◎ 产品简介

FGB6800高性能集装袋缝纫机，采用单直机针、摆梭勾线、上下复合送料，脚踏气动回缝，操作简便，构成双线锁式线迹。由于本机器采用特殊的上送料机构和压脚交叉提升机构，它除具有一般工业缝纫机的各项性能之外，其最大优点是对各种集装布、吊带等缝料和潜移性较大的中厚料，在缝纫过程中能使上层和下层送料量达到一致，在高低重叠缝纫和爬坡缝纫时，送料爽、针距稳定、线迹平整而美观、缝厚料、薄料性能稳定、操作省力等优点，同时还可以按集装袋工艺的特殊要求进行调整，正缝、倒缝、打横针操作简便自如，并可缝纫加防尘条的包装制品。

本机独特的压脚提升装置已申请国家发明专利。

◎ Brief Introduction of Product

FGB6800 High-performance sewing machine for containing bag adopts single straight needle, oscillat- ing shuttle thread hooking mechanism, upper and lower combined feeding and foot pedal back sewing. It is easy to operate. It forms 2-thread lock stitch. This machine adopts special upper feeding mechanism and presser cross lifeing mechanism, besides the various properties same with other general industrial sewing ma-chine, it has advantages of sane feeding size of upper layer and lower layer when sewing different contain cloth and sling and medium or thick material with big potential moving property,esay to feeding when make high and low over-lap sewing and climbing sewing. It has steady stitch size, smooth and beautiful stitch.It is easy to operate and has steady property when sewing thick material or thin material, At the same time, it could be regulated according to specisl requirement of conaining bag technology. It is easy to sew in forward stitch, inverted stitch and horizontal stitch. Itcould sew the packing products with dust-proof strip.

The special presser lifting mechanism of this machine has applied for the National Patent of Invention.

二、用途

适用于制鞋、沙发、集装袋、安全带、帐篷、皮革等极厚料物品缝制。

2. Use

The special presser lifting mechanism of this machine has applied for the National Patent of Invention.

It is used for making shoes, sofa, container bags, safety belt, tents, leather and many other thick material products.

三、主要特点

采用上下复合材料、压脚交叉升降机构，保证在额定范围内的任何长度针距下，缝纫滑性、粘性缝料及特长制品时上下层不位移、使制品整齐、线迹美观；连杆挑线机构、使主轴转速得以提高；下送料轴采用滑动轴承、降低了噪音、延长了使用寿命。

3. Key features:

Up and low-type feeding and alternative press foot device, when used for sewing slippery, sticky and ultra-long products within the rated needle stitch length, can ensurethe upper and lower layers avoid displacement and the products are orderly with beautifulthread trace. The connecting rod thread-picking mechanism can increase the rotating speed of the main shaft and the sliding bearing of lower shaft lessens the noise, thus ensuringthe quality of the complete machine and prolonging its lifespan.

四、使用、保养知识

1、新的或存放已久的机器在使用前应清除防锈油脂或尘埃、在机器的运转部位和滑动部位注入缝纫机油数滴、并开车数分钟。
2、机器：在运转时，上轮的转向应为逆时针（从上轮的外侧看）。
3、机针大小和缝线粗细的选择应与缝料、制品的厚薄、软硬等性质成正比
4、清除机器积尘和全部加油润滑、每工作班要求不少于两次。
5、机器在使用前一个月内，缝纫速度不得超过600/分。

4. Operation and Maintenance

a) The dust on the surface and anticorrosive oil should be removed before the new machine or the machine which is long spare is used. Drip several drops of machine oil into the operation section and sliding section and run the machine for a few minutes.
b) When the machine is running, the upper wheel is turning counterclockwise (seeing from the side of the upper side)
c) The size of needles and the thickness of the thread should agree with the thickness and rigidity of the materials and work pieces.
d) The minimum times of removing dust and lubricating completely that every working unit performs shall be more than twice.
e) The sewing speed should be less than 600/min in the first month of use.

五、主要技术规格

缝纫速度	800-1000针/分	机头外形	736×270×590毫米
针距长度	12毫米	电动机功率0.55千瓦（缝纫机专用电机）	
压脚提升高度	手控 14毫米 脚控22毫米		
操作空间	200×420毫米		
机针型号	Gv2型 110-280号（旧7X1种18-28号）		
缝线型号	蜡线25/3-18/7股，麻线2×7股，尼龙线2-24号		

5. Key technical regular

Sewing speed: 800-1000needles/minute
Needle gauge: 12mm
Presser lifting height: handy operation 14mm, foot operation 22mm
Operating space: 200×420mm
Needle model: GV2(110---280#) (old 7×1 18---28#)
Sewing thread model: wax thread 25/3-18/7, flax thread 2×7, nylon thread 2-24#
Machine head exterior: 736×270×590mm
Electric motor power: 0.5kw (Special Electric motor of sewing machine)

六　整机平面图

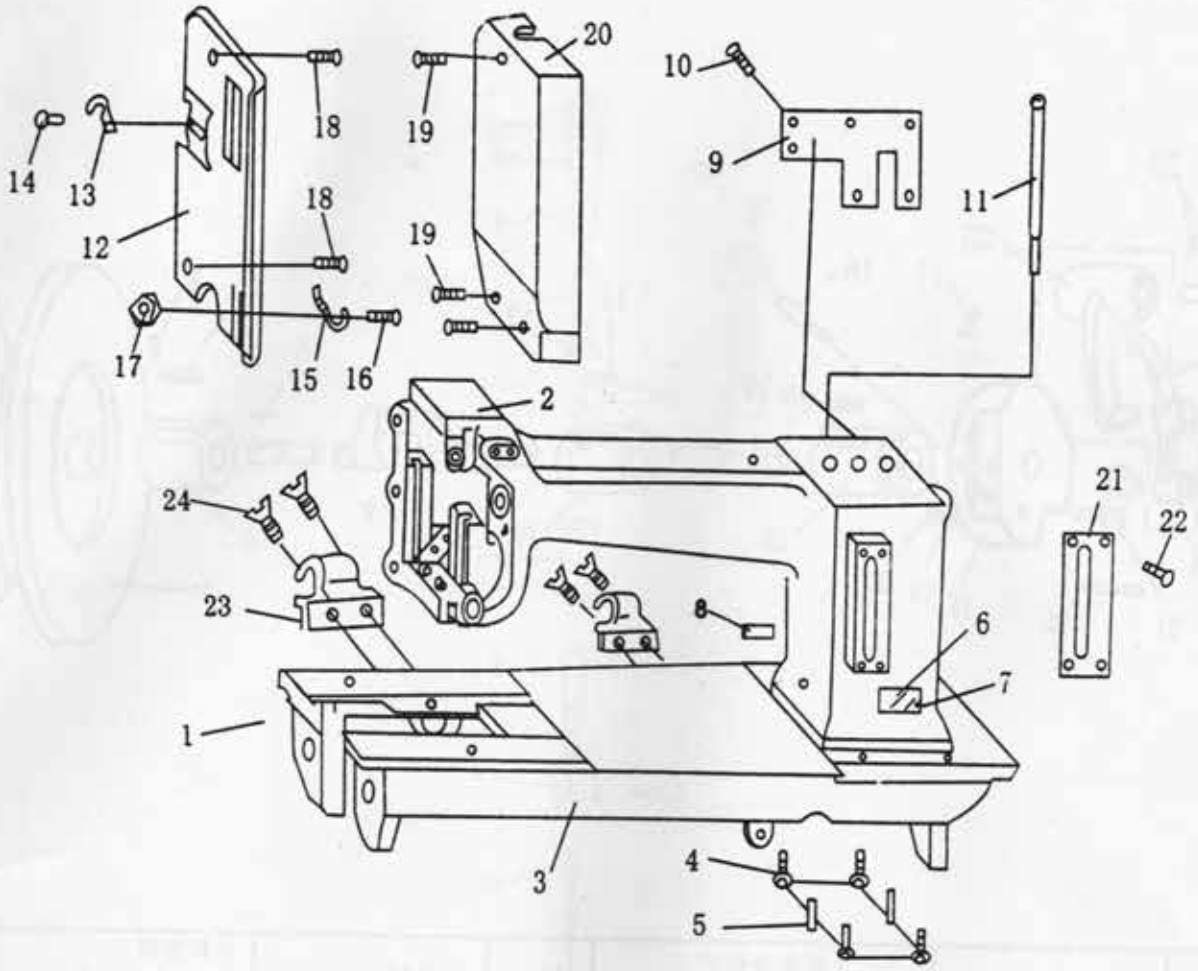
6. Plane graph of complete machine

附　件

Accessorial parts:

大开刀 Big operating knife: 1	1支
梭心 Shuttle bobbin: 5 pieces	5支
小开刀 Little operating knife: 1	1支
油壶 Oil can: 1	1支
机针 Needles: 1 package	1包

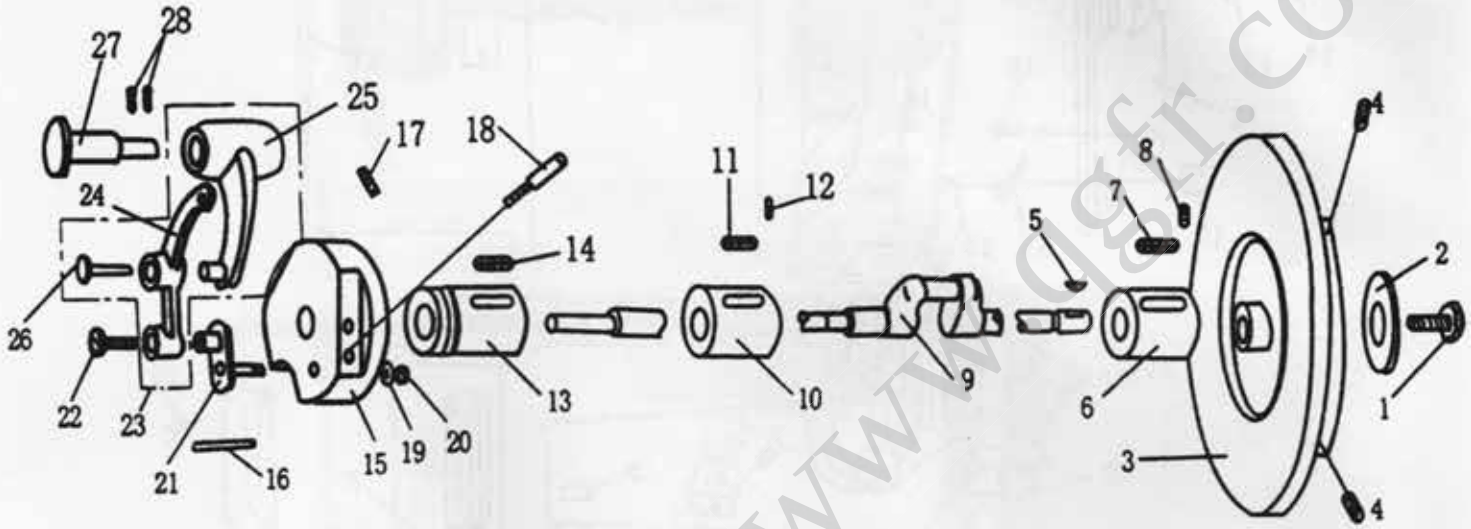
七、零件样本 7: Part samples: （一）机壳部位 (1). Machine shell parts



1	GQ205/8	机壳 Machine shell	18	GS120	挑线侧盖板螺钉 side cover screw
2	GQ206	车壳 Tool shell	19	GS148	针杆前盖螺钉 Needle bar front cover screw
3	GQ207	底板 Base plate	20	GK201	针杆前盖 Needle bar front cover
4	GS139	机壳螺钉 Machine shell screw	21	GK202	回缝盖板 Return seam cover board
5	GX105	机壳销 Machine shell pin	22	GS103	回缝盖板螺钉 Return seam cover board screw
6	GQ108	型号商标牌 Model brand	23	GKR222	掛勾 Hook
7	GX102	商标钉 Trademark nail	24	GS145	掛勾螺钉 Hook screw
8	GR84	生产日期牌 Manufacture date			
9	GK200	机壳后盖板 Machine shell back cove			
10	GS159	后盖板螺钉 Back cover screw			
11	GX106	插线钉 Thread-inserting nail			
12	GR233	挑线侧盖板 Thread-picking side cover			
13	GR234	挑线侧盖板线勾 Thread hook of thread-picking side cover			
14	GX123	勾线铆钉 crivet			
15	GR241	挡线 Blocking thread			
16	GS144	挡线螺钉 Blocking thread screw			
17	GL110	挡线螺母 Blocking thread nut			

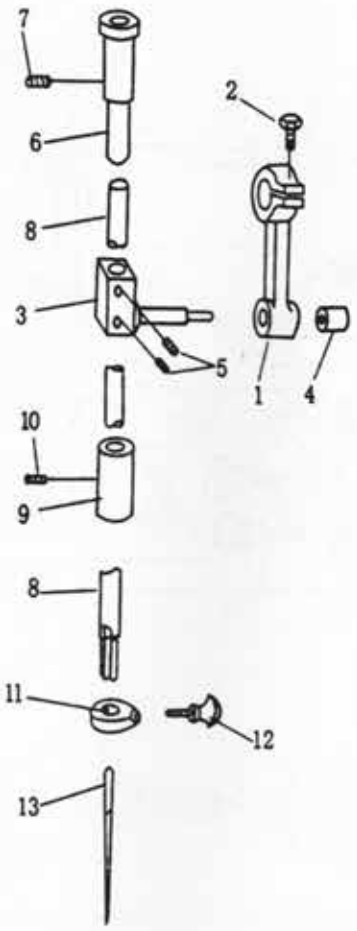
（二）上轴

（2）. The upper shaft



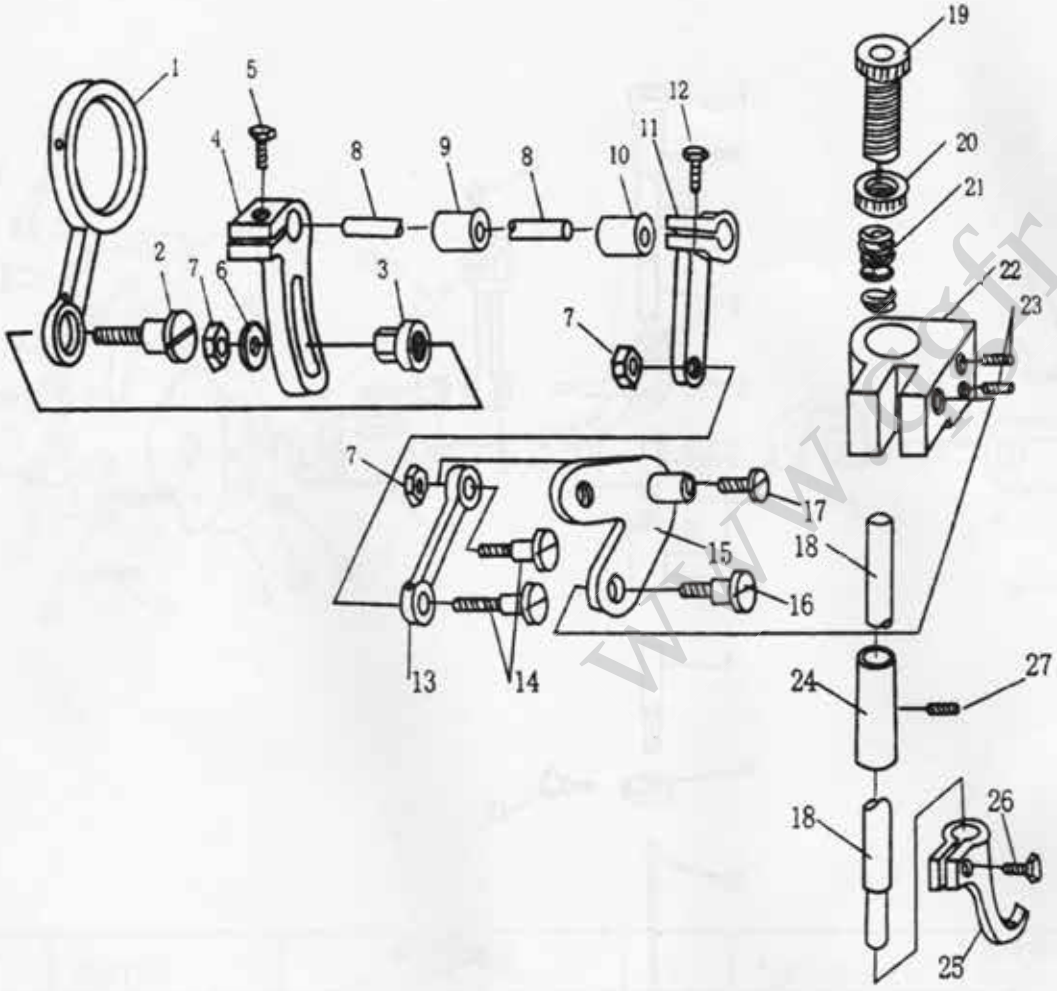
1	GS103	上轮安全螺钉 Upper wheel safe screw	15	GH154	针杆曲柄 Needle bar crank
2	GR238	上轮垫圈 Upper wheel washer	16	GX107	针杆曲柄销 Needle bar crank pin
3	GP130	上轮 Upper wheel	17	GS104	针杆曲柄螺钉 Needle bar crank screw
4	GS104	上轮螺钉 Upper wheel screw	18	GX108	针杆曲柄螺销 Needle bar crank screw-pin
5	GR239	上轴键 Upper shaft bond	19	GR275	挑线曲柄垫圈 Thread-picking crank washer
6	GO107	上轴套 Upper shaft sleeve	20	GL107	挑线曲柄螺母 Thread-picking crank nut
7	GR219	后轴套油毡 Back shaftsleeve malthoid	21	GH133	挑线曲柄 Thread-picking crank
8	GS106	后轴套螺钉 Back shaft sleeve screw	22	GS141	挑线曲柄螺钉 Thread-picking crank screw
9	GZ107	上轴 Upper shaft	23	GH114/3	挑线杆 Thread-picking rod
10	GO108	中轴套 Middle shaft sleeve	24	GH115	挑线杆体 Thread-picking rod body
11	GR220	中轴套油毡 sleeve malthoid	25	GH116	挑线连杆 Thread-picking connecting rod
12	GS106	中轴套螺钉 sleeve screw	26	GX109	挑线杆铆钉 Thread-picking rod rivet
13	GO109	前轴套 shaft sleeve	27	GX110	挑线连杆销 Thread-picking connecting rod pin
14	GR220	前轴套油毡 Front shaft sleeve malthoid	28	GX106	挑线连杆销螺钉 Thread-picking connecting rod screw-pin

（三）针杆
（3）.Needle bar



1	GH117	小连杆 Small connecting rod	8	GZ108	针杆 Needle bar
2	GS123	小连杆螺钉 Small connecting rod screw	9	GO113	针杆不衬套 Needle bar lower bushing
3	GH118	针杆连接轴 connecting shaft	10	GS152	针杆对套螺钉 Needle bar bushing screw
4	GU105	针杆连连接轴滚动 Needle bar Needle bar connecting shaft rotating column	11	GR242	针夹 Needle clip
5	GS165	针杆连连接轴螺钉 Needle bar connecting shaft screw	12	GS145	针夹落盯 Needle clip screw
6	GO110	针杆衬套 Needle bar bushing	13	GV2	机针 Needle
7	GS152	针杆衬套螺钉 Needle bar bushing screw			

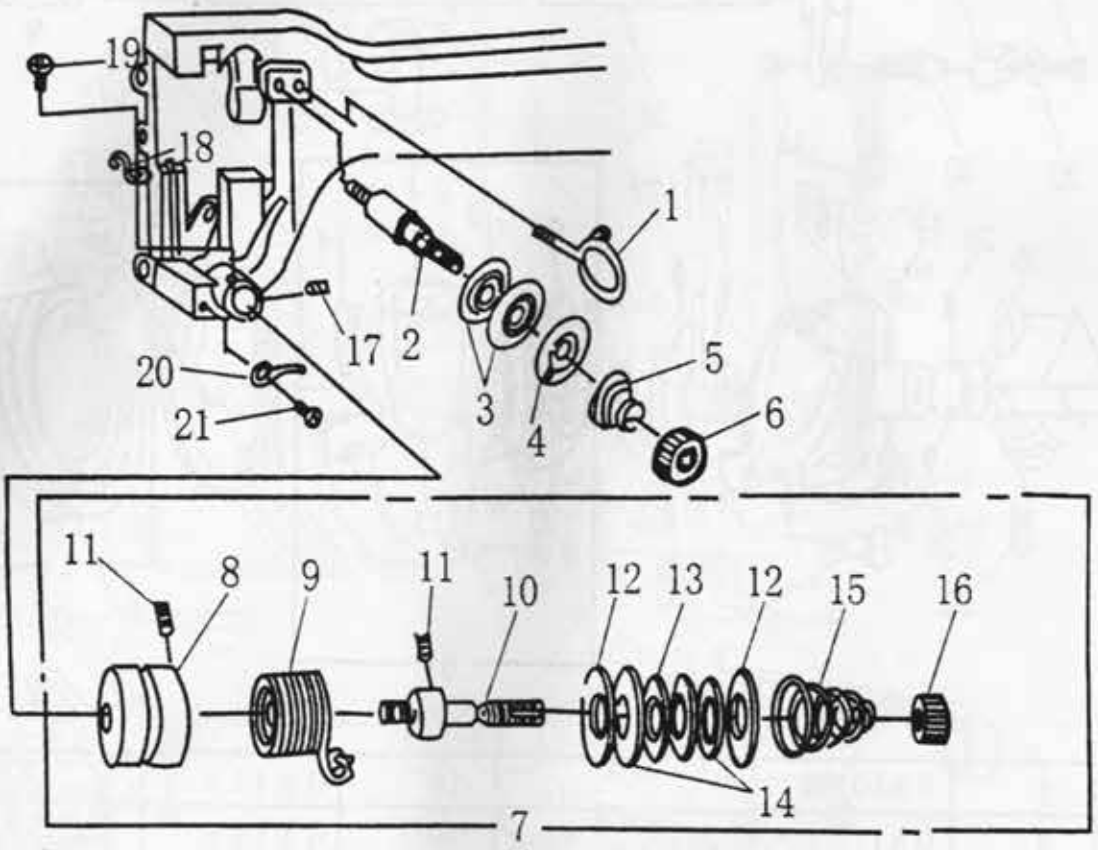
（四）压脚
(4) Presser



1	GH149	压脚升降大连杆 Presser lifting large connecting rod	14	GS180	摇板小连杆螺钉 Swing board small connecting rod screw
2	GS150	轴末螺钉 Shaft screw	15	GH150	压脚升降摇板 Presser lifting swing board
3	GL108	调整螺母 Adjusting nut	16	GS181	定位块摇板螺钉 Locating block swing board screw
4	GH146	压脚升降调整后曲柄 Presser lifting adjusting back crank	17	GS153	摆他叫支点螺钉 Swing presser fulcrums screw
5	GS157	调整后曲柄紧固螺钉 Adjusting back crank tightening screw	18	GZ200	压杆 Press rod
6	GR245	轴位螺钉垫圈 Shaft screw washer	19	GS182	压杆调节螺钉 adjusting screw
7	GL106	锁紧螺母 Locking nut	20	GL182	压杆调节螺钉锁紧螺母 Press rod Press rod adjusting
8	GZ122	压脚升降油 Pressert lifting shaft	21	GW201	压杆弹簧 screw locking nut
9	GO126	压脚升降轴后轴套 Presser lifting shaft back shaft sleeve	22	GR304	压杆定位决 Press rod springPress rod locating block
10	GO127	压脚升降轴前轴套 Presser lifting shaft front shaft sleeve	23	GS187	压杆定位螺钉 Press rod locating pin
11	GH147	压脚升降前曲柄 Presser lifting front crank	24	GO128	压杆下衬套 Press rod lower bushing
12	GS157	压脚升降前曲柄紧固螺钉 Presser lifting front crank tightening screw	25	GM104	压脚 Presser
13	GH141	压脚升降小连杆 Presser liftingsmall connecting rod	26	GS148	压脚螺钉 Presser screwsmall connecting rod
			27	GS152	压杆下衬套螺钉 Press rod lower bushing screw

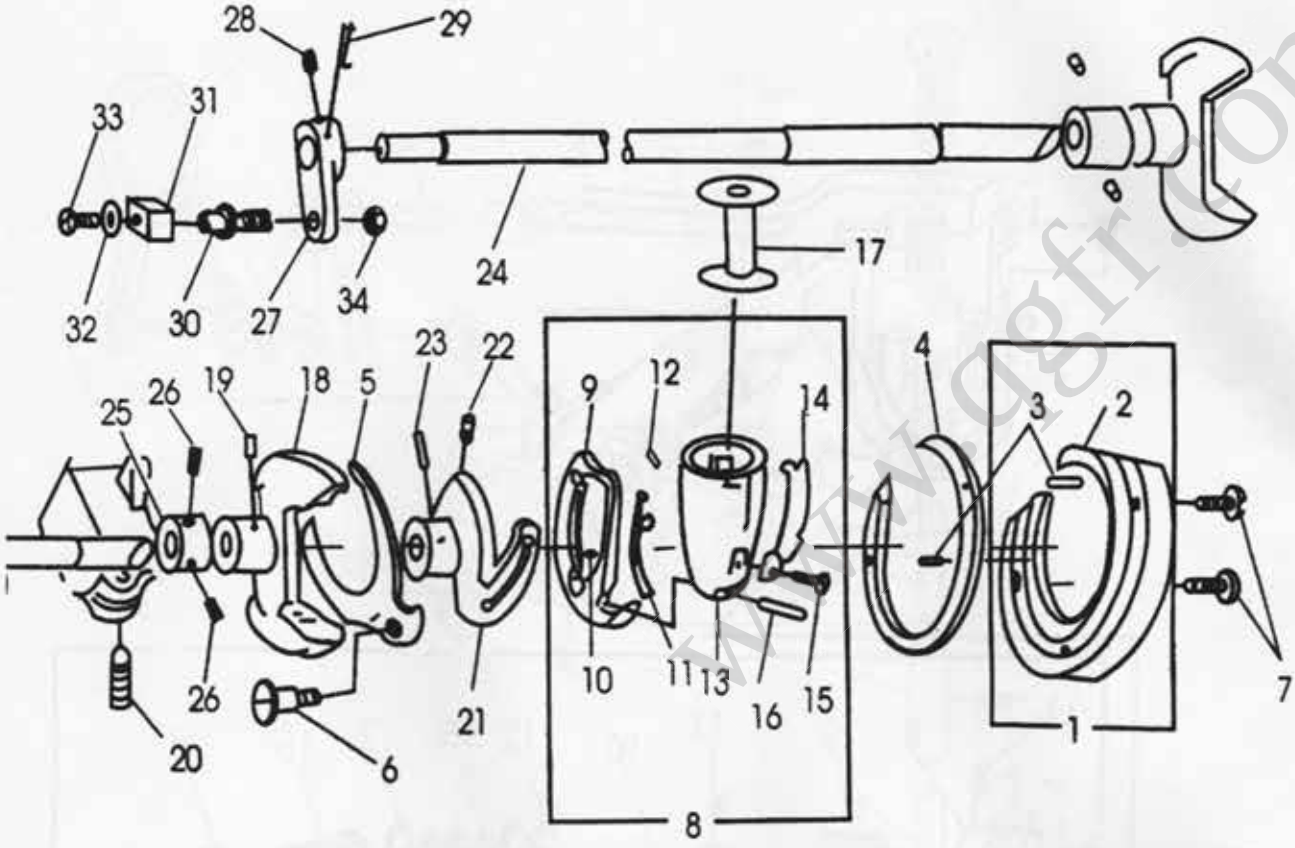
（五）夹线

（5）Thread-clipping



1	GR256	过线圈 Thread-passing ring	12	GR209	过线压板 Thread-passing pressing board
2	GS121	夹线螺钉 Thread-clipping screw	13	GP102	过线轮 Thread-passing wheel
3	R56	夹线板 Thread-clipping board	14	GR210	过线轮毡圈 Asphalt felt ring of threading-passing wheel
4	R57	松线板 Thread-loosing board	15	GW102	过线簧 Thread-passing spring
5	GW115	夹线簧 Thread-clipping spring	16	GL103	过线螺母 Thread-passing nut
6	GL103	夹线螺母 Thread-clipping nut	17	GS106	过线器紧固螺钉 Screw for locking thread-passing device
7	GR278/11	过线器 Thread-passing device	18	GW110	挡线簧 Thread-stopping spring
8	GR257	过线座 Thread-passing support	19	GS161	挡线簧螺钉 Screw of thread-stopping spring
9	GW109	挑线簧 Thread-picking spring	20	GR241	针杆挡线 Thread-stopping of needle bar
10	GS122	过线螺钉 Thread-passing screw	21	GS144	针杆挡线螺钉 Screw of thread-stopping of needle bar
11	GS152	过线螺钉 Screw for locking thread-passing device			

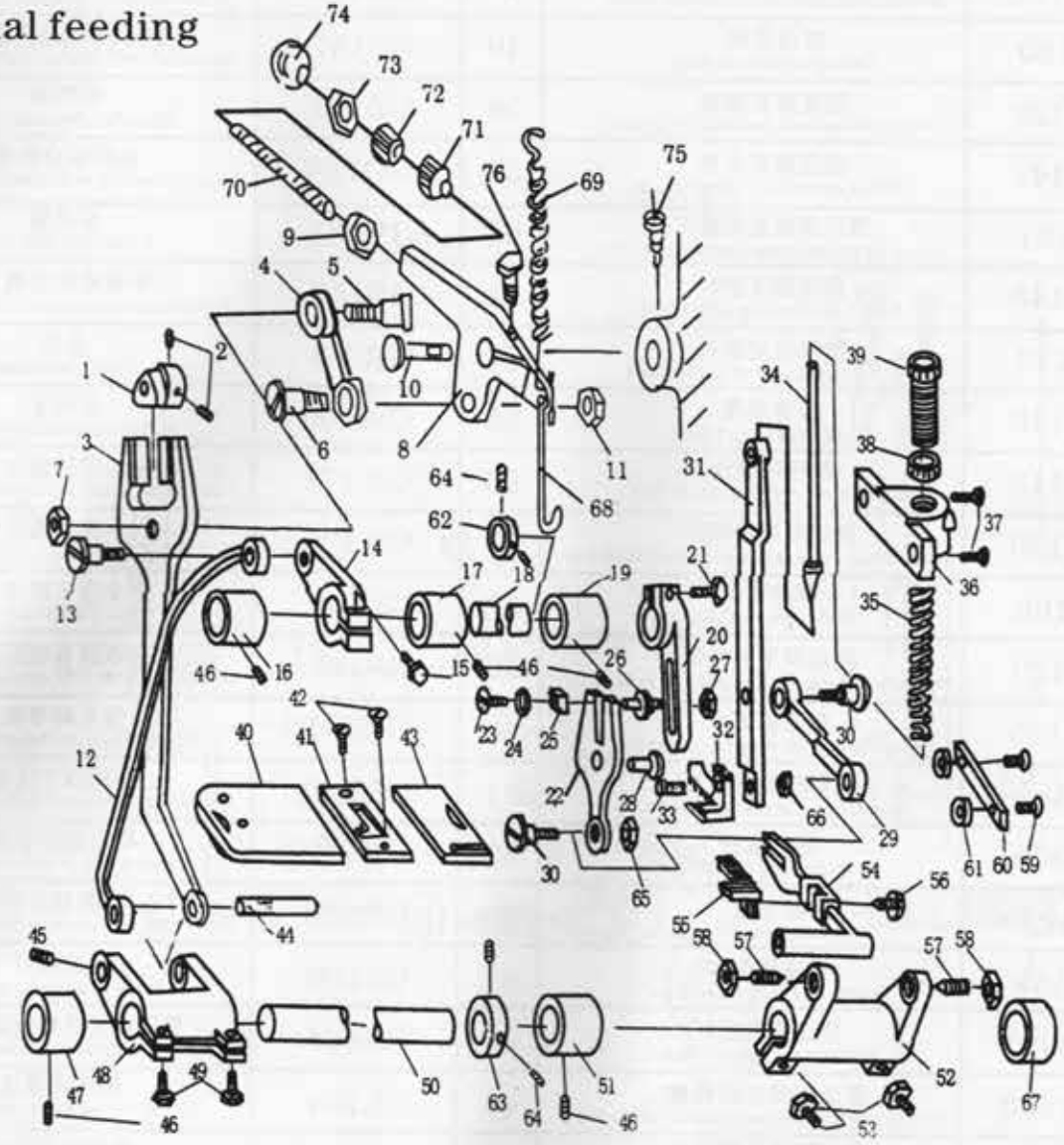
（六）梭床、下轴
6. Shuttle bed and lower shaft



1	GN109/3	梭床 Shuttle bed	18	GN117	梭床座 Base of shuttle bed
2	GN110	梭床体 Body of shuttle bed	19	GX121	梭床座定位销 shuttle bed base
3	GX114	梭床销 Pin of shuttle bed	20	GS405	梭床座固定螺钉 Setting pin of Fixing-screw of shuttle bed base
4	GN111	梭床圈 Ring of shuttle bed	21	GR258	摆梭托 Swinging shuttle support
5	GW111	压圈簧 Ring-pressing spring	22	GS114	梭托螺钉 Screw of shuttle support
6	GS162	压圈簧螺钉 Screw of ring-pressing spring	23	GX124	摆梭托销 Pin of swinging shuttle support
7	GS163	梭床螺钉 Shuttle bed screw	24	GZ112	下轴 Lower shaft
8	GN112/8	摆梭 Swinging shuttle	25	GR259	下轴挡圈 Blocking ring of lower shaft
9	GN113	摆梭体 Body of swingingshuttle	26	GS114	下轴挡圈螺钉 Screw of blocking ringlower shaft
10	GW112	摆梭簧 Spring of swinging shuttle	27	GH124	下轴曲柄 Crank of lower shaft
11	GN114	梭床闩 Shuttle bed bolt	28	GS114	下轴曲柄螺钉 Screw of lower shaft crank
12	GX115	梭床闩销 Pin of shuttle bed bolt	29	GX124	下轴曲柄销 Pin of lower shaft crank
13	GN115	梭心壳 Shell of shuttle core	30	GU108	滑块螺柱 Screw-column of slick block
14	GW113	梭心簧 Spring of shuttle core	31	GU109	摆轴滑块 Crank slide block of swinging shaft
15	GS164	梭心簧螺钉 Screw of shuttle core spring	32	GU110	摆轴滑块垫圈 Ring-washer of slick block of swinging shaft
16	GX116	梭心壳销 Pin of shuttle core shell	33	GS212	滑块固定螺钉 Block-fixing screw
17	GN116	梭心 Shuttle core	34	GL105	滑块螺母 Block nut

（七）送料

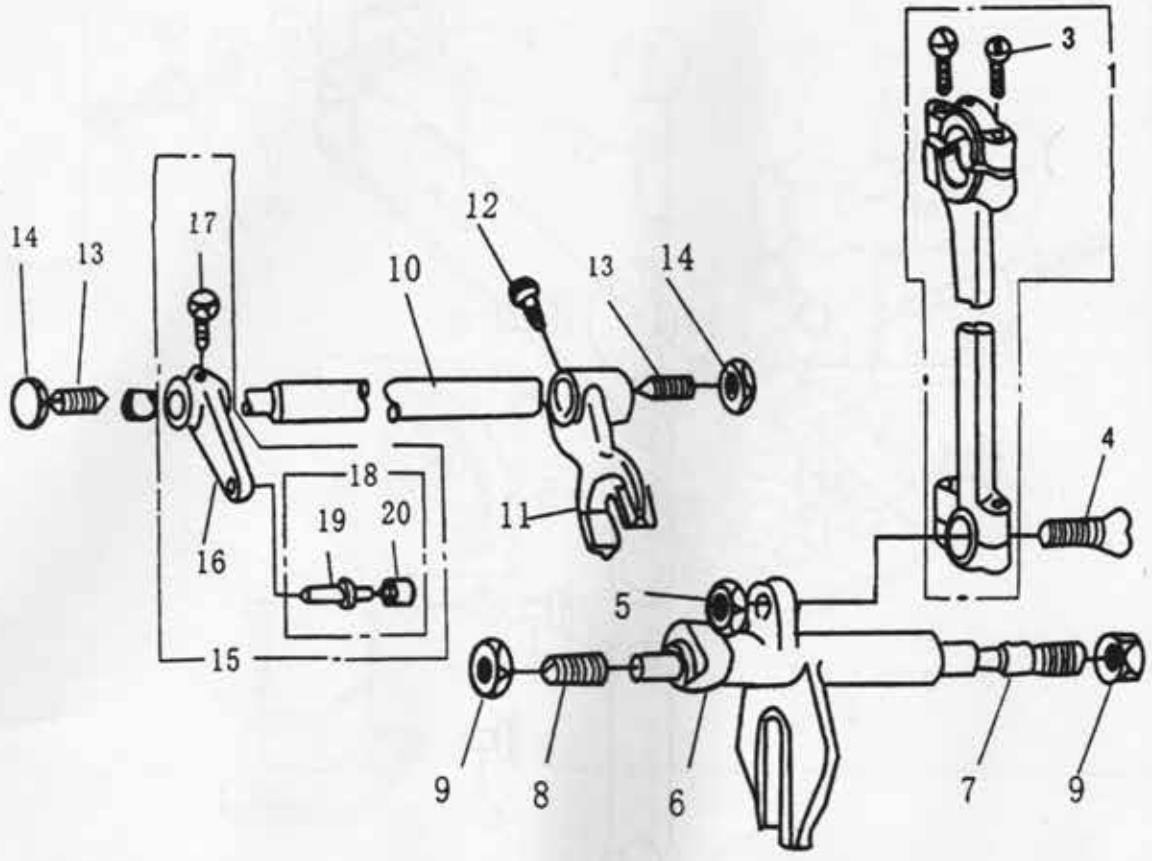
7. Material feeding



1	GT103	送料凸轮 Material-feeding cam	9	GS168	锁紧螺母 Tightening nut
2	GS165	送料凸轮螺钉 Screw of Material-feeding cam	10	GS167	针距座中心轴 Central shaft of knitting gauge
3	GH125	牙叉 Tooth fork	11	GL105	针距连杆螺母 Screw of connecting rod of knitting gauge
4	GH126	针距连杆 connecting rod of knitting gauge	12	GH1253	摆压脚大连杆 Large connecting rod of swing press foot
5	GS166	牙叉连接螺钉 Screw of tooth fork connecting	13	GS184	摆压脚大连杆连接螺钉 Connecting screw of large connectingrod of swing press foot
6	GS166	针距连杆螺钉 Screw of connecting rod of knitting gauge	14	GH142	摆压脚后曲柄 Back crank of swing press foot
7	GL105	牙叉连接螺母 Connecting screw of tooth fork	15	GS157	摆压脚后曲柄螺钉 Screw of back crank of swing press foot
8	GR206	针距座 Knitting gauge seat	16	GO120	摆压脚后轴套 Back shaft sleeve of swing press foot

17	GO121	摆压脚中轴套 Swing press foot middle shaft sleeve	48	GH144	送料后曲柄 Material feeding back crank
18	GZ120	摆压脚轴 Swing press foot shaft	49	GS157	送料后曲柄紧固螺钉 Tighteningscrew of material-feeding back crank
19	GO122	摆压脚前轴套 Swing press foot front shaft sleeve	50	GZ121	送料轴 Material-feeding shaft
20	GH143	摆压脚前曲柄 Swing press foot front crank	51	GO124	送料轴中轴套 Material-feeding shaft middle shaft sleeve
21	GS157	摆压脚前曲柄螺钉 Screw of swing press foot front crank	52	GH145	牙架座 Tooth bracket seat
22	GH148	摆压脚叉形杆 Fork rod of swing press foot	53	GS157	牙架座紧固螺钉 Tightening screw of tooth bracket seat
23	GS212	滑块固定螺钉 Tightening screw of slick block	54	GR261	牙架 Tooth bracket
24	GU110	滑块垫圈 Washer of slick block	55	GM106	送料牙 Material-feeding tooth
25	GU119	摆压脚滑块 Slick block of swing press foot	56	GS 171	送料牙螺钉 Screw of material-feeding tooth
26	GU120	摆压脚滑块螺柱 Screw columnof slick block of swing press foot	57	GS 170	小顶尖螺钉 Screw of little top tip
27	GL106	滑块螺母 Nut of slick block	58	GL105	小顶尖螺母 Nut of little top tip
28	GX123	摆压脚叉形杆销 The fork rod shaped pin of swing press foot	59	GS186	摆压脚导轨螺钉 Guide rail screw of swing press foot
29	GH140	摆压脚连杆 Connecting rod of swing press foot	60	GR301	摆压脚导轨 Guide rail of swing press foot
30	GS180	叉形杆连接螺钉 Connecting screw of fork rod	61	GU130	摆压脚导轨垫 Washer of guide rail of swing press foot
31	GZ300	摆压脚杆 Rod of swing press foot	62	GR302	摆压脚轴紧圈 Tightening ring of swing press foot
32	GM120	摆压脚 Swing press foot	63	GR303	送料轴紧圈 Tightening ring of swing press foot shaft
33	GS159	摆压脚螺钉 Screw of swing press foot	64	GS106	紧圈螺钉 Screw of tightening ring
34	GZ301	摆压脚调压杆 rod of swing press foot	65	GS106	摆压脚叉形杆锁紧螺母 Tightening nutof fork rod of swing press foot
35	GW200	摆压脚调压杆弹簧 Spring of adjusting rod of swing press foot	66	GL104	摆压脚螺母 Nut of swing press foot
36	GR300	摆压脚调压螺钉架 Adjusting screw frame of swing press foot	67	GO125	送料轴前轴套 Front shaft sleeve of material feeding haft
37	GS185	调压螺钉架螺钉 Screw of adjusting screw frame	68	GZ301	针距回缝隙拉杆 Returning seam pull rod of knitting gauge
38	GL183	摆压脚调压螺钉锁紧螺母 Tightening nut of adjusting screw of swingpress foot	69	GW303	针距座复位弹簧 Resetting spring of knitting gauge seat
39	GL183	摆压脚调压螺钉 Adjusting screw of swing press foot	70	GR305	针距调节螺杆 Adjusting screw rod of knitting gauge
40	GR262	大推板 Big pushing plate	71	GL230	针距调节螺母 Adjusting nut of knitting gauge
41	GM107	针板 Needle plate	72	GL231	针距锁紧螺母 Tightening nutof knitting gauge
42	GS172	针板螺钉 Screw of needle plate	73	GL232	手柄球锁紧螺母 Tightening nut of handle ball
43	GR236	小推板 Small push plate	74	GR306	针距座手柄球 Handle ball of knitting gauge seat
44	GX130	送料曲柄销 Material-feeding crank pin	75	GS163	中心轴紧定螺钉 Tightening screw of central shaft
45	GS191	送料曲柄销螺钉 Screw of material-feeding crank pin	76	GS148	调节针距座中心孔螺钉 Central-hole screw
46	GS106	送料轴轴套螺钉 Screw of shaft sleeve of material-feeding shaft			
47	GO123	送料轴后轴套 Back shaft sleeve of material-feeding shaft			

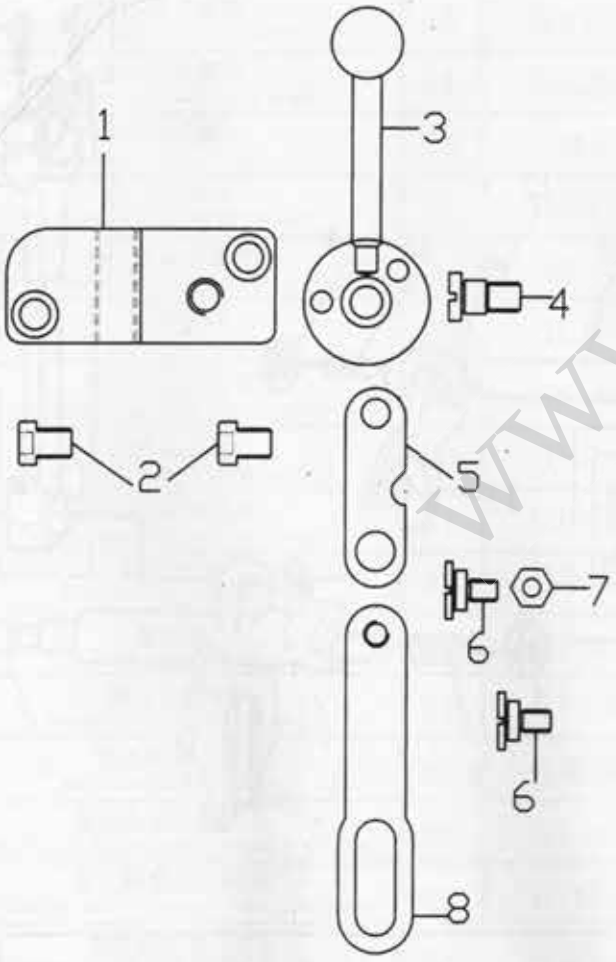
（八）抬牙
8. Tooth-lifting



			11	GH132	抬牙牙叉 Screw of tooth-fork for tooth-lifting
1	GH129/3	大连杆 Large connecting rod	12	GS157	抬牙牙叉螺钉 Large fixing screw
3	GS156	大连杆螺钉 Screw of large connecting rod	13	GS169	大尖顶螺钉 Large fixing nut
4	GS166	大连杆连接螺钉 Connecting screw of large connecting rod	14	GL109	大尖顶螺母 Tooth-lifting shaft arm
5	GL105	大连杆连接螺钉母 Connecting nut of large connecting rod	15	GH133/4	抬牙曲柄 Body oftooth-lifting shaft arm
6	GH131	摆轴 Swinging shaft	16	GH134	抬牙曲柄体 Screw of tooth-lifting shaft arm
7	GS174	摆轴中心轴 Central swinging shaft	17	GS157	抬牙曲柄螺钉 Tooth-lifting rotating column
8	GS175	摆轴中心轴套 Sleeve of central swinging shaft	18	GU111/2	抬牙滚注 Axle of tooth-lifting rotating column
9	GL109	摆轴中心轴螺母 Nut of central swinging shaft	19	GU112	抬牙滚注轴 Sleeve of axle of tooth-lifting rotating column
10	GZ223	抬牙轴 Tooth-lifting axle	20	GU118	抬牙滚注轴套 Tooth-fork for tooth-lifting

（九）扳手部分

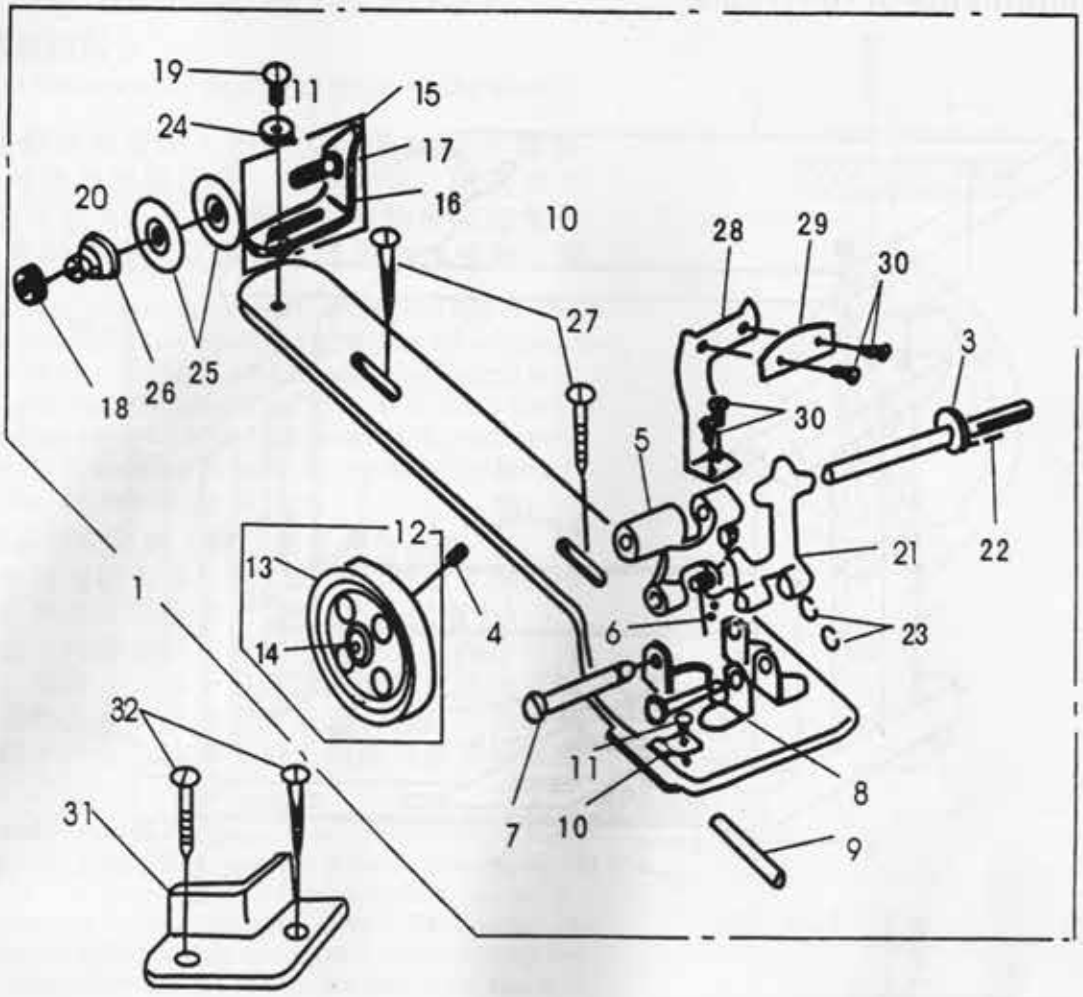
（9）Part wrench



1	SG101	扳手座 Block wrench	7	SG107	扳手连杆螺母 Connecting rod nut wrench
2	SG102	扳手座螺丝 Block screw wrench	8	SG108	扳手连杠2 Wrench even bars 2
3	SG103	扳手 Wrench			
4	SG104	扳手螺丝 Screw wrench			
5	SG105	扳手连杠1 Wrench even a bar			
6	SG106	扳手连杆螺丝 Wrench screw-link			

（十）绕线器

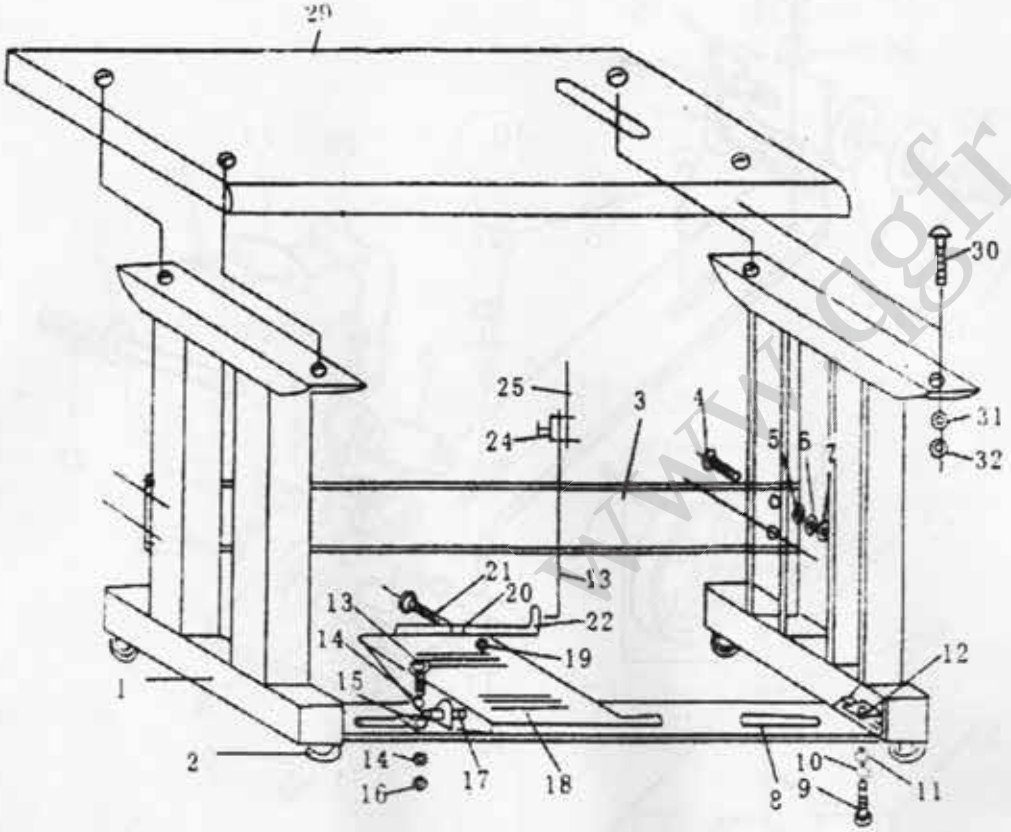
10.Winding machine



1	GR1165/30	绕线器 Winding machine	17	GL103	过线夹线螺母 Nut for thread passing and clipping
2	GR1166	绕线圈座 Winding ring base	18	GS309	过线架螺钉 Screw of thread-passing bracket
3	GZ224	绕线轴 Winding shaft	19	GS279	过线螺钉 Passing screw
4	GS134	绕线轮螺钉 Screw of winding wheel	20	GS22	满线跳板螺钉 Screw of full thread springboard
5	GR226	绕线架 Winding bracket	21	GR862	满线跳板 Full thread springboard
6	GW114	绕线簧 Winding bracket spring	22	GX104	绕线轴销 Winding thread shaft pin
7	GX120	绕线架销 Winding bracket pin	23	GR273	绕线及满线钢挡圈 Ring of winding and full thread pin
8	GX119	满线跳板销 Pin of full thread springboard	24	GR122	过线架垫圈 Washer of passing thread bracket
9	GR201	绕线制动垫 Winding brakewasher	25	R56	过线夹线板 Thread-passingand clipping plat
10	GR228	绕线制动夹 Winding brake clip	26	W12	过线夹线簧 Passing thread clipping thread spring
11	GS137	绕线制动夹螺钉 Screw of winding brake clip	27	GBS101	绕线器木螺钉 Wood screw of winding machine
12	GP121/2	绕线轮 Winding wheel	28	GR229	排线架座 Arranging thread bracket base
13	GP122	绕线轮圈 Winding wheel ring	29	GR230	排线板 Arranging thread plate
14	GP123	绕线轮轴套 Shaft sleeve of winding wheel	30	GS137	排线架螺钉 Screw of arranging thread bracket
15	GR1162/2	过线架 Thread-passing bracket	31	GR264	机头固定架 Fixing bracket of machine head
16	GR1163	过线架座 Thread-passing bracket base	32	GBS101	机头固定木螺钉 Fixing wood screw of machine head

（十二）机架组件

12.Components of the frame



1	GKR193/6-4	边架部件 Component of side fixation	19	GKL102	踏板杠杆螺母 Nut of lever of the pedal
2	GKR195/3	边架座组件GKR196/2 Components of seat of the side fixation GKR196/2	20	GKR112	踏板杠杆垫圈 Washer ring of lever of the pedal
3	GKR172/3	横档部件 Cross rail	21	GKS103	踏板杠杆螺钉 Screw of lever of the pedal
4	GKS119	横档连接螺钉 Connecting screw of cross rail	22	GKR111	大踏板杠杆 Lever of the big pedal
5	GR253	边架柱垫圈 Washer ring of side fixation column	23	GKR116	电机离合下拉杆 The lower tensile rod controlled by motor
6	GKR176	边架柱弹簧垫圈 Spring washer ringof side fixation column	24	GKR183	拉杆调节器
7	GKL103	边架柱螺母 Screw of side fixation column	25	GKR118	电机离合上拉杆 The upper tensile rod controlled by motor
8	GKR178/3	踏板轴档部件 Components of pedal shaft rail			
9	GKS110	踏板轴档螺钉 Screw of pedal shaft rail			
10	GKR106	踏板轴档弹簧垫圈 Spring washer ring of pedal shaft rail			
11	GKR122	踏板轴档垫圈 Washer ring of pedal shaft rail	29	GKR221	大台板 Large bedplate
12	GRR181	踏板轴档定位螺母板 Locating nut board ofpedal shaft rail	30	GKS106	台板、支架大帽螺栓 Bedplate、large-cap bolt of the frame
13	GKS110	踏板轴座螺钉 Screw of pedal shaft seat	31	GKR122	大帽螺栓垫圈 Washer ring of the large-cap bolt
14	GKR122	踏板轴座垫圈 Washer ring of pedal shaft seat	32	GKL101	大帽螺栓螺母 Nut of the large-cap bolt
15	GKR184	踏板轴座 Pedal shaft seat			
16	GKL101	踏板轴座螺母 Screw of pedal shaft seat			
17	GKX106	大踏板轴 Screw of pedal shaft seat			
18	GKR182	大踏板 Big pedal			

九、机器的调整

9.Adjusting of the machine

（一）主要机构的运动配合

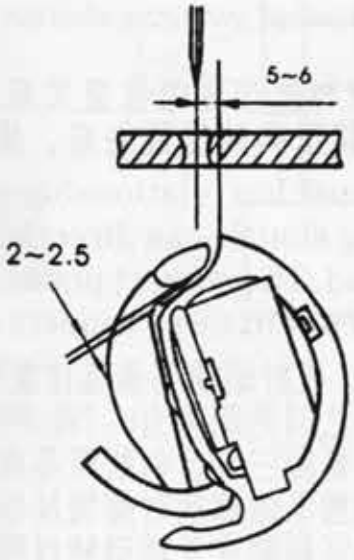
(1) Motion-cooperation of Main Mechanisms

1、机针与摆梭的配合

1.Cooperation between the needle and the swing shuttle

当机针在最高位置时（即上轴转角为0° ）摆梭处于顺时针转动的极限位置，如图一示，其脱线距为5~6，出线间隙为2-2.5，机针与摆梭处在这样的相对位置，有利于线环从摆梭中脱出和线迹的收紧。

When the needle is in the highest position(upper shaft is 0°), the shuttle is in the ultimate position which rotates clockwise, as shown in Fig.1, and its off-line length is 5-6mm and itsoutgoing line length is 2-2.5. It is good for the thread ring to come out and the tightness of threadtrace when the needle and swing shuttle are in thisrelative position.i.e. the turning angle of the

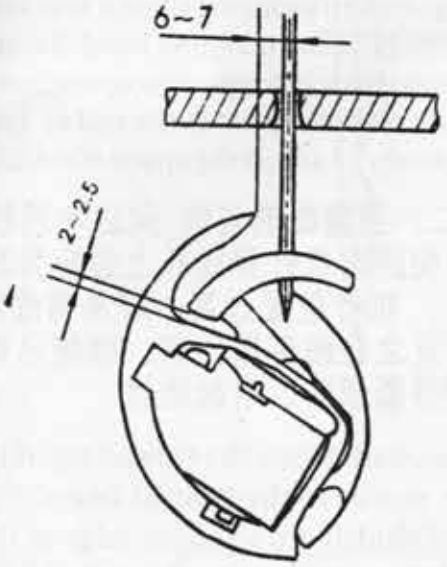


图一

Fig.1

当机针在最低位置时（即上轴转角为180° ），摆梭处于逆时针转动的极限位置，此时勾线距（即摆梭的勾线尖与机针之间的距离）为6~7出线间隙为2-2.5，如图二示，这一位置保证了线环形成，并使线环很方便套过摆梭。实际上，由于摆梭和摆梭托之间的空隙，以及缝料性质的关系，在通常情况下，机针运动的时间要比摆梭略早一点，这样有利于线泡的形成和摆梭尖进入线环。

When the needle is at the lowest position (i.e. the turning angle of upper shaft is 180°), the swing shuttle is at the ul timate position counterclockwise. The drawing thread space is 6-7mm (shown in Fig.2), and the outgoing line space is also2-2.5mm. The position can ensure the formation of thread ring and make it convenient for the thread ring to be put on the shuttle. In fact, because of the space between the shuttle and the swing shuttle bracket and the feature of sewing materials, as usual, the movingtime of the needle is a little earlier than the swing shuttle, which is good for the formation of thread bubble and the swing shuttle tip into the threadring.



图二

Fig.2

2、挑线杆与机针、摆梭的配合

2. Cooperation between thread-picking lever and needle and swing shuttle

当上轴转至60° 时，挑线杆开始下降；当机针行至最低位置和向上回升（180° -210° ）时，挑线杆应静止不动或迟缓下降，以免影响线泡的形成；当摆梭尖勾住线环后，挑线杆应迅速下降，供给线环扩大所需线量、否则会产生绷线和断线的现象。

When the upper shaft turns to 60° , the thread-picking lever begins to go down. When the needle falls to the lowest position and goes upward(180° --210°), the thread-picking lever should be still or fall slowly so as not to influence the formation of thread bubble. When the shuttle tip hooks the thread ring, the thread-picking bar should fall quickly and supply the amount of the thread to the thread ring. the thread will be too tight or even broken.Otherwise.

（二）主要部件的调整

(2) Adjusting of main components

1、摆梭勾线时间的调节

1. Adjustment of swinging shuttle thread-hooking time

机针与摆梭建德位置关系，直接影响到勾线，其正确的位置关系，应符合以下三条：

The position relationship of needles and swinging shuttle can directly affect hooking the thread. The correct position relationship shall accord to three aspects as follows:

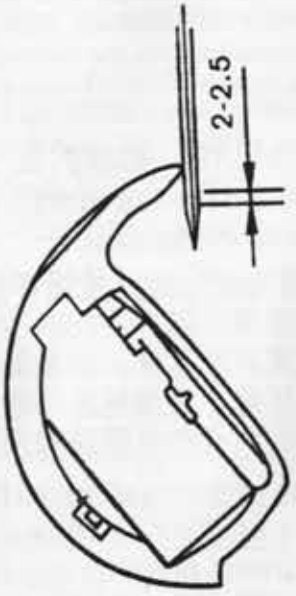
第一、机针运动到最低位置时，摆梭的勾线尖与机针之间的距离为6-7毫米，这一距离俗称勾线距（见图三），勾线距是在机头装配过程中，通过调整下轴曲柄对摆梭托的相对位置来实现的。为保证机器在长期运转过程中，在一距离不变、常在装配最后。钻孔打上定位销。因此用户在使用过程中一般无需调整这一距离。

图三

Fig.3

First, when the needle moves to the lowest position, the space of the thread- hooking tip and the needle should be 6-7 mm, generally referred to as thread-hooking space (shown in Fig. 3). The thread- hooking space is achievedby adjusting the relative position of crank of thelower shaft to swinging shuttle bracket in the process of assembly of the machine head. To ensure the permanent space in long-term operation, we hammered the fixing pin into holes at the end of assembly, so cus tomers needn't adjust the space when using it.

第二、当摆梭的勾线 尖运动到机针的中心线时，梭尖距离机针穿线孔上边应为2-2.5毫米（见图四）。机针位置过高、容易将线环带走，勾不上线；反之在线环抛出前、摆梭已到达勾线位置，将可能挤断线环，引起断线。



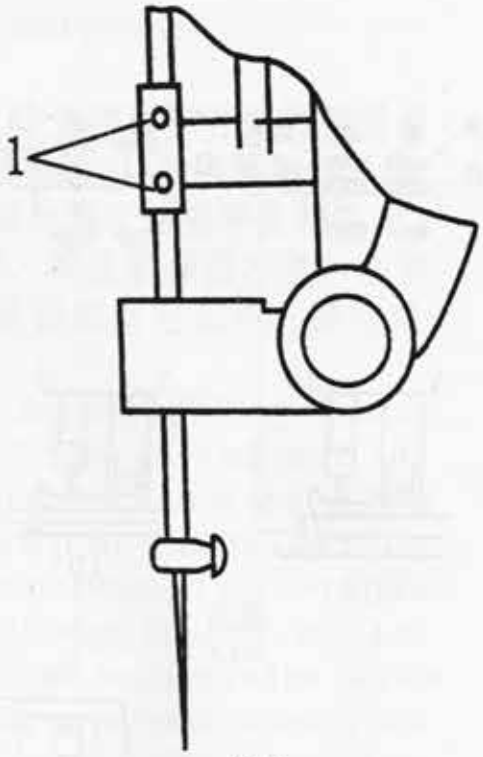
图四

Fig.4

Second, when the thread tip of the swinging shuttle moves to the central line of the needle, the space of shuttle tip to upper edge of thread-passing hole of the needles should be 2-2.5 mm. (shown in Fig. 4)The method of adjustment is to move away the needle board, open the thread-picking side cover board, use a screwdriver to loosen the needle bar connecting shaft screw1, move theneedle bar to the correct position mentioned above and then tighten the connecting needle bar shaft screw. (Shown in Fig.5)

调整方法是移开针板，打开挑线侧盖板，用螺丝刀旋松针杆连接轴螺钉1，然后移动针杆到上述正确位置，在旋紧针杆连接轴螺钉（见图五）。

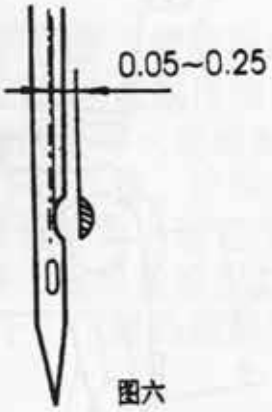
The method of adjustment is to move away the needle board, open the thread-picking side coverboard, use a screwdriverto loosen the needle bar connecting shaftscrew1, move the needle bar to thecorrectposition mentionedabove and then tightenthe connecting needle bar shaft screw. (Shown in Fig. 5)



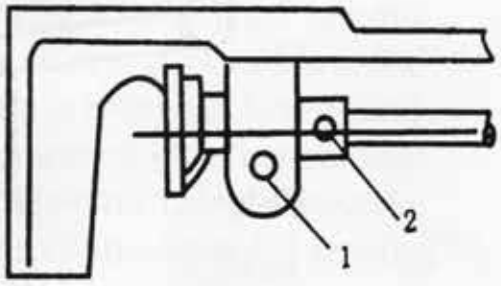
图五
Fig. 5

第三，当摆梭尖运动到机针中心线时，梭尖平面与机针缺档部的间隙应为0.05~0.25毫米（见六图）。间隙过大，梭尖难以准确的勾住环线，容易引起跳线；间隙过小，摆梭尖可能与机针相撞而发生断针现象调整方法；移开针板，将机头平放，用螺丝刀松开梭床座固定螺钉1和下轴紧圈螺钉 2，然后调整梭床座的轴向位置，使摆梭尖平面与机针缺档底部间隙为0.05-0.25毫米，然后拧紧梭床座固定螺钉1，并使下轴紧圈与梭床座后端面贴紧，在拧紧紧圈螺钉2（见图七）。

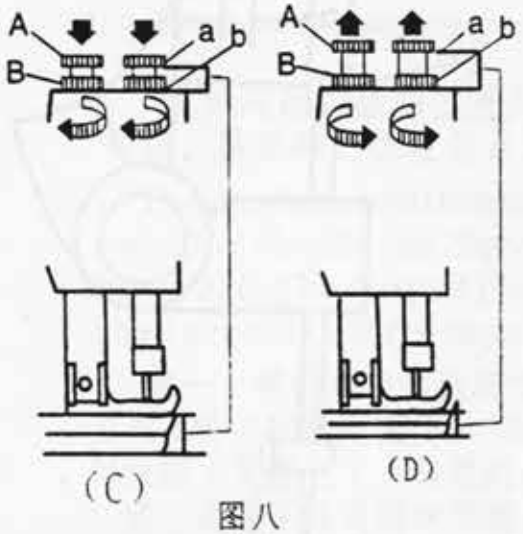
Third, the space between the shuttle tip surface and needle shall be 0.05-0.25mm (shown in Fig.6) when the swing shuttle tip moves to the needle center. If the space is too big, it is hard for the shuttle tip to accurately hook the thread ring, causing jumping thread. If the space is too small, the shuttle tip may crash into the needle and causebroken needles. Adjustment method: Open the needleplate, lay the machine head flat, and use a screwdriver to loosen the fixing screw 1 of shuttle bed base andblock ring screw 2 of lower shaft. Then adjust the shaft direction position of the shuttle bed base to makesure that the space between the swing shuttle tip surface and the needle is 0.05-0.25mm. Then tighten fixing screw 1of the shuttle bed base and make the block ring of lower shaft and back face of the shuttlebed base get closer and later tighten block ring screw 2(shown in Fig.7)



图六
Fig. 6



图七
Fig. 7



图八

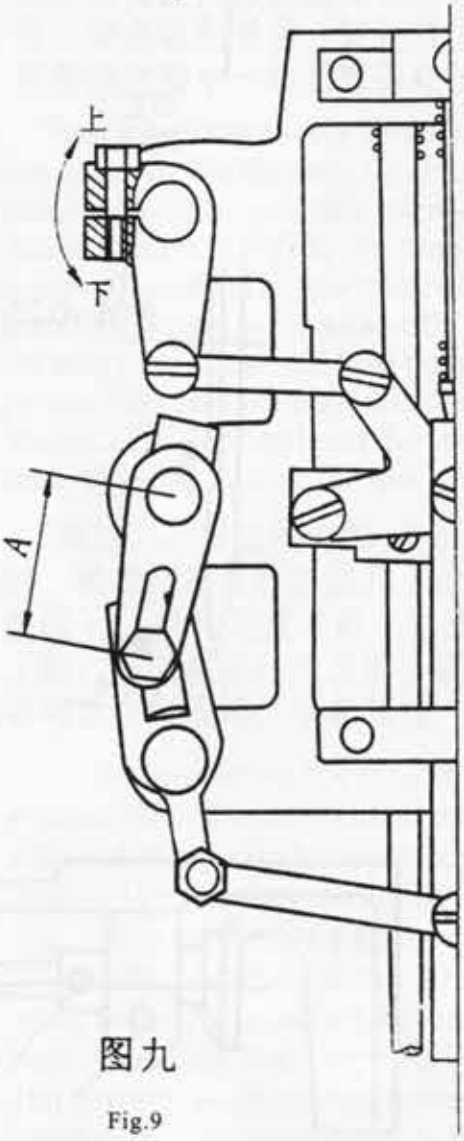
Fig.8

2、压脚压力的调节（见图八）

2. Pressure adjusting of presser (shown in Fig.8)

正确的压脚压力标准为，能够使缝料通过送料牙被平整地向前输送，并不能有任何缝料打滑现象发生。压脚的压力要根据缝料的厚度加以调节。首先旋松调压螺钉锁紧螺母B、b，如缝纫厚料，应加大压力，这时将机头顶部的调压螺钉A，a按图八（C）所示箭头方向旋动；反之，缝纫薄料时可按图八（D）所示箭头方向转动调压螺钉，以减小压脚的压力。最后旋紧调压螺钉锁紧螺母B、b即成。

The proper pressure standard of presser should be that it could make the material get ahead steadily through the material-feeding tooth and that there is no slipping phenomenon happens. The pressure of the presser should be adjusted according to the thickness of the material. First loose the pressure-adjusting screw and tight the tighten nut B、b, for example, when sewing the thick material, we should increase the presserby rotating the adjusting screw in the head of machine in the direction as shown in fig.8(c); otherwise, we should rotate the screw in the opposite direction as shown in fig.8(d) to decrease the pressure. Finally, tightening the screw and nut B、b.



图九

Fig.9

3、压脚交叉提升机构的调节（见图九）

3. Alternative lifting mechanism adjustment of presser (shown in fig.9)

根据缝料的疏松和结实的程度不同，在缝纫中，对摆压脚、压脚的交叉提升量，可在一定的范围内进行适当调节。在一般的中厚料缝纫中，摆压脚提升量，可在一定的范围内进行适当调节。在一般的中厚料缝纫中，摆压脚提升量为6.5mm之内，压脚提升量为5mm左右。当其它机构不变的情况下，两压脚提升量之和基本上是一定值。两个提升量的变化近似于按反比规律变化，即摆压脚的提升量减小，则压脚的提升量增加。

The alternative lifting amount of swing presser and presser could be adjusted in certain range according to the difference of material's looseness and firmness. The lifting amount of swing presser is within 6.5mm and of presser is more or less 5mm when sewing the middle or thick material. Both of the lifting amounts are almost certain if other components do not change. The two lifting amounts change in the law of inverse, that is when the lifting amount of swing presser decreases, the lifting amount of presser will increase.

调节方法：按缝纫工艺要求，如果使摆压脚的提升量增加，压脚的提升量减少，可先将压脚升降前曲柄螺钉松开，使压脚升降前曲柄槽口，相对压脚升降轴向上转动，反之，向下转动。其调节量，有一定的范围限制，不宜过大。调节好后，将螺钉拧紧。在使用前，先将压脚扳手扳起，慢慢转动上轮，观察摆压脚是否碰其它机件，调节妥当后，才能使归。

Adjusting method: according to the technological require ments as to increase the lifting amount of swing presser decrease the presser's, we could loose the crank screw before presser lift to make the crank groove rotate upward relative to the presser lifting shaft. Otherwise rotates in the opposite direction. The adjusting amount is limited and could not be too big. Tighten the screw after the adjustment is done. Before using it, we should lift up presser wrench first and then rotate the upper wheel to see if the swing presser crashes other components. We could only use it after it is adjusted well.

4、摆压脚、压脚的总提升量的调节（见图十）

4. Adjusting of the whole lifting amount of swing presser and presser (shown in fig.10)

在缝纫过程中，要改变摆压脚、压脚的总提升量，应先将压脚升降调整后曲柄的锁紧螺母旋松、然后改变调整螺母与压脚升降轴的中心距B。如果要使摆压脚、压脚的提升都增加，则使中心距B调小；反之，中心距调大则可使提升量都减小。其调节量也有一定的范围，调节幅度不宜过大，调好后，将锁紧螺母拧紧。在使用前先将压脚扳手扳起，慢慢转动上轮，观察摆压脚是否碰其它几件。经检查、符合要求后，方可缝纫。

In the process of sewing, in order to change the whole amount of lifting of swing presser and presser we must loose the tightening screw of crank after adjusted the lifting of presser and change the central distance B of adjusting screw and lifting shaft of presser. We should shorten the central distance B if we want to increase the both lifting amount of swing presser and presser; otherwise, if we lengthen central distance the lifting amount will decrease. The adjusting amount also has a certain scope so it should not be too big and remembered to tighten the screw after the adjustment is done. Before using it, we should lift up presser wrench first and then rotate the upper wheel to see if the swing presser crashes other components. We could only use it after it is adjusted well.

5、上送料机构的调节

5. Adjusting of material-up feeding institution

上下同步送料是该产品的重要性能之一。在缝纫过程中，要根据各种缝料的摩擦系数的不同和缝纫工艺的不同要求，对上送料机构的摆压脚滑块与摆压轴的中心距A进行调节（见图九）。调节方法：在常用针距长度，把两层等长的缝料缝纫后，若发现缝料的上层比下层长时，则说明上送料量少于下送料量，应将中心距A距离调大，使上送料量增加与下送料量达到一致；如发现缝料的上层比下层短时，则说明上送料量大于下送料量，应将中心距A缩小，使上送料量减少与下送料量达到一致。对于某些制品大特殊缝纫要求大于（或小于）下层的送料量、也可以根据以上原理在一定范围内调节使用。

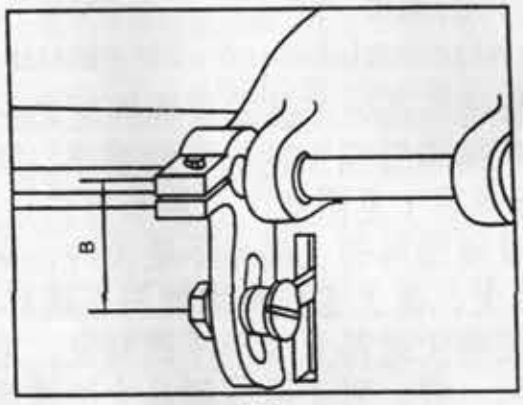
One of the most important features of the machine is that the material could be feed up and down at the same time. In the sewing process, we adjust the central distance A of swing presser block andswing presser shaft of material-upper fee ding institution according to different friction coefficient of different materials and different requirement of sewing process (shown in fig.10). Method of adju sting: if we find that upper layer is longer than the lower after it is sewed in usual knitting gauge, it shows that the amount of upper feeding is less than lower, and we should lengthen the central distance A to make the material-feeding amount be the same; otherwise shorten the central distance A. We could also adjust the machine in a certain scope in the law when faced with some special sewing requirements, such as the material-feeding amount of the upper layer is more (less) than the lower.

6、摆压脚、压脚前后方向间隙的调节（见图十一）

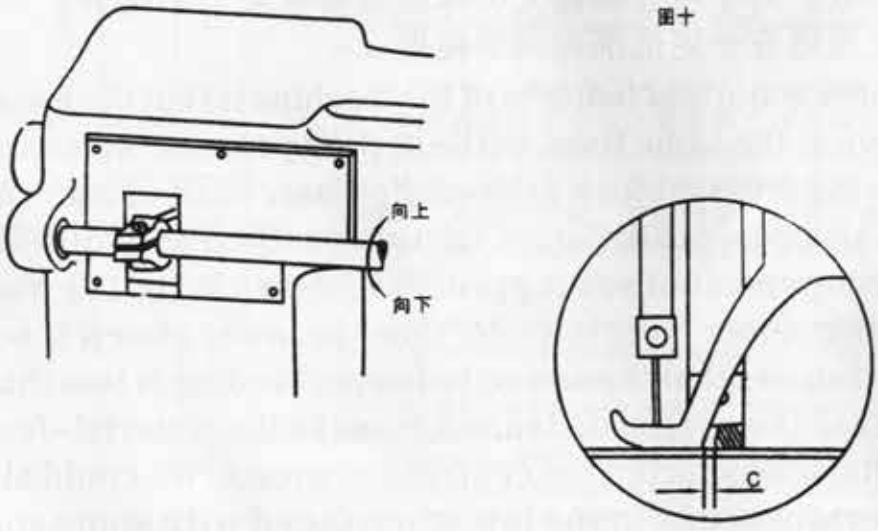
6. Adjusting of the front and back direction space of swing presser and presser (shown in fig.11)

在缝纫过程中，有时用大针距缝纫，有时用小针距缝纫。在大针距缝纫时，摆压脚前后的动程比较大；反之、动程小为了在缝纫过程中，使摆压脚糟前端与压脚后端不碰撞，且保证有一定的间隙C（一般取1.5mm左右）故在小针距缝纫时，需要摆压脚向针杆靠拢一点。调节方法：首先旋松摆压脚厚曲柄螺钉、然后向上转动摆压脚轴、使摆压脚箱针杆靠拢，调节时，应注意间隙C的定值要求。

Sometimes we use the big knitting gauge to sew or sometimes the smallthe process of sewing. The moving distance is big of swing presser when sewing in the big knitting gauge; otherwise it is small. In the process ofsewing, when sewed *in the small knitting gauge, the* swing presser should be a little closer to the needle bar in order to make sure there is a certain space C (usually is 1.5mm) to ensure that the front face of swing presser does not crash the back surface. Adjusting method: first loosen the back crank screw of swing presser, and then rotate the shaft of it upwards t make the swing presser be closer to needle bar, and notice the requirement of spaceC when adjusting.



图十



图十一

Fig.11

十常见故障的分析及排除

10. Analysis and Elimination of Common Fault

(一) 故障检查方法: Ⅰ. Method of Check:

缝纫机故障的排除，关键在于作出正确的诊断，而正确的诊断来自于细致检查和分析。当遇到帆布机跳线、断线、断针、缝料起皱，运转沉滞等故障时，首先要根据故障发生时的情况和特征，通过检查，查明哪里出了毛病，再动手修理，才能消除故障，否则越修故障越多。下面介绍四种检查方法供修人员参考应用。

The key to the elimination of the faults is to make a wise diagnosis. The wise diagnosis lies in careful check and analysis. When meeting with the faults of thread skipping, broken thread, broken needle, sewing material crinkle or operation stagnant, check will first be carried out to find out what is wrong according to the condition and features of the faults. Then begin to repair to eliminate the faults. Otherwise, the faults can't be correctly solved. Now we introduce four check methods to the repair workers as follows:

1 机构检查法: (1). Mechanism-checking method:

帆布机是有刺布、挑线、勾线、送料四个主要机构组成的。这四个机构不仅分工明确，而且运动上又协调一致，当出现故障时，按机构的分工去检查毛病的所在，以收到事半功倍的效果。缝纫机常见的故障，一般都可以用机构检查法检查。

（1）刺布机构和勾线机构是形成线迹的主要机构，当遇到跳线、断线、断针等故障时，应首先检查刺布机和勾线机构，重点检查机针和摆梭配合及勾线位置是否正确，然后在考虑其它机构。

（2）挑线机构是保证线迹清晰、美观、牢固的主导机构，当遇到线迹混乱，不美观、不牢固故障时，应首先检查挑线机构及其供线。

（3）送布机构直接影响到缝料前进的快慢，线迹的长短。当遇到送料不畅，缝料起皱，跑偏等故障时，应首先检查送料机构，特别应检查送布牙的高低和快慢是否合适。

用机构检查法可以查出绝大多数故障发生的原因。但缝纫机主要机构之间的运动是相互联系的。一个机构出了毛病，也能影响其他机构的工作。所以，当按机构检查法找不到故障的原因时，还应检查与这种故障有关联的其它机构。

The canvas sewing machine is made up of four main mechanisms as cloth pricking, thread picking, thread hooking and material feeding.The four mechanisms have their own tasks but cooperate with one another very well. When faults occur, we should find out the faultsaccording to their tasks, and then you can do less but get more. The common faults of sewing machines can mostly adopt this checking method.

1).The cloth-pricking and thread-hooking mechanisms are responsible for forming thread trace. When faults occur, such as needle skipping, broken thread or broken needles, we should first check the two mechanisms. The key is checking that if the cooperation between needle and the swing shuttle and the position of the hooking thread is correct and then consider the other mechanisms.

2).The thread-picking mechanism is to ensure the clearness, beauty and firmness of the thread trace. When facing faults like disordered, ugly or loose trace, the thread-picking mechanism and its thread shall be checked first.

3).The cloth feeding mechanism can directly affect the speed of sewing materials advancing and the length of trace. When feeding is not smooth, the sewing materials crinkles or runs sideways, the feeding mechanism shall be checked first. The height and speed of cloth-feeding tooth shall be checked first. The mechanism checking method can find out the cause of majority of faults. But the operation of mechanisms is connected. If one of the mechanisms suffers, the work of others can also be affected. So when you can't find out the causes by using the mechanism check method, you should also check other connected mechanisms.

2、特性检查法: (2). Feature-checking method

有些故障在发生时或发生后有特殊的表现，如缝料来回运动，主要是送布牙安装位置太高或不平造成的。缝料背面被"啃破",原因是压脚压力过大或送布牙齿过于锋利造成的。根据缝纫中一些特殊的表现，来检查故障发生的原因，叫特征检查法。利用这个方法，能及时迅速查出发生故障的原因。

There will have some strange performance when accidents happen or after. For example, the moving back and forth of the sewing materials is mainly due to the high assembly position or unevenness of the cloth feeding tooth. The back face of the sewing material's being bitten broken results from the fact that the pressure of the presser is too big or the feeding tooth is too sharp. The feature-checking method is to check the reason of accidents according to the strange performance in the course of sewing. You can find out the causes as fast as possible by using this method.

3、因果检查法: (3). Cause and effect checking method

当由于某一明显的原因（如更换零件、缝料、机针、缝线等），才产生某一故障时，即可紧紧围绕着这一原因来检查机器的毛病所在，这个方法叫因果检查法。

When a fault occurs due to a certain obvious cause (e.g. changing parts, sewing materials, needles or threads), we can try to find out the faults by focusing on this certain cause. This method is called cause and effect checking method.

因果检查法是一种比较省力的检查方法。例如机器原来转动很轻滑，自从更换一个圆锥螺丝，就出现转动沉滞的故障。其主要原因是圆锥螺丝装得太紧，适当调松圆锥螺丝，故障即可消失，又如帆布机缝双层缝料时运转正常，线迹长短合适。换多层帆布厚料时，缝料走的慢，线迹慢。用因果检查法，可查明压脚压力小。送布牙低，针距小所致，故应适当调整压脚压力，调高送布牙，放长针距。必要时，还应换针、换线、调松缝线张力。

Cause and effect checking method is relatively a labor-saving method.For example, the machine rotates formerly smoothly, but it runs heavily after changing a conic screw. The main cause is that the screw is assembledtoo tightly. So loosen the screw properly, and the fault disappears. Take another example. The canvas sewing machine runs properly when sewing double-layer sewing materials and the thread trace is proper in length. But when sewing multi-layer materials, its operating speed as trace is slow. Using thismethod, you can find out that this is caused by low presser pressure, low feeding tooth and narrow needle space. Thus the presser pressure shall be adjusted, the cloth-feeding tooth shall be raised and the needle space shall be widened. If necessary, it is better to change needles or thread or loosenthe sewing thread.

4、穷举检查法：

4. Completely- listing checking method

当遇到机器某一故障，运用上诉三种方法找不到机器的毛病所在时，可用穷举检查法检查，即把可能产生这种故障的原因或部位逐一检查，穷追到底，直到查出毛病在哪里为止。例如：当遇到机器转动沉滞的故障时，如果怀疑毛病出在下轴转动机构，可把大连杆盖卸下来；使整个上轴脱开，在转动上轴，如果转动轻滑，表明毛病就在下轴转动机构上，逐个检查送布机构上，逐个检查送布机构的各个活动环节，直到查出毛病所在部位为止。这种方法虽然比较麻烦，但对一些既无特征，又无因果关系的阴暗故障来说，却是一种比较实用的方法。

When a fault occurs and the three methods mentioned above all fail, we can turn to the completelisting checking method, that is, list all the possible faulty causes or parts until the final fault is found out. For example, when the machine runs with difficulty, if you doubt if there is something wrong with the lower shaft running mechanism, you can disassembly the large connecting rod cover which can make the lower shaft running mechanism and the upper shaft separate, and then run the upper wheel. If the upper wheel runs smoothly, there must be something wrong with the lower shaft running mechanism. Then check all the sectors of the cloth-feeding mechanism until the fault is found out. Although this method is relatively labor-consuming, it is a practical method for those difficult faults without features or cause and effect.

上述四种检查方法，只有通过实践，掌握了各自零部位的内在联系，有了丰富的经验，才能灵活掌握和运用。

Only by experiment can you master the inner connection among the parts and use wisely the four methods mentioned above.

（二）故障的分析和排除

Ⅱ. Analysis and Elimination of Common Fault

1、跳线：

1. Thread skipping

故障特征 Features of fault	产 生 原 因 Causes	处 理 方 法 Countermeasures
1、引不上线 1.The under-thread can't be guided	1、梭线太短 1.The shuttle thread is too short 2、梭线夹于梭门 2.The shuttle thread is caught in the shuttle gate 3、机针太高，摆梭无法勾住线环 3.The needle is too high and the shuttle can't hook the thread ring	1、拉长梭线 1. Lengthen the shuttle thread 2、检查底线是否被卡住，并排除之。 2.Check if the under-thread is caught. If so, eliminate it. 3、针杆连接轴紧固螺钉松动针杆上移，应下调针杆，重新对针，拧紧紧固螺钉 3、The tightening screw of needle barconnecting shaft is loose and the needle lever has gone up. So adjustthe needle lever lower and collate the needle and tighten the tightening screw

2、针杆串动 2. Needle bar	1、针杆孔、针杆磨损 2、针杆连接轴螺钉松动，针杆位移。 1、The hole of needle bar or theneedle bar wear or tear 2、The connecting shaft screw of needle bar is loose and the bar moves sideways	1、调换针杆套，或选配新针杆 2、重新对针，并拧紧紧固螺钉 1. Change the needle bar sleeve or choose new needle bar 2. Check the needle again and tighten the fixing screw
3、过若干针跳一次线 3. Skipping needle after several stitchesl	1、摆梭磨损，摆梭尖太钝 2、机针太高或过低 1.The swing shuttle is worn out or the shuttle tip is too blunt 2.The position of the needle is too high or too low.	1、换摆梭 2、调整针杆高度或机针高度，重新对针 1.Change the shuttle. 2.Adjust the height of the needle bar or the needle and check the needle again.
4、连续跳线或一针也不能缝 4. Continuous skipping or sewing failure	1、机针质量差或机针弯曲不能正常产生线环 2、机针过高，勾不住线环，缝料缝线、机针三者配合不当 3、长期使用摆梭，梭床等零部件严重磨损或折 1. The needle is bad in quality or curve and cannot form thread ring 2. The position of the needle is too high and cannot hook the thread. The material, thread and needle don't cooperate well. 3. The long-used shuttle and shuttle bed and other parts wear and tear seriously.	1、更换合格机针或校直机针 2、调整针杆或机针高度，按表2规定选用 3、一般情况下可更换摆梭或梭床，必要时进行大修 1. Change a qualified needle or straighten the old one. 2. Adjust the height of the needle bar or needle according to Chart.2 3. Change the shuttle or shuttle bed. Make a thorough repair if necessary
5、缝薄不跳线，缝厚挑线 5. Skipping when sewing thick materials while no skipping when sewing thin materials	1、压脚压力不够 2、机针太细 3、勾线机构等零件严重磨损 1. The presser pressure is not enough. 2. The needle is too thin. 3. The hooking mechanism and other parts wear and tear seriously.	1、调整压脚压力 2、换机针 3、更换零件，进行修理 1. Adjust the presser pressure. 2. Change the needle. 3. Change parts and make repairs
6、缝厚不跳线，缝薄挑线 6. Skipping when sewing thin materials while no skipping when sewing thick materials	1、针板的容针孔磨损过大 2、机针太粗 3、压脚底部磨损压脚压力过小 1.The needle hole on the needle plate wears too seriously. 2.The needle is too thick. 3.The bottom of the presser wears or the presser pressure is too small.	1、更换针板 2、换细针 3、换压脚，或调整压脚压力 1. Change the needle plate. 2. Change thin needles. 3. Change the presser or adjust the presser pressure.

2、断线： (2). Broken thread:

故障特征 Features of fault	1、产生原因 Causes	处理方法 Countermeasures
1、第一针断线，断线头呈切割状 1. The thread is broken in the first stitch with the cut-shape	1、机针装反或机针没有装足，致使机针太低 2、缝料偏硬，机针偏细或压脚压力过大。 1.The needle is backward or the needle is not assembled enough firmly so that the needle is too low. 2.The material is too hard, while the needle is relatively thin or the presser pressure is too big.	1、检查机针的安装和针杆连接轴螺钉是否松动 2、更换机针或调整压脚压力 1.Check the assembly of the needle and the screwof needle bar connecting shaft to see if they are loose. 2.Change the needle or adjust the presser pressure..

2、缝线在断头两端呈卷曲状，并带有短须 2. The two end of the broken sewing thread show thecurve-shape with short hair	1、夹线过紧或缝线在缝纫时发生拌绕 1.The clipping thread is too tight or the sewing threads wind together. 2、缝线被摆梭挤入梭床导向槽 2.The sewing thread is pushed into the shuttle bed guide groove. 3、缝线腐脆易打结，质量差过线部位有毛刺 The sewing thread breaks and winds easily. The qualityis bad and burr occurs at the thread-passing part.	1、调整夹线片压力并检查过线路排除拌绕 1.Adjust the pressure of the clipping flake, and check the passing thread to eliminate the winding 2、检查摆梭的磨损情况，必要时，更换摆梭 2.Check the condition of shuttle wearing. If necessary, change the shuttle. 3.砂光过线部位，更换缝线 3.Polish thethread-passing parts with sand paper. Change the sewing thread.
3、缝料下部积线重，无法形成针距而断线断线头如马尾状 3. The lower part of the sewing material accumulat es too much thread and the knitting gauge can not form. The broken part of the thread looks like a horse tail.	1、送布牙过低，缝料停止不前积线过多而新 1、The cloth-feeding tooth is too low and thematerial stops. There is too much thread accumulated and broken. 2、送布与挑线布调不合被轧段 2.The pace of cloth-feeding and thread-picking don't coordinate and the thread breaks. 3、压脚、机针松动，阻碍缝料运行 3、The presser and the needle are too loose to block the material.	1、抬高送布牙 1.Raise the cloth feeding tooth. 2、调整送布凸轮定位角度 1.Adjust the fixing position of the feeding cam. 3、紧固压脚和机针螺钉 3. Tighten the presser and the needle screw.
4、缝纫中突然断线、面线有曲状波动 4. Broken threadhappens suddenly when sewing and the surface thread fluctuates with curves.	1、梭床位置没装好面线轧入梭床 1、The position ofshuttle bed is not assembled well and the surface thread is caught in the shuttle bed. 2、梭心套未锁紧或缝纫中突然移位 2.The shuttle sleeve is not locked tightly or moves sideways suddenly in operation. 3、摆梭质量差梭心簧过长或梭心套椭圆 3、The shuttle is bad in quality, and the bobbin spring is too long or the bobbin sleeve is elliptical.	1、重新调整梭床位置 1.Readjust the position of the shuttle bed. 2、重新安装梭心套 2. Reassembly the bobbin sleeve. Change the shuttle.
5、缝纫中突然断底线 5. The under-thread breaks suddenly when sewing.	1、梭心套不合格，内径椭圆，致使梭心转动失灵 1.The bobbin sleeve is not qualified. The inner diameter is elliptical so that the bobbin can't run normally. 2、梭心簧螺钉拧的过紧，使梭皮压力太小 2.The bobbin spring screw is too tight so that the pressure of the shuttle surface is too small. 3、梭心绕线过满或过于松散杂乱 The winding of the bobbin is too full or too loose and disorderly. 4、底线腐脆、有结头，使底心无法通过梭心簧 4.The under-thread is fragile and knitted so that the bobbin can't get through the bobbin spring.	1、更换梭心套 1.Change the bobbin sleeve. 2、旋松梭心簧螺钉 2.Loosen the bobbin spring screw. 3、重绕梭心线 3.Rewind the bobbin thread. 4、更换底线 4.Change the under thread.

3、断针：
3. Broken needle

故障特征 Features of fault	产生原因 Features of fault	处理方法 Countermeasures
1、缝厚料断针 1. Broken needle occurs when sewing thick materials	1、机针过细或弯曲 1.The needle is too thin or bent. 2、缝料厚度不匀 2.The sewing material is notuniformly thick. 3、针杆窜动过大 3.The needle bar moves up and down too big.	1、换新粗针 1. Change new thick needle. 2、适当放慢缝速并用手帮助送料 2. sewing speed and 3、换新铁杆或针杆套 3、Properly lower the Change new needle bar or needle bar sleeve.

2、短针距不断针，长针距断针 2. The needle breaks with long needle space while does not with short needle space	1、送布牙动作滞后 The cloth-feeding tooth lags. 2、送布牙不合格，机针碰送布牙后端而断针 The cloth-feeding tooth is not qualified. The needle breaks after touching the back end of the cloth-feeding tooth	1、应调整送布凸轮的定位 1. The fixing position of the cloth-feeding 2、适当缩短针距或换新送布牙 2. Shorten the needle properly space or change a new cloth-feeding tooth.
3、机针段在针板下面 3. The needle breaks beneath the needle plate.	1、机针位置偏低，机针碰摆梭 1.The needle position is too low and the needle touches the shuttle. 2、梭床没装好，摆梭尖碰机针 2、The shuttle bed is not properly assembled and thetip of the shuttle touches the needle 3、摆梭托与机针端面间隙过或过大，摆梭托碰针或失去护针作用。 3、The space between the shuttle bracket and the needle end surface is too small or too big and the shuttle bracket touches the needle or has lost the function of protecting the needle.	1、调整针杆或机针的位置 1. Adjust the position of the needle bar or the needle. 2、重新装摆梭 2. Reassembly the swing shuttle. 3、调整摆梭托与机针的端面间隙 3. Adjust the space between the shuttlebracket and the needle end surface
4、机针断在针板上面 4. The needle breaks over the needle plate.	1、手拉缝隙过猛，致使机针弯曲 1. The sewing material is pulled too hard and causes needles curved. 2、压脚螺钉松动，致使压脚歪料碰机针 2. The presser screw is loose so that the presser is skew and touches the needle 3、送布凸轮位移致使缝料拉断机针 3、The cloth-feedingcam moves sideways, making the material pull the needle broken 4、缝料中有硬物使机针碰段 4、There are some hard things hidden in the sewing materials making the needle break.	1、加强操作练习 1. Strengthen operation practice. 2、调整压脚拧紧螺钉 2. Adjust the presser tightening screw. 2、调整送布凸轮螺钉位置 3. Adjust the position of the cloth-feeding cam screw

4、送料方面的故障：
1.Faults about material-feeding

故障特征 Fault features	产 生 原 因 Causes	3、处 理 方 法 Countermeasures
1、缝料起皱 1、material crinkles.	1、机针断尖 1.The needle tip is broken. 2、底线张力过大 2.The strain of the under-thread is too big. 3、差动机构调整不当 3、The differential mechanism is not properly adjusted.	1、更换机针 1、Change the needle. 2、旋松梭心簧螺钉 2. Turn loose the shuttlebobbin spring screw. 3、重新调整差动机构 3、Readjust the differential mechanism.
2、缝料下面被“啃破”形成格、齿痕 2. The lower part of material is bitten broken, forming caseand tooth trace.	1、送布牙齿尖太锐 1、The cloth-feeding tooth tip is too sharp 2、压脚压力太大 2、The pressure of presser is too big	1、可用油石修磨齿尖 1.Grind the tooth tip with an oilstone. 2、旋松调压螺钉 2、Turn loose thescrew in charge of adjusting pressure
3、缝料下面有线毛缝纫时有突然打断前卫的声音 3. There is hair beneath the material and sound of fiber breaking can be heard.	机针断尖或过纯 The needle tip is broken or too blunt.	更换机针 Change the needle.
4、缝料停滞不前 4、material stops.	1、送布牙太低 1.The cloth-feeding tooth is too low. 2、压脚压力太大 2、The presser pressure is too big.	1、抬高送布牙 1.Raise the cloth-feeding tooth. 2、旋松调压螺钉 2、Tighten the screw in charge of adjusting pressure

5、缝料来回走 5. Sewing material moving back and forth	送布牙太高 The cloth-feeding tooth is too high	调整送布牙 Adjusting the cloth-feeding tooth
6、缝物倒退不能缝 6. The material moves back so that it can t be sewed.	送布凸轮移位 Cloth-feeding cam moves sideways	调整送布牙凸轮位置 Adjusting the position of cloth-feeding cam
7、缝料不规则地斜走 7. Material goes inclined irregularly.	送布牙装歪或送布牙螺丝松动 The cloth-feeding tooth is assembled inclined or the screw of cloth-feeding tooth loosens.	校正送布牙并拧紧螺丝 Adjusting the position of cloth-feeding cam

5、线迹方面的故障
5. Faults about thread trace

故障特征 Features of fault	产生原因 towel	处理方法 Countermeasures
1、面线呈漂浮状 1. Surface thread shows the float shape	夹线器压力过小 Presser of the thread-clipping machine is too small.	旋紧夹线螺丝，增大面线张力 Tighten the thread-clipping screw and increase the strain of surface thread.
2、底线呈漂浮状 2. The lower thread shows the float shape	梭心簧太松 The shuttle bobbin is too loose.	旋紧梭心簧螺丝，增大底线张力 Tighten the screw of shuttle bobbin and increase the strain of lower thread.
3、针距时长时段短 3. The needle space is not certain.	压脚压力大小 The pressure of presser is too small.	旋紧调压螺丝 Tighten the adjusting screw.
4、缝料下面每针都有线套出现呈毛巾线套装 4. There are thread rings under the sewing materialand looks like the thread of towel	送布与挑线动作不和，送布动作过快 The operation of cloth-feeding and thread-picking are not cooperated well, and the cloth feeds too fast.	调整送布凸轮螺钉；使送布与挑线动作谐调一致 Adjusting the screw of cloth-feeding cam to make the operation of cloth-feeding and thread-picking coordinated with each other.

6、运转故障
Running faults

故障特征 Features of fault	产生原因 Causes	处理方法 Countermeasures
1、机头转动沉滞 1. Machine head runs stagnant	1、加错了润滑油，特别是加注了植物油 1. Used the wrong lubricating oil,especially the plant oil. 2、植物油 2. Too much fouling in the shuttle bed 3、连杆螺钉，圆锥螺丝装得过紧 3. Screw of connecting rod or conic screw is too tight.	1、用煤油冲洗后重新加注缝纫机油 1. Wash it by kerosene, and then inject engineoil. 2、清洗梭床 2. Wash the shuttle bed. 3、调松螺丝保证一定的间隙 3. Loosen the screw to make sure the certain space.
2、送转时，半圈沉滞，半圈轻滑或每转一圈有一个沉滞点 2. Semi cycle is stagnant or slid slightly when runs or has a stagnant point after runs a circle.	1、梭床内轧有线头运转时不仅半圈沉滞而且伴有剧烈的抖动和噪音 1. If the thread is caught in shuttle bed, the semi cycle will be stagnant and large scale of stir and sound will happen. 2、送布牙位置高或齿缝内积聚污垢，使送布牙上升时与针板相碰 2. The cloth-feeding tooth will crash the needle board when lifting because of the high position of cloth-feeding tooth and dirt in tooth seam. 3、断针或外界冲击使针杆弯曲 3. Broken needle or external shock cause the curve of needle bar.	1、清理梭床并加注少许缝纫机油 1. Wash shuttle bed and inject a little sewing oil. 2、清洗或调低送布牙 2. Wash or lower the cloth-feeding tooth. 3、更换或校直针杆 3.Change or straighten the needle bar.

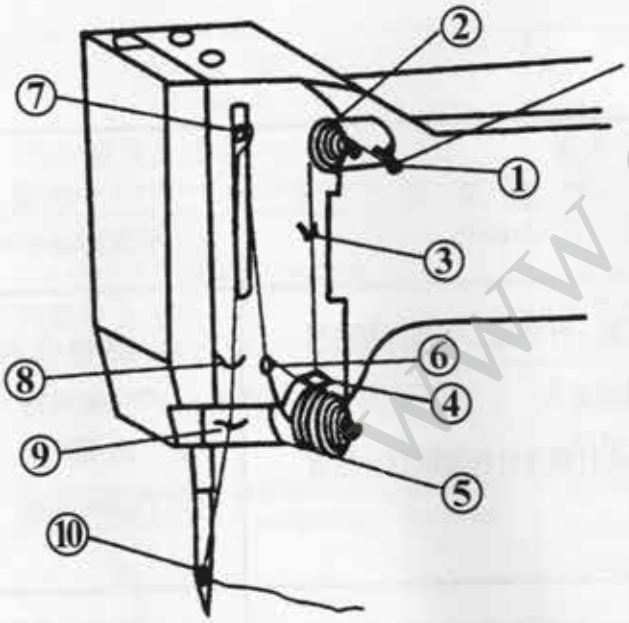
3、机头被卡住不能转 3. Machine head is stuck	1、送布牙位置太靠前或太靠后，碰钉板 1. The position of cloth-feeding tooth is too back or too forth so as to crash the needle board. 2、针杆安装位置太高，针夹碰机壳 2. The needle bar is assembled too high to make the thread-clipper crashes machine shell.	1、调整送布牙的位置 1. Adjusting the position of cloth-feeding tooth 2、重新对针，调整针杆高度 2. Correct the needle again, adjusts the height of needle bar

7、噪音：
Noise:

故障特征 Features of fault	产生原因 Causes	处理方法 Countermeasures
1、噪音来自针机构 1.Noise from needle component	1、针杆、针杆套、小连杆等磨损松动过大 2、小连杆螺丝针杆曲柄螺丝松动	1、更换新件 1. Change the new parts 2、旋紧 2. Tightening
2、噪音来自送料机构 2. Noise from material -feedingcomponent	1、大尖顶圆锥螺丝磨损或松动 1. Conic screw of big top tip wears or looses 2、送布牙碰针板 2. Cloth-feeding tooth crashes needle board 3、针距调节机构松动 3. Knitting gauge adjusting institutions loose	1、研磨或重新调整 1. Grinding or readjusting 2、重新调整 2. Readjusting 3、重新调整或旋紧螺丝 3. Readjusting ortightening the screw
3、噪音来自摆梭机构 3. Noise from swing shuttle institutions	1、摆梭和梭床磨损致使间隙过大 1. The wear of swing shuttle and shuttle bed makes the space too big 2、摆梭与摆梭托出现间隙过大，产生冲击 2. Impaction happens because of the big space between swing shuttle and swing shuttle bracket.	1、更换新件 1. Change to new components 2、调整或更换新件 2. Adjusting or change to new components
4、一般噪音 4. Common noise	1、上轴、下轴及轴套磨损，致使上、下轴产生窜动 1. Upper and lower shaft jump because of the wear of upper and lower shaft and sleeve 2、机器缺油 2. The lack of engine oil	1、重新换件，或调整上下轴平面间隙 1. Change to new components or adjusting planar space between upper and lower shaft 2、注意保养，按时加油 2. Be aware of maintenance and fuel it on time

十一、穿面线图解

11. Explanation of surface thread-passing figure



穿面线时针杆应在最高位置，然后将线轴上引出线按下面顺序穿线:

The needle bar should in its highest position when thread passes the surface, and then guide the thread which comes from *thread-reel as follows:*

1、将引出线穿过过线圈①，再向上通过夹线板②，然后向下穿过挑线侧盖板线勾③；

1. Please take the thread to pass thread-ring①, and then pass through thread-clipping board② upwards, then get through the thread-hook③ ofthread-picking side cover board downwards.

2、穿过挡线簧④，在过线轮⑤上绕一圈半后再向上穿过挡线簧④；

2. Pass through thread-blocking spring④, and pass it for another time after wingding for a circlein the thread-passing wheel⑤.

3、将线通过挑线簧⑥，向上从右往左穿过挑线杆的穿线孔⑦;

3. Guide the thread to pass through thread-pickingspring⑥, and pass through the thread-passing hole⑦of thread-picking bar from right to left upwards.

4、向下顺次通过挡线⑧。针杆挡线⑨、最后从左向右穿过机针的针孔引出100m左右的线备用。

4. Pass through the blocking thread⑧ and blocking thread⑨ of needle bar in order and finally pass the holeof needle from left to right and leave 100mm to reserve.