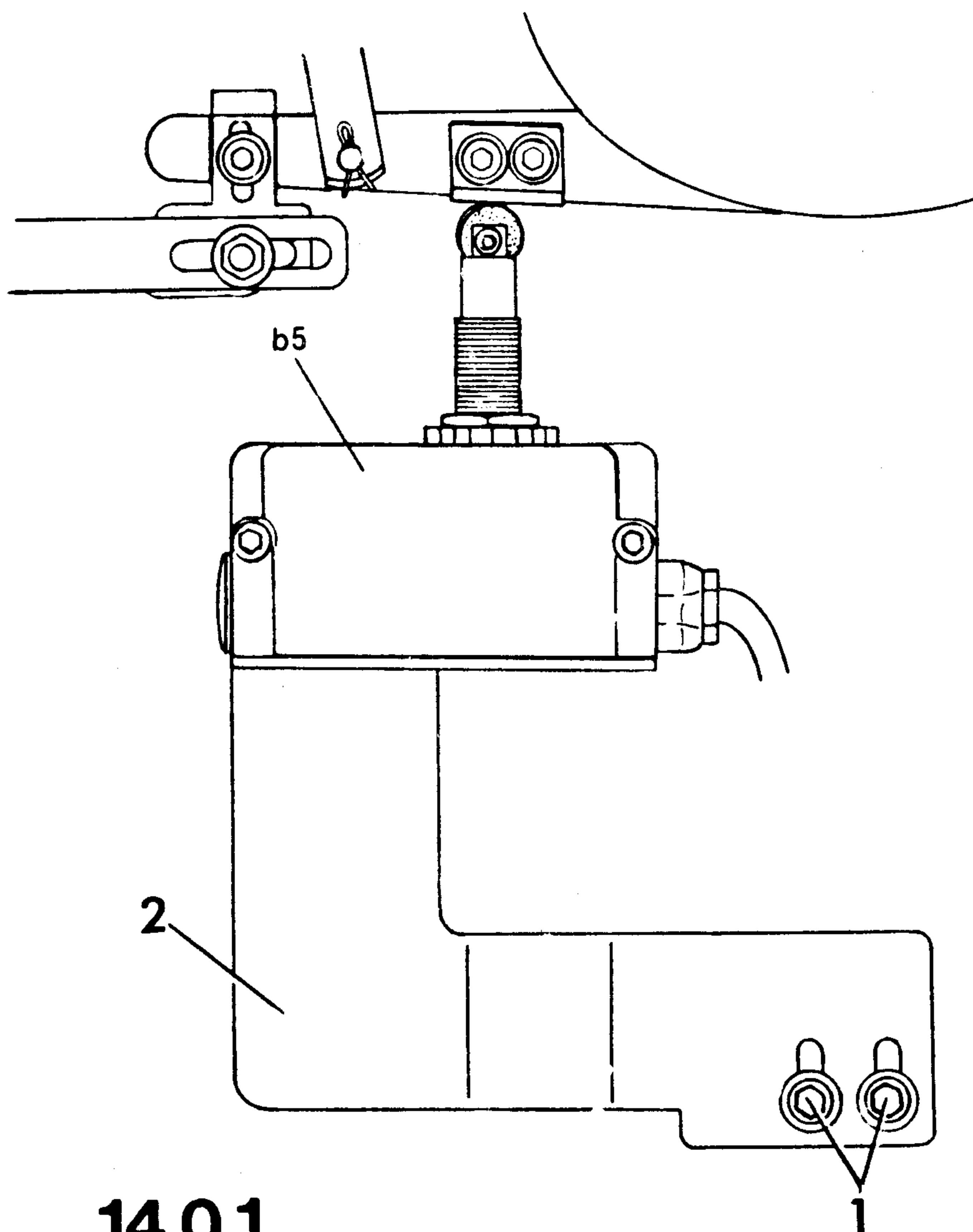
With the machine at the end of its cycle the roller of the switch must be actuated, but still have a little play.

## Condition:

V-belt removed, master switch on, compressed air on, machine at end of cycle and stop-motion mechanism engaged.

## Adjustment:

In this position loosen fixing screws 1 (Fig. 14.0.1) of the switch and position bracket 2 so that switch "b5" is properly actuated. Tighten fixing screws 1 securely. Carry out a check (see requirement).

**14.0.1**



**Requirement:**

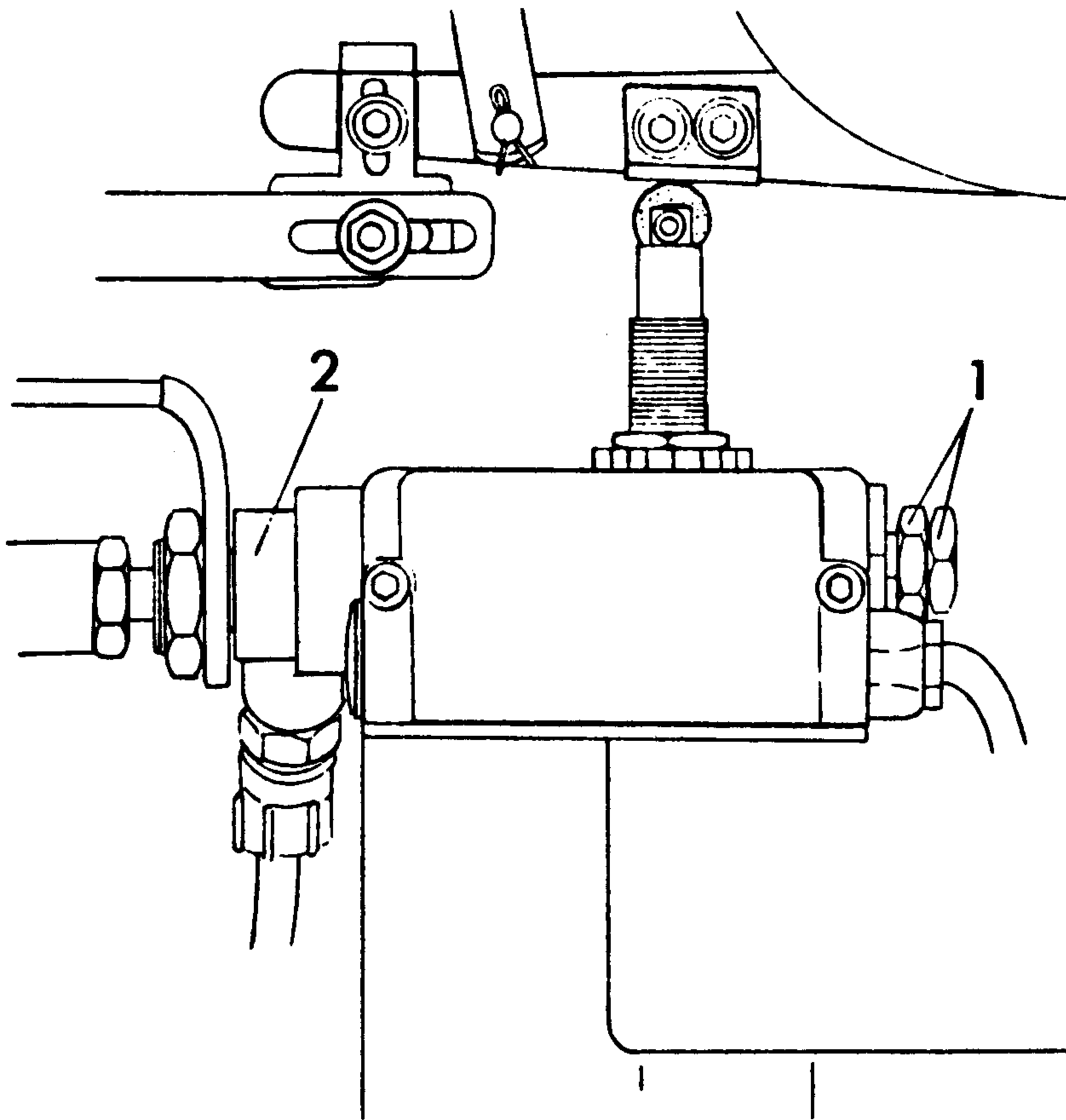
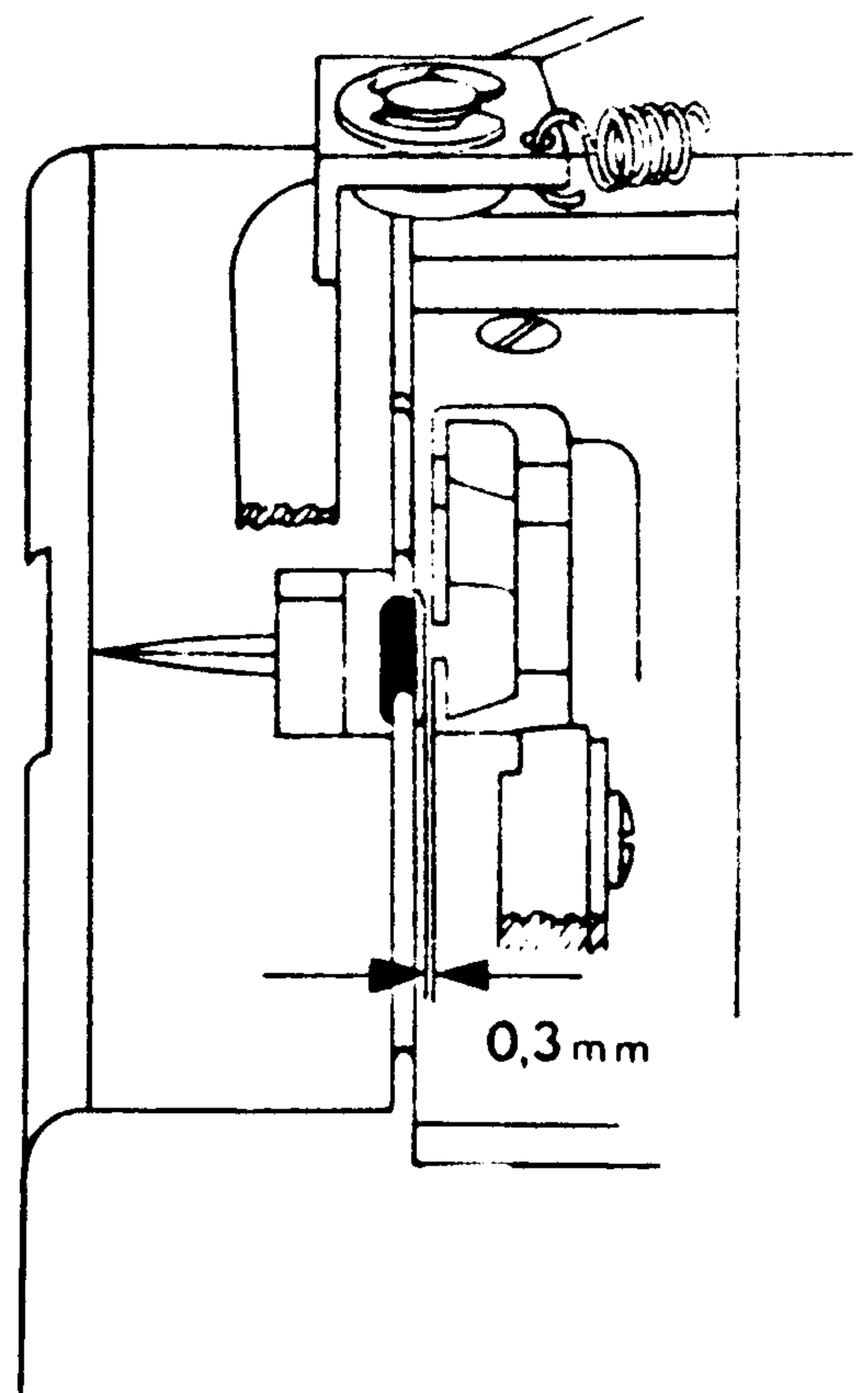
With the button clamp in the vertical position (stem wrapping) and cylinder Z 4 extended there must be a clearance of 0.3 mm between the bottom edge of the button clamp and the back edge of the needle plate insert (see Fig. 15.0.2).

**Condition:**

V-belt removed, master switch on, compressed air on, machine at end of cycle and stop-motion mechanism disengaged.

**Adjustment:**

In this position place a 5 mm thick object (allen key) under the workpiece retainer. Turn the drive pulley until the button clamp is vertical after the twenty-first stitch. Button clamp feed cylinder Z 4 is extended (Fig. 15.0.1). Turn the two nuts 1 (behind the red plastic bush 2) and limit the stroke of cylinder Z 4 so that there is a clearance of 0.3 mm between the bottom edge of the button clamp and the back edge of the needle plate insert (see Fig. 15.0.2).

**15.0.1****15.0.2**

16 Feed plate

16.1 Feed plate locking action

Requirement:

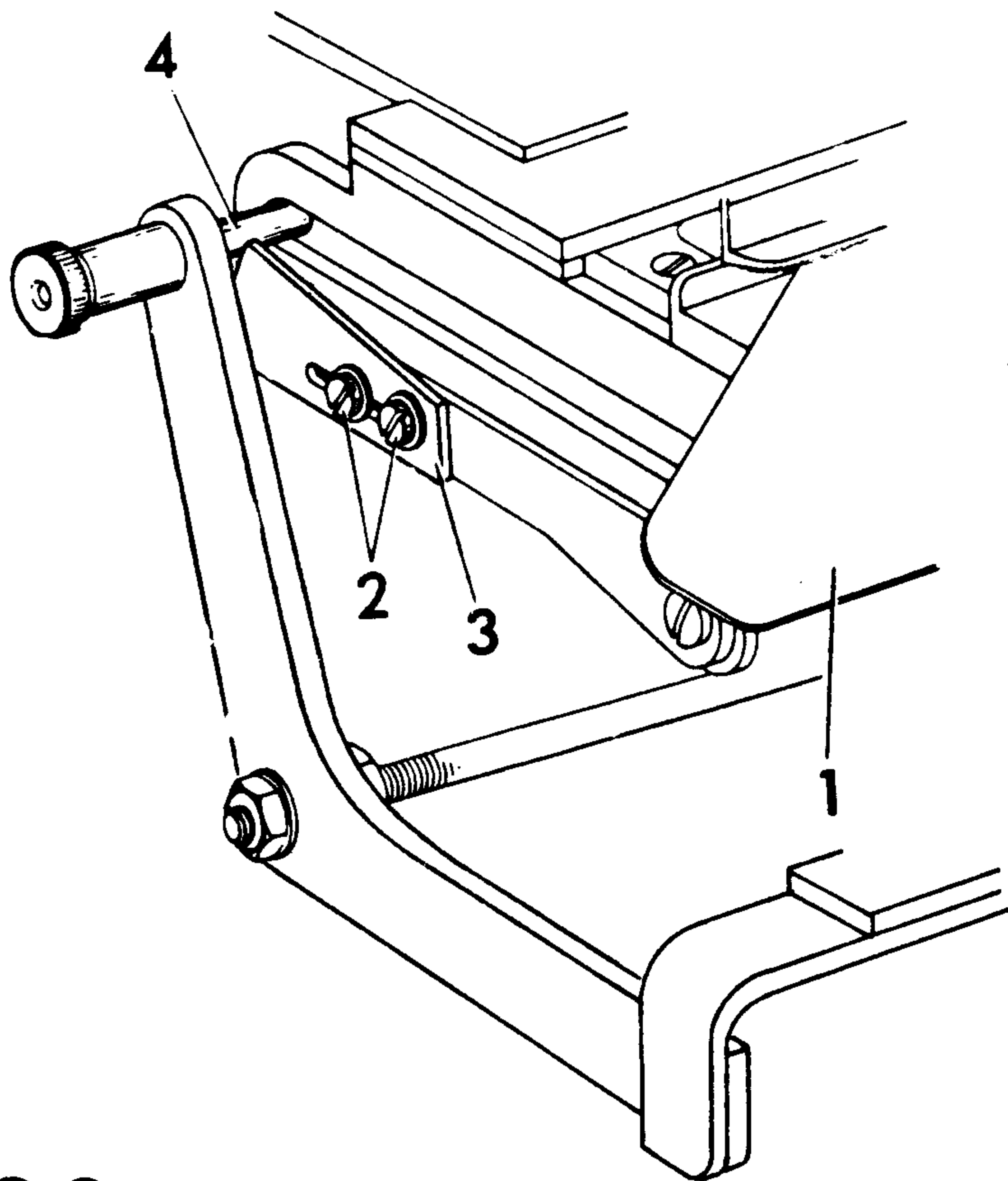
The engaged feed plate 1 should be locked in its forward position without any noticeable play.

Condition:

Master switch on, machine at end of cycle and stop-motion mechanism engaged.

Adjustment:

In this position swing in feed plate 1 (Fig. 16.0.1). Loosen the four retaining screws 2 (left and right). Move retainers 3 up against guide pins 4 and adjust them in height so that the top edges of the retainers are in line with pins 4. Tighten the four retaining screws 2 again.



**16.0.1**

## Requirement:

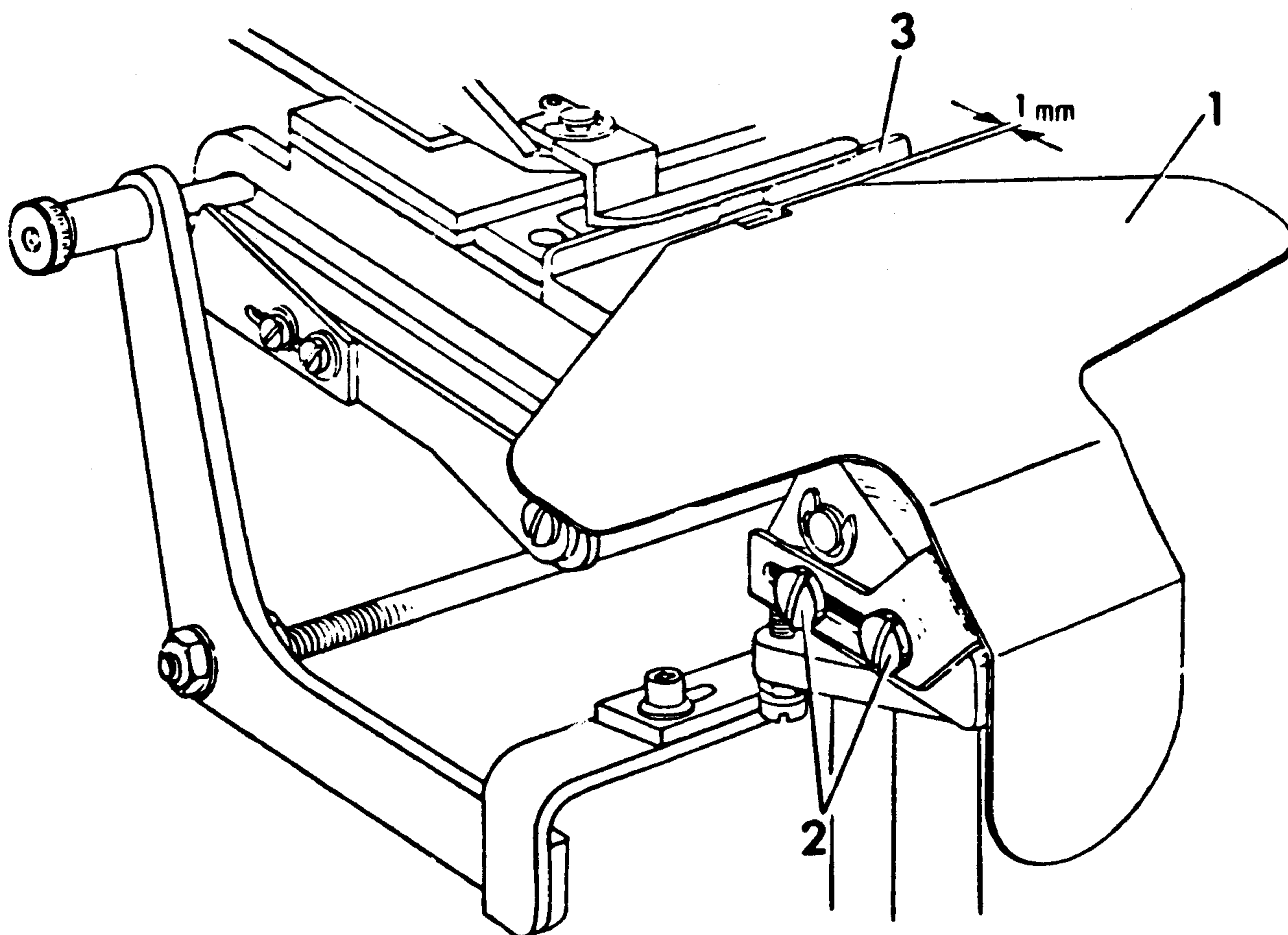
With the machine at the end of its cycle and feed plate 1 engaged there should be a clearance of 1 mm between blindstitch guide 3 and the front edge of the feed plate (see Fig. 16.0.2).

## Condition:

V-belt removed, master switch off, machine at end of cycle, stop-motion mechanism engaged.

## Adjustment:

Make sure that feed plate 1 (Fig. 16.0.2) is properly engaged, loosen the four retaining screws 2 (left and right) and adjust feed plate 1 so that there is a clearance of 1 mm between blindstitch guide 3 and the front edge of the feed plate. Tighten the four retaining screws.

**16.0.2**

## Requirement:

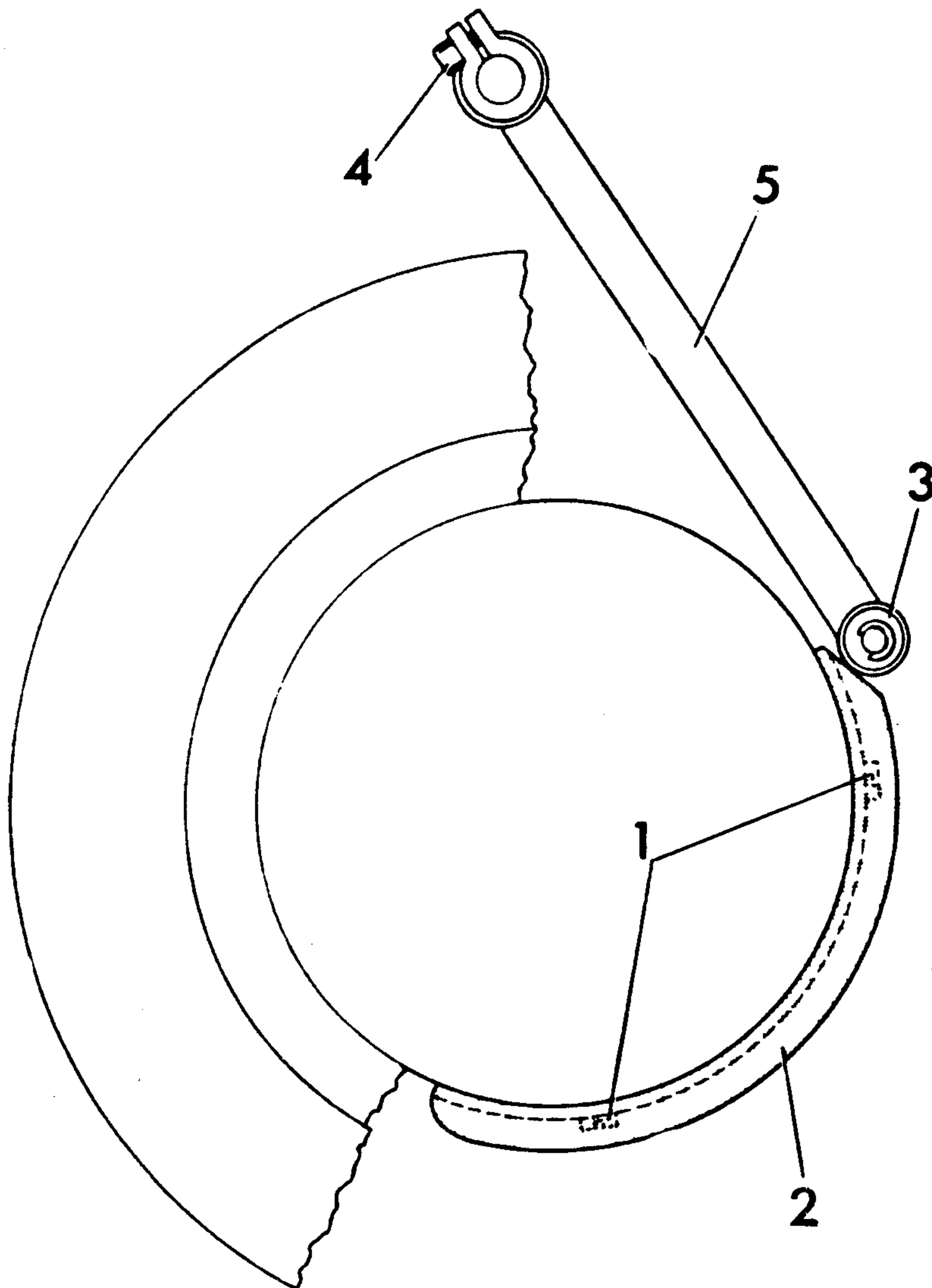
After the fifth wrapping stitch has been made the main thread tension must be increased.

## Condition:

V-belt removed, master switch off, machine at end of cycle, stop-motion mechanism disengaged.

## Adjustment:

Turn the drive pulley until the machine has finished the fifth wrapping stitch. Loosen fixing screws 1 (Fig. 17.0.1) and move the bevelled surface of trip 2 up against roller 3. Tighten fixing screw 1 again. Loosen clamp screw 4 of roller lever 5. Make sure that there is a noticeable play between roller 3 and trip 2, then tighten clamp screw 4 of roller lever 5 again.

**17.0.1**

- Condition: V-belt removed, master switch on, compressed air on, machine at end of cycle.
- Cutting test: Thread the machine, place a button in and load a piece of fabric. Disengage the stop-motion mechanism. Turn the drive pulley and check whether the thread is properly cut after the 10th and 20th stitch. Correction is made according to sections 5.2 and 5.3. Continue turning the drive pulley until the 40th stitch. Switch off the master switch. Turn the drive pulley to set the machine at the end of its cycle; the stop-motion mechanism must be engaged and the button clamp vertical. Operate the knife bar by hand and check that the knife catches the left part of the thread loop and cuts it. If this is not the case, position the knife accordingly after loosening its fixing screw, or correct the position of cylinder 2 (Fig. 5.0.1) according to section 5.1.
- Final work: Switch off master switch, replace v-belt, re-fit belt guard and faceplate.
- Feed plate: Switch on the master switch and press the pedal. At the end of the cycle the machine must stop on its own and the feed plate swing out automatically.



# **APPENDIX**

For adjustment of the wrapping stitch mechanism

## **-759/08-39/04**

## Requirement:

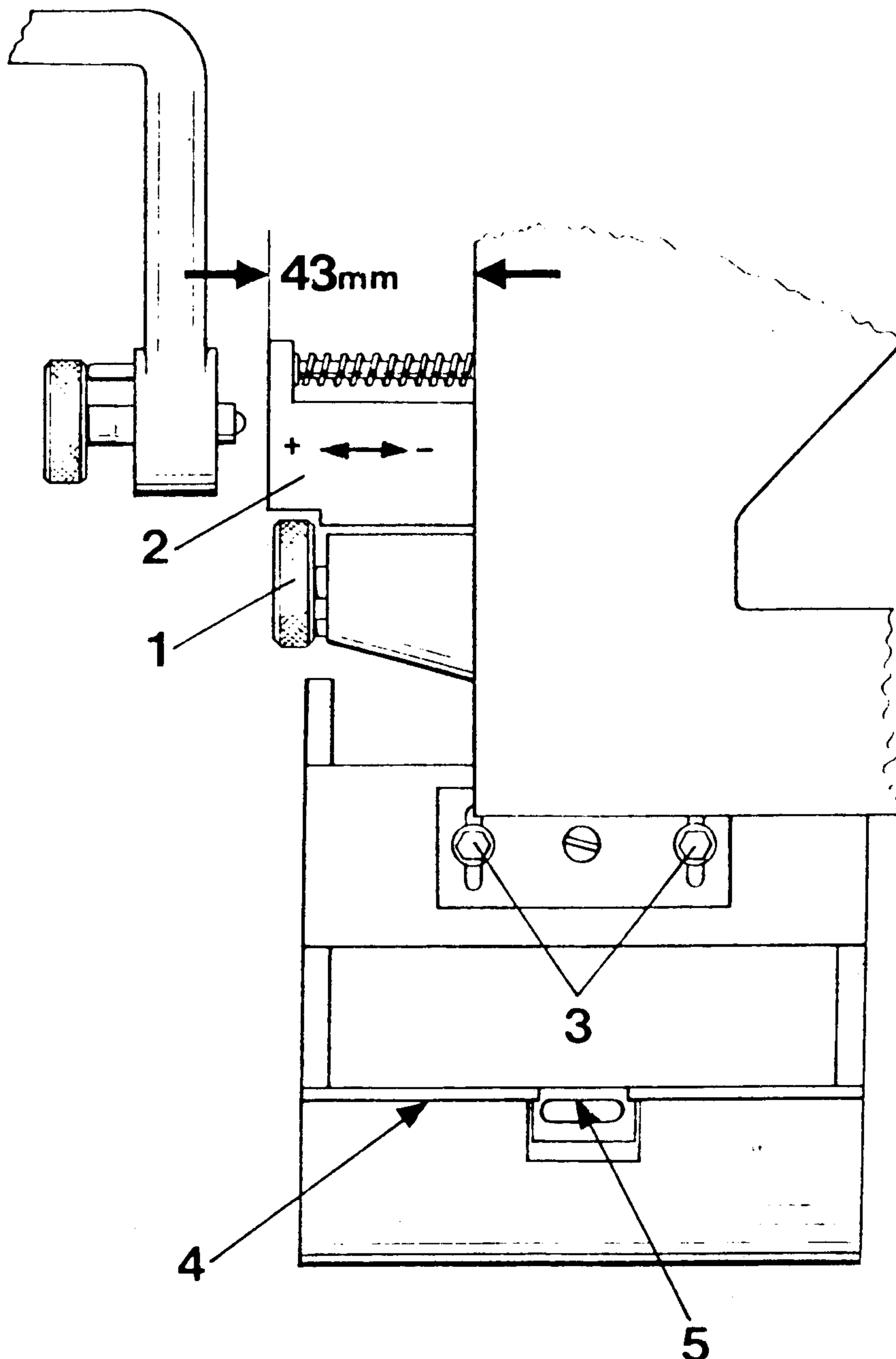
When the machine is at the end of its cycle and actuator 2 is at a distance of 43 mm from its housing, the edge of guide 4 must be flush with the back edge of the needle slot.

## Condition:

Master switch on, machine at end of cycle, stop-motion mechanism engaged.

## Adjustment:

In this position turn adjusting screw 1 to set a distance of 43 mm between the end of actuator and 2 and its housing. Loosen screws 3 and set the edge of guide 4 flush with the back edge of the needle slot 5. Tighten the two screws 3 again.

**19.0.1**



**Requirement:**

When the roller of control lever 1 is in the recess of the control cam there must be a clearance of 4 mm between adjusting screw 2 and the end of actuator 3. In this position there must also be a clearance of 1 mm between roller 5 of the control lever and the recess of control cam 4.

**Condition:**

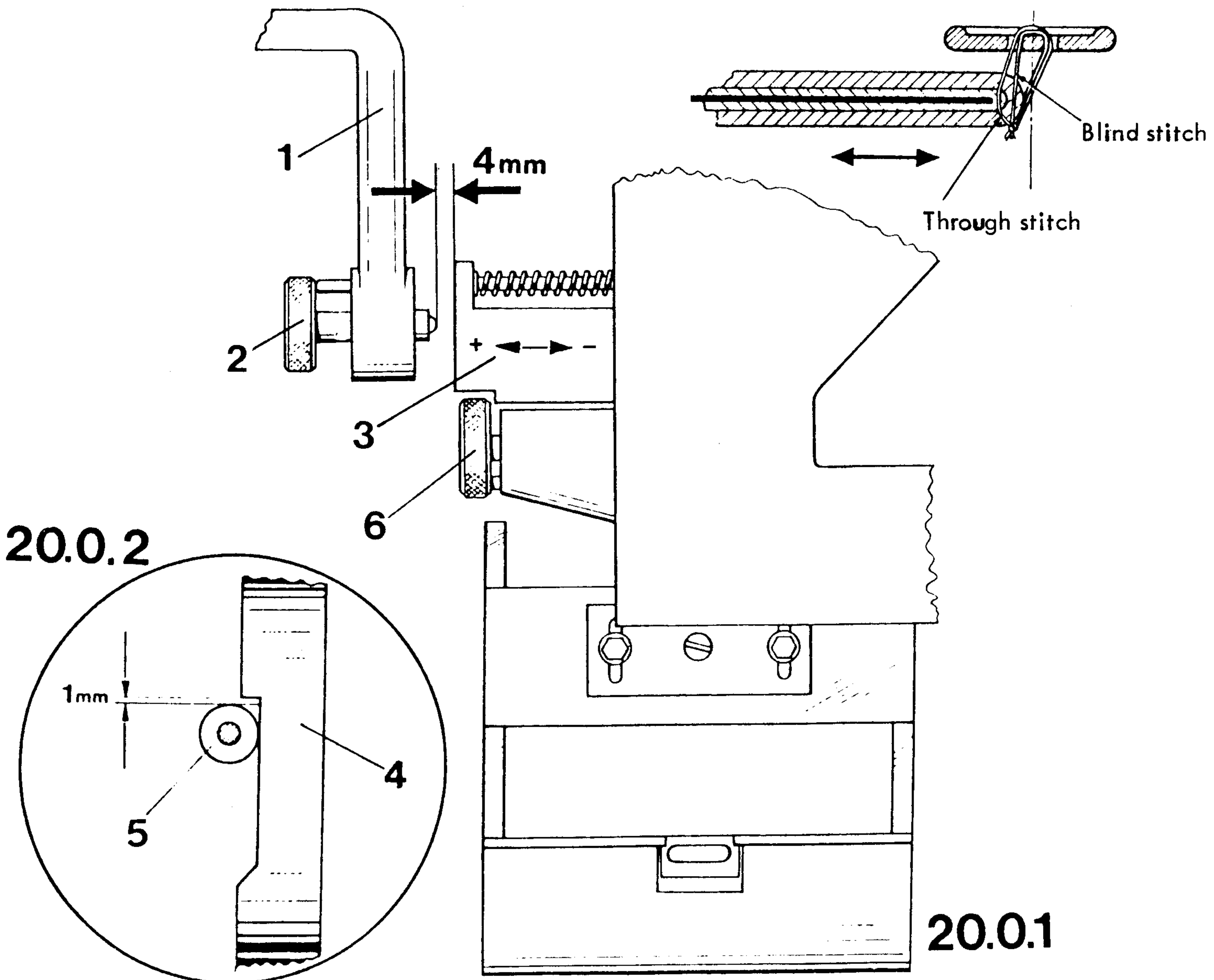
Master switch on, machine at end of cycle, stop-motion mechanism engaged.

**Adjustment:**

In this position, set a clearance of 4 mm between the ball of adjusting screw 2 and actuator 3 by turning adjusting screw 2, making sure that the roller of control lever 1 is resting on the recess of the control cam.  
Retain this position, loosen the retaining screws of control cam 4 and turn the cam so that there is a clearance of 1 mm between roller 5 and the recess of the cam. Tightening the cam retaining screws again.

**Note:**

Screw 2 is for adjusting the depth of blind stitches.  
Screw 6 is for adjusting the depth of the right-through stitches.



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for adjustment of the wrapping stitch mechanism

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