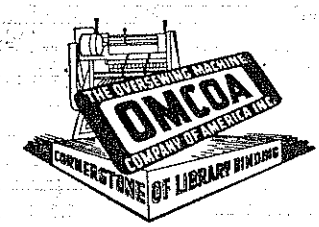
THE OVERSEWING MACHINE COMPANY OF AMERICA

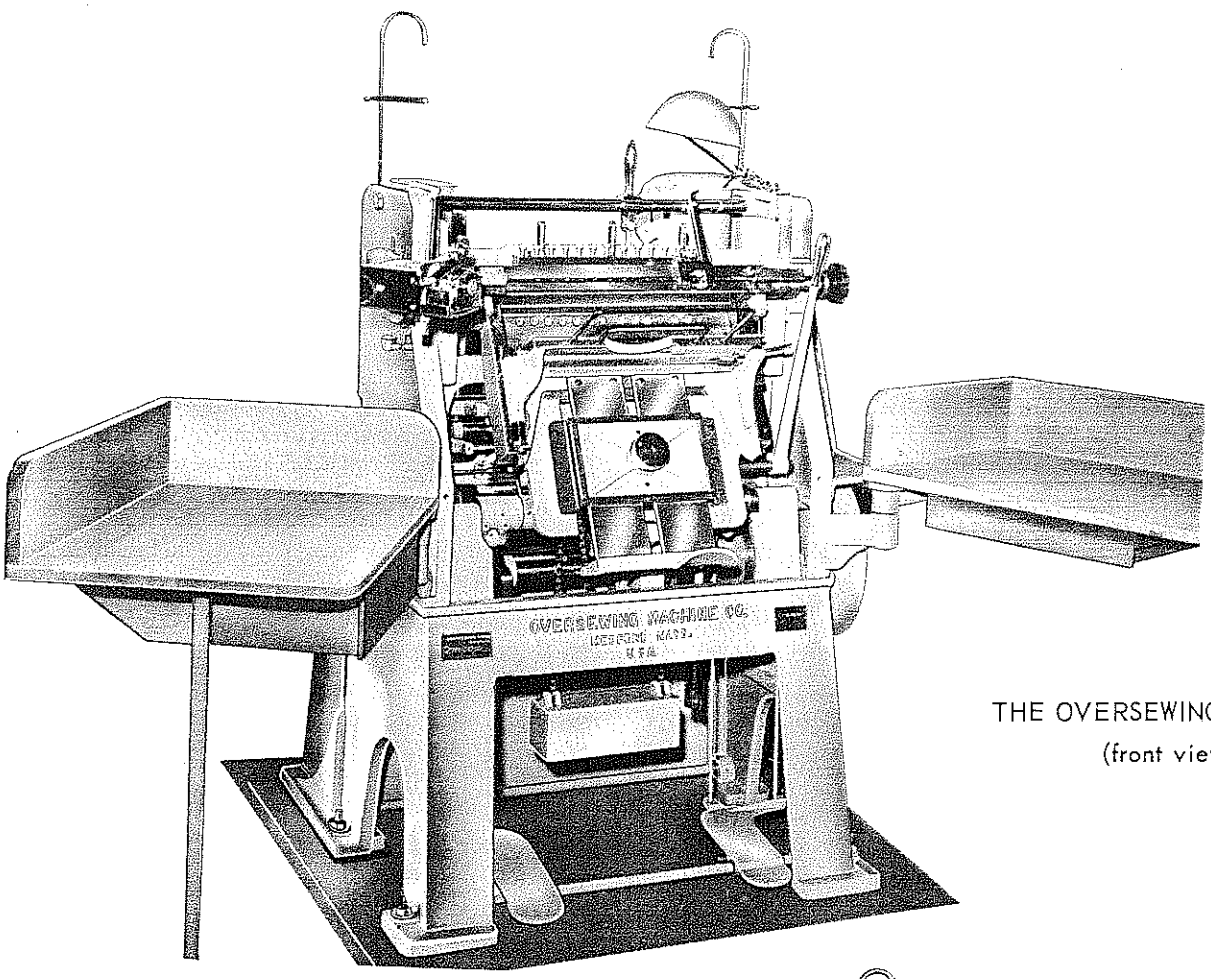


PARTS AND SERVICE MANUAL WITH OPERATING INSTRUCTIONS

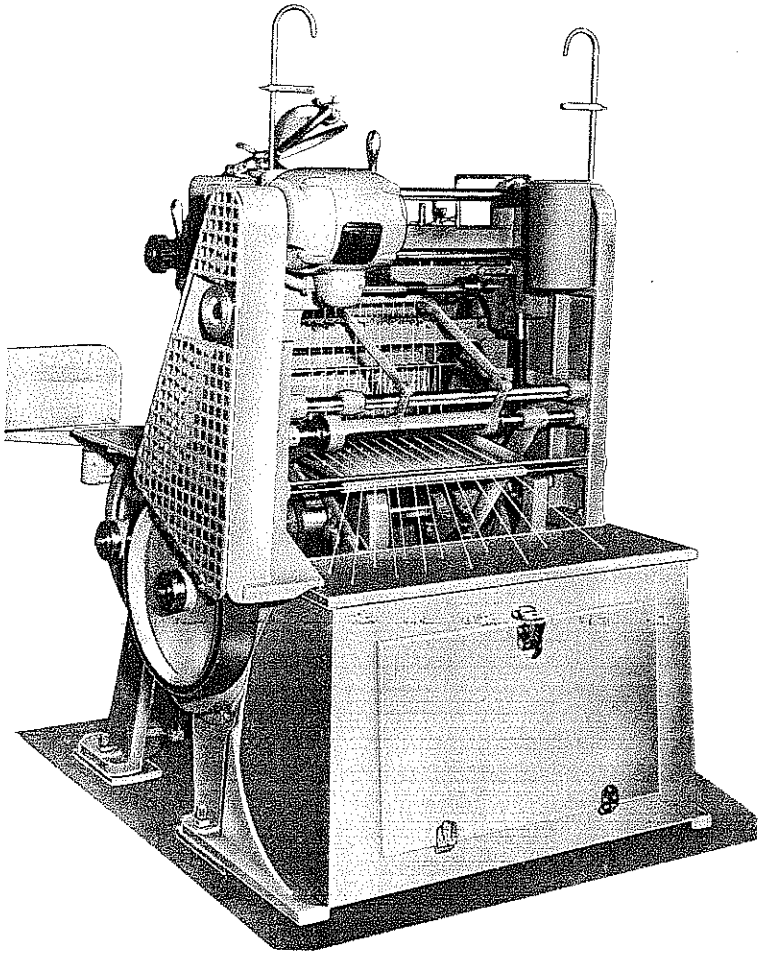
For

- THE OVERSEWING MACHINE
- THE OMCOA SANDER
- THE OMCOA BOOK SECTIONER
- THE OMCOA SCORING MACHINE
- THE OMCOA END SHEET PASTER

Oversew now··or sew over later



THE OVERSEWING MACHINE
(front view)



THE OVERSEWING MACHINE
(rear view)

INTRODUCTION

All OMCOA products are precision devices engineered to give long and efficient service.

In order for you to become thoroughly familiar with the installation, operation and maintenance of OMCOA equipment, this manual has been prepared.

We have made every effort to cover all possible solutions to any problems which may arise. If something unforeseen happens or if any portion of this manual is not perfectly clear, please contact our Service Department by quickest possible means, and we will provide assistance immediately.

A complete section of this manual is devoted to engineering drawings of the Oversewing Machine. Each drawing with its numbered components has on the facing page a parts list for ready reference for inspection and to make ordering easy.

Every OMCOA product carries with it a warranty of our continued interest in its performance and satisfaction. All have been engineered for specific purposes in the Library Binding Industry to provide speed and efficiency in production. Treat them with care, and they will have a long, profit-making life.

When ordering parts, the serial number of the machine should be given. The location of the serial number can be found by a reference to the drawing on page 13.

THE OVERSEWING MACHINE

PART A — INSTALLATION

1. Location: The machine preferably should be located in the shop where a good light will shine onto it from the operator's left, or over the operator's left shoulder. A factory chair, adjustable as to height and provided with a low back, should be furnished for the operator. Have the electrician connect power line to the motor and make sure that the motor turns counter-clockwise (facing the motor pulley).

2. Setting up: It is to be observed that the Oversewing Machine is a fine piece of machinery, carefully assembled and adjusted. It must not be roughly handled or it may easily be put out of order. Upon removing the packing case, find the list of supplies accompanying the machine and check these against the list to see that none have been lost. Remove nuts from bolts in the skids and block up the machine until skids can be removed; then let the machine down very carefully. Clean all greasy parts thoroughly with solvent and wipe dry. The machine will smear thread and paper unless all grease is thoroughly removed. Set the machine on a steady floor and level it with a spirit level.

3. Hang counterweight on the two chains provided at the front of the machine. Screw thread standards into side frames above shuttle thread cans, and have adjustable thread guides on these standards. Place tables in position and adjust leg supports of same. Put paster in position on its rod support. (See detailed description of Paster, which follows hereafter, page 37.)

4. Before threading the machine, it is desirable that the operator be seated in front of the machine to get accustomed to the "feel" of the operating pedal, located on the right side facing the machine. Sewing calls for depressing this pedal for each revolution of the machine. Press the pedal and then release it; the machine will make one complete cycle of operation (one revolution) and then come to rest after each depression of the pedal.

5. Threading the machine: Put right shuttle thread in the right can, and left shuttle thread in the left can. Thread from the spool up through the adjustable guide, through both eyes of the curved standard, over the yoke and through a guide above the shuttle needle, and finally, down through the eye of the shuttle needle. Draw out a foot or so of thread and let it hang outside the machine. Thread both shuttle needles similarly, using tweezers as required.

6. Put 14 tubes of "vertical" thread in the thread box and thread up through each of 14 needles, (or fewer if desired for a start) following the course indicated by one threaded needle on the machine as shipped. The course of the thread is shown in the picture on page 29. Two tools are provided for this threading. The first is the long crochet hook for bringing the thread up through holes in the top of the thread box. The other is the needle threader.

7. To use the Needle Threader, the operator remains seated (or standing) in front of the open machine (i.e. with the front of the machine swung forward), and reaching over the yoke of the machine with the needle threader in hand brings the threader under the cross bar of the machine to the needle to be threaded. Hold the threader directly toward the eye of the needle and level. In this position the threader wire will enter the eye of the needle and receive the thread, which should be laid across the wire, to be pulled through the needle eye. Pull through six inches or more of thread and let the free end hang down. Operate the needle threader directly backward, not slanting at all. Threading will be easy and the threading wire will give long service. Replacement wires are provided in a container marked Needle Threaders.

8. It is recommended that, to begin with, only 6 or 7 needles be tried - three on each side of the center, or three on one side and four on the other. The odd needle should be put to the right side of the center, toward the feed guide clamp. Threads for the needles not in use should be carried through the tensions and clipped off long enough to be pulled up when wanted.

9. The insertion of punches in the machine will be evident. Insert only as many punches as there are vertical needles used. Turn down the knurled screw holding the punches only hand-tight. See page 5 which follows for instruction on insertion of needles.

10. Paste for Paster: We recommend the use of Arabol AAA7 (or its equivalent) for use in the paster. A reserve should be kept heated to a flowing consistency but NEVER ALLOWED TO BOIL - in a suitable double boiler. If paste is too thick add a little hot or cold water to easy flowing (but not too watery) consistency. Do not use animal glue.

On foreign shipments a container of Arabol AAA7 is sent. If Arabol AAA7 paste is not available an equivalent may be used.

11. With needles and punches set in the machine, you are now ready to begin sewing. However, before proceeding it is desirable to first thoroughly understand the machine. So please observe the three principal requirements. First - to hold the book; Second - to make suitable holes in the book through which to sew it; and Third - to actually sew the developing book. Now to explain each of these steps:

PART B — HOLDING THE BOOK

12. In oversewing, holding of the book must be approximately perfect to obtain perfect sewing. This is because sewing is performed through holes punched diagonally, and those diagonal holes must not depart from their pre-determined pattern. Secure holding of the book is fundamental. It depends on the book clamp, the builder plate, located in the lower member of the book clamp, the rubber pad, located in the upper member of the book clamp, the friction plates and lever which controls them, the center cam, and finally the supporting teeth.

13. The book clamp consists of an upper member (the head bar), in which there is a rubber pad, and a lower member (the clamp table) which is hinged on its left end to swing forward at the operator's will, and in which there is a builder plate. The action of this builder plate is automatic, and is intended to compensate for some of the swell in the back of the book that develops while being sewed. The rubber pad prevents slippage of the book being held. The rubber must remain even in height with the adjoining metal. If oil is allowed to get onto this rubber, the oil will cause the rubber to swell; therefore see that oil does not touch this rubber. Should it come loose, use any rubber cement as an adhesive; place a cardboard in the clamp to hold it in place and turn the machine by hand until clamping is effected; then let dry.

14. The clamp table is raised and lowered automatically by the action of the center cam which houses a roller-bearing type of cam follower. The center cam will eventually wear but should give many years of steady service before requiring replacement. The clamp table is held (for sliding in its ways) by two hardened gib plates which are mounted over laminated shims. When after some years table bearings show wear, this can be corrected by removing one or more thicknesses of the laminated shims. The clamp table is hinged for swinging forward, which is necessary following the sewing of every book. Closing and latching this table must always be delayed until the clamp table has first been raised to its highest position, which is accomplished by the operator's knee pressing against the knee pad. If closed before the clamp table is fully raised, there will be conflict, banging of parts and probably serious damage.

15. The friction plates attached to the clamp table to support it, operate in a friction box between leather-faced plates. A hand lever releases (and restores) pressure on these plates to clamp them and thus support the clamp table. The necessary amount of pressure on the friction plates is controlled by turning a large knurled nut located in front of the friction plates. The amount, or degree, of tension employed is a matter of great importance in sewing; it must be sensed by the operator when moving the hand-lever which releases (and restores) the tension on the friction plates. However, when the hand-lever moves too freely and so indicates insufficient pressure on the friction plates, then the knurled hand nut should be turned slightly. When sewing extra large volumes on particularly hard paper, the book clamp is subjected to more than usual strain. To overcome this extra pressure the hand nut should be turned slightly. Ideally, the friction plates should be clamped tightly enough to hold the clamp table immovable during each punching operation, and yet no tighter. Too great tightness puts excessive wear on the center cam. But if the clamp table slips in even the slightest amount during the punching operation, such movement will contribute to punch breaking and needle bending. After a period of time, say six months or a year, the leather faces of the friction plates may become dry and dirty. In that event, disassemble and wash in a solvent. When dry, coat the leather with pure neatsfoot oil and allow the oil to soak in; then reassemble.

16. The Supporting Teeth which appear in pairs through holes in each needle guide bushing, constitute the final element intended to accomplish perfect vertical book-holding during the punching operation. These tiny teeth can be effective only when the clamp table holds the book firmly against lateral slippage during the punching. Operation of the supporting teeth is automatic, but the teeth should be examined occasionally to see whether any have lost their sharpness or are broken. This can be done by swinging forward the front of the machine and turning by hand until the supporting teeth come forward (about one-eighth inch). To replace supporting teeth, remove their carrier bar at the back of the machine by removing two clevis pins and pulling on the two arms; be careful to pull evenly. It is wise to keep an extra set on hand, since entire sets need replacement from time to time.

17. If the entire clamping mechanism in all its details (including supporting teeth) is in perfect condition, the book sections to be sewed will be held firmly against all slippage (lateral or vertical) and perfect oversewing can be performed. Otherwise, trouble and perhaps failure will develop. Now we will pass from the holding mechanism to explain the sewing mechanism.

PART C — PUNCHING AND SEWING THE BOOK

18. Punching must be perfect, or needles will be deflected, bent or broken and the resulting sewing will be imperfect. The sewing needles are intended for no other purpose than to carry the threads and form loops; they are not suited to force their way through any paper but must follow punched holes; hence the need for perfectly placed holes.

19. The action of the punches is automatic. They operate through hardened bushings whose round holes wear oval in the course of time and because of this, the bushings must be replaced occasionally. It is desirable to have on hand a set of punch guide bushings for replacement.

20. To install punch guide bushings, open the front of the machine and remove the head bars. This is accomplished by unscrewing two cap screws at the back of the yoke. Lift the head bar mechanism upward and forward. Individual punch guides are held by set screws, and when the set screws are loosened the bushings may be pressed out of the head bar by means of a small punch, using care to not scar the head bar.

21. Punches are made in two designs of point. Round points are most common but some operators prefer the bayonet point punches. Bayonet punches cut through the paper a little more readily than do round punches, - but they chip out the backs of the sewed sections more than do round punches. One hundred round point punches accompany this machine. Orders for punches are filled with round punches unless bayonet punches are specified.

22. Punches penetrate downward and the sewing needles operate upward through holes left by the punches. The needles carry the vertical threads to their extreme height, then reverse direction and pause in their downward course to form loops through which the long shuttle needles carry the lock-stitches; then the sewing needles continue to recede downward while tension bars draw the threads to close the loops and tighten the sewing.

23. Needles: The number of needles used is determined by the size of the book, and the work is always kept in (or close to) the center of the machine. Needles (and punches) not in use must be removed until needed for books of a larger size. When needles are removed, their places must be taken by broken-off shanks; this is done to keep paper chips out of the needle holes, and is very important.

24. To insert a needle, have the front of the machine opened forward; hold the needle by pliers provided with the machine, and press the needle shank to the bottom of the hole in the needle bar. Take the sleeve-screw-driver (provided with the machine) in the right hand, reach it over the yoke and center bar of the machine and engage the head of the needle set screw. At the same time, with the left hand, twist the needle so that its long groove is toward the operator and its eye turned very slightly toward the center of the machine, then tighten the set screw. When the needle is turned or twisted just right, it will cause the vertical thread to loop at right angles to the shuttle needle (and not obliquely) so as to present an open loop to the shuttle needle. Reset (i.e. turn) the needle, if in sewing, it does not throw a good loop.

25. Tensions: Tight or loose sewing can be effected by the amount of tension placed on the vertical threads by means of the round disc tensions through which those threads pass. The operator can determine the approximate amounts of tension by standing in front of the open machine and pulling on the vertical threads, one by one, before they enter the needles. A moderate amount of resistance is desirable, but not too much, and the resistance should be the same on all needles. The final test of thread tension is the sewed book. On this the vertical threads should never look loose and baggy and still they must not be drawn too tightly. A properly sewed volume accompanies this machine by way of illustration (ON FOREIGN SHIPMENTS ONLY).

26. Thread Clips (two) are provided to be used for all book sizes to hold the shuttle threads out of the slot through which the needles pass. Place the clips to correspond with the needles and punches used; numbers appear on the top of the clamp bar as guides for locating thread clips. For instance, if 4 needles are used right of the center and 3 needles left, place one thread clip on 4 right, and one on 3 left. IMPORTANT: If you forget to move the thread clips when changing to a larger size book, you may punch through the clips!

27. Shuttle Needles: These may occasionally strike a bent vertical needle and be thrown out of line; in such case they must be re-set. Unless very serious, alignment may be corrected by pulling of the needle with moderate force in the direction required to align it. When correctly positioned, the shuttle needle should pick up every loop and still not touch any vertical needle. Threading the shuttle needle has already been described (page 1). It is to be observed here that a little resistance to the thread is often needed to keep shuttle threads from feeding too rapidly and whipping about; this may be accomplished by inserting a fragment of cloth along with the thread in one of the two holes in the standard above the thread can, or otherwise by threading through those two holes a second time.

28. Shuttle needles should come to the center of the machine with a distinct click, but not with a hard blow. This is regulated by adjusting the connecting rod (surrounded by heavy spring) at the back of the machine. Both shuttle needles should arrive at the center of the machine simultaneously. Adjustment for this purpose is accomplished at the bevel gear with split hub on the back of the machine. For illustration and greater detail see page 25 and Instructions for Timing page 11.

29. To catch and hold the looped shuttle threads at the center of the machine, a pair of teeth dart forward at appropriate times. These are called the Catch Teeth. Occasionally one of them becomes bent, worn, or broken; in such case it must be taken out and straightened or replaced.

30. Feed Guide Clamp: This movable mechanism on the front of the clamp head of the machine is the guide up to which each book section is fed. It automatically moves step by step into four sequent positions, causing the sewing to be properly distributed in the book back. When starting to sew each book, the clamp must be located (by means of the locking device) so as to properly space head and tail margins of the book. IMPORTANT: Whenever the book clamp table is to be opened, the drop bar of this Clamp Guide must always first be lifted. Otherwise, it will be struck and probably be bent on closing the clamp table.

31. Brake: This is located on a drum on the center shaft of the machine, and has spring tension that is controlled by a wing nut at the lower right front of the machine. The brake is required to bring the machine to rest at the correct position after each revolution. If too tight, the brake will stop the machine too soon; if too loose, it will stop the machine too late. In either case the book clamp will not, when it comes to rest, stand open its full width (3/4") because the machine is not stopped at the proper time. Therefore, turn the wing nut to tighten or loosen the brake tension as required. With proper adjustment, the cam roller #4359 must come to rest in center of the dwell in cam #1435. The brake is lined with finest automobile brake lining but its usefulness will be lessened and destroyed if oil is allowed to run onto the brake drum. If oil should get there, disassemble the brake and wash thoroughly with solvent to remove all oil. Be sure the cam roller centers in the cam. See center cam mechanism on page 33.

32. Having now described the various assemblies and movements of the machine, it is appropriate next to describe the proper preparation of work for the machine.

PART D — SECTIONING BOOKS FOR OVERSEWING

33. .060 is the proper thickness of sections for sewing. However, a slight variation from this ideal is unavoidable and not serious if only slight. The OMCOA section divider (see page 41) will provide uniform sections of proper thickness. Otherwise use paper pad counters. One is sent with machines for foreign shipment.

34. It is to be understood that (under usual circumstances) the backs of books to be oversewed will be cut, or sanded off the least possible amount, to reduce to separate leaves. These must be padded by employing suitable glue, and then divided into sections, after which an appropriate pair of end sheets should be placed top and bottom on the material to be sewed. Any type of End Paper that is approved by the Library Binding Institute, and so indicated in the Library Binding Institute Standard for Library Binding of January 1, 1958, page 11, will lend itself to satisfactory use for oversewing. Glue for padding should be hard, (not flexible), hot and thin, brushed in a strip of only two or three inches wide near the center of the book back. If glue is used of a consistency that flakes off when dividing the book into sections, this flaking is certain to give trouble in sewing.

PART E — SEWING THE FIRST BOOK

35. It is assumed that work (books) will be sorted by heights, -5-needle books together, 6 - needle books together, and so on. A gauge (or rule) of cardboard may be marked off for the operator, for her use in determining to which group each book belongs.

36. It is assumed that books have been properly sectioned and stacked ready to go to the Oversewing Machine, with end sheets in place. These may be tipped to first and last sections. But tipping is not necessary.

37. Suppose that the first book to be sewed is a 6 - needle book. It is assumed that 6 punches and 6 vertical needles are in place, three on each side of the center and that thread clips have been screwed in positions numbered 3, both right and left. Locate the feed guide clamp so as to approximately apportion head and tail margins of the book to be sewed.

38. It is assumed that the machine and motor have been properly lubricated and wiped clean. It is assumed that the paster has been supplied with proper paste. Have supply of needles and punches in drawer of the machine's right table; also pliers, tweezers, sleeve-screw driver, scissors and needle-threader. It is assumed that shuttle needles are threaded and loose ends of their thread hang at right and left of the machine. Vertical needles also have been threaded and loose ends of their threads hang one from each needle.

39. Release the hand lever (controlling friction plates) and press full distance upward on knee pad; restore lever to closed, or tight, position. The book clamp should stand open 3/4 inch. You are now ready to sew. Turn on motor. Snap on electric current to paster.

40. Lay first book on left table, face down, head left, glued side away from operator. Push slightly on the front of the book to slant it backward, thus causing the sections to slip slightly on one another; this will make them easier to pick up. Pick up with the center finger of left hand, laying opened palm onto top of the section, rather nearer the head of the section than towards the center. To begin with, pick up both end-sheet and first section, and thereafter one section at a time, except the last section which should be picked up with its end sheet. As soon as section begins to be raised (or separated from the book) by the left hand, grasp the front of the section with the right hand, and slide the left hand to the head of the section, thus holding the section in both hands, pass it through the paster to deposit a line of paste on the downward side of the section. Of course, for pasting, the section is to be kept against the back guide of the paster; otherwise the line of paste will not be properly placed. The paste position is important, and paste must not be allowed to run into the book. If too far back, the line of paste will mess up the needles, if too far forward the paste may spoil the opening of the book. Start out carefully so as to acquire a correct habit of pasting.

41. Just as the section emerges from the paster, revolve it counter-clockwise (thus bringing the line of paste upward) and feed it into the book clamp and against the side guide (called the feed guide clamp). Observe that the side guide is properly located to give the desired head and tail margins; if necessary, reset guide before proceeding. The right hand will press the section firmly back into the book clamp, while the left presses it rightward toward the side guide. This is important. With the fingers and thumb of left hand on the left exposed corner of the section, and fingers and thumb of right hand on right exposed corner, the operator can jog the section and press it neatly against the back of the book clamp and the head guide; simultaneously trip the right pedal. (Caution: Keep fingers out of the clamp. Fingers should NEVER be on top of the book section; they should be no further in than against the front edge of the book table.) The machine will automatically perform one cycle of operations and (in this instance) will place six stitches (held by a pair of double shuttle-threads) in the section, and the guide will have moved one step (which may be either right or left, depending on the position at which sewing starts). Jog the sewed section to the side guide, and press neatly back; then depress the pedal a second time, to double-sew the first section and its end sheet. The guide will have shifted its position right or left after each sewing.

42. Next, paste the second section, revolve it counter-clockwise, feed and sew it as before. Now pause; open the front of the machine and trim off all hanging threads flush with the plate through which they hang. (Observe that opening the front of the machine automatically releases thread to permit the forward movement of the book within the

clamp, and that closing the front of the machine tightens the slack thread.) When closing the front, in order not to snarl threads, pull the book slightly forward in the clamp, then push it back when front is closed. Now pull each shuttle thread over its can to take up the slack. (It will be obvious that to open the front of the machine, the lever on the cross bar at the top of the machine must be tilted forward, and of course it must be restored to its normal position when closing the front of machine.) Next, paste and sew section after section, one sewing each, in the same way, - all except the last section (with its end sheet). Take care to keep book fed neatly against back and against side guide, prior to each sewing.

43. The final section is never pasted. Feed it (with end sheet) into the machine and sew three times; sewing this book is now completed. The next procedure is to remove the book, sever its threads, hold the severed thread ends ready for sewing the next book, and restore the book clamp to its initial position. These things are accomplished in the following manner:

44. First lift drop bar of feed guide clamp and cause it to latch in upward position. Then place right hand on the lever that controls friction plates, and left hand on table latch. Bring the lever forward and leave it there; pass right hand above left forearm over to the book on the clamp table. Grasp book in right hand (centrally placed upon the fore edge with thumb on bottom) and hold book against back of the clamp. At the same time, with the left hand unlatch the book table; swing it as far as it will open and leave it there. Grasp book in both hands, depress left pedal (to release thread tensions) and pull book forward to show about one and one-half inches of vertical threads between book and needle bushings. Release left pedal. (Important: Remove foot before sewing again.) With right knee against knee-pad, press forward as far as book table will go, and with the right hand restore lever to upward normal position. Lift book a little to slacken threads noticeably. Leave right hand holding book; reach for and close book table with left hand. This closing should sever all threads and release book, to be laid on right table. Touch the top or trip on the feed guide clamp to permit its bar to drop ready for the next book. The released book should show free thread-ends about 3/4 inch (not over one inch) long; these will be caught into the eventual gluing of the book-back and require no further attention. The threads in the book clamp should all be caught (in the course of closing the book table as described) and should look somewhat baggy; if placed under tension they are apt to pull out and so necessitate rethreading of needles.

45. NOTE: The rapid sewer of books of common size and weight will (1) raise drop bar, (2) move hand lever forward, (3) open clamp table, (4) briefly depress left (tension) pedal, (5) catch the falling book in right hand, (6) raise table by knee (7) close book table cutting threads for book release, and finally (8) drop guide bar ready for sewing the next book - ALL in such rapid succession as to appear almost simultaneous actions. Large and extra heavy books, of course, call for more deliberate motions.

46. The machine is now ready to sew the second book. The procedure is identical with the first except in one particular. In the case of the second (and later) books there should be few if any dangling thread ends to cut off with scissors. Of course if a thread breaks, it will be necessary to open the front of the machine and rethread, and following two or more sewings the dangling thread end must be cut off. This is important however: after sewing the second section, slightly open the latched book table to release all thread ends, and with the left hand pull the book a little forward and to the side to be sure that all threads are free. Then latch the table and feed the book neatly to the back of the clamp and to the head guide. The book threads must be free from the thread cutter in order to be moved by (or to) the head guide. IMPORTANT: Do not forget to move thread clips when you change the number of sewing needles in use.

47. It has been found desirable to lubricate punches with a drop of light oil at intervals of one or two hours, especially when sewing hard papers, as in National Geographic Magazines. Of course, not more than a drop on each punch or you may get oil onto the sewn book.

48. Paster Information: The electrically driven paster requires 110 volt 60 cycle Alternating Current for its operation. The book section receives its line of paste by being passed manually across the top of the paste roll which is revolving in the paste. The paste roll revolves continuously and therefore presents an unbroken line of paste to the book section passed across it.

49. NOTE: If the motor should go dead, the paster may still be used. Just remove the gear from the paste wheel shaft, and operate the paster manually awaiting repair.

50. When the day's work is done, remove paster from its carrier support and pour out paste. Then submerge paster in water over night, and it will clean easily the following morning. If you drop the paster it may be ruined, this is especially true regarding the paster wheel; so handle with care.

51. Caution: Paster must turn freely before switching on motor. Test by turning knurled knob by hand. Clean paster at close of work or after submerging in water overnight. Otherwise expensive repairs to motor may be required.

PART F — TWENTY HELPS IN TROUBLE SHOOTING

Faithful observances of the foregoing instructions and suggestions will assure capable and speedy operation of the Oversewing Machine. Now for a few troubles that operators may experience, and suggestions for their cure:

1. Book clamp does not open properly (3/4") with the machine in rest position. Look for too tight or too loose brake. Remove oil with solvent.

2. Missing loops when sewing. First make sure that set of needles is correct to throw up properly placed loops. Refer to page (5) in Manual (Inserting needle). Then

look for bent punches, or bent vertical needles, or shuttle needles out of line. When machine gets older, look for worn punch guide bushings which may need replacement.

3. Excessive needle breakage. Look for faulty punching. Needles seldom break if given proper holes.

4. Faulty punching. Look for book slippage in the clamp. Read the instructions given on page (2) on this subject; they are long but important. Sometimes, when all other details are O.K., the book will still slip due to very hard paper building up an excessively thick back. Correction for this is possible through inserting an occasional cardboard between the leaves of the book but not far enough back to be in the sewing.

5. Shuttle needles out of time, or not simultaneous. Correct timing by adjustment of parts #235, #220, #2246, as indicated below.

Part #235 - Page 25

6. One shuttle is ahead of the other at center position against stop block #1267. Correct by releasing collar lock screws and moving gear #235 backwards or forwards until both shuttle carriages touch stop block.

Part #220 - Page 23

7. If catch pins do not function or cam #220 fails to trip latch #1219 when shuttle carriages are at center stop block, loosen set screws in collar #1259 and move cam #220 until it trips latch #1219 at correct time.

Part #2246 - Page 25

8. If shuttles and catch pins are in perfect time and shuttle raceways are free from waste matter and shuttles do not travel, a full stroke to the center stop block, loosen left hand lock nut #249 and turn rod #2246 one-half turn toward the left with a wrench on top collar #246A

9. Sewing too loose. Look to the disc tensions. If they are oily, threads may be slipping out. Also do not forget to remove foot from left pedal; this pedal releases thread tensions and is to be used only when drawing the finished book out of the clamp.

10. Builder plate in book table does not entirely recede. Look to your opening of the book table. Full opening of 3/4 inch is required.

11. Machine is hung up. A chip from a broken punch or needle may fly into a cam way and lock a cam roller.

12. Leaves of book stuck together. Look for too thin or too thick paste, or careless manipulation of sections through the paster; suspect messy feeding and section handling.

13. Threads break in rounding. There may be a possibility that sewing is too tight (tensions too tight) but only a slight possibility. The more probable fault is the use of hard glue in rounding. Use proper hot flexible glue or a satisfactory synthetic. Then there should be no broken threads in rounding or backing.

14. Starts, or section slippage, in the sewed book. This will occur only when some excessively smooth piece of paper is used between leaves, as for instance a piece of cellophane mending strip. Mend books with strong thin non-slipping paper in the area to be sewed, and starts will not occur there.

15. Book does not open well. Possibly made of paper that should never have been oversewed, such as too thick or too brittle paper, too thick signatures or too narrow back margins. Open a doubtful book carefully by hand, after sewing. This may obviate later criticism. Not every book is suitable for machine oversewing, but far more than 90% are suitable.

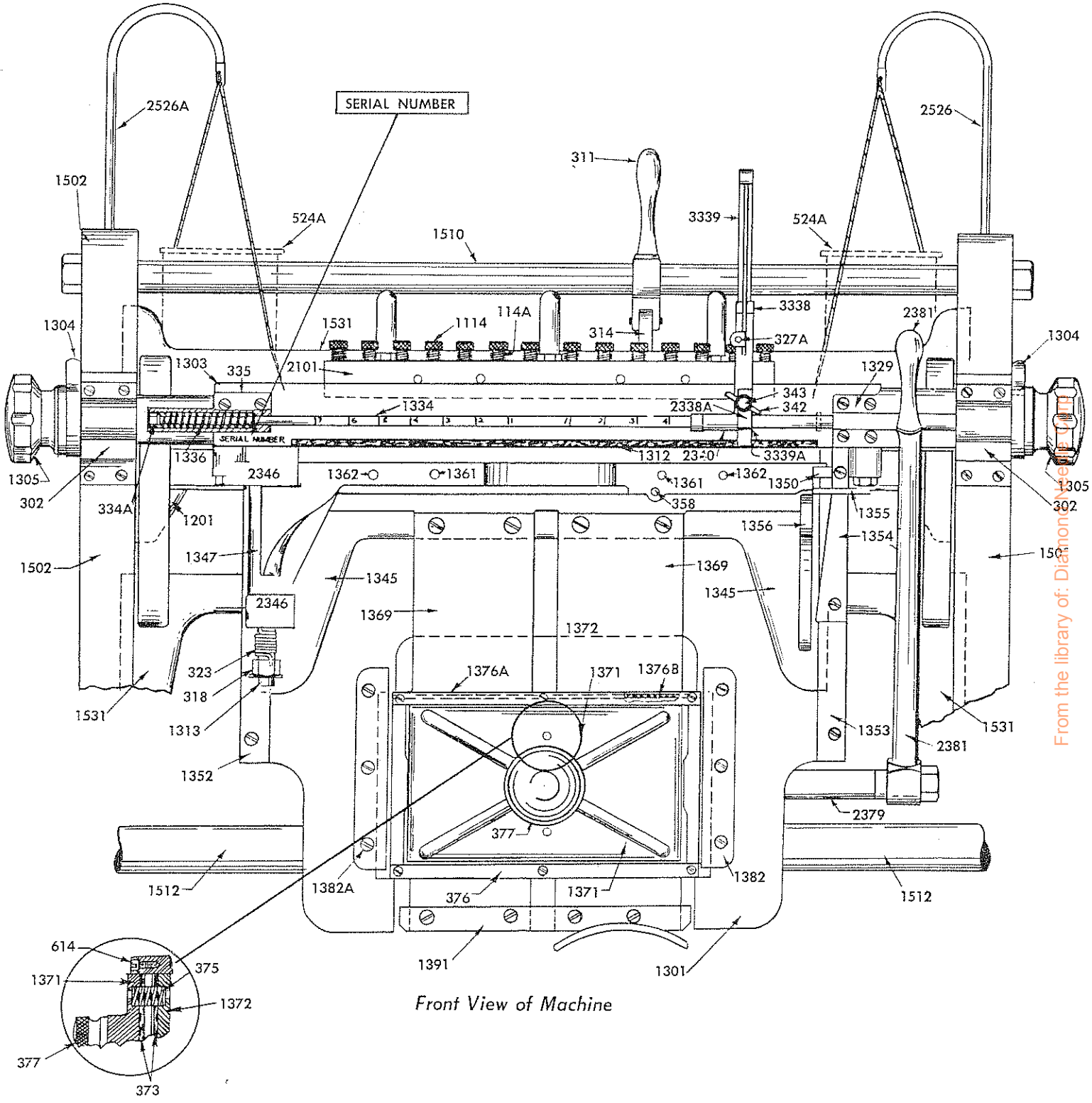
16. Sewing goes into double plates or very narrow back margins. Such contingencies must be recognized before sewing the book. Usually such leaves can be set out on guards and the sewing will pass through the guards.

17. There is objection to trimming, or sanding off, backfolds of certain material prior to sewing. If folded signatures come within the range of sections of suitable thickness for oversewing, such signatures may be sewed without sanding or trimming.

18. Narrow Back Margins: In many cases the use of the NARROW HEAD PLATE NO. 344B listed with ACCESSORIES on page (39) allows for satisfactory sewing of these.

19. The same thread breaks frequently. See that it is releasing freely from the spool. Follow along the entire course of the thread and see that no obstruction has developed which cuts the thread such as too much tension, sharp edges or burrs on the eye of a vertical needle or in the eye or along the side of a shuttle needle.

20. Machine gives one trouble after another. Almost certainly then the machine is dirty and gummy and has not received reasonable care. Oily paper, dust, and paste or glue particles, or gummy oil have been allowed to accumulate. Nothing pays better than careful daily cleaning, blowing out and wiping up, followed by proper lubrication. Be sure to remove dried paste which accumulates on the angle plate within the book clamp. This must be done DAILY. Next most important is regular, careful, sane lubrication with proper lubricants. Around the head of the machine use good grade light oil. Grease cups use a medium grease that will not cake. For sleeve bearing motor, use motor oil; for ball bearing motor, use special ball bearing grease.



Front View of Machine

FRICTION CLAMP MECHANISM

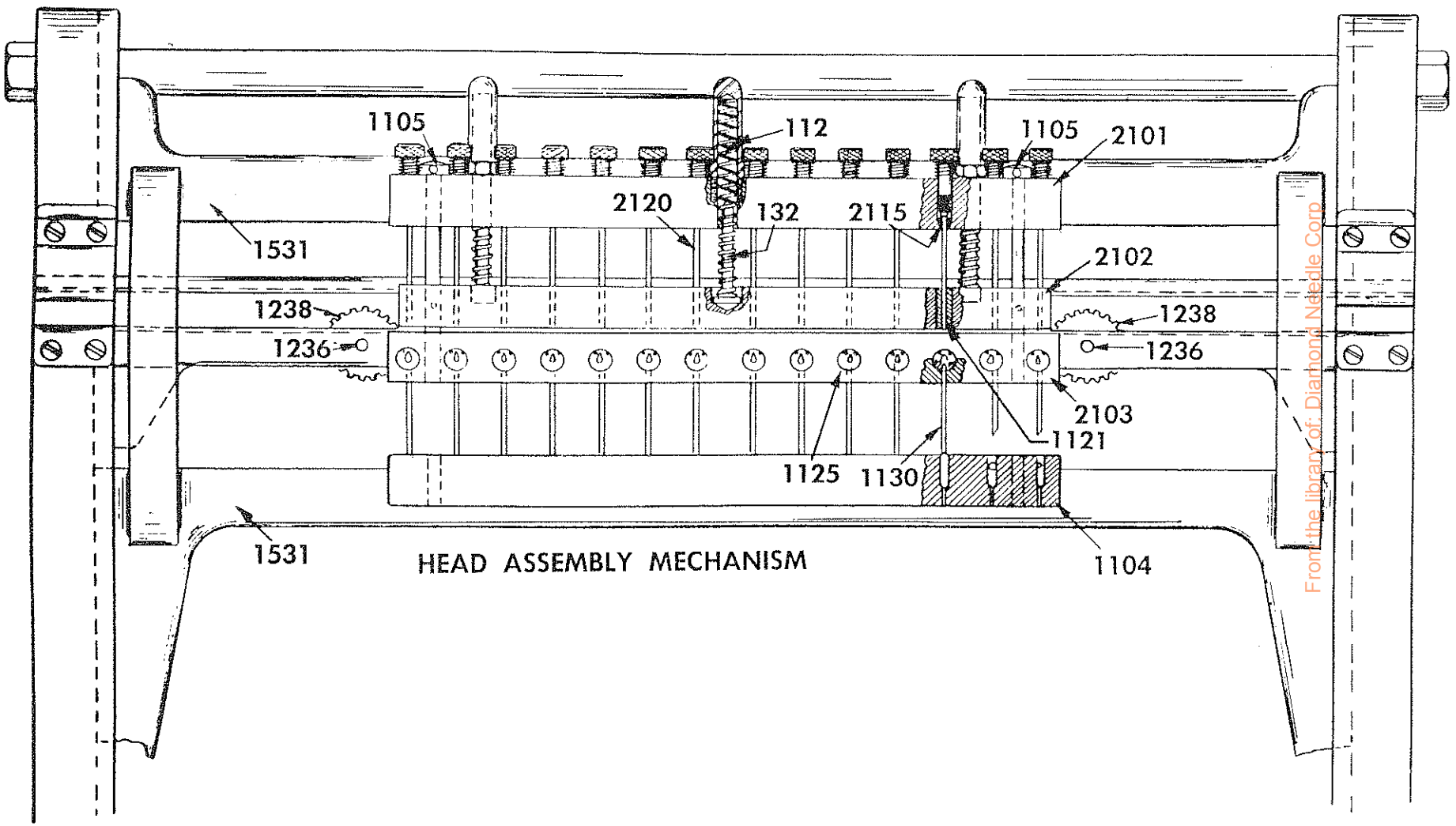
(See page 35)

SECTION 2

FRONT VIEW OF OVERSEWING MACHINE

2101	BAR, PUNCH HOLDER
1114	SCREWS, PUNCH SET
114A	SPRINGS, PUNCH SET SCREWS
1201	SHUTTLE GUIDE BAR
1301	BOOK SHELF HOUSING
302	BRACKET, CLAMPING HEAD
1303	CLAMP HEAD
1304	ARM, CLAMP HEAD LOCKING (LEFT & RIGHT)
1305	KNOB, CLAMP HEAD
311	HANDLE, LOCKING (UPPER)
1312	RUBBER PAD
1313	PIN, HINGE BRACKET
314	LINK, LOCKING BAR CONN.
318	NUT, TENSION RATCHET
323	SPRING, BOOK TABLE TENSION
327A	SPRING, B.M. LEVER
1329	HOUSING, BOOK MOVING MECH.
1334	ROD AND GAUGE, BOOK MOVING
334A	COLLAR, BOOK GUIDE ROD
335	BEARING, BOOK MOVING ROD
1336	SPRING, BOOK MOVING ROD
3338*	FEED GUIDE CLAMP ASSEMBLY
2338A	FEED GUIDE CLAMP BLOCK
3339	FEED GUIDE DROP BAR
3339A	FEED GUIDE DROP BAR BLOCK
2340	SPRING, FEED GUIDE
342	WING NUT, FEED GUIDE CLAMP
343	SCREW, FEED GUIDE LOCKING
1345	SUPPORT, BOOK TABLE
2346	BRACKET, HINGE
1347	HINGED BOOK TABLE
1350	PLATE, COMPENSATING WEDGE
1352	PLATE, BOOK TABLE (LEFT)
1353	PLATE, BOOK TABLE (RIGHT)
1354	WEDGE, BOOK TABLE
1355	LATCH, BOOK TABLE
1356	SUPPORT, LATCH AND TABLE
358	PIN, LATCH BEARING
1361	BOOK SUPPORT, EXTENSION SMALL
1362	BOOK SUPPORT, EXTENSION LARGE
364	UPPER SHEAR BLADE (NOT SHOWN)
1365	LOWER SHEAR BLADE (NOT SHOWN)
1369	PLATES FRICTION
1371	CLAMP, UPPER FRICTION
1372	CLAMP, LOWER FRICTION
376	GUIDE, FRICTION PLATE (LOWER)
1376A	GUIDE, FRICTION PLATE (UPPER)
1376B	FELT, FRICTION PLATE GUIDE
377	NUT, FRICTION CLAMP
2379	SHAFT, CLAMP TIGHTENING
2381	LEVER, FRICTION CLAMP
1382	PLATE, GIB (RIGHT)
1382A	PLATE, GIB (LEFT)
1391	BRACKET, COUNTERBALANCE CHAIN
1502	FRAME, SIDE (LEFT)
1503	FRAME, SIDE (RIGHT)
1510	TIE ROD (UPPER)
1512	SHAFT, CLAMP HEAD SUPPORT
524A	CAN, SPOOL RETAINER
2526	SUPPORT, SHUTTLE THREAD R.
2526A	SUPPORT, SHUTTLE THREAD L.
1531	YOKE, PUNCH & NEEDLE OPERAT.

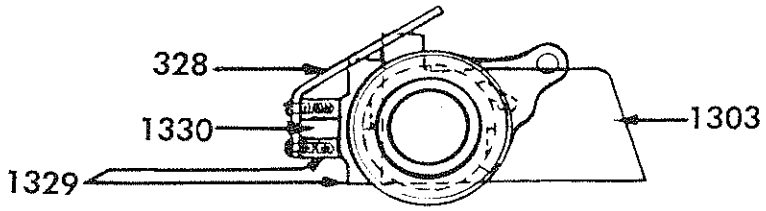
Detail of Feed Guide Assemblies, see page 27



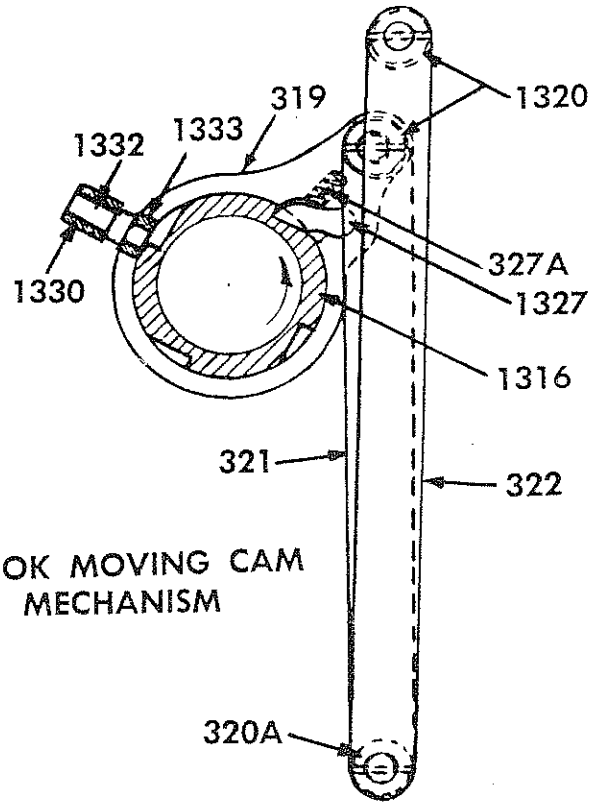
HEAD ASSEMBLY MECHANISM

HEAD ASSEMBLY MECHANISM

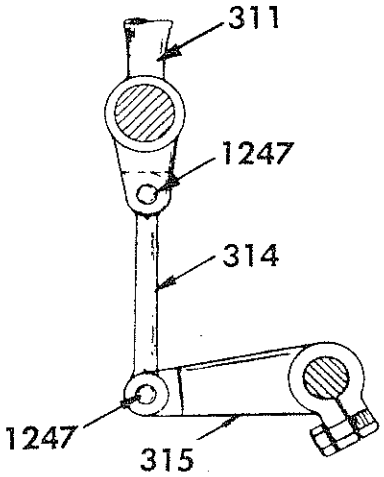
2101	BAR, PUNCH HOLDER
2102	BAR, PUNCH GUIDE
2103	BAR, NEEDLE GUIDE
1104	BAR, NEEDLE HOLDER
2104A	NEEDLE BAR ASSEMBLY
1105	GUIDE PIN
112	SPRING, PUNCH BAR
2115	PUNCH BUSHINGS
2120	ROUND POINT PUNCH
1121	PUNCH GUIDE BUSHING
1125	NEEDLE GUIDE BUSHINGS
1130	NEEDLE
132	GUIDE PIN, PUNCH BAR SPRING
1236	SHAFT, SHUTTLE CARRIAGE DRIVE
1238	GEAR, SHUTTLE CARRIAGE DRIVE
1531	YOKE, PUNCH & NEEDLE OPERAT.



CLAMP HEAD



BOOK MOVING CAM MECHANISM



LOCKING HANDLE MECHANISM

CLAMP HEAD

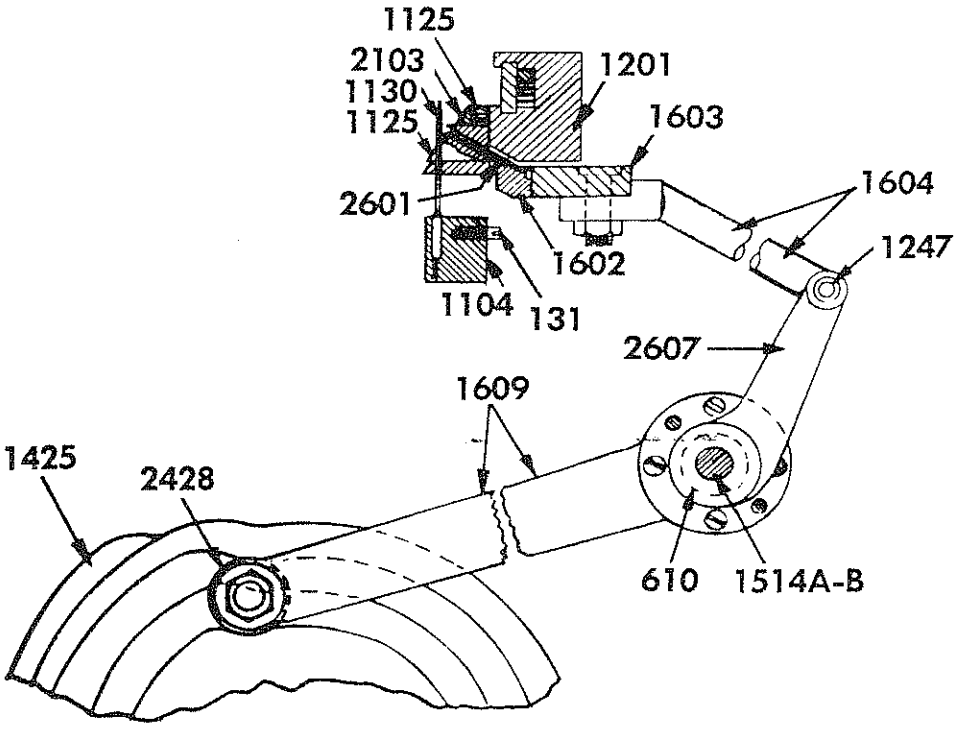
1303	CLAMP HEAD
328	COVER PLATE, BOOK MOV. MECH.
1329	HOUSING, BOOK MOVING MECH.
1330	SLIDING BAR, BOOK MOVING

BOOK MOVING CAM MECHANISM

1316	CAM, BOOK MOVING
319	LEVER, B.M. CAM OPERATING
1320	SCREW, B.M. CAM LEVER
320A	SCREW, B.M. CAM OPER. LEVER
321	SHORT LINK, B.M. CAM OPERATING
322	LONG LINK, B.M. CAM OPERATING
327A	SPRING, B.M. LEVER
1327	PAWL, OPERATING LEVER
1330	SLIDING BAR, BOOK MOVING
1332	STUD, B.M. CAM ROLLER
1333	ROLLER, BOOK MOVING CAM

LOCKING HANDLE MECHANISM

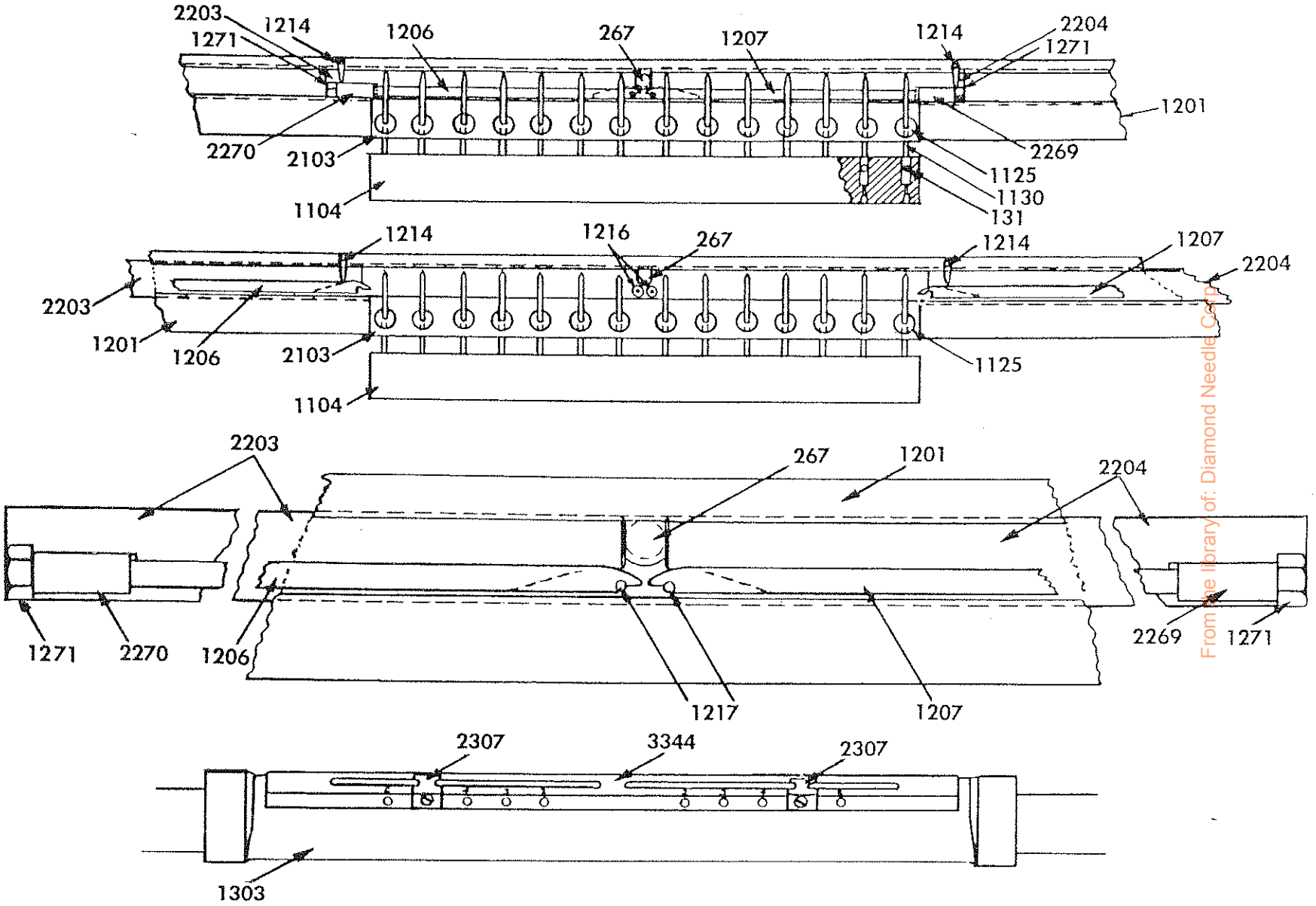
1247	CLEVIS PIN
311	HANDLE, LOCKING (UPPER)
314	LINK, LOCKING BAR CONN.
315	LEVER, LOCKING BAR



SUPPORTING TEETH MECHANISM

SUPPORTING TEETH MECHANISM

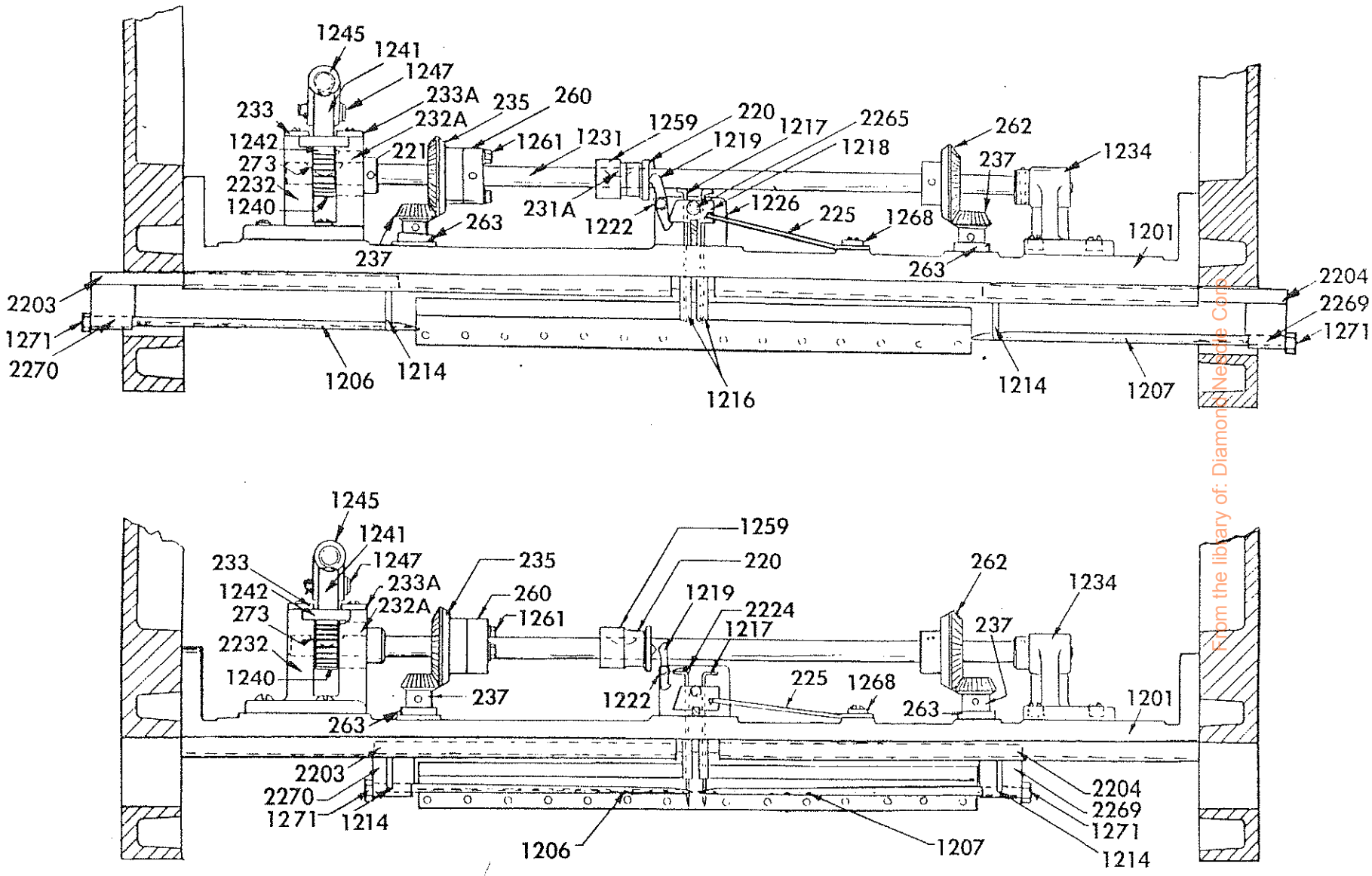
2103	BAR, NEEDLE GUIDE
1104	BAR, NEEDLE HOLDER
2104A	NEEDLE BAR ASSEMBLY
1125	NEEDLE GUIDE BUSHINGS
1130	NEEDLE
131	NEEDLE SET SCREW
1201	SHUTTLE GUIDE BAR
1247	CLEVIS PIN
1425	CAM, PUNCH & NEEDLE SUPPORTING TEETH
2428	CAM FOLLOWER
1514A-B	THREAD TENSION SHAFTS
2601	SUPPORTING TEETH
1602	BAR, SUPPORT. TEETH (FRONT)
1603	BAR, SUPPORT. TEETH (REAR)
1604	ROD, SUPPORT. TEETH DRIVE
2607	LEVER, SUPPORTING TEETH
1609	LEVER, CAM SUPPORT. TEETH
610	COLLAR, SUPPORTING TEETH



SHUTTLE HEAD AND NEEDLE BAR MECHANISM

SHUTTLE HEAD AND NEEDLE BAR MECHANISM

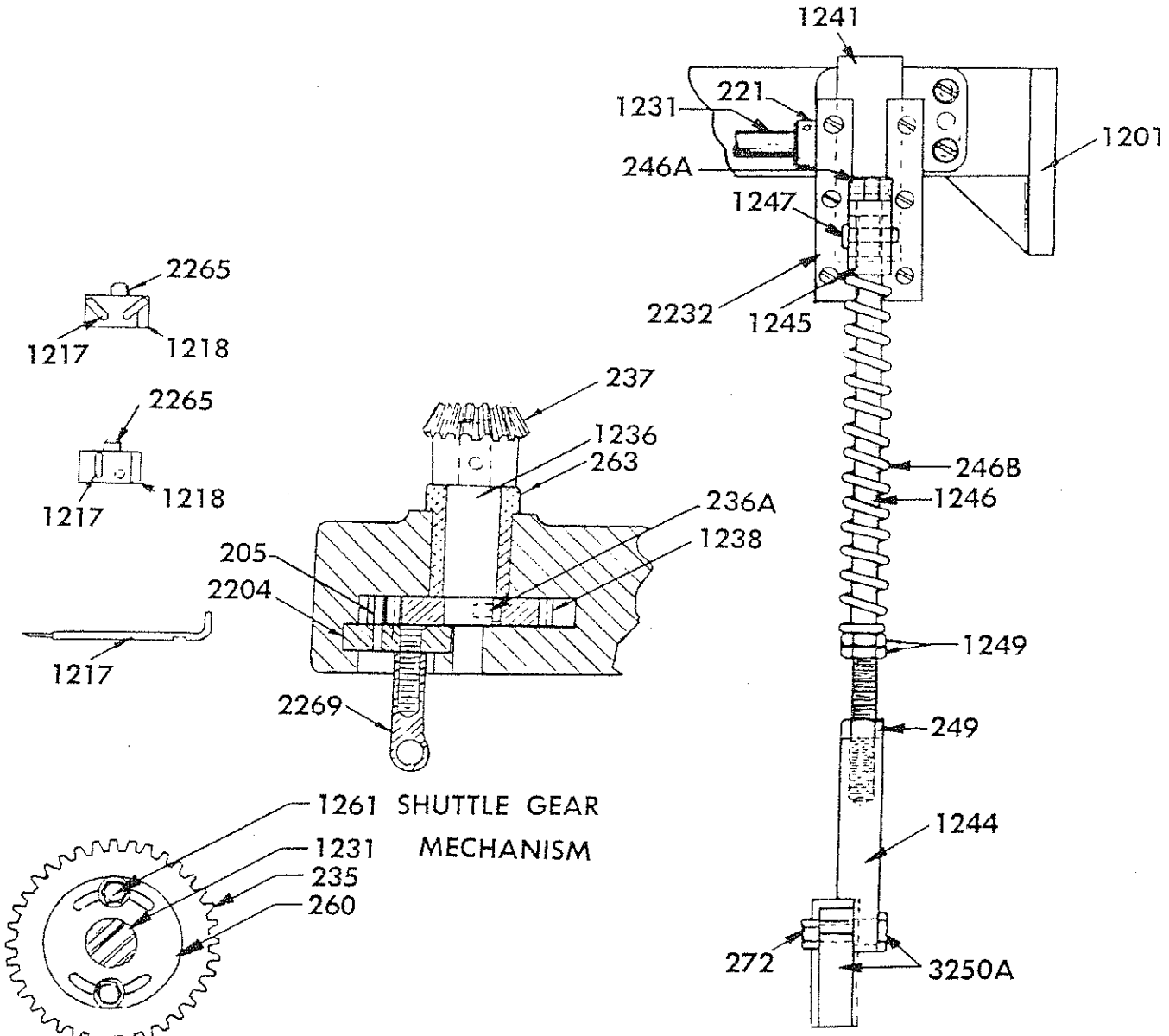
2103	BAR, NEEDLE GUIDE
1104	BAR, NEEDLE HOLDER
2104A	NEEDLE BAR ASSEMBLY
1125	NEEDLE GUIDE BUSHINGS
1130	NEEDLE
131	NEEDLE SET SCREW
1201	SHUTTLE GUIDE BAR
2203	SHUTTLE CARRIAGE (LEFT)
2204	SHUTTLE CARRIAGE (RIGHT)
1206	SHUTTLE NEEDLE (LEFT)
1207	SHUTTLE NEEDLE (RIGHT)
1214	SHUTTLE THREAD GUIDE
1216	SHUTTLE CATCH PIN GUIDE
1217	CATCH TEETH
267	STOP, SHUTTLE
2269	BLOCK, SHUTTLE (RIGHT)
2270	BLOCK, SHUTTLE (LEFT)
1271	NUT, SHUTTLE
1303	CLAMP HEAD
2307	CLIP, THREAD
3344	ANGLE PLATE, B.S. HOUSING



SHUTTLE GUIDE MECHANISM

SHUTTLE GUIDE MECHANISM

1201	SHUTTLE GUIDE BAR
2203	SHUTTLE CARRIAGE (LEFT)
2204	SHUTTLE CARRIAGE (RIGHT)
1206	SHUTTLE NEEDLE (LEFT)
1207	SHUTTLE NEEDLE (RIGHT)
1214	SHUTTLE THREAD GUIDE
1216	SHUTTLE CATCH PIN GUIDE
1217	CATCH TEETH
1218	CATCH PIN GUIDE BLOCK
1219	SHUTTLE LATCH
220	LATCH RELEASE CAM
221	SHUTTLE DRIVE SHAFT COLLAR
1222	SHUTTLE LATCH STUDS
2224	SPRING, SHUTTLE LATCH
225	SPRING, SHUTTLE GUIDE BLOCK
1226	BRACKET, SHUTTLE LATCH
1231	SHAFT, SHUTTLE DRIVE
231A	SHUTTLE LATCH CAM KEY
2232	BRACKET, SHUTTLE SHAFT (LEFT)
232A	BEARING SHUTTLE SHAFT
233	PLATE, SLIDE GUIDE (LEFT)
233A	PLATE, SLIDE GUIDE (RIGHT)
1234	BRACKET, SHUTTLE SHAFT (RIGHT)
235	GEAR, SHUTTLE DRIVE (LEFT)
237	GEAR, SHUTTLE BEVEL
1240	GEAR, SHUTTLE OPERATING SLIDE
1241	SHUTTLE OPERATING SLIDE CONNECTOR
1242	OPERATING SLIDE & RACK
1245	CLEVIS, SHUTTLE (UPPER)
1247	CLEVIS PIN
1259	COLLAR, LATCH RELEASE CAM
260	RING, SHUTTLE GEAR ADJUSTING
1261	SCREW, SHUTTLE GEAR ADJUSTING
262	GEAR, SHUTTLE DRIVE (RIGHT)
263	BUSHING, SHUTTLE DRIVE SHAFT
2265	SCREW, SHUTTLE CLAMP BLOCK RELEASE
1268	CLAMP, GUIDE BLOCK SPRING
2269	BLOCK, SHUTTLE (RIGHT)
2270	BLOCK, SHUTTLE (LEFT)
1271	NUT, SHUTTLE
273	KEY, SHUTTLE DRIVE SHAFT



SHUTTLE CAM MECHANISM

SHUTTLE GEAR MECHANISM

2204	SHUTTLE CARRIAGE (RIGHT)
205	SHUTTLE DRIVE RACK
1217	CATCH TEETH
1218	CATCH PIN GUIDE BLOCK
1231	SHAFT, SHUTTLE DRIVE
235	GEAR, SHUTTLE DRIVE (LEFT)
1236	SHAFT, SHUTTLE CARRIAGE DRIVE
236A	PIN, SHUTTLE CARRIAGE SHAFT
237	GEAR, SHUTTLE BEVEL
1238	GEAR, SHUTTLE CARRIAGE DRIVE
260	RING, SHUTTLE GEAR ADJUSTING
1261	SCREW, SHUTTLE GEAR ADJUSTING
263	BUSHING, SHUTTLE DRIVE SHAFT
2265	SCREW, SHUTTLE CLAMP BLOCK RELEASE
2269	BLOCK, SHUTTLE (RIGHT)

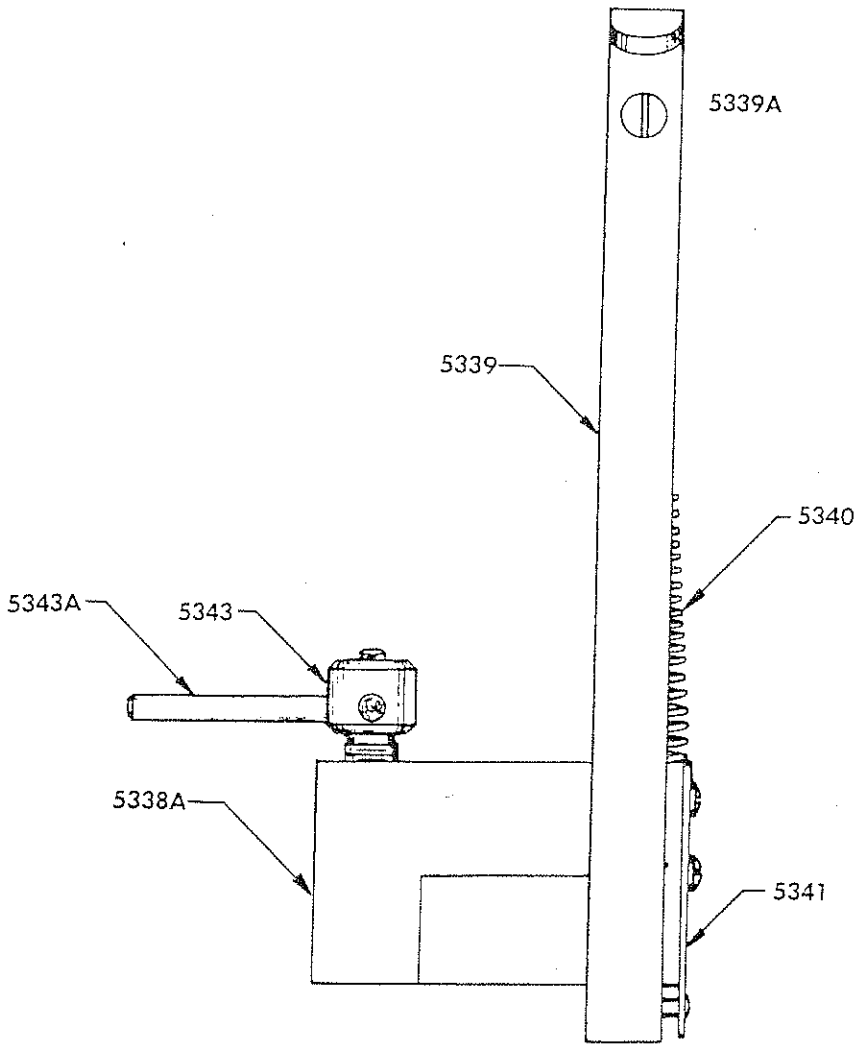
CONNECTING SHUTTLE MECHANISM

1201	SHUTTLE GUIDE BAR
221	SHUTTLE DRIVE SHAFT COLLAR
1231	SHAFT, SHUTTLE DRIVE
2232	BRACKET, SHUTTLE SHAFT (LEFT)
1241	SHUTTLE OPERATING SLIDE CONNECTOR
1244	LINK, SHUTTLE DRIVE
1245	CLEVIS, SHUTTLE (UPPER)
1246	CONNECTING ROD
246A	COLLAR, CONNECTING ROD
246B	SPRING, CONNECTING ROD
1247	CLEVIS PIN
249	NUT, SHUTTLE CONNECTING ROD (L.H.)
1249	HALF NUT, CONNECTING ROD
3250A	SHUTTLE DRIVE LINK STUDS AND CAM LEVER ASSEMBLY
272	NUT, DRIVE LINK STUD

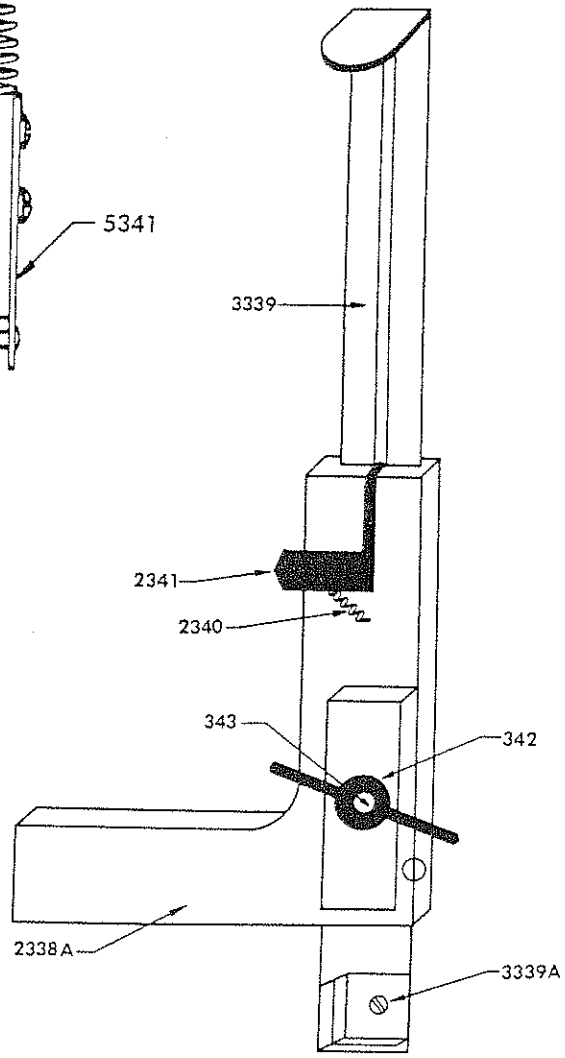
SHUTTLE CAM MECHANISM

1244	LINK, SHUTTLE DRIVE
2248	SHUTTLE DRIVE LINK STUDS
3250	SHUTTLE CAM LEVER
1251	BRACKET, CAM LEVER
1252	PIN, LEVER BRACKET
1258	GUIDE, SHUTTLE CAM LEVER
272	NUT, DRIVE LINK STUD
2428	CAM FOLLOWER
430	CAM, PUNCH & NEEDLE & SHUTTLE
1507	SHAFT, FLYWHEEL
1512	SHAFT, CLAMP HEAD SUPPORT

BOOK MOVING CLAMPS
(Feed Guides)



NEW STYLE



OLD STYLE

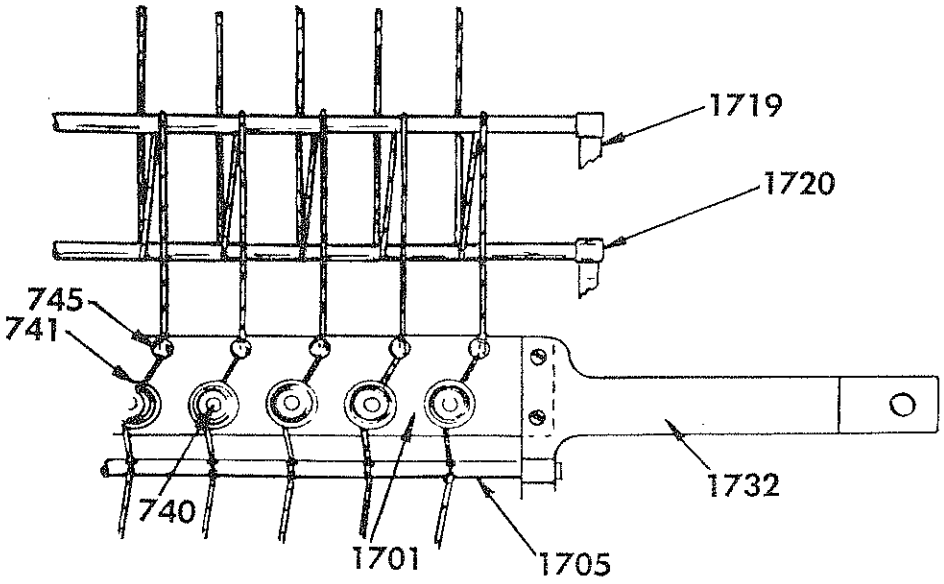
BOOK MOVING CLAMPS
(Feed Guides)

OLD STYLE

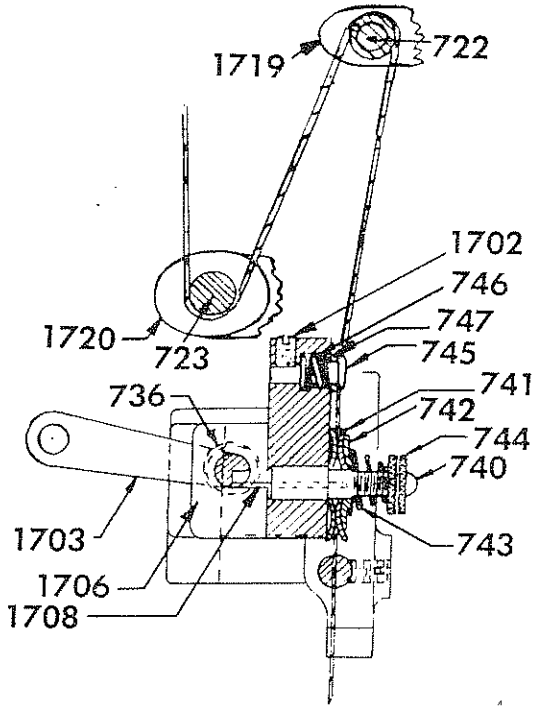
3338	FEED GUIDE ASSEMBLY
2338A	FEED GUIDE SHAFT CLAMP
3339	FEED GUIDE DROP BAR
3339A	FEED GUIDE DROP BAR BLOCK
2340	SPRING, FEED GUIDE
2341	CATCH FEED GUIDE
342	WING NUT, FEED GUIDE CLAMP
343	SCREW

NEW STYLE

5338	FEED GUIDE ASSEMBLY
5338A	CLAMP
5339	DROP BAR
5339A	DROP BAR SPACER
5340	SPRING
5341	CATCH SPRING
5343	CLAMPING SCREW
5343A	CLAMP PIN



THREAD TENSION MECHANISM



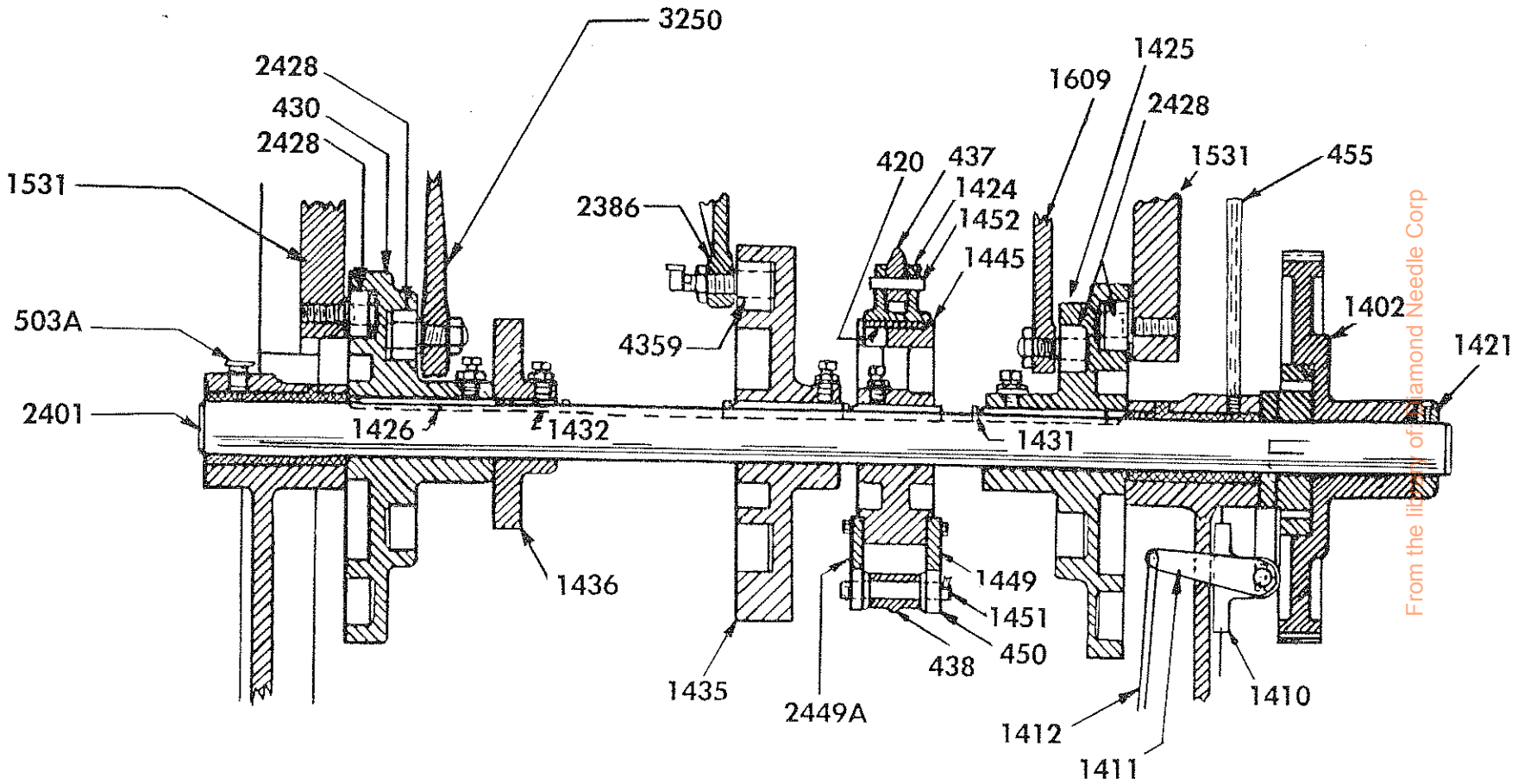
THREAD TENSION MECHANISM (SIDE VIEW)

THREAD TENSION MECHANISM

1701	TENSION BAR
1705	ROD, THREAD GUIDE (FRONT)
1719	ARM, TENSION (UPPER)
1720	ARM, TENSION (LOWER)
1732	BRACKET, TENSION BAR (LEFT)
740	STUD
741	FRICTION WASHER
745	STUD

THREAD TENSION MECHANISM (SIDE VIEW)

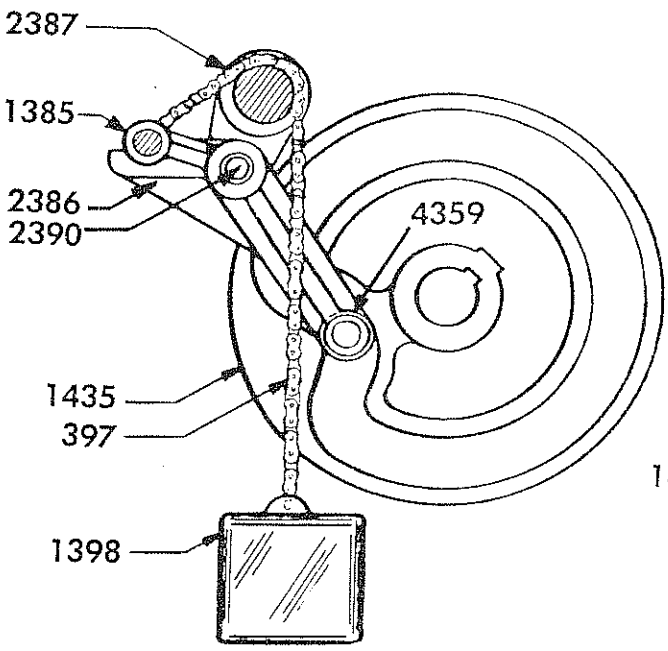
1702	SCREW, TENSION BAR SET
1703	ROD, TENSION RELEASE
1706	BEARING, TENSION RELEASE ROD
1708	STUD, TENSION
1719	ARM, TENSION (UPPER)
1720	ARM, TENSION (LOWER)
722	ROD, TENSION (UPPER)
723	ROD, TENSION (LOWER)
736	COLLAR, TENSION RELEASE ROD
740	STUD
741	FRICTION WASHER
742	SPRING WASHER
743	SPRING
744	THREAD TENSION NUT
745	STUD
746	SPRING
747	COLLAR



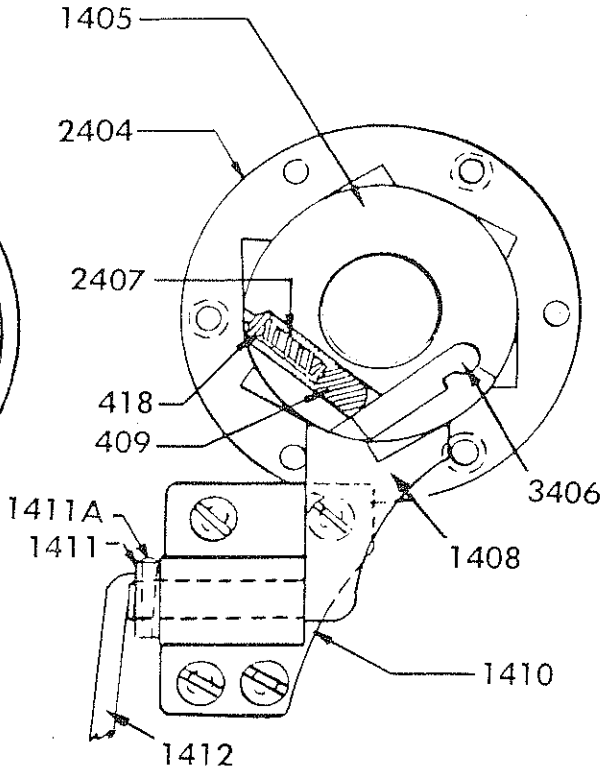
MAIN SHAFT, CAMS, AND CLUTCH MECHANISM

MAIN SHAFT, CAMS, AND CLUTCH MECHANISM

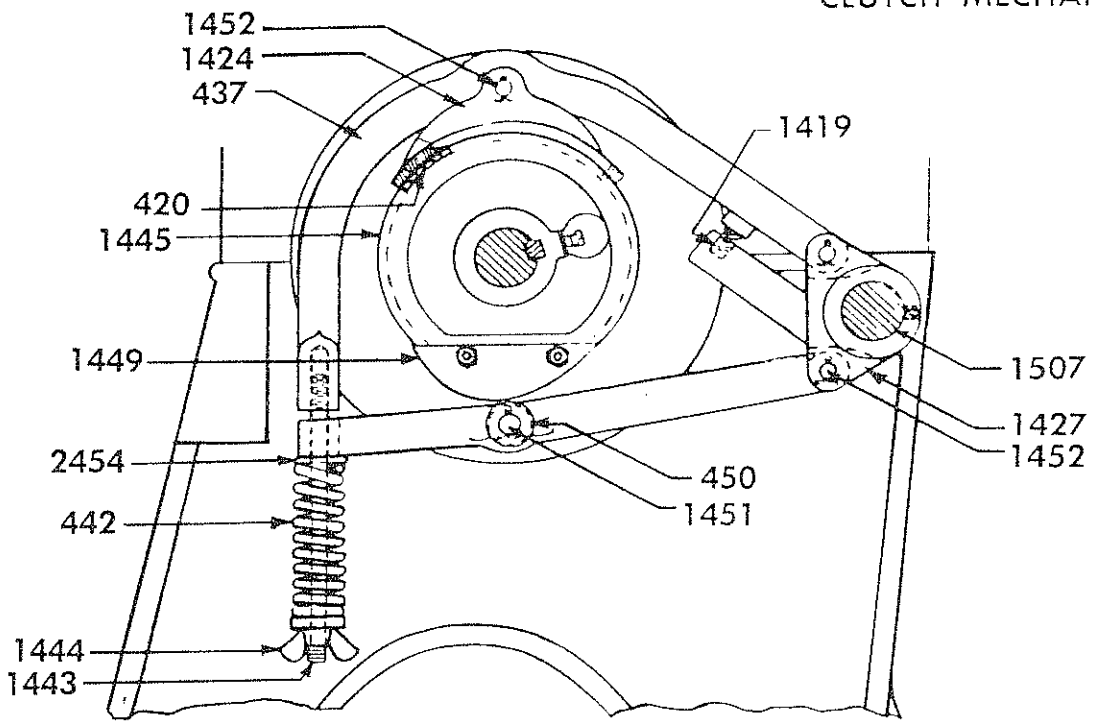
3250	SHUTTLE CAM LEVER
4359	CENTER CAM FOLLOWERS N.S.
2386	LEVER, CENTER CAM
2401	SHAFT, CAM
1402	GEAR, CLUTCH
1410	CLUTCH RELEASE BRACKET
1411	LEVER, CLUTCH RELEASE
1412	ROD, CLUTCH RELEASE CONN.
420	LINING, BRAKE SHOE
1421	CLUTCH GEAR COLLAR
1424	BRAKE SHOE (1424A WITH LINING)
1425	CAM, PUNCH & NEEDLE SUPPORTING TEETH
1426	KEY, LEFT (OR SHUTTLE) CAM
2428	CAM FOLLOWER
430	CAM, PUNCH & NEEDLE & SHUTTLE
1431	SUPPORT TOOTH CAM KEY
1432	KEY, THREAD TENSION CAM
1435	CAM, CENTER
1436	CAM, THREAD TENSION
437	ARM, BRAKE LEVER (UPPER)
438	ARM, BRAKE LEVER (LOWER)
1445	DRUM, FRICTION BRAKE
1449	CAM, FRICTION BRAKE (RIGHT)
2449A	CAM, FRICTION BRAKE (LEFT)
450	ROLLER, FRICTION BRAKE CAM
1451	PIN, BRAKE CAM ROLL
1452	PIN, BRAKE SHOE
455	PIPE, CAM SHAFT OIL
503A	OILER, FRAME SIDE
1531	YOKE, PUNCH & NEEDLE OPERAT.
1609	LEVER, CAM SUPPORTING TEETH



CENTER CAM MECHANISM



CLUTCH MECHANISM



BRAKE MECHANISM

CENTER CAM MECHANISM

4359*	CENTER CAM FOLLOWERS N.S.
1385	SHAFT, CONNECT. LINK (LOWER)
2386	LEVER, CENTER CAM
2387	LEVER BEARING, CENTER CAM
2390	PIN, LEVER BEARING
397	CHAIN, COUNTERWEIGHT
1398	COUNTERWEIGHT, BOOK SHELF
1435	CAM, CENTER

CLUTCH MECHANISM

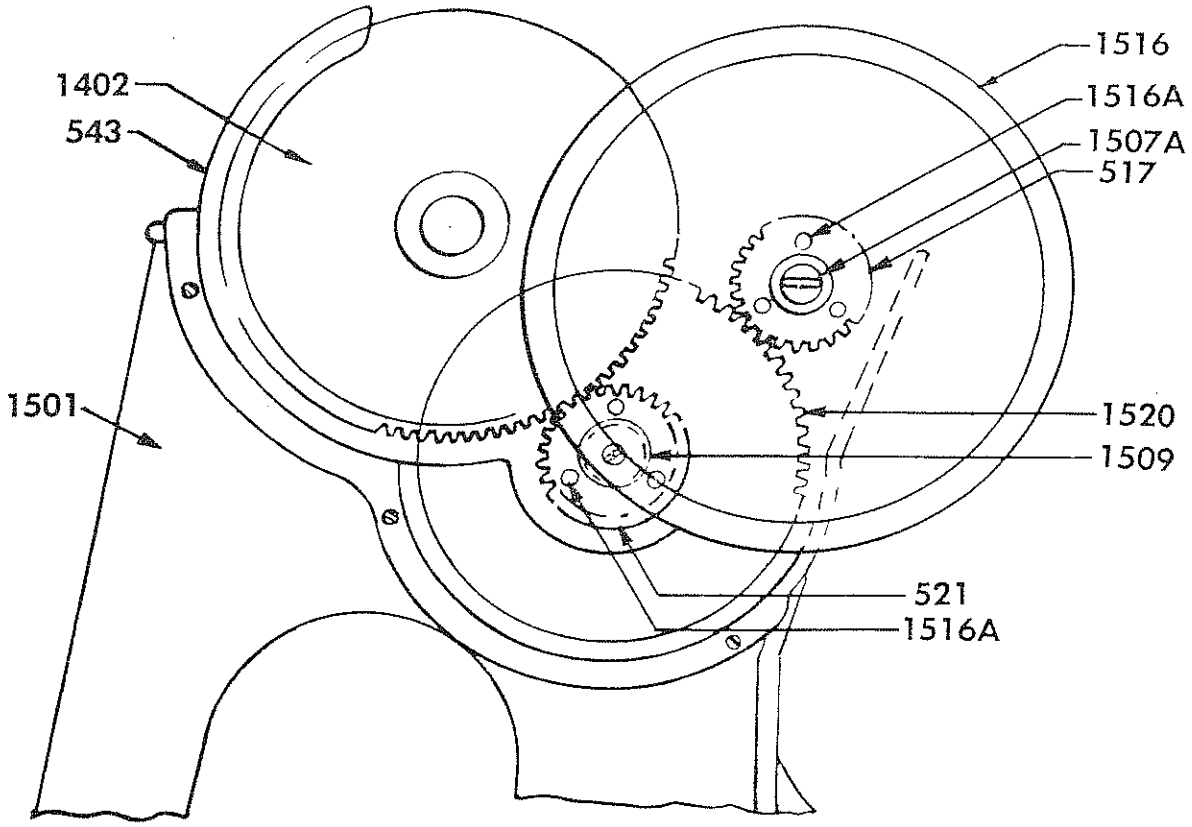
2404	CLUTCH RING
1405	CLUTCH CENTER
3406	CLUTCH PAWL
2407	DOG PLUNGER SPRING
1408	CLUTCH RELEASE PLATE
409	PLUNGER, CLUTCH DOG
1410	CLUTCH RELEASE BRACKET
1411	LEVER, CLUTCH RELEASE
1411A	TAPER PIN
1412	ROD, CLUTCH RELEASE CONN.
418	GUIDE, CLUTCH SPRING

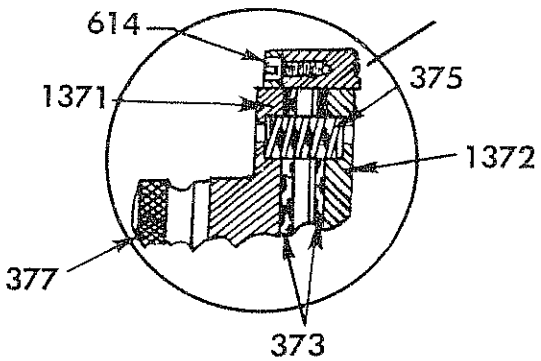
BRAKE MECHANISM

1419	SPRING, BRAKE BRACKET
420	LINING, BRAKE SHOE
1424	BRAKE SHOE (1424A WITH LINING)
1427	BRACKET, BRAKE LEVER
437	ARM, BRAKE LEVER (UPPER)
442	SPRING, BRAKE
1443	ROD, BRAKE SPRING
1444*	BRAKE ADJUSTING NUT, N.S.
1445	DRUM, FRICTION BRAKE
1449	CAM, FRICTION BRAKE (RIGHT)
450	ROLLER, FRICTION BRAKE CAM
1451	PIN, BRAKE CAM ROLL
1452	PIN, BRAKE SHOE
2454	WASHER, BRAKE SPRING ROD
1507	SHAFT, FLYWHEEL

* NS = NEW STYLE

FLYWHEEL AND DRIVING GEAR MECHANISM





FRICTION CLAMP MECHANISM

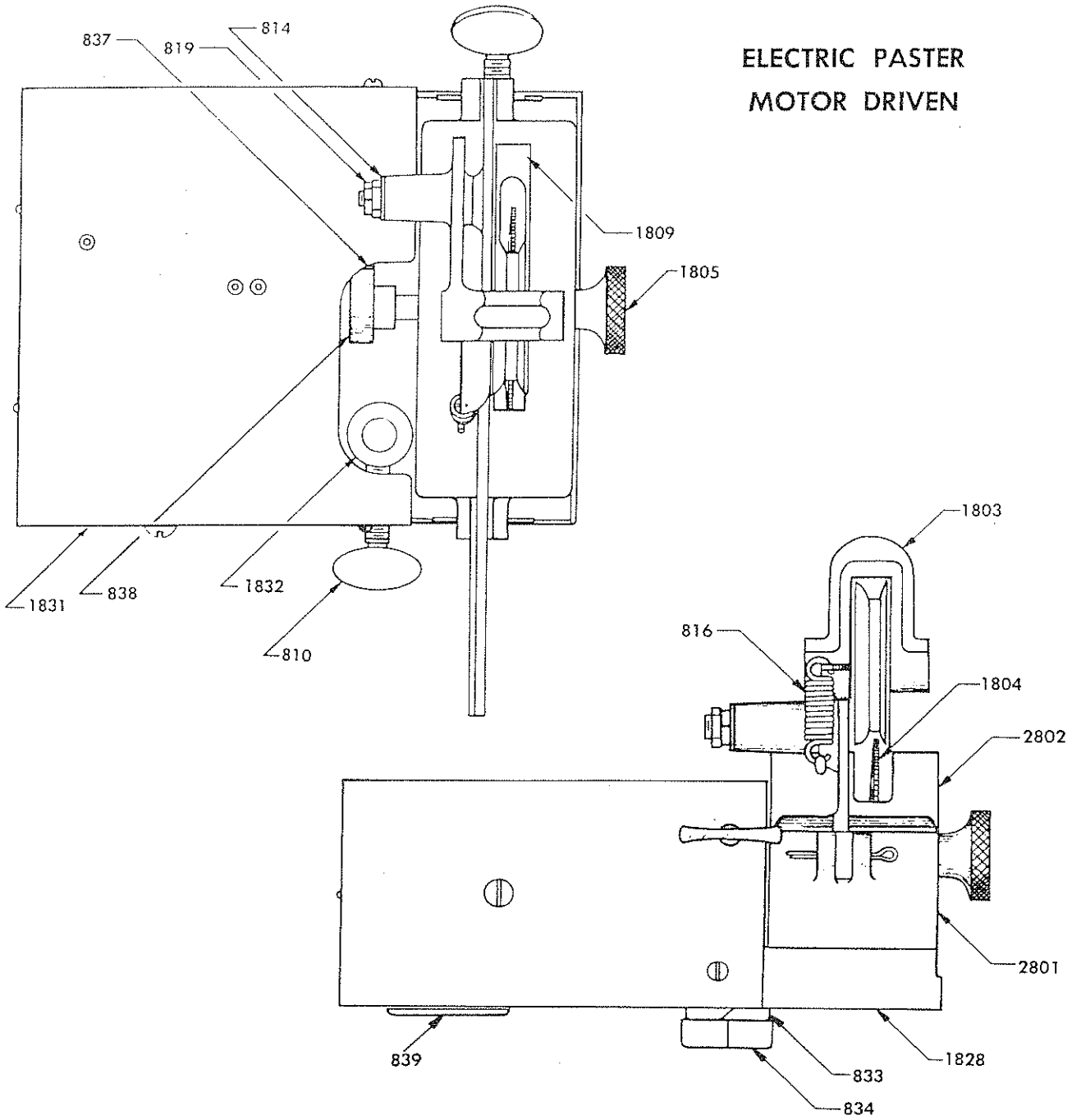
FLYWHEEL AND DRIVING GEAR MECHANISM

1402	GEAR, CLUTCH
1501	RIGHT LOWER FRAME
1507A	CAM SHAFT GREASE FITTINGS
1509	WASHER, DRIVING GEAR STUD
1516	FLYWHEEL
1516A	PIN, FLYWHEEL – PINION
517	PINION GEAR FABROIL 25 TEETH
1520	GEAR, INTERMEDIATE (LARGE)
521	GEAR, PINION FABROIL 28 TEETH
543	GUARD, GEAR (LOWER)

FRICTION CLAMP MECHANISM

1371	CLAMP, UPPER FRICTION
1372	CLAMP, LOWER FRICTION
373	LEATHER PAD, FRICTION
375	SPRING, FRICTION RELEASE
377	NUT, FRICTION CLAMP
614	SCREW

ELECTRIC PASTER
MOTOR DRIVEN

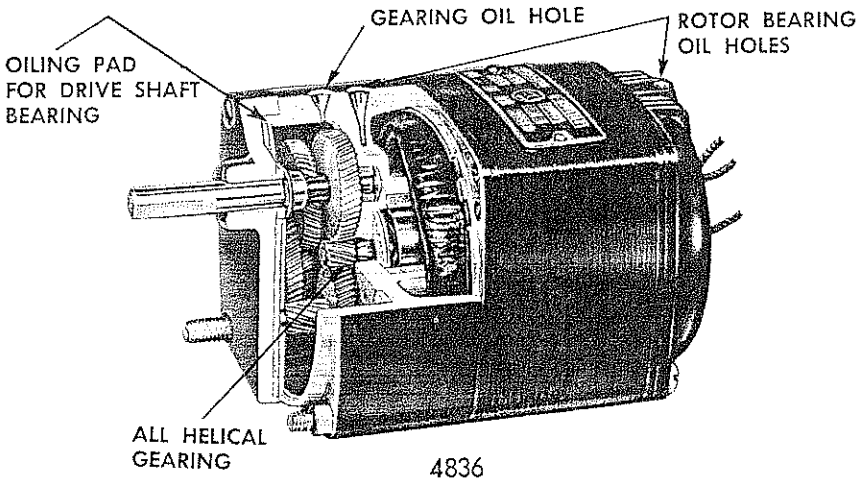


ELECTRIC PASTE POT ASSEMBLY AND MOTOR

*4800A	OIL (SPECIAL)
2801/2	PASTE POT AND COVER ASSEMBLY
1803	PASTE POT LEVER
1804	PASTE WHEEL
1805	PASTE WHEEL KNOB
3806	PASTE WHEEL SHAFT
1807	PASTE POT ROLL
1808	LEVER STUD
1809	PASTE WIPER
810	THUMB SCREW
*2811	ROD, PASTE POT SUSPENSION
1812	WEIGHT ROLL SHAFT
*2813	WHEEL BEARING STUD
814	WASHER
816	PASTE POT SPRING
819	PASTE POT NUT
* 820	COTTER PIN
1828	PASTE POT RETAINER
830	THUMB SCREW
1831	PASTER MOTOR COVER
1832	SUSPENSION ROD SUPPORT
833	WASHER
834	HALF NUT
4836	MOTOR
* 836A	CAPACITOR
* 836D	3/16" MOTOR SHIELD
* 836E	½" MOTOR SHIELD
837	MOTOR GEAR
838	PASTE WHEEL GEAR
839	MALE RECEPTACLE
* 841	ELECTRIC CORD
* 842	SWITCH

CAUTION: — Paster must turn freely **BEFORE** switching on motor. Test by turning knurled knob by hand. Clean paster at close of work or after submerging in water overnight. Otherwise expensive repairs to motor may be required.

Note: These parts not illustrated.



4836

SUNDRIES

OVERSEWING MACHINE

2115	PUNCH BUSHINGS
2120	PUNCHES ROUND POINT
3120	PUNCHES BAYONET POINT
1121	PUNCH GUIDE BUSHINGS
1125	NEEDLE GUIDE BUSHINGS
1130	NEEDLES
1217	CATCH TEETH
1312	RUBBER PAD
344B	NARROW SEWING PLATE
555	MOTOR BELT
2601	SUPPORTING TEETH (ROUND POINT ONLY)
4800A	MOTOR OIL (SPECIAL FOR ELECTRIC PASTER)
850	.062 PAD COUNTER
850D	CROCHET HOOK
850G	SCREW DRIVER (SMALL)
850H	SCREW DRIVER (SPECIAL WITH SLEEVE FOR NEEDLE SET SCREWS)
850K	TWEEZERS
850L	PLIERS
1850M	OILERS (PRESSURE TYPE)
850S	STOOLS (POSTURE TYPE)
850T	LAMPS (COMPLETE)
850T-A	LAMP SOCKET (SPECIAL)
850T-B	LAMP JOINTS
850T-C	LAMP BASE
850U	GREASE GUN
852	THREADER WIRES
853	THREADER HOLDER

THREAD (VERTICAL)
COLORS – GRAY, GREEN, RED, BLUE, ORANGE
THREAD (SHUTTLE GRAY ONLY)

BOOK SECTIONER PARTS

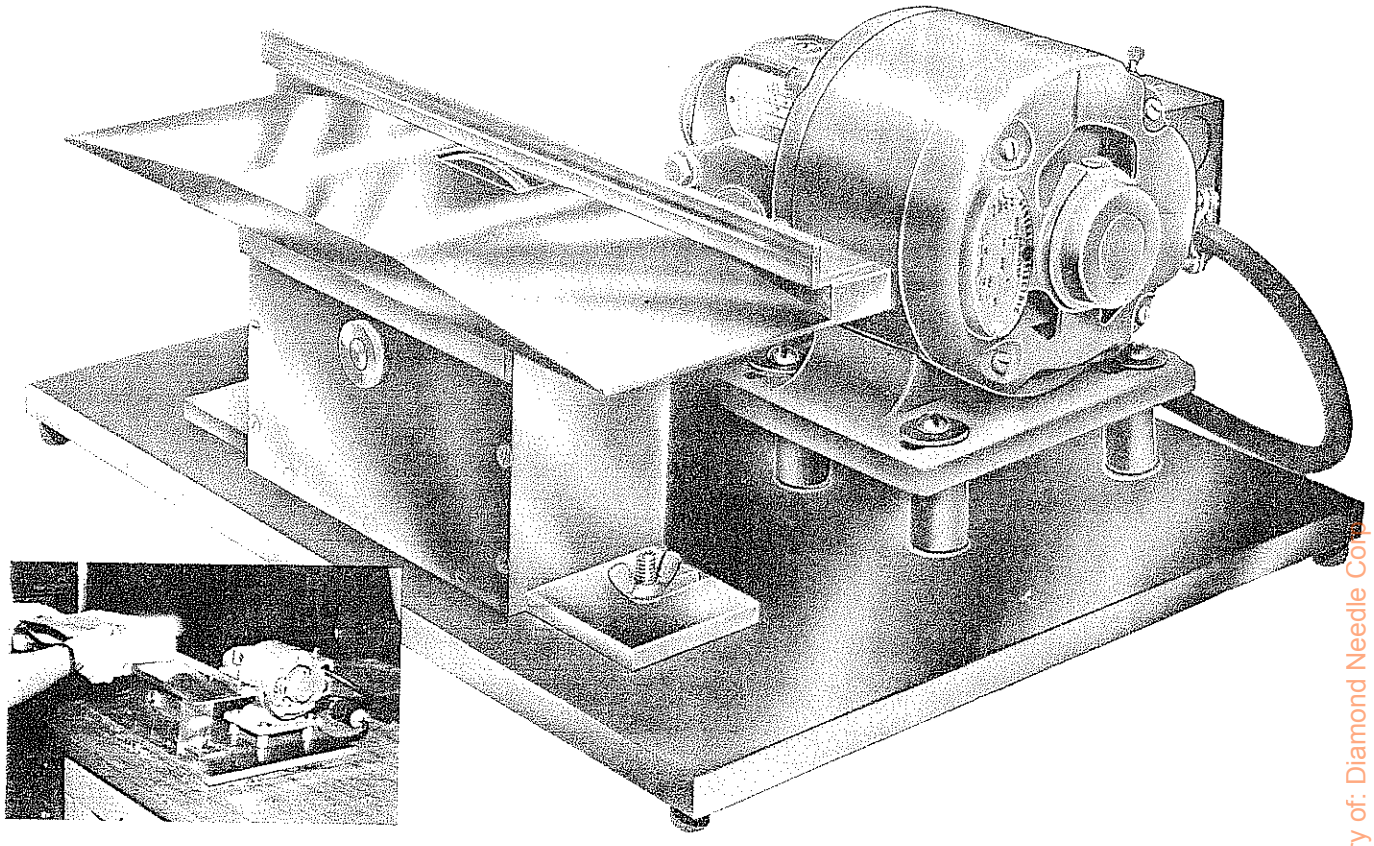
BS 1103	KNIVES (THICK)
BS 2103	KNIVES (THIN)

CYCLONE BOOK SANDER

S 253	SANDER BELTS

SECTION 3

THE OMCOA END SHEET PASTER



The end sheet paster fills a long felt need and in use pays for itself in a short time. It is infinitely faster and more efficient than any other means in use, as well as simple in construction and inexpensive to operate. It handles volumes of any size without change or adjustment.

It does away with the slow, messy, uncertain, tiresome pasting done with a brush, or by other means.

Both sides of the volume are pasted before stacking for drying or for squeezing in a nipping machine. To obtain the production of which the machine is capable a sufficient number of volumes with the end papers folded ready for tipping should be so placed as to be convenient for the operator.

The back gauge is adjustable so that the line of paste may be placed in a correct position. There is a paster wheel scraper, adjusted from the outside of the paste pot, which regulates the quantity of paste applied. The scraper is made of teflon so that the adhesive will not stick to it.

We advise consulting your adhesive supplier in order to get from him the *cold* adhesive best suited to your need. It should be of an easy flowing type (but not watery) and should dry at a speed favorable to processing without loss of time in the next operation. We recommend the use of a high grade polyvinyl resin base. *Caution: Do not use animal glue.*

Important: In order to get *good results* from the paster, it is absolutely *necessary*, when shutting down for the day, to soak the paster in water for overnight and to thoroughly clean it before again putting it to work.

The paste pot and its component parts are easily detached for cleaning from the motor and aluminum base plate, by loosening two wing nuts.

The paster is made of heavy solid brass and it, together with the motor and the enclosed reduction gear, are mounted on an aluminum base plate. Four rubber feet anchor the machine on any desired table or bench, without the need of any other type of fastening. This type of anchorage makes the machine readily portable.

ELECTRIC SPECIFICATIONS:

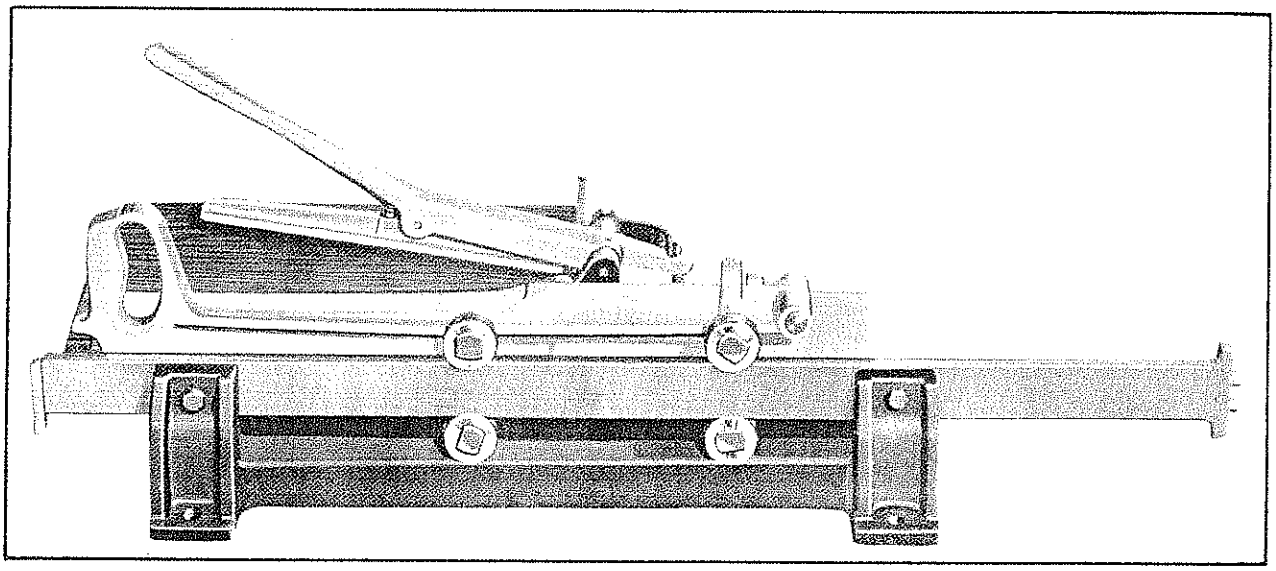
Current A.C.
Volts — 108-120
Cycles — 60
Phase — Single
Motor — 1/20 HP

DIMENSIONS:

Base 12" x 15"
Height 6¾"
Net Weight 39 lbs.
Shipping Weight: 50 lbs. (approx.)

NOTE: Other electrical requirements can be supplied at extra cost.

THE OMCOA BOOK SECTIONER



ONE OPERATION DIVIDES THE BOOK INTO SECTIONS FOR OVERSEWING

The purpose of this equipment is to divide a book into sections of proper thickness for oversewing. By its simplicity, uniformity in section thickness is assured. Properly prepared books cannot tear. By an actual test there is an assured saving of 75% in the cost of sectioning as compared with sections made by the "pad counter" method. The OMCOA Book Sectioner does not cut books; it splits glued up tablets into smaller tablets (or sections) and does it with great speed and neatness.

The OMCOA Book Sectioner has no parts to get out of order. Frame is of cast iron, table of hard wood, track of steel, and carriage of cast aluminum alloy.

The sectioning bars which carry a series of sectioning knives are made of special steel and require no attention. If, due to an accident, the knives are bent or broken, new ones can be quickly inserted.

SPECIFICATIONS:

Maximum book length, 12 inches (for thin books 14 inches)

Maximum thickness, 1½ inches

Volumes of greater thickness can be broken into two or more parts and each part passed through the Sectioner; thus any thickness of book can be sectioned.

Table space required:
15 x 36 inches

Shipping weight:
Approximately 115 pounds

REPLACEMENT PARTS OMCOA BOOK SECTIONER

BS 1103	KNIVES (THICK)	BS 121	CARRIAGE STOP, FRONT
BS 2103	KNIVES (THIN)	BS 122	CARRIAGE STOP (BACK BUMPER)
BS 110	ROLLER	BS 1730	TENSION CAM ROLLER STUD

Instructions For Operating

THE OMCOA

BOOK SECTIONER

1. PREPARATION OF WORK: Before operating the machine, apply a thin coat of hot hard glue to the backs of the books and allow to dry.

A strip of glue 3 to 4 inches in width, midway between the head and tail, of suitable adhesive is sufficient.

2. LOCATION: Screw the machine to a firm work table about 36 inches wide and 28 inches high. Have the base casting even with the front edge of the table, so that the machine will project a few inches.

3. SECTIONING BARS: One of these is marked THIN, and is for use in sectioning hard papers. The other is marked THICK, and is for use in sectioning spongy papers. To install a sectioning bar, draw the carriage back so as to expose the channel which receives this bar. Insert, and turn the hand lever which holds the bar.

4. LOCATING WORK: Place a stack of glued-up books in the position most convenient for the operator; we recommend a space on the table immediately at the right of the machine. Prepare a convenient space also to receive the sectioned books; we recommend a space on the table immediately at the left of the machine.

5. FEEDING: Lift the clamp lever out of the way. Draw the carriage back far enough to permit laying a book on the table, up against the flat portion of the carriage (which serves as a side guide for the books), without touching the pressure arm that is upon and forms a part of this carriage. It will be all right to draw the carriage entirely back each time, but this entails needless travel; it is enough if the carriage be drawn back so as to conveniently receive the book that is to be sectioned.

Press the book neatly against the side guide (just mentioned) and firmly against the head guide on the table; hold the book there with the left hand. If the book is extra heavy or quite large, or for any other reason appears difficult to hold, bring down the pressure lever and thus hold the book firmly during the sectioning operation. For most books this pressure lever is not required, but can be left in "off" position, and the book can be easily held with the left hand. The proper holding by hand consists rather of pressure toward the head guide, than of downward pressure; a combination of the two is best.

With reasonable care, the OMCOA Book Sectioner should give years of excellent service without any cost whatever for repairs or replacements, other than possibly an occasional knife.

6. OPERATING: With the book so placed and held, grasp the hand grip of the carriage in the right hand and push firmly forward with reasonable force, so as to carry the knives directly through the book. Firm, reasonably quick driving will give best average results.

7. The details of this handling will be varied according to each operator's opinions, and will also be determined in part by the size of the books being sectioned.

8. SECTIONING: This is sometimes erroneously spoken of as "cutting". But there can be no actual cutting on this machine. The operation is merely the splitting of properly made and glued tablets. If backs of old books are not entirely removed, if sewing remains, or if folded sheets or pasted leaves are present, the splitting knives may become clogged by these, and, if forced, tearing will result; also the knives may become bent. It is important therefore that sectioning of this character be not attempted on this machine.

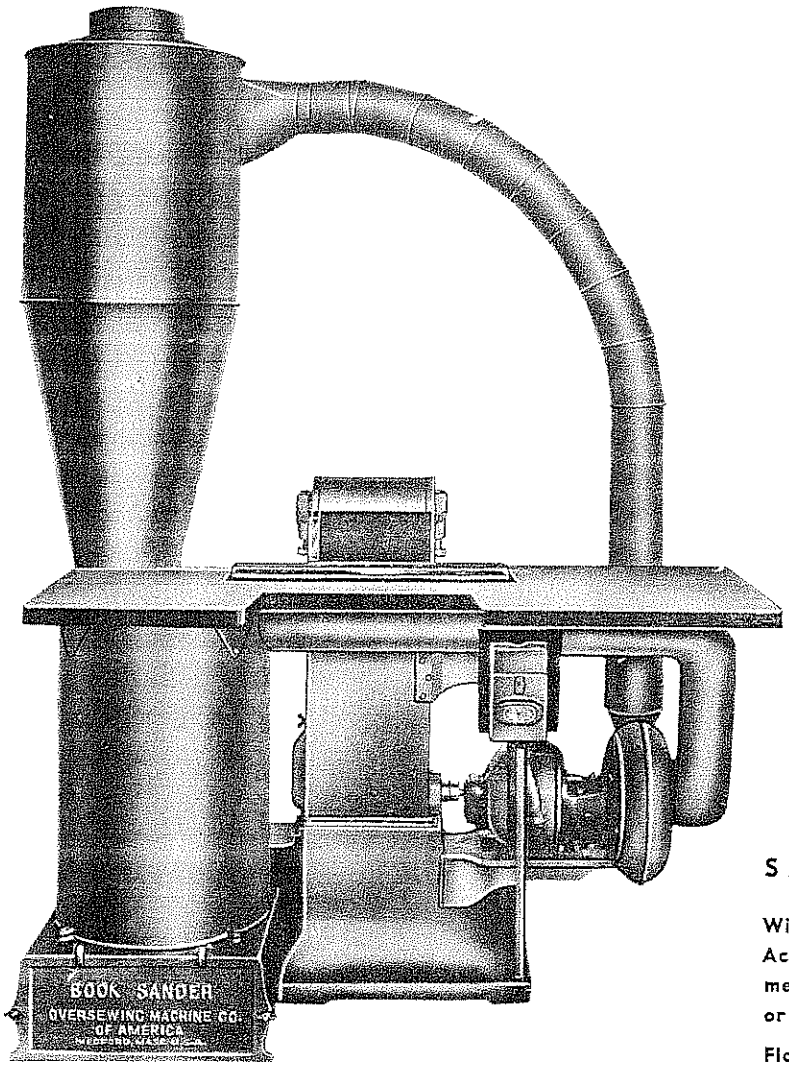
9. OVER-THICK BOOKS: The head-guide wall of the book table indicates the maximum thickness (about 1-1/2") that can be sectioned on this machine. If, when a book is laid on the book table, its thickness is higher than thus indicated, break the book into parts, section each, and return the parts to their proper sequence.

10. OILING: Track and rollers should be wiped clean daily and just a drop of oil put on each roller stud once a day. Use a good grade light oil, as 3-in-1, and only a drop.

11. KNIVES: If obstruction, in the form of pasted leaves, sewing threads and uncut sections, were never encountered, there would be no reason why the splitting knives should ever bend or wear out in usual service. When a knife does become bent, it can probably be pressed back into proper alignment without removal from the sectioning bar. But if badly injured, the knife may be removed and replaced by loosening two or more set screws which hold its body lug in the bar. One extra knife for each bar is furnished with the machine.

12. When ordering knives, be sure to specify whether THICK or THIN are wanted. Get this designation from the sectioning bar for which the knife is required or the parts list.

OMCOA Book Sanders



An efficient piece of equipment designed for cleaning and preparing backs of books to be oversewed without waste of back margins.

The OMCOA Cyclone type sander draws all glue chips, grit, and dust through a powerful suction fan into the cyclone tank for settling where a pan is provided for removal of this residue. Minute particles float away through the vent. The equipment is powered by a 3 horsepower motor. All necessary accessory equipment such as switches, belts, etc., are furnished with OMCOA sanders.

SPECIFICATIONS:

Width of sand belt: 10" Accommodates without adjustment volumes of any length or thickness

Floor space: 36" x 70"

Height: 88"

Motor: 3 horsepower

Shipping weight: 1200 lbs. (requires outside vent)

Further details are available on request.

CYCLONE SANDER

S 009	BALL BEARING, OUTSIDE END LOWER	S 022	UPPER ROLLER ASSEMBLY
S 009A	BALL BEARING FOR MOTOR END LOWER	S 023	LOWER ROLLER ASSEMBLY
S 009B	BALL BEARING FOR BOTH TOP ENDS	S 106	DUST BASIN DRAWER
S 011A	PLATE, BELT SUPPORT	S 253	SANDER BELTS

OMCOA CYCLONE

BOOK SANDING MACHINE

1. Erection of this machine will be evident from reference to the accompanying illustration. Your local tinsmith must provide the exhaust pipe from the cyclone tank of the machine to out of doors. Preferably carried out through a side wall or roof (which ever is better suited) and then to ordinary air.

2. This machine operates at high speed and must be kept clean. On all machines without grease cups no lubrication by the user is necessary.

3. Exclusive of motor lubrication. On all machines fitted with grease cups use a good grade of light ball bearing grease such as Keystone #44 or equal. CAUTION: DO NOT OVER LUBRICATE.

4. Under normal operation, no repairs or parts other than sand belts should be required on the Sander within a year's time. Eventually the plate back of the sander belt will wear hollow from pressing books against the sander belt. In such event, a new plate can be easily installed by unscrewing the old plate and replacing it with a new one. The only other wearing parts are the roller bearings, especially the lower pair. These are standard bearings and can be replaced when necessary.

5. Excessive wear develops when the blower fan is out of balance, which will occur if thread and paper adhere to the fan blades. When this is known to have occurred, and otherwise in any event as use requires, it is recommended that the fan blades be examined and blades cleaned if necessary. To do this remove four cap screws that attach the curved pipe at the top of the fan housing, and twist that pipe aside until the hand can be reached down to inspect and clean the fan blades. A removable cap is provided at the back of the sander through which inspection at the bottom of the sand belt may be made to remove any accumulation of thread or paper that may occur there.

6. DUST: The Cyclone Sander operation should be approximately dustless if all ducts are kept free from accumulated papers and thread particles. The exhaust outside the building will show a small deposit of very fine paper dust which will be carried away in the air, scarcely noticeable. The main body of paper and adhesive particles will be deposited in the removable pan below the cyclone tank. That pan must be emptied at intervals depending upon the amount of sanding done on the machine.

7. Important: If water from rain or otherwise is permitted to run down the exhaust pipe into the cyclone tank, paper particles will accumulate and harden there, after which it will be necessary to disassemble and clean the tank and all the connecting pipes before satisfactory performance of the Sander will be possible. It is therefore most important that exhaust pipe installation be made in such a way that absolutely no water can get down it into the cyclone tank at any time.

8. Sander Belts: These are prepared with the kind and size of grit and character of adhesive that are most satisfactory for sanding paper material. When belts become too smooth to be effective they should be replaced for proper production.

9. To install a belt, remove upper guard and also door to upright body of the machine. Release tension on worn belt by unscrewing the two large knurled knobs. Remove worn belt and insert new belt, taking care that the new belt will turn in direction of the arrows on the inside of the belt. Tighten tension on the belt until it will turn nicely without slippage, but not too tight, and try to turn both knurled nuts equally. Then spin the belt by hand to see that it runs centrally. If it does not, adjust the knurled knobs until this is accomplished. When apparently O.K., snap electric current quickly on and off and watch the belt. If not quite central, and while the belt is still running adjust the proper knurled nut to center the belt. Replace door and upper guard and the Sander is ready for use. As belt is used it will stretch and adjustment of the knurled nuts will be necessary occasionally.

10. Dust Pan: The paper and other coarse particles from sanding will accumulate in the dust pan which must be emptied when necessary. Except when removing dust pan, keep the door fastened tightly.

11. Sanding Books: Hold the book to be sanded in both hands and press it evenly against the revolving belt, and oscillate it right and left. After very little experience, very even work can be done. The rounded back of the book can be sanded by appropriate handling of the book, but preferred practice is to hammer or compress books to break down their old backing before taking them to the sander.

12. Caution: Faithful and regular cleaning will add greatly to satisfaction with and long life to the Sander.

THE OMCOA SCORING MACHINE

(FOR GLUED BOOK SECTIONS)

The scoring machine illustrated herewith does scoring neatly, quickly, thoroughly and inexpensively. It delivers the sections thoroughly scored, unbroken and uninjured, ready for oversewing into books that open wonderfully well. Either loose leaves, glued up sections of trimmed leaves, or folded signatures can be scored with equal facility.

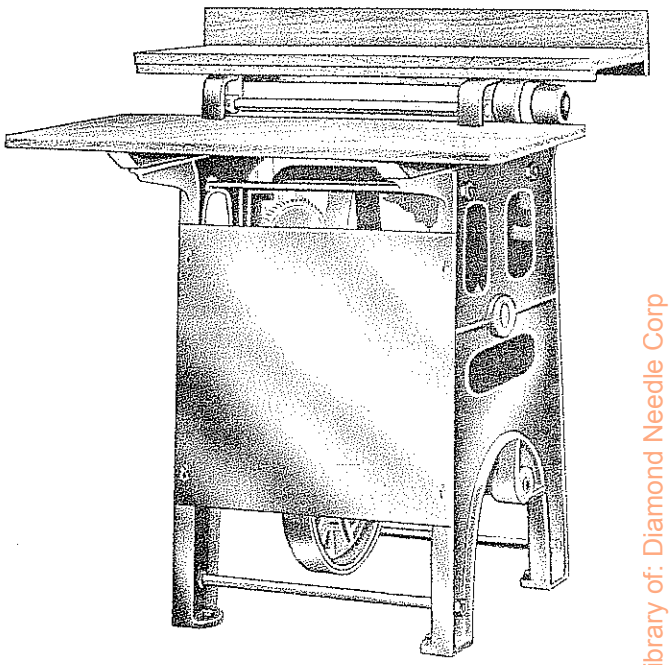
This is the only economical preparation for coated book paper, harsh novel papers, thick juvenile stocks, leaves printed with the grain crosswise of the sheet — in fact for any paper (less thick than a card) that would not otherwise open satisfactorily when oversewn.

A scoring machine is almost a necessity in connection with the oversewing machine. By its use, all stiff papers acquire creditable opening qualities when oversewn, and criticism that would otherwise (improperly) be made upon the oversewing will thus be avoided.

The cost of operation is really negligible and the scorer is in increasing use in library binderies.

The girl who divides the books into sections preparatory to their sewing will lay aside all volumes in which she finds the paper inflexible, and eventually will score the lot at one time.

All late models score each section in either one or two parallel lines, whichever the operator wishes, depending only upon how long (or for how many revolutions) she holds a given section in the machine.



OVERALL SPACE WITH TABLES
3 feet x 2 feet-9 inches

In practical use, stacks of books, previously glued and divided into sections, are placed on the work table in front of the operator. Then as rapidly as she can handle the sections, using both her right hand and her left hand alternately for the purpose, she feeds them into and removes them from the machine, stacking ready for carrying away. In the short time before an operator becomes efficient, it is better to feed with only one hand.

Two girls, side by side, can feed sections of ordinary size into the scoring machine without interference one with the other, and thus double the output of the machine, if desired.

The machine is properly finished in all its details; tables are of hard wood; rollers and jaws are plated. It has not delicate parts to get out of order; the oiling is simple and effective; all parts are easily accessible. A ⅓-H.P. motor is furnished with the machine, suited to the electric current of the purchaser.