

BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

घरेलू प्रयोजनों के लिए सिलाई मशीनों से संबंधित पारिभाषिक शब्दावली

(पहला पुनरीक्षण)

DRAFT Indian Standard

**GLOSSARY OF TERMS RELATING TO SEWING MACHINES FOR
HOUSEHOLD PURPOSES**

(First revision of IS 6903)

ICS 61.080

**Sewing Machines Sectional
Committee, MED 29**

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FOREWORD

(Formal clauses to be added later)

This standard was first published in 1973.

In this revision, terminologies have been added.

The composition of the Committee, responsible for the formulation of this standard is given at Annex A *(To be added later)*.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2:2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded-off value should be the same as that of the specified value in this standard.

DRAFT Indian Standard

**GLOSSARY OF TERMS RELATING TO SEWING MACHINES FOR
HOUSEHOLD PURPOSES**

(First revision)

1 SCOPE

This standard covers the glossary of terms and nomenclature for the parts relating to sewing machines for household purposes.

2 TERMINOLOGY

For the purpose of this standard following terminologies shall apply.

2.1 Active Optoelectronic Protective Device (AOPD) — Device whose sensing function is performed by optoelectronic emitting and receiving elements detecting the interruption of optical radiation, generated within the device, by an opaque object present in the specified detection zone.

2.2 Adjustable guard — Fixed or movable guard which is adjustable as a whole or which incorporates adjustable part(s).

2.3 Anchoring Stitches — These are machine stitches that are sewn with zero stitch length, to keep from pulling out. This term can also be used to refer to when you stitch backwards for a couple of stitches, to anchor it.

2.4 Applique — In sewing, applique is used to describe the process of applying one kind of fabric on top of another layer of fabric. This is fixed into place by sewing or by another fusing means. It can also refer to a surface embellishment.

2.5 Armscye — The opening in a bodice to which the sleeve is attached; also known as an armhole.

2.6 Ballpoint Needles — A type of sewing machine needles that are specifically designed to be used when sewing knit fabrics. The rounded tip prevents piercing, that would damage the knit.

2.7 Baste — Temporary long running stitches, made by either hand or machine that holds the fabric together before permanent stitches are applied.

2.8 Bias — A direction of a piece of woven fabric. Usually referred to as ‘the bias’. This is a 45 degrees angle to the grain line or diagonal direction of the fabric.

- 2.9 Binding** — A narrow strip of material that is sewn around the edge of a garment, a bag or even a quilt.
- 2.10 Blanket stitch** — A hand stitch used for finishing a fabric edge.
- 2.11 Bobbin** — The thread that comes up from the bottom and meets the thread from the spool to form the stitch. Bobbins need to be wound up and inserted properly into a sewing machine.
- 2.12 Bobbin Case** — Tension of the bobbin thread is maintained with a bobbin case, a metal enclosure with a leaf spring that keeps the thread taut. The bobbin case must be free-floating (not attached to an axle) in order to allow the top thread to pass around the bobbin completely and hook the bobbin thread.
- 2.13 Bumblebunching** — It is the tangled loop of stitching on the bobbin side of the fabric, that is a result of improper tension applied to the sewing machine.
- 2.14 Buttonhole** — A small cut in the fabric that is bound with small stitching. The hole has to be just big enough to allow a button to pass through it and remain in place.
- 2.15 Casing** — A folded over edge of a garment, which is usually at the waist. It is used to enclose a way of adjusting the fit – for example for a drawstring.
- 2.16 Cord** — A twisted fiber, somewhere between rope and string.
- 2.17 Crochet** — A method using yarn and a hooked needle to make a garment, fabric or lace.
- 2.18 Crossgrain** —The line of fabric perpendicular to the selvage edge of the fabric.
- 2.19 Cross Stitch** — A needlework stitch that uses 2 stitches that cross over to create a cross shape.
- 2.20 Cutting Mat** — A self-healing board used for cutting fabric on. They are often marked with measuring grids.
- 2.21 Dart** — A common technique used for shaping garments. They normally appear around the waist and bust.
- 2.22 Darn (or darning)** — Usually refers to the repair of a small hole, most often in knitwear, using a needle and thread. It is often done by hand, using a darning stitch. It can also refer to any number of needlework techniques that are worked using darning stitches.
- 2.23 Double-Needle** — Two machine needles attached to a single shaft that sew two parallel rows of stitches at once with two spools of thread and a single bobbin.

- 2.24 Drape** — The fluid way that the fabric hangs in a garment.
- 2.25 Dressmaker** — Someone who makes custom clothing for women.
- 2.26 Ease** — The allowance of space in a pattern for fit, comfort, and style, over exact body measurements.
- 2.27 Edge stitch** — Straight stitching very close to the edge of a seam, trim, or outer edge.
- 2.28 Embellishment** — A decorative item added to improve the look of a garment or other project. Embellishments can include buttons, beads, jewels, ornamental stitching, etc.
- 2.29 Embroidery** — An ancient variety of decorative needlework. Designs and images are created by stitching strands of one material onto another.
- 2.30 Emergency Stop** — Emergency stop function which is intended to avert arising or reduce existing hazards to persons, damage to machinery or to work in progress, and be initiated by a single human action.
- 2.31 Enabling Device** — Additional manually operated device used in conjunction with a start control and which, when continuously actuated, allows a machine to function.
- 2.32 Face** — The front of a piece of fabric (the right side).
- 2.33 Fat Quarter** — A quarter of a metre of fabric measuring 45.72 x 55.88 cm. It is used for patchwork and other craft projects.
- 2.34 Feather Stitch** — Hand stitch used to smoothly join two layers of fabric. It can also be a form of decorative hand stitch.
- 2.35 Feed-Dogs** — Small jagged feet that sit under the presser foot of a sewing machine. By lifting and lowering them, the machine can be used for freehand embroidery.
- 2.36 Fixed Guard** — Guard affixed in such a manner (for example, by screws, nuts, welding) that it can only be opened or removed by the use of tools or by the destruction of the affixing means
- 2.37 Frogging** — The art of unpicking stitches.
- 2.38 Gather** — A way of gathering the fabric to create fullness in the fabric, such as ruffles. It is a technique for shortening the length of a strip of fabric so that the longer piece can be attached to the shorter piece.
- 2.39 Grain** — It describes the direction of the warp and the weft in a woven fabric.

2.40 Guard — Physical barrier, designed as part of the machine to provide protection.

2.41 Harm — Physical injury or damage to health.

2.42 Hazard — Potential source of harm.

NOTES

1 The term “hazard” can be qualified in order to define its origin (for example, mechanical hazard, electrical hazard) or the nature of the potential harm (for example, electric shock hazard, cutting hazard, toxic hazard, fire hazard).

2 The hazard envisaged by this definition either:

- is permanently present during the intended use of the machine (for example, motion of hazardous moving elements, electric arc during a welding phase, unhealthy posture, noise emission, high temperature); or
- can appear unexpectedly (for example, explosion, crushing hazard as a consequence of an unintended/unexpected start-up, ejection as a consequence of a breakage, fall as a consequence of acceleration/deceleration).

2.43 Hem — The finished bottom edge of a garment. The hem indicates the edge which is usually folded up and sewn, thus creating a neat and even finish.

2.44 Hooks and Eyes — Small and sturdy fasteners used at the points of a garment opening.

2.45 Hold-to-Run Control Device — Control device which initiates and maintains machine functions only as long as the manual control (actuator) is actuated.

2.46 Impeding Device — Any physical obstacle (low barrier, rail, etc.) that, without totally preventing access to a hazard zone, reduces the probability of access to this zone by offering obstruction to free access.

2.47 Interfacing — A term for a textile used on the unseen (wrong) side of fabrics. They support and stabilize the fashion fabric of the garment.

2.48 Interlocking Guard — Guard associated with an interlocking device so that, together with the control system of the machine, the following functions are performed:

- a) The hazardous machine functions covered by the guard cannot operate until the guard is closed;
- b) If the guard is opened while hazardous machine functions are operating, a stop command is given; and
- c) When the guard is closed, the hazardous machine functions covered by the guard can operate (the closure of the guard does not by itself start the hazardous machine functions).

2.49 Interlocking Guard with Guard Locking — Guard associated with an interlocking device and a guard locking device so that, together with the control system of the machine, the following functions are performed:

- a) The hazardous machine functions covered by the guard cannot operate until the guard is closed and locked;
- b) The guard remains closed and locked until the risk due to the hazardous machine functions covered by the guard has disappeared; and
- c) When the guard is closed and locked, the hazardous machine functions covered by the guard can operate (the closure and locking of the guard do not by themselves start the hazardous machine functions).

2.50 Interlocking Guard with a Start Function — Control guard special form of the interlocking guard which, once it has reached its closed position, gives a command to initiate the hazardous machine function(s) without the use of separate start control.

2.51 Interlocking Device — Interlock mechanical, electrical, or other types of device, the purpose of which is to prevent the operation of hazardous machine functions under specified conditions (generally as long as a guard is not closed).

2.52 Jeweller's Knot — A simple knot tied on a strand of thread and then pulled down on a pin or needle to the base of the thread.

2.53 Ladder Stitch — This is a stitch used to close large openings, or, alternatively, to join two pattern pieces seamlessly. Stitches are made at right angles to the fabric, creating a ladder-like formation.

2.54 Lapped Seams — Seams lapped one over the other, the wrong side to the right, with the seamlines meeting in the middle.

2.55 Lining — A piece of material used to finish the inside of a garment. Linings can hide the seam and make the garments easier and more comfortable to wear.

2.56 Limiting Device — Device which prevents a machine or hazardous machine condition(s) from exceeding a designed limit (space limit, pressure limit, load moment limit, etc.)

2.57 Limited Movement Control Device — Control device, a single actuation of which, together with the control system of the machine, permits only a limited amount of travel of a machine element.

2.58 Long Stitch — A stitch for tapestry or embroidery which can cover 1 to 12 threads in a single stitch.

2.59 Match Point — A point marked on one pattern piece so it can be matched to a similar point on another pattern piece.

2.60 Malfunction — Failure of a machine to perform an intended function.

2.61 Mechanical Restraint Device — Device which introduces into a mechanism a mechanical obstacle (for example, wedge, spindle, strut, scotch) which, by virtue of its own strength, can prevent any hazardous movement.

2.62 Movable Guard — Guard which can be opened without the use of tools.

2.63 Nap — A fabric texture that runs in a particular direction, and requires all other pattern pieces to be cut facing the same orientation.

2.64 Needlework — A term for the handicraft of decorative sewing.

2.65 Notions — All of the accessories used in sewing projects, for example, think zippers, thread, buttons, hooks, ribbons, and so on.

2.66 Overlay — This refers to the top layer of fabric when there is a different one underneath.

2.67 Over locker — Also known as a serger, this is a specialist sewing machine that trims and neatens the edge of the fabric.

2.68 Patchwork — A form of needlework that involves sewing together small pieces of fabric to create a patchwork-like effect. This is very popular for quilting. It can be done by hand or by machine.

2.69 Pattern — A template on paper or cardboard from which all of the pieces of the garment are traced onto fabric. All the parts are then cut out and assembled to create the final piece.

2.70 Pintuck — A narrow, stitched fold of the fabric. This style is usually seen in multiples and creates a stylish and smart finish.

2.71 Pleat — A type of fold in the fabric created by doubling the material back on itself and securing it in place. When ironed, they create a sharp crease.

2.72 Presser Bar Lifter — A presser bar lifter is a detachable mechanical device that allows the tailor to control the up and down movement of a presser foot.

2.73 Presser foot — A small piece of metal near the needle on the sewing machine. It is the function that keeps your fabric in place while sewing.

2.74 Princess Seam — A vertical seam line that gives shape to a garment in place of darts. Usually found on bodices, dresses, jackets, and blouses.

2.75 Quilting — The art of making a quilt, a decorative piece of bedding or wall hanging made from small pieces of fabric sewn together in batted layers.

2.76 Raw Edge — The edge of the piece of fabric after it is cut but before it is hemmed. If left raw, the fabric might fray.

2.77 Right Side — The front, or face of the fabric. This is the side of the fabric designed to be on the outside of the garment.

2.78 Ruching — Also known as gathering. It is the sections that can be gathered into seams.

2.79 Running Stitch — A hand-sewn stitch that weaves in and out of the material. This creates a dashed line effect.

2.80 Safety Function — Function of a machine whose failure can result in an immediate increase of the risk(s).

2.81 Seam — The line where two pieces of fabric are held together by the thread.

or

The application of a series of stitches or stitch types to one or several thicknesses of material.

2.82 Seam Allowance — This is the width of the fabric beyond the seam line. The standard seam allowance is normally 1.5 cm.

2.83 Seam Ripper — A small tool used for unpicking stitches.

2.84 Selvedge — The woven edge of the fabric that runs parallel to the lengthwise grain, also called selvage. They are the finished edges that do not fray.

2.85 Sensitive Protective Equipment (SPE) — Equipment for detecting persons or parts of persons which generates an appropriate signal to the control system to reduce risk to the persons detected.

NOTE— The signal can be generated when a person or part of a person goes beyond a predetermined limit. For example, person enters a hazard zone or when a person is detected in a predetermined zone (presence sensing), or in both cases.

2.86 Serger — A type of sewing machine that can seam, trim, and overcast raw edges.

2.87 Staystitch — Stitching placed on or just outside the seamline. It is used to stabilize the fabric and prevent it from stretching out of shape.

2.88 Straight Stitch — A simple, straight stitched line.

2.89 Tacking — Big stitches used to hold two pieces of cloth together to make it easier to sew. These temporary stitches are removed once a permanent seam is completed.

2.90 Tailor's Chalk — A piece of chalk used to mark the fabric.

2.91 Tambour Needle — A pointed hook that is very thin and sharp. It is used to apply beads or sequins, or even chain stitches.

2.92 Termination Point — The place where two seamlines end.

2.93 Thimble — A protective implement worn on the finger or thumb when sewing.

2.94 Top Stitch — A line of stitching parallel to a seam or edge, sewn from the right side. These can be decorative or can be used to add strength to an item.

2.95 Two-Hand Control Device — Control device which requires at least simultaneous actuation by both hands in order to initiate and to maintain hazardous machine functions, thus providing a protective measure only for the person who actuates it.

2.96 Tuck — A stitched fold of the fabric. This can be used for decorative purposes or to add shape to a garment.

2.97 Underlay —The layer of fabric underneath another layer of fabric.

2.98 Understitch — When the seam allowances are stitched to the facing along an edge.

2.99 Vertical Bobbin — When the bobbin moves back and forth to pick up the thread.

- 2.100 Wadding** — A fibrous material used for filling items such as quilts. It is also known as batting or filler.
- 2.101 Walking Foot** — A presser foot that steps across the fabric, as opposed to sliding.
- 2.102 Warp** — The lengthwise thread in woven fabric.
- 2.103 Weft** — The crosswise threads in woven fabric.
- 2.104 Wrong Side** — The inside or back of the fabric. The side that does not show.
- 2.105 Yarn** — A continuous length of interlocked fibres. It can be made from natural or synthetic fibres.
- 2.106 Yardage** — A term for an undefined length of fabric.
- 2.107 Yoke** — A panel across the shoulders or the waistline.
- 2.108 Zigzag Stitch** — A zigzag stitch is a literal stitch made with a zigzag pattern. Often used to sew along raw edges to prevent them from fraying.
- 2.109 Zipper Foot** — An attachment for a sewing machine that is designed for installing zippers.

3 NOMENCLATURE

The nomenclature related to this standard is placed at Annex A.

ANNEX A

(Clause 3)

NOMENCLATURE

A-1 ARM AND BED ASSEMBLY

See Fig. 1.

<i>Part No.</i>	<i>Name</i>
1	Arm
2	Arm and bed fixing screw
3	Arm and bed fixing taper pin
4	Aram bed hinge pin set screw
5	Arm cover
6	Aram cover fixing screw
7	Bed
8	Arm side cover
9	Name plate fixing screw
10	Slide plate
11	Slide plate spring
12	Slide plate spring screw
13	Spool pin
14	Spool pin pad
15	Stitch regular graduation plate
16	Stitch regulator graduation plate fixing screw

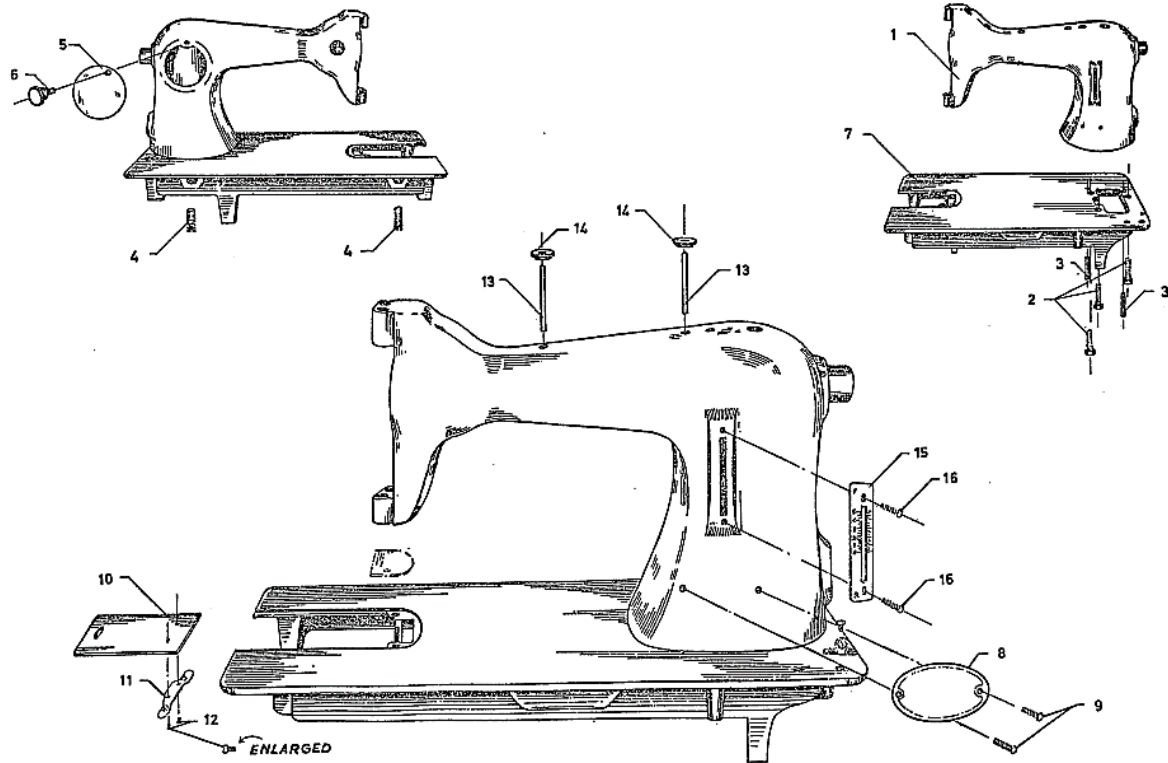


FIG. 1 ARM AND BED ASSEMBLY

A-2 ARM SHAFT ASSEMBLY

See Fig. 2.

Part No.	Name
1	Arm shaft
2	Feed cam
3	Feed cam set screw
4	Arm shaft front bush
5	Arm shaft front bush set screw
6	Flywheel bush
7	Flywheel bush fixing screw
8	Flywheel bush pin
9	Needle bar link fixing nut
10	Needle bar link fixing screw
11	Thread take up cam
12	Thread take up cam fixing pin (screw)

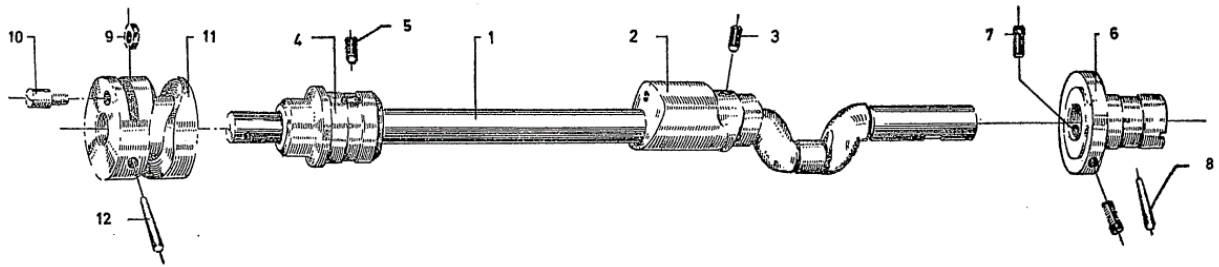


FIG. 2 ARM SHAFT ASSEMBLY

A-3 BOBBIN WINDER ASSEMBLY

See Fig. 3.

<i>Part No.</i>	<i>Name</i>
1	Belt guard
2	Belt guard fixing screw
3	Bobbin spindle
4	Bobbin spindle pin
5	Bobbin winder frame
6	Bobbin winder frame hinge screw
7	Bobbin winder frame spring, left hand
8	Bobbin winder frame spring, right hand
9	Bobbin winder frame stop screw
10	Bobbin winder lever
11	Bobbin winder pulley
12	Bobbin winder pulley set screw
13	Disconnecting lever
14	Disconnecting lever hinge screw
15	Disconnecting lever spring
16	Rubber ring

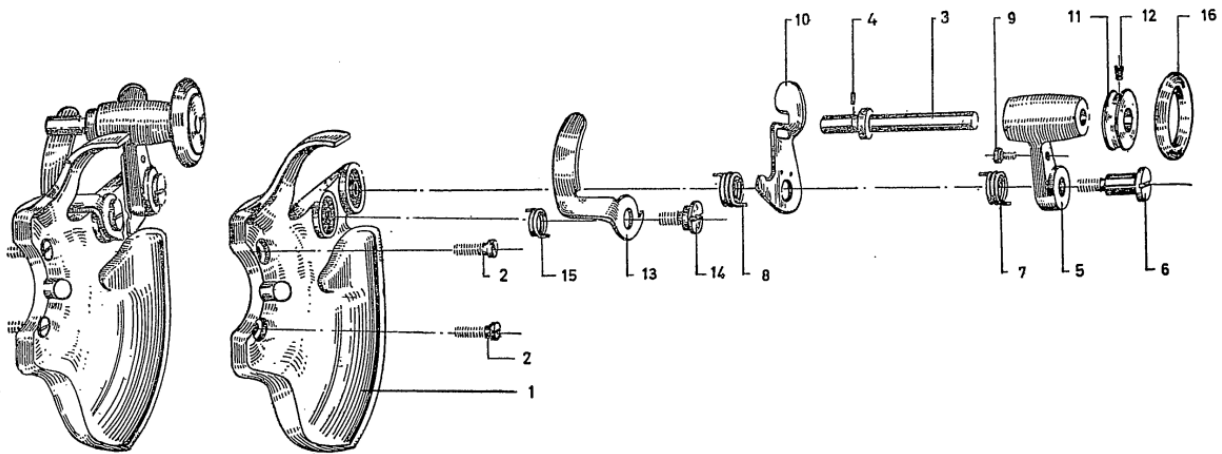


FIG. 3 BOBBIN WINDER ASSEMBLY

A-4 CONNECTING ROD AND OSCILLATING ROCK SHAFT ASSEMBLY

See Fig. 4 and 4A.

<i>Part No.</i>	<i>Name</i>
1	Connecting rod
2	Connecting rod cap screw
3	Connecting rod hinge nut
4	Connecting rod hinge screw
5	Oscillating rock shaft
6	Centre pin fixing screw
7	Centre pin

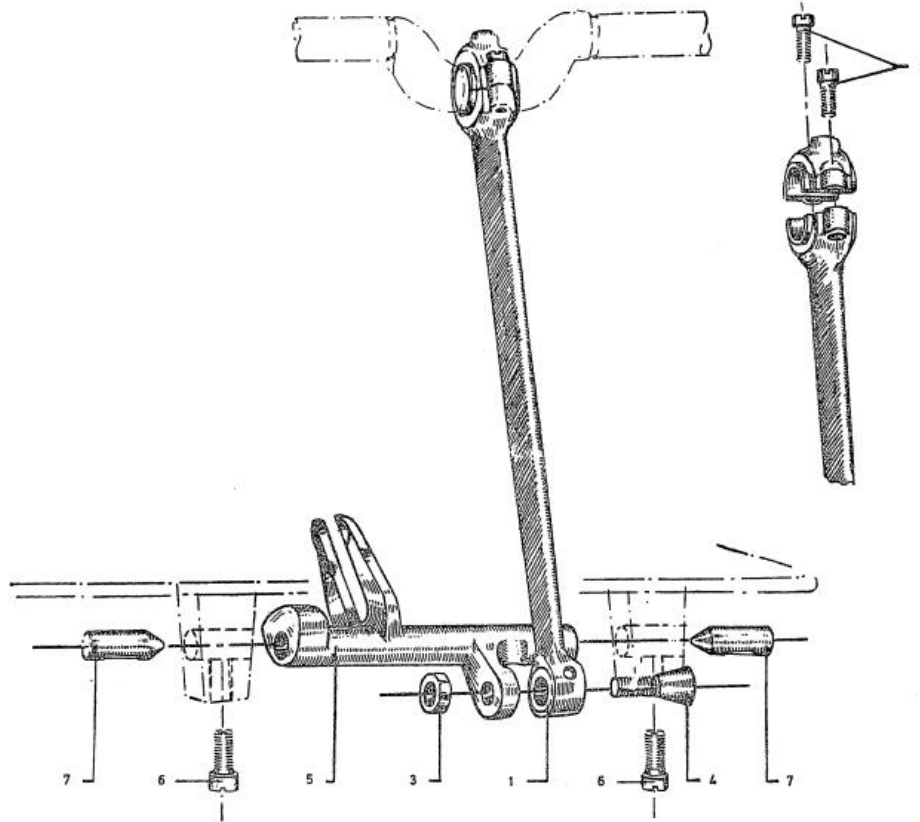


FIG. 4 CONNECTING ROD AND OSCILLATING ROCK SHAFT ASSEMBLY

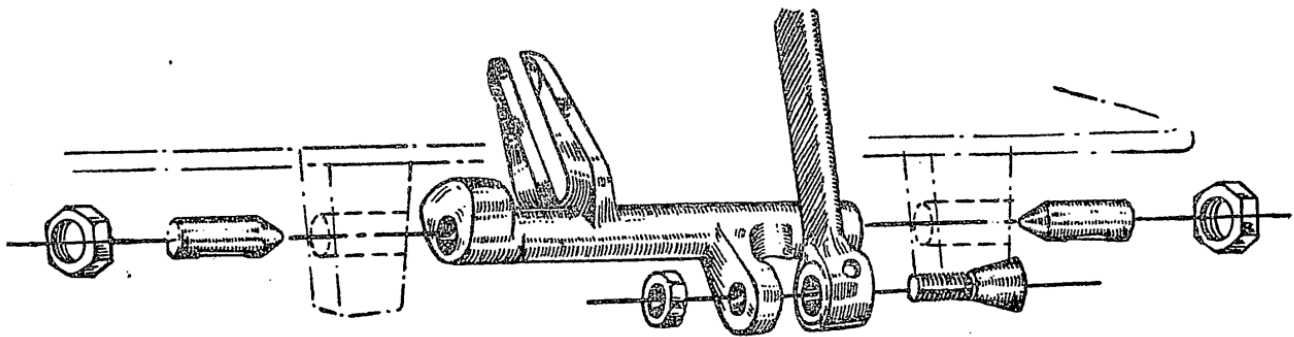


FIG. 4A ALTERNATIVE DESIGN

A-5 FACE PLATE AND TENSION ASSEMBLY

See Fig. 5.

<i>Part No.</i>	<i>Name</i>
1	Check spring
2	Face plate
3	Face plate fixing screw
4	Tension disc

- 5 Tension disconnecting disc
- 6 Tension disconnecting pin
- 7 Tension nut
- 8 Tension pin holder screw
- 9 Tension screw stud
- 10 Tension spring
- 11 Tension spring cover
- 12 Tension spring housing
- 13 Tension spring housing screw
- 14 Thread eyelet
- 15 Thread eyelet pin
- 16 Thread guide
- 17 Thread guide holder

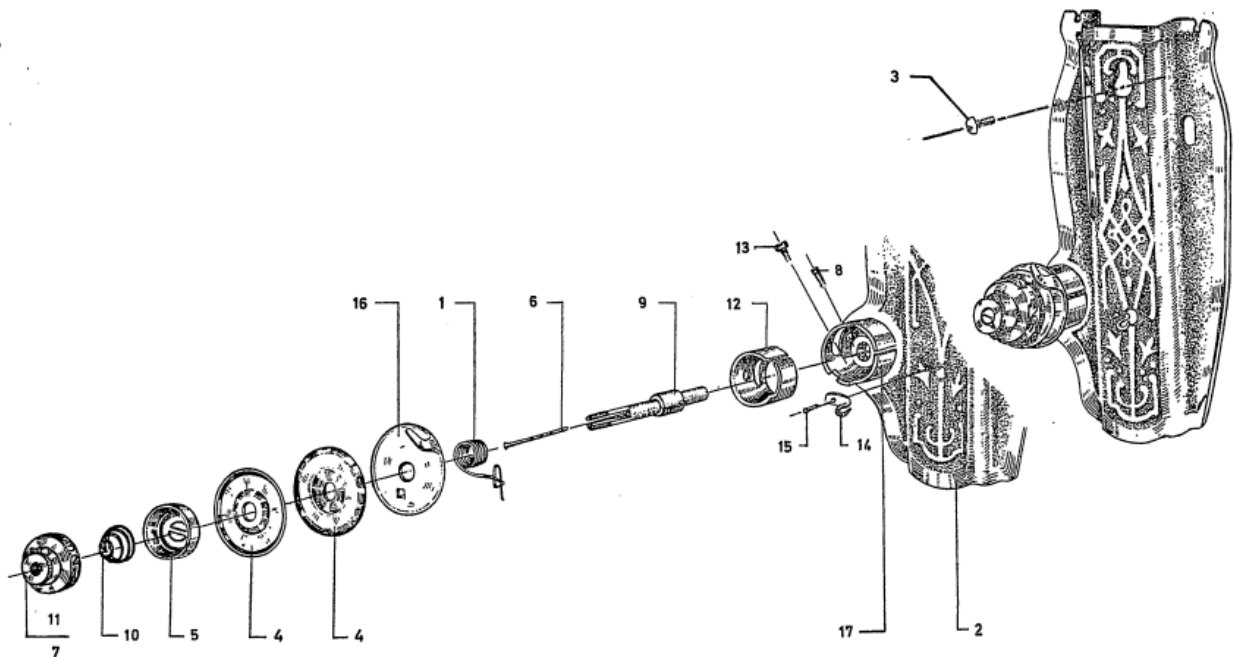


FIG. 5 FACE PLATE AND TENSION ASSEMBLY

A-6 FEED FORK, FEED ROCK SHAFT AND FEED LIFTING ROCK SHAFT ASSEMBLY

See Fig. 6 and 6A.

<i>Part No.</i>	<i>Name</i>
1	Feed dog
2	Feed dog fixing screw
3	Feed bar
4	Feed dog holder nut
5	Feed dog holder set screw
6	Feed fork

- 7 Feed fork connecting hinge screw
- 8 Feed fork connecting nut
- 9 Feed holder roller
- 10 Feed lifting rock shaft
- 11 Feed lifting rock shaft centre set screw
- 12 Feed lifting rock shaft crank
- 13 Feed lifting rock shaft crank clamp screw
- 14 Feed rock shaft
- 15 Centre pin fixing screw
- 16 Feed rock shaft crank
- 17 Feed rock shaft crank clamp screw
- 18 Needle plate
- 19 Needle plate fixing screw
- 20 Centre pin

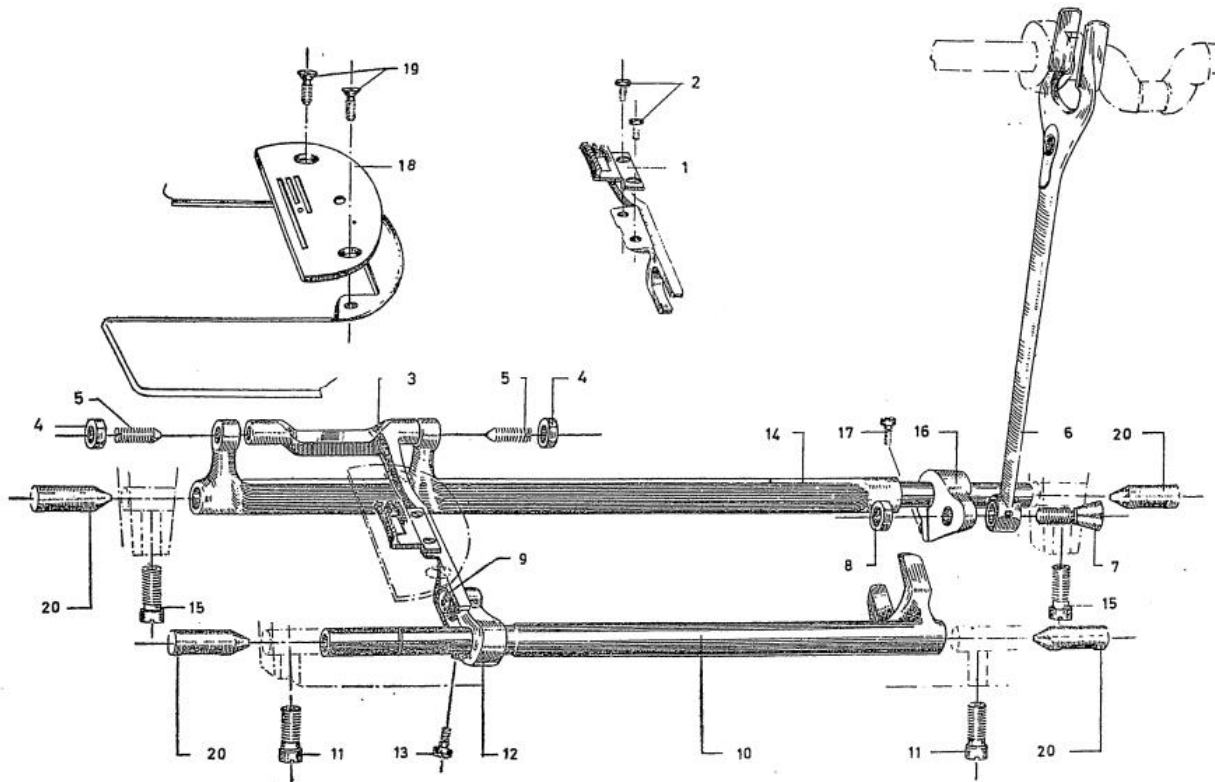


FIG. 6 FEED FORK, FEED ROCK SHAFT AND FEED LIFTING ROCK SHAFT ASSEMBLY

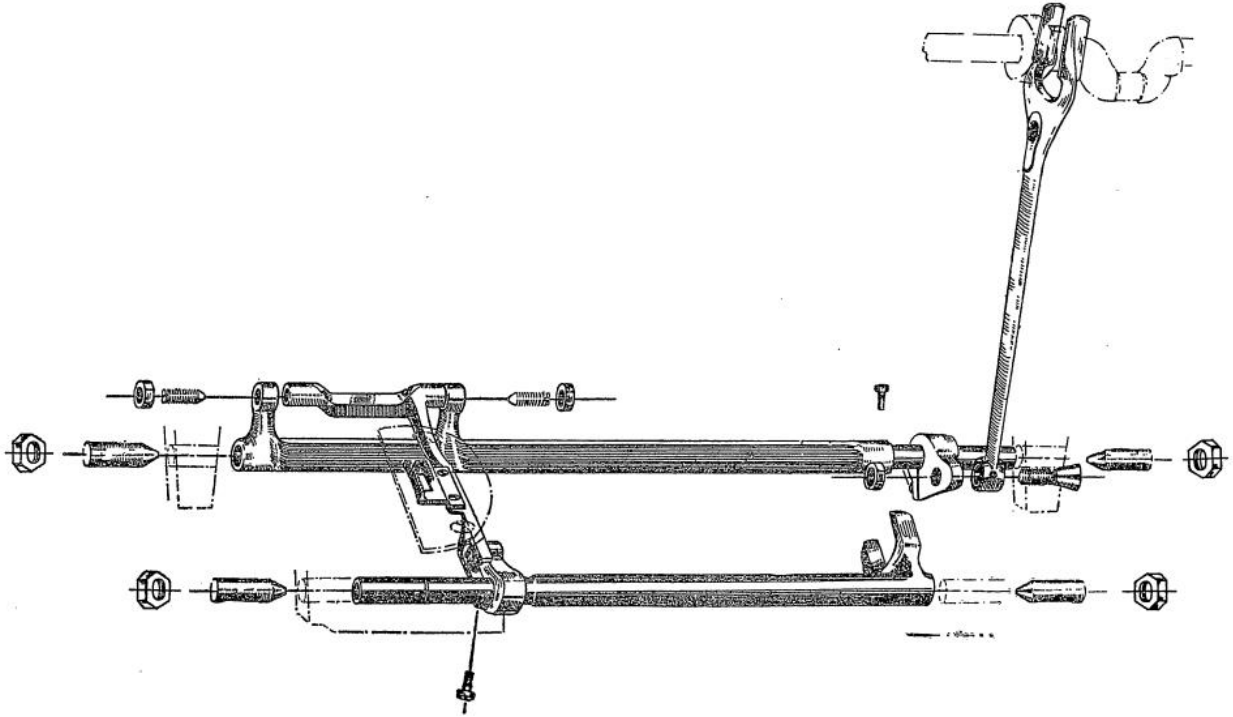


FIG. 6A ALTERNATIVE DESIGN

A-7 FLYWHEEL ASSEMBLY

See Fig. 7.

<i>Part No.</i>	<i>Name</i>
1	Flywheel
2	Flywheel friction ring
3	Flywheel, small
4	Motion disconnecting screw
5	Stop motion screw

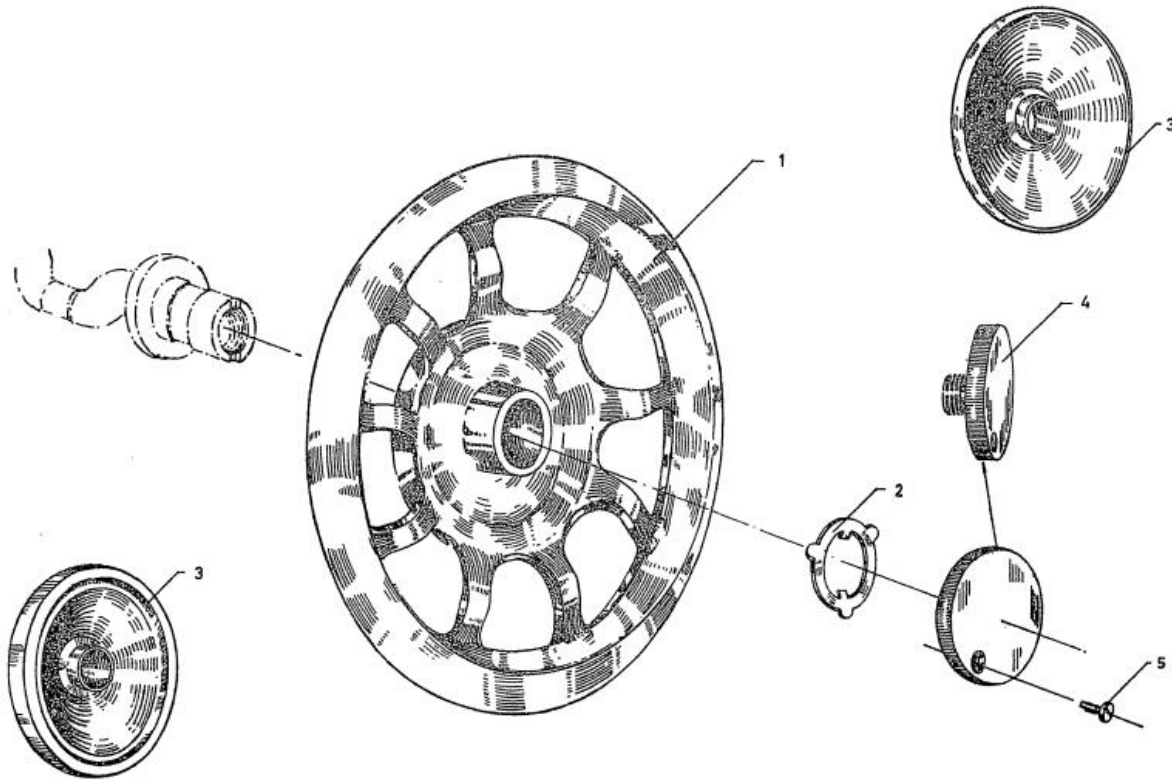


FIG. 7 FLYWHEEL ASSEMBLY

A-8 HAND ATTACHMENT ASSEMBLY

See Fig. 8.

<i>Part No.</i>	<i>Name</i>
1	Driving lever
2	Driving lever catch
3	Driving lever catch pin
4	Driving lever catch piston
5	Driving lever catch screw
6	Driving lever catch spring
7	Driving lever spring
8	Hand attachment bracket
9	Hand attachment bracket screw
10	Hand attachment frame
11	Hand attachment frame cover
12	Hand attachment frame cover fixing screw
13	Hand attachment frame fixing screw
14	Hand attachment handle fixing screw
15	Handle
16	Handle driver
17	Handle driver bush
18	Handle driver nut

- 19 Large gear
- 20 Large gear pin
- 21 Large gear piston
- 22 Large gear piston nut
- 23 Large gear piston spring
- 24 Large gear screw
- 25 Locating plug

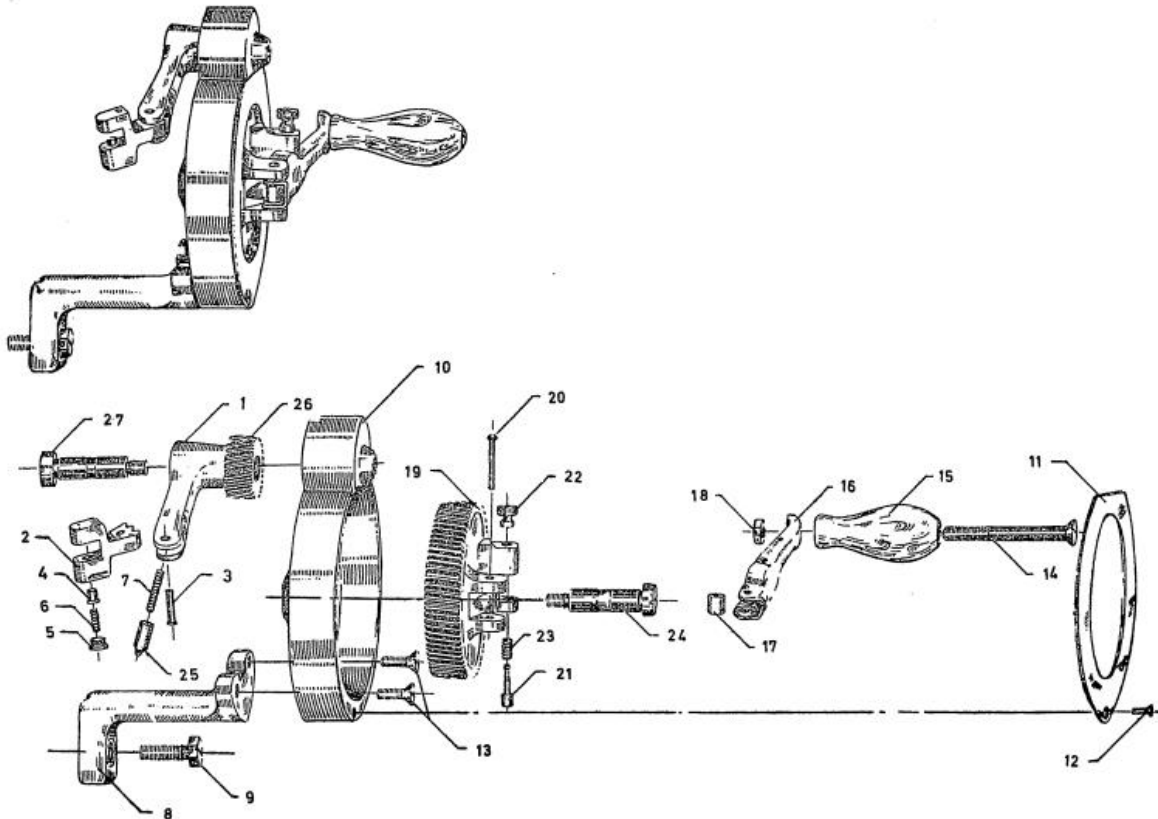


FIG. 8 HAND ATTACHMENT ASSEMBLY

A-9 NEEDLE AND THREAD TAKE-UP LEVER ASSEMBLY

See Fig 9.

<i>Part No.</i>	<i>Name</i>
1	Needle
2	Needle bar
3	Needle bar thread guard
4	Needle bar thread guard set screw
5	Needle bar link
6	Needle bar link set screw
7	needle bar link stud
8	Needle bar link stud set screw
9	Needle clamp

- 10 Needle clamp set screw
- 11 Thread take up lever
- 12 Thread take up lever hinge screw
- 13 Thread take up lever roller

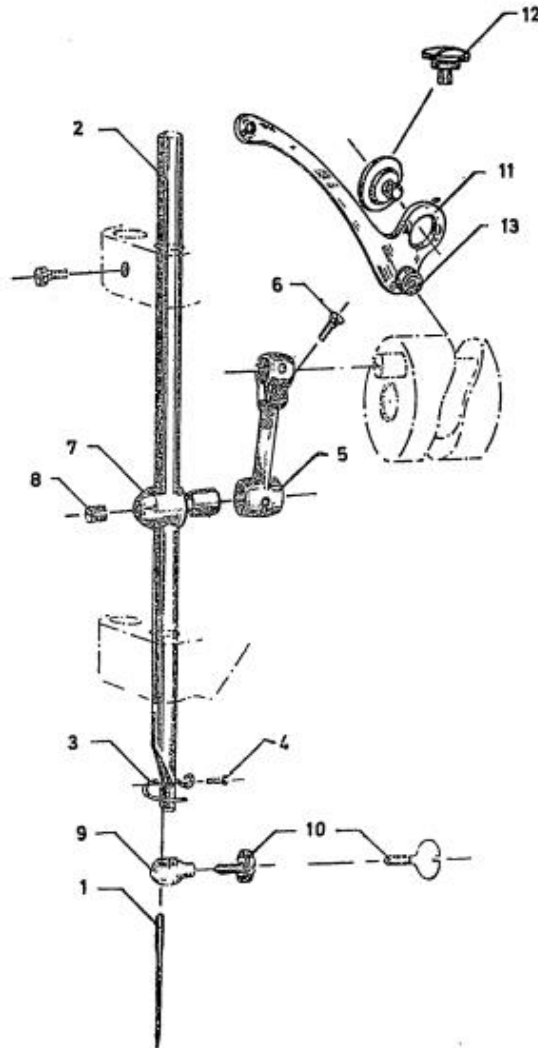


FIG. 9 NEEDLE AND THREAD TAKE-UP LEVER ASSEMBLY

A-10 PRESSURE BAR AND LIFTER ASSEMBLY

See Fig. 10.

<i>Part No.</i>	<i>Name</i>
1	Pressure bar

- 2 Pressure bar bracket
- 3 Pressure bar bracket set screw
- 4 Pressure foot (bar) lifter
- 5 Pressure foot (bar) lifter pin
- 6 Pressure foot (bar) lifter pin screw
- 7 Pressure regulating thumb screw
- 8 Pressure bar spring
- 9 Pressure foot
- 10 Pressure foot (bar) hinge pin
- 11 Pressure foot, bottom
- 12 Pressure foot, thumb screw
- 13 Pressure foot, top
- 14 Thread cutter

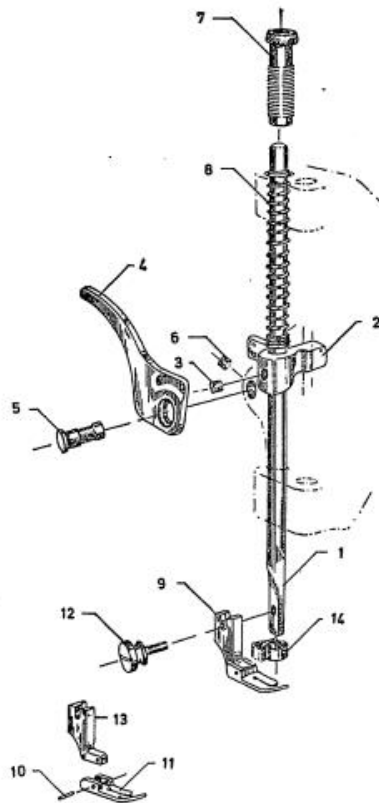


FIG. 10 PRESSURE BAR AND LIFTER ASSEMBLY

A-11 SHUTTLE DRIVER ASSEMBLY

See Fig. 11.

<i>Part No.</i>	<i>Name</i>
1	Oscillating shaft

- 2 Oscillating shaft crank
- 3 Oscillating shaft crank fixing screw
- 4 Oscillating shaft crank pin
- 5 Oscillating shaft thrust collar
- 6 Oscillating shaft thrust collar set screw
- 7 Shuttle driver
- 8 Shuttle driver pin
- 9 Shuttle driver spring
- 10 Shuttle driver spring fixing screw
- 11 Square slider

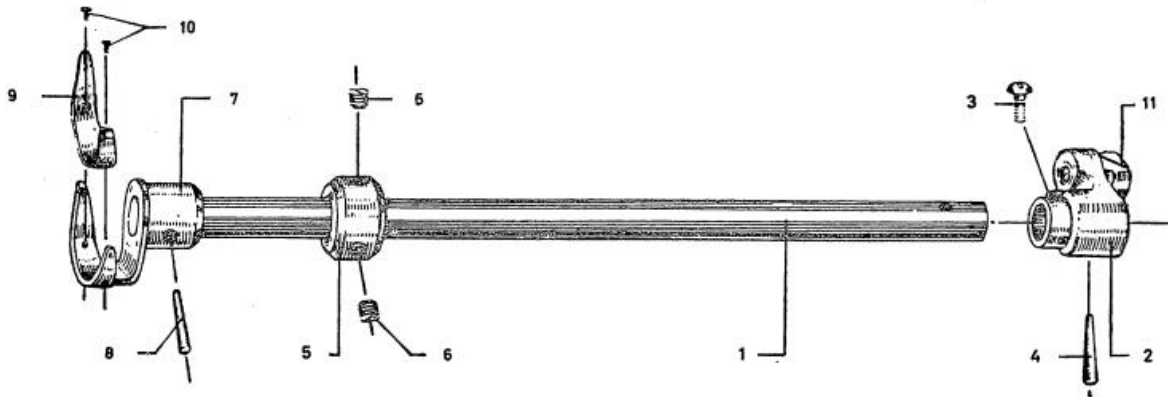


FIG. 11 SHUTTLE DRIVER ASSEMBLY

A-12 SHUTTLE RACE AND BOBBIN CASE ASSEMBLY

See Fig. 12.

<i>Part No.</i>	<i>Name</i>
1	Bobbin
2	Bobbin case
3	Bobbin case thread tension regulating spring
4	Bobbin case thread tension regulating spring screw
5	Bobbin case latch
6	Latch spring
7	Latch stop screw
8	Shuttle
9	Shuttle race
10	Shuttle race fixing screw
11	shuttle race ring
12	Shuttle race ring pin
13	Shuttle race ring spring
14	Shuttle race ring spring set screw

- 15 Shuttle race top plate
- 16 Shuttle race top plate fixing screw
- 17 Latch lever

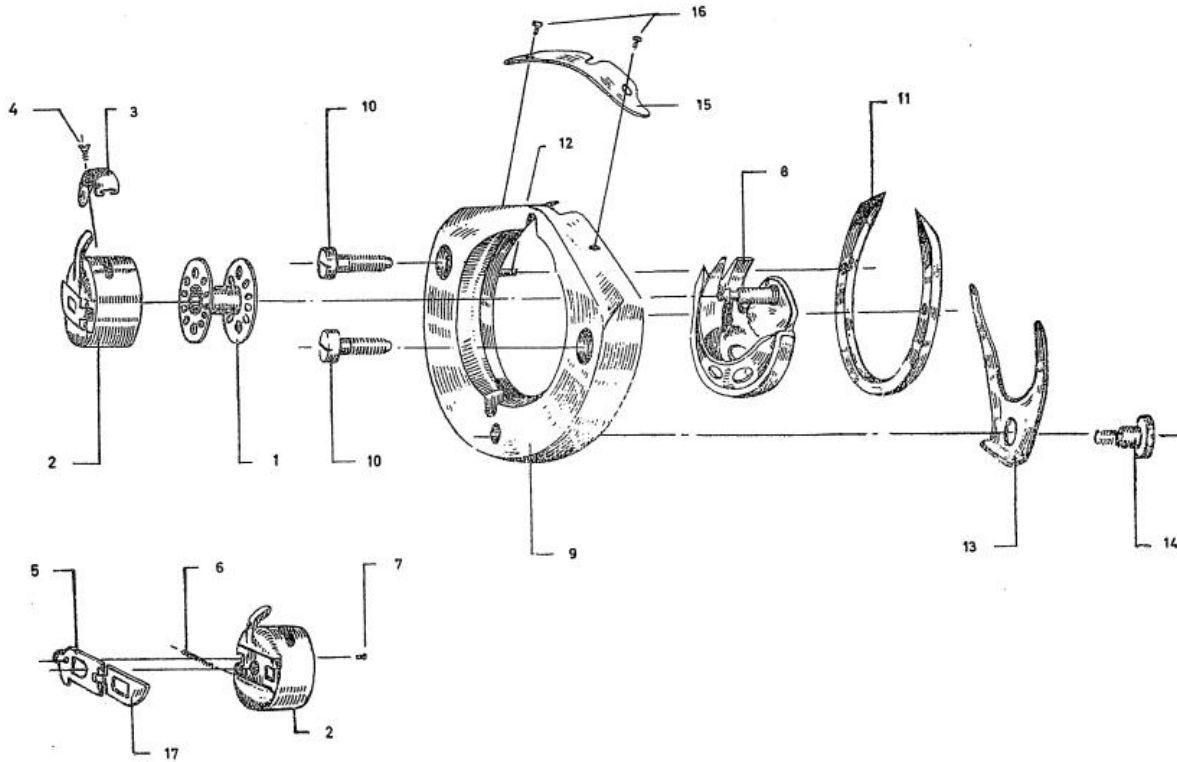


FIG. 12 SHUTTLE RACE AND BOBBIN CASE ASSEMBLY

A-13 TENSION ANGLE ASSEMBLY

See Fig. 13.

<i>Part No.</i>	<i>Name</i>
1	Tension angle
2	Tension angle fixing screw
3	Tension spring
4	Tension washer, large
5	Tension washer screw
6	Tension washer, small

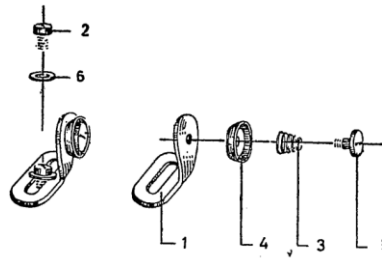


FIG. 13 TENSION ANGLE ASSEMBLY

A-14 STITCH REGULATOR ASSEMBLY

See Fig. 14.

<i>Part No.</i>	<i>Name</i>
1	Feed fork fixing screw
2	Stitch regulator
3	Stitch regulator bush
4	Stitch regulator bush fixing screw
5	Stitch regulator hinge screw
6	Stitch regulator nut
7	Stitch regulator screw
8	Stitch regulator spring washer
9	Stitch regulator square slider
10	Stitch regulator stop piece
11	Stitch regulator stop piece spring
12	Stitch regulator stop piece washer

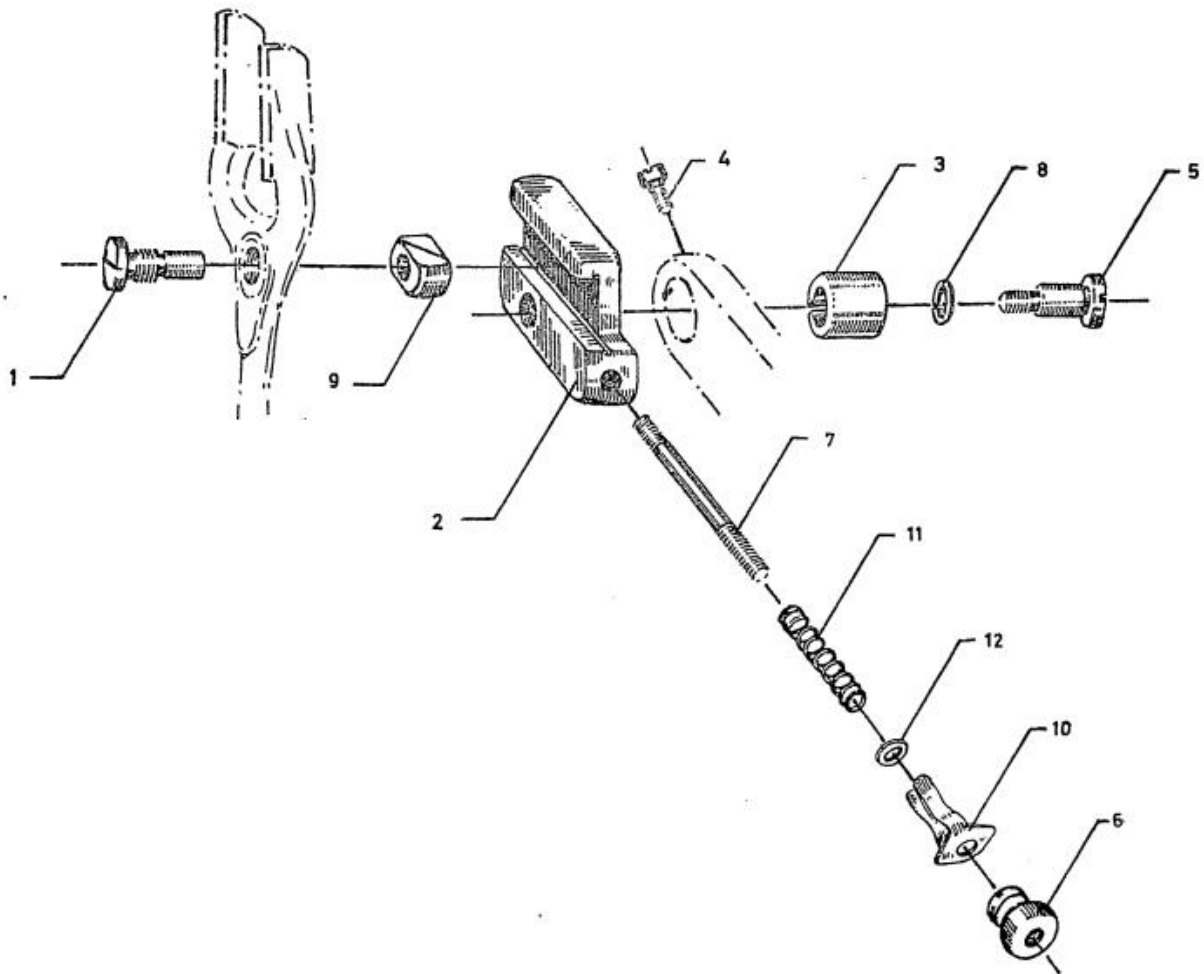


FIG. 14 STITCH REGULATOR ASSEMBLY

A-15 FEED DROP ASSEMBLY

See Fig. 15.

<i>Part No.</i>	<i>Name</i>
1	Feed drop check spring
2	Feed drop graduation plate
3	Feed drop graduation plate fixing screw
4	Feed drop knob
5	Feed drop knob fixing screw
6	Feed drop lever
7	Feed drop lever hinge screw
8	Feed drop link
9	Feed drop plug
10	Feed drop plug hinge screw

- 11 Feed drop plate
- 12 Feed drop plate spring
- 13 Feed drop spring
- 14 Feed holder roller
- 15 Feed lifting rock shaft
- 16 Feed lifting rock shaft crank
- 17 Feed lifting rock shaft crank fixing screw
- 18 Stud
- 19 Thrust collar
- 20 Thrust collar set screw

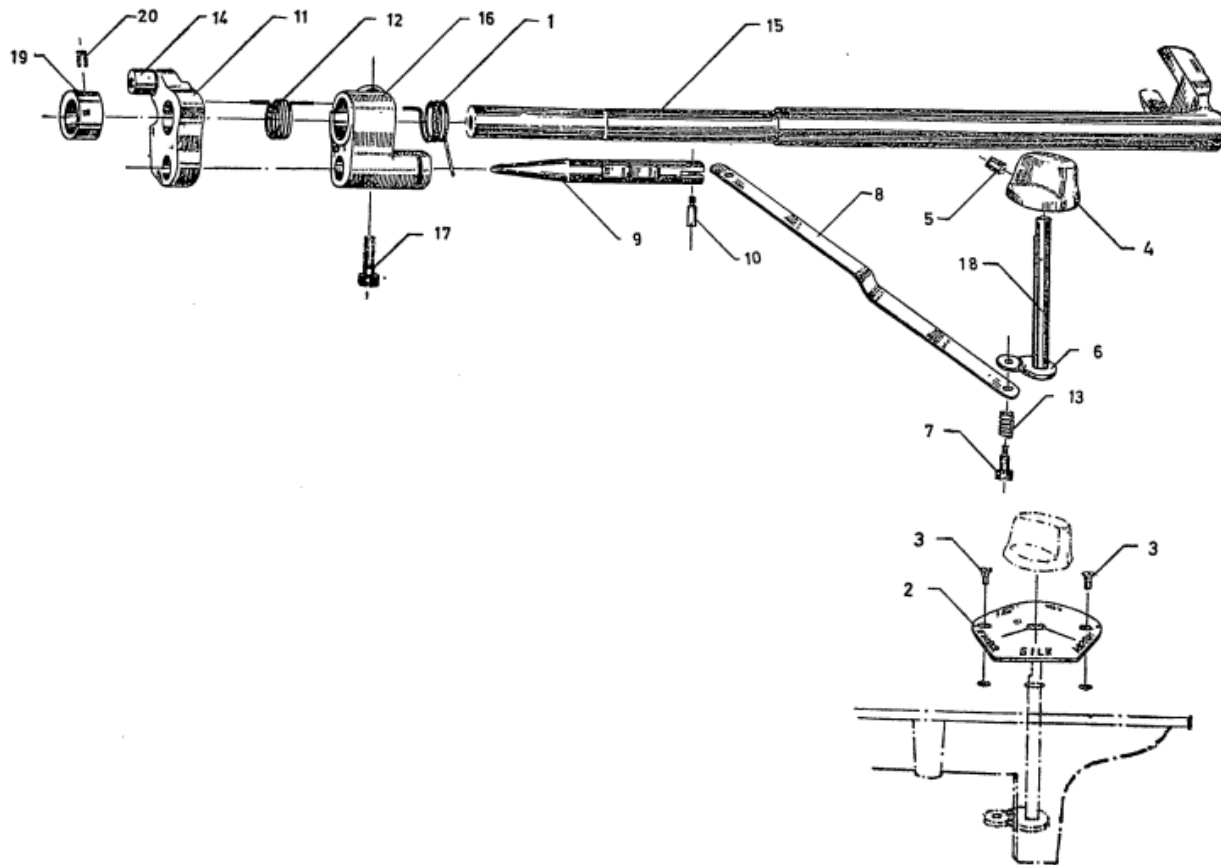


FIG. 15 FEED DROP ASSEMBLY

A-16 PATCH DARNER ASSEMBLY

See Fig. 16.

<i>Part No.</i>	<i>Name</i>
1	Presser adjuster
2	Presser adjuster release bush

- 3 Presser adjuster screw
- 4 Presser adjuster screw spring
- 5 Steel balls
- 6 Washer

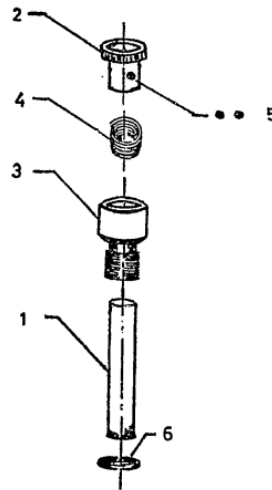


FIG. 16 PATCH DARNER ASSEMBLY

A-17 BASE ASSEMBLY

See Fig.17.

<i>Part No.</i>	<i>Name</i>
1	Base
2	Base catch
3	Base lid
4	Base lid key
5	Base lid key washer
6	Base lid tongue
7	Base tray
8	Bottom plate
9	Hinge body
10	Hinge body fixing screw
11	Hinge pin
12	Hook holder
13	Rubber pad
14	Washer
15	Hinge lever

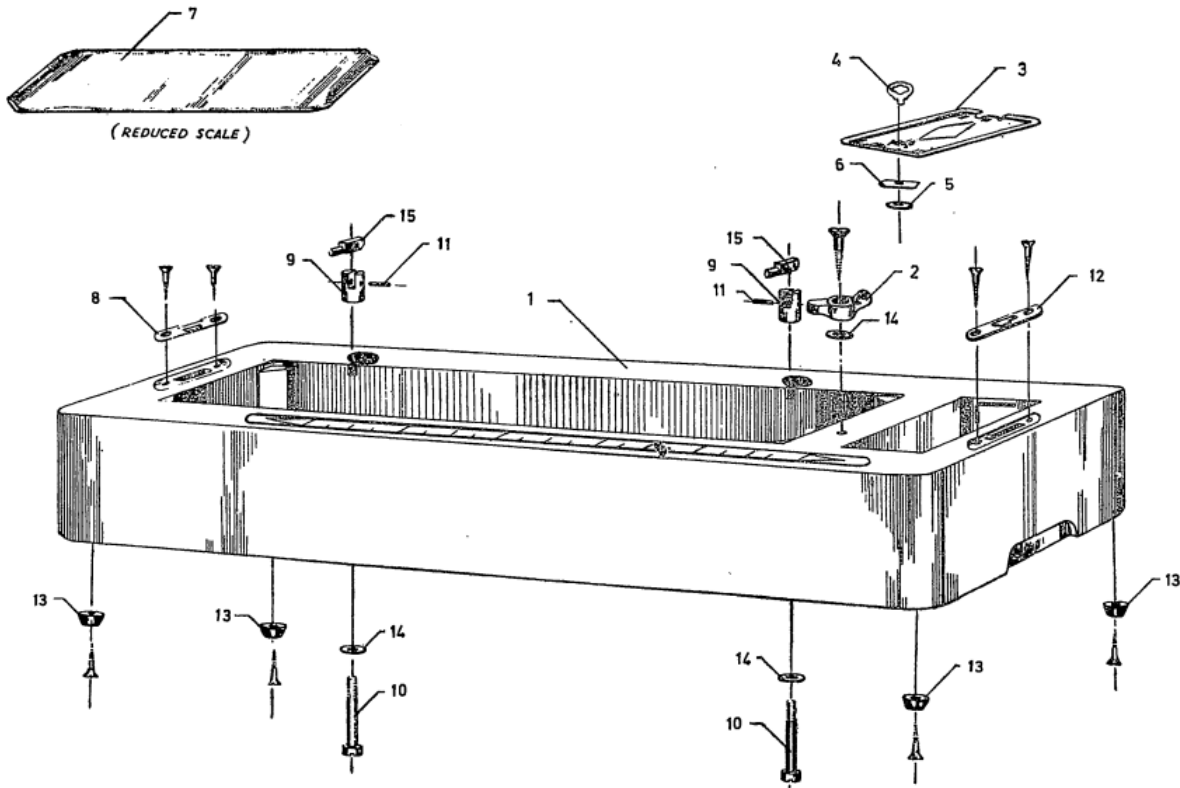


FIG. 17 BASE ASSEMBLY

A-18 COVER ASSEMBLY

See Fig. 18.

<i>Part No.</i>	<i>Name</i>
1	Cover
2	Eyelet guide
3	Handle
4	Handle plate bottom
5	Handle plate top
6	Handle rod
7	Handle side link
8	Hook holder
9	Key
10	Lock
11	Lock cover, back
12	Lock cover, front
13	Lock holder
14	Locking lever
15	Locking lever plate
16	Rubber stud
17	Stud

- 18 Stud nut
- 19 Stud pin

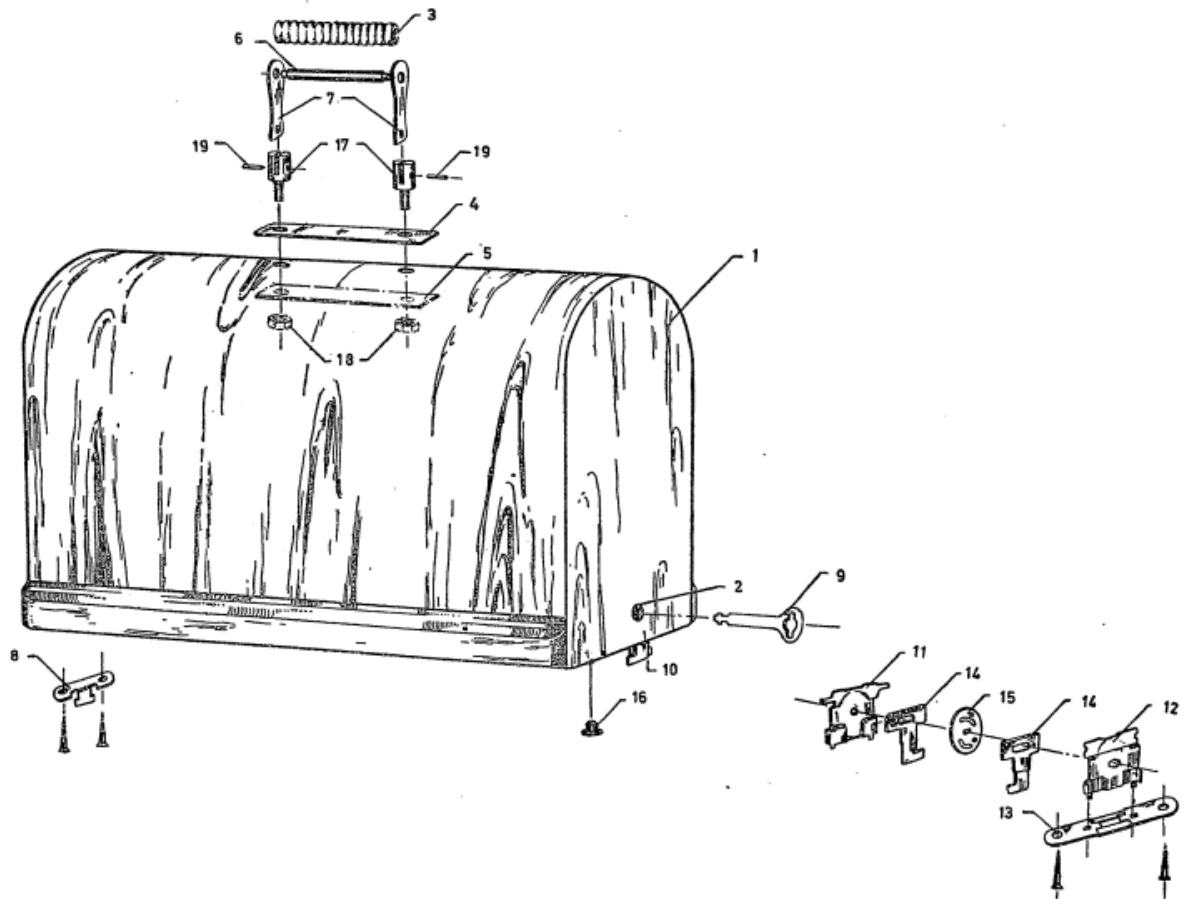


FIG. 18 COVER ASSEMBLY

A-19 TABLE ASSEMBLY

See Fig. 19.

<i>Part No.</i>	<i>Name</i>
1	Bottom plate
2	Drawer
3	Drawer guide
4	Drawer lock
5	Drawer lock body
6	Drawer lock cover plate
7	Drawer lock lever
8	Drawer lock plate
9	Drawer lock rivet
10	Hinge body

- 11 Hinge body pin
- 12 Hinge lever
- 13 Hook holder
- 14 Table
- 15 Tray
- 16 Nut
- 17 Washer

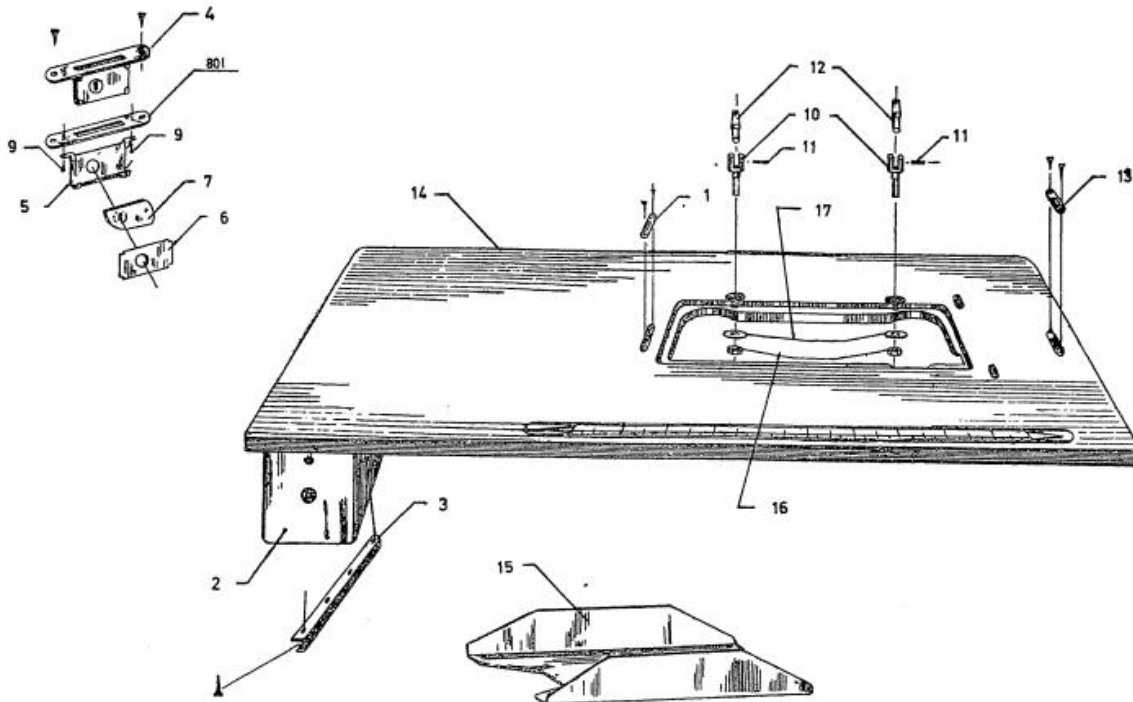


FIG. 19 TABLE ASSEMBLY

A-20 CENTRE BRACE ASSEMBLY

See Fig. 20.

<i>Part No.</i>	<i>Name</i>
1	Balls
2	Bearing
3	Bearing inner, race
4	Bearing main, race
5	Bearing set screw
6	Belt guide
7	Belt guide fixing screw
8	Belt shifter
9	Belt shifter screw
10	Belt shifter spring
11	Centre brace

- 12 Crank
- 13 Crank and flywheel fixing screw
- 14 Crank hinge screw
- 15 Crank hinge screw nut
- 16 Dress guard
- 17 Dress guard bolt
- 18 Dress guard nut
- 19 Dress guard washer
- 20 Large flywheel
- 21 Lower socket
- 22 Lower socket nut
- 23 Lower socket screw
- 24 Rod
- 25 Rod nut
- 26 Treadle
- 27 Treadle hinge screw
- 28 Treadle hinge screw nut

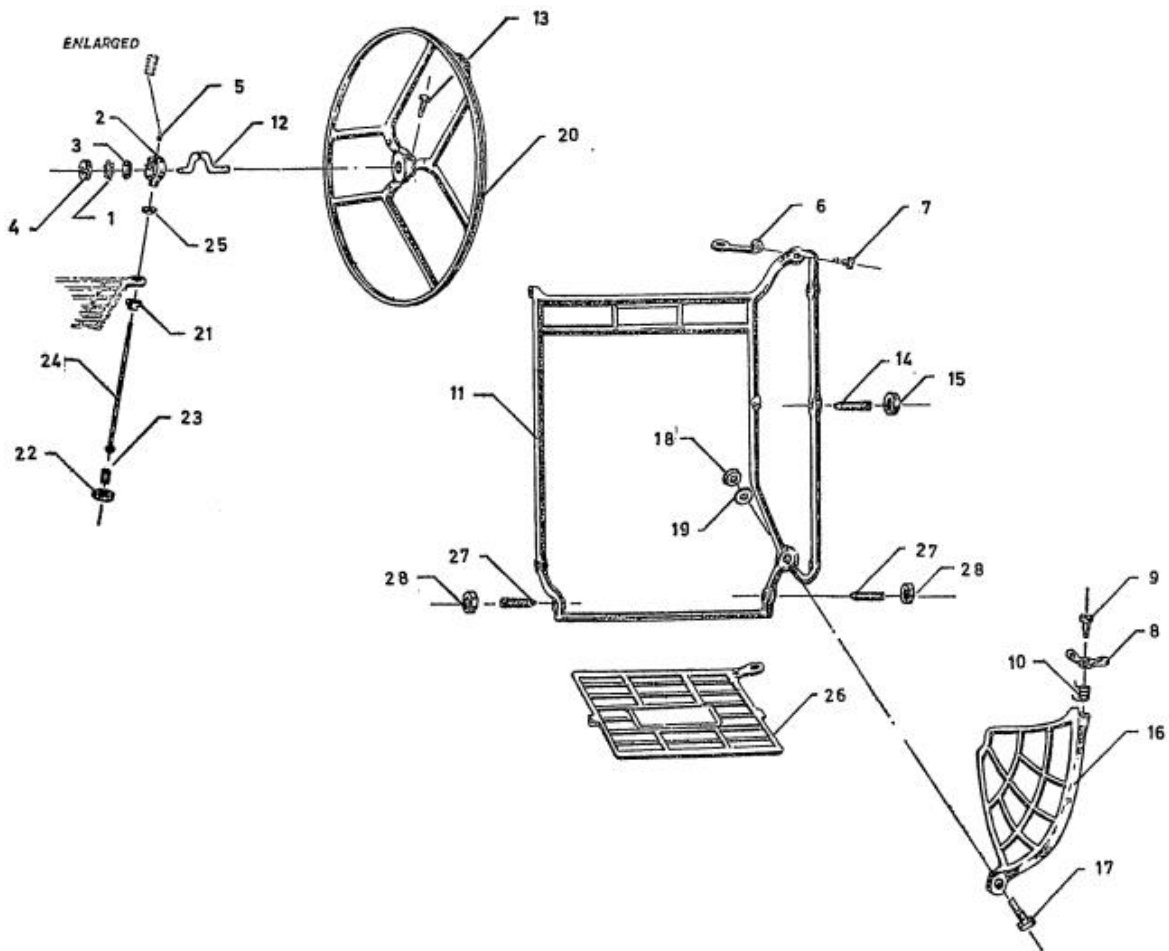


FIG. 20 CENTRE BRACE ASSEMBLY

A-21 STAND ASSEMBLY

See Fig. 21.

<i>Part No.</i>	<i>Name</i>
1	Roller
2	Roller pin
3	Side
4	Side fixing screw
5	Side spring washer

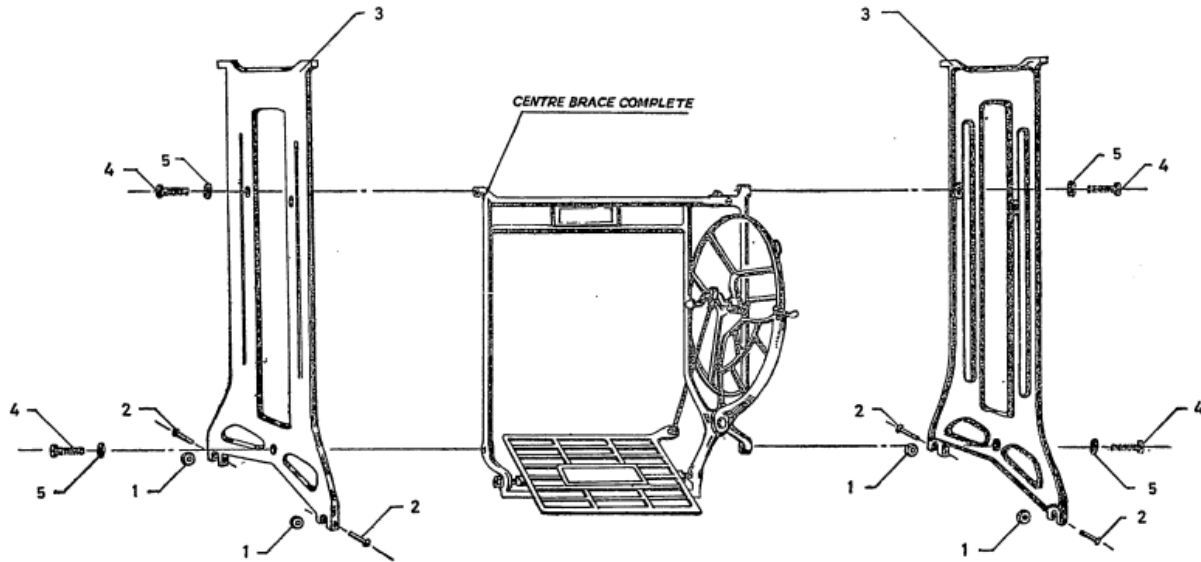


FIG. 21 STAND ASSEMBLY