

**SINGER**  
*27W*

# USE ONLY SINGER OILS and LUBRICANTS

*They insure freedom from lubricating trouble and  
give longer life to sewing equipment*

## “Singer Oil for High Speed Sewing Machines”

(Cloth and Leather)

For all manufacturing sewing machines except where a stainless oil is desired.

## “Singer Stainless Oil for High Speed Sewing Machines”

For all manufacturing sewing machines where a stainless oil is desired.

## “Singer Motor Oil”

For oil-lubricated motors, power tables, transmitters and machinery in general.

## “Singer Stainless Thread Lubricant”

For lubricating the needle thread of sewing machines for stitching fabrics or leather where a stainless thread lubricant is required.

*NOTE: All of the above oils are available in 1 quart, 2 quart, 1 gallon and 5 gallon cans or in 55 gallon drums, and can also be supplied in customer's containers.*

## “Singer Gear Lubricant”

This specially prepared grease is recommended for gear lubrication on manufacturing sewing machines.

## “Singer Ball Bearing Lubricant”

This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc.

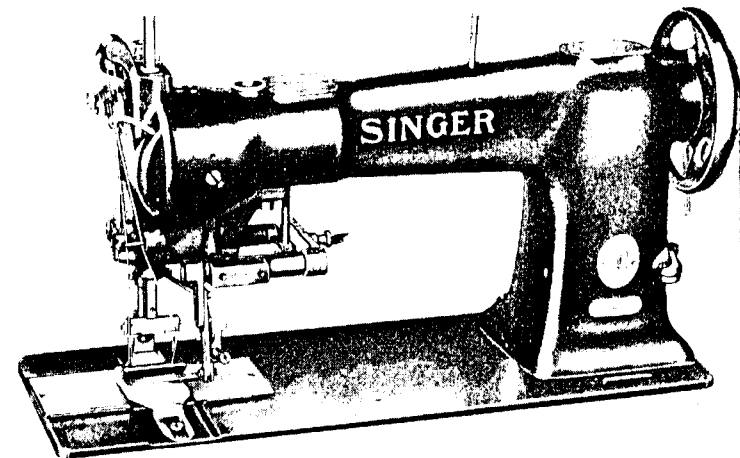
*NOTE: The above greases are furnished in ¼ lb. tubes and 1 lb. and 4 lb. tins.*

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## INSTRUCTIONS

FOR USING AND ADJUSTING

# SINGER SEWING MACHINES



## OF CLASS 27w

FOR RUFFLING

# THE SINGER MANUFACTURING CO.

To all whom it may concern:

The placing or renewal of the name "Singer" (Reg. U. S. Pat. Off.) or any of the trade marks of The Singer Manufacturing Company on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a Singer factory or an authorized Singer agency is forbidden.

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### THE IMPORTANCE OF USING GENUINE SINGER PARTS AND NEEDLES IN SINGER MACHINES

The successful operation of Singer machines can only be assured if genuine Singer parts and needles are used. Supplies are available at all Singer Shops for the Manufacturing Trade and mail orders will receive prompt attention.

Genuine Singer Needles should be used  
in Singer Machines.  
These Needles and their Containers  
are marked with the  
Company's Trade Mark "SIMANCO." 1

Needles in Containers marked  
"For Singer Machines"  
are not Singer made needles. 2

## DESCRIPTION

MACHINES OF CLASS 27W are designed for plain ruffling. They make the lock stitch with one or two needles, and have vertical rotating hooks. They have a drop feed.

Any of these machines may be fitted at an additional charge for a great variety of ruffling on skirts, aprons, curtains, upholstery and other types of ruffling and other combined operations.

MACHINE 27W1 has one needle and one hook.

MACHINE 27W20 has two needles and two hooks, and is made in gauges from 1/8 to 1 inch.

MACHINE 27W50 has two needles and two hooks, and is made in gauges from 1 1/16 to 2 1/4 inches.

The gauge of a two-needle machine may be changed by substituting a different needle holder, throat plate, presser foot and feed dog.

### Speed

The maximum speed recommended for Machines 27W1 and 27W20 is 2200 revolutions per minute, and for Machine 27W50, 2000 revolutions per minute.

The machines should be run slower than the maximum speed until the parts which are in moving contact have become glazed by their action on each other. When the machines are in operation the balance wheel turns over toward the operator.

### Needles

Needles for Machines of Class 27W are of Class and Variety 126x3 and are made in sizes 10,12,14,16,18,20,22 and 23.

The size of the needle to be used should be determined by the size of the thread which must pass freely through the eye of the needle. If rough or uneven thread is used, or if it passes with difficulty through the eye of the needle, the successful use of the machine will be interfered with.

Orders for needles must specify the quantity required, the size number, also the class and variety numbers separated by the letter x.

The following is an example of an intelligible order:

"50 No. 16, 126x3 Needles"

The best results will be obtained when using the needles furnished by the Singer Sewing Machine Company.

## Oiling the Machine

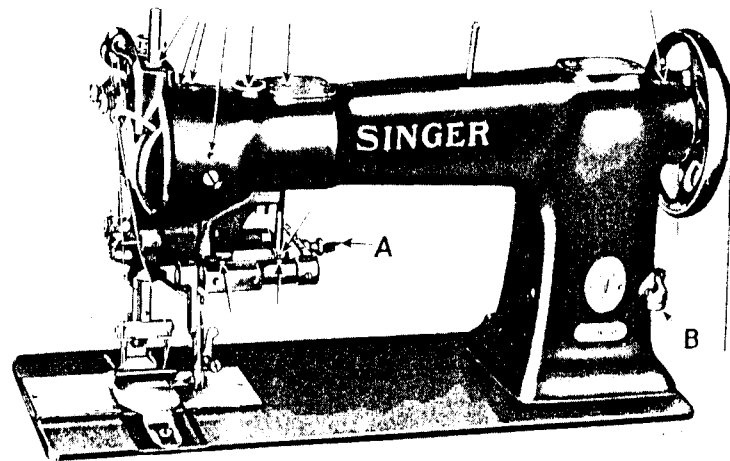


Fig.2. Oiling Points at Front of Machine

When the machine is received from the factory, it should be thoroughly cleaned and oiled, and when in continuous use it should be oiled at least twice a day.

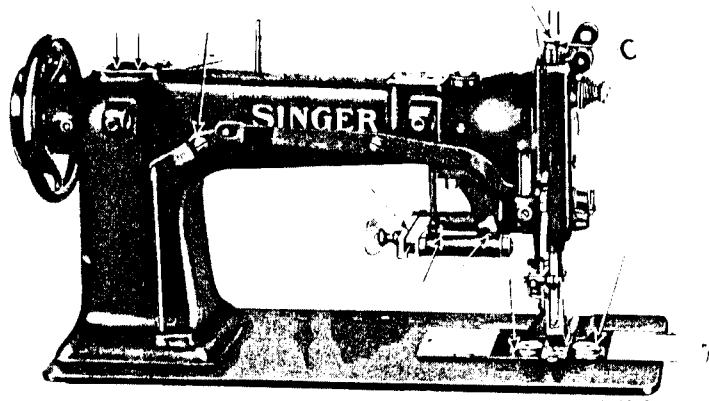


Fig.3. Oiling Points at Rear of Machine

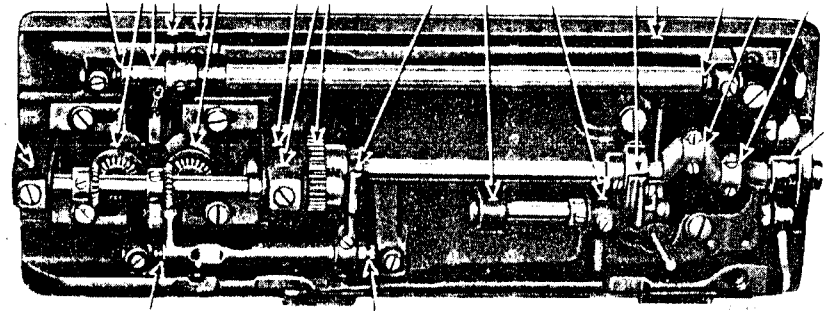


Fig.4. Oiling Points Underneath the Machine

Oil should be applied to each of the oiling points shown in Figs. 2, 3 and 4. A drop of oil should be applied to the shuttle races each time the machine is oiled.

Occasionally remove the face plate and see that the needle bar link and other points are being oiled properly through the oil holes provided.

### To Remove the Bobbins

Draw out the slide plates over the hooks, turn the balance wheel until the point of the right-hand hook is toward you as

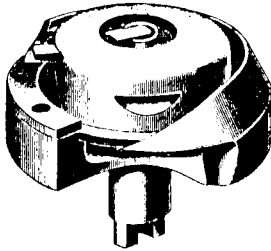


Fig. 5.

shown in Fig. 5, revealing the notch in the front of the bobbin case. Insert a thumb nail in the notch and lift out the bobbin case.

The left-hand hook on two-needle machines faces toward the rear but is removed in the same manner.

### To Wind the Bobbin

(See Fig. 6)

Fasten the bobbin winder to the table with its driving pulley in front of the machine belt, so that the pulley will drop away from the belt when sufficient thread has been wound upon the bobbin.

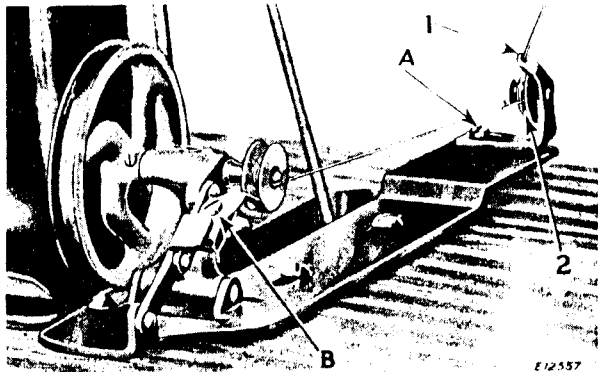


Fig. 6. Winding the Bobbin

Place the bobbin on the bobbin winder spindle and push it on as far as it will go.

Pass the thread down through the thread guide (1) in the tension bracket, around the back and between the tension discs (2). Then wind the end of the thread around the bobbin a few times, push the bobbin winder pulley over against the machine belt and start the machine.

When sufficient thread has been wound upon the bobbin, the bobbin winder will stop automatically.

If the thread does not wind evenly on the bobbin, loosen the screw (A) in the tension bracket and move the bracket to the right or left as may be required, then tighten the screw.

The amount of thread wound on the bobbin is regulated by the screw (B). To wind more thread on the bobbin, turn the screw (B) inwardly. To wind less thread on the bobbin, turn this screw outwardly.

Bobbins can be wound while the machine is stitching.

### Threading the Bobbin Case Caps

Hold the cap in the left hand and place the bobbin into it, with the thread drawing off as shown in Fig. 7. Draw the thread

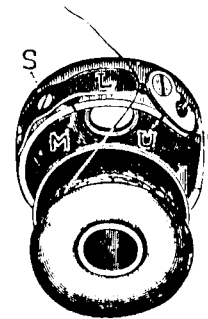


Fig. 7.

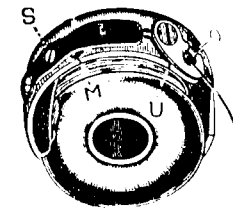


Fig. 8.

into the slot (M) and under the tension spring (L), then down through slot (U) and out under thread guide (O).

Place the cap on the center stud of its bobbin case base with the projection on the cap in the groove of the throat plate, then push down the latch to hold it in place.

## Threading the Needles

Turn the balance wheel until the take-up lever is at its highest position.

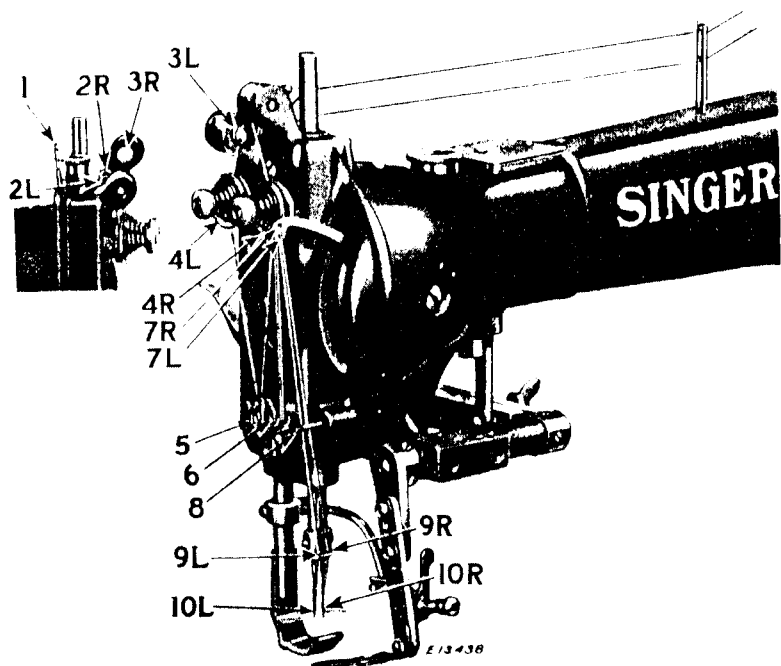


Fig.9. Upper Threading

**TO THREAD THE RIGHT-HAND NEEDLE:** Bring the thread from the unwinder, through the top hole in the pin on top of the arm, over through the top eyelet in the thread guide (1), into the front thread guide wire (2R), up into the thread retainer (3R), down to the front between the tension discs (4R), around under thread controller (5) and against the pressure of the take-up spring until the thread slips behind the projection (6), up and from back to front through the top eyelet (7R) in the thread take-up lever, down through guide (8), through the right hole (9R) in the needle clamp, and from LEFT TO RIGHT through the eye of the right needle (10R).

**TO THREAD THE LEFT-HAND NEEDLE:** Bring the thread from the unwinder, through the bottom hole in the pin on top of the arm, over through the bottom eyelet in the thread guide (1), into the rear thread guide wire (2L), into the thread retainer (3L), down to the rear between the tension discs (4L), around under thread controller (5) and against the pressure of the take-up spring until the thread slips behind the projection (6), up and from back to front through the bottom eyelet (7L) in the take-up lever, down through guide (8), through the left hole (9L) in the needle clamp, and from RIGHT TO LEFT through the eye of the left needle (10L).

Draw about three inches of thread through the eye of each needle with which to commence sewing.

### Threading Machine 27wl

The upper threading of this machine is the same as that for the left needle thread of the two-needle machines as described above, except that the needle eye is threaded from LEFT TO RIGHT.

### To Commence Sewing

With the left hand take hold of the needle threads, leaving them slack between the hand and the needles, turn the balance wheel toward you until the needles move down and the take-up lever rises to its highest point, thus catching the bobbin threads; draw the needle threads up and the bobbin threads with them through the needle holes in the throat plate and lay all four threads back across the feed dog; then place the material beneath the needles, lower the presser foot upon it, turn the balance wheel toward you and commence to sew.

### To Regulate the Pressure on the Material

To increase the pressure, turn the thumb screw (C, Fig.3) at the back of the machine downward. To decrease the pressure, turn this thumb screw upward. The pressure on the material should be only sufficient to enable the feed to move the work along evenly.

### Length of Stitch

The stitch regulating lever (B, Fig.2) should be raised to shorten the stitch or lowered to lengthen the stitch.

### Regulating the Fullness of Ruffle

Loosen the thumb nut (A, Fig.2) and move it toward the front for more fullness or toward the rear for less fullness.

## Tensions

The needle and bobbin threads should be locked in the center of the thickness of the material, thus:



Fig.10. Perfect Stitch

If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper surface of the material, thus:



Fig.11. Tight Needle Thread Tension

If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will lie straight along the under side of the material, thus:



Fig.12. Loose Needle Thread Tension

### To Regulate the Tensions

The tensions on the needle threads are regulated by the thumb nut at the front of each pair of tension discs on the face plate. Turn the thumb nuts to the right to increase the tension or to the left to decrease the tension. The tensions on two-needle machines should be uniform to keep the work from drawing to one side.

The tensions on the bobbin threads are regulated by means of the small screw (S, Figs. 7 and 8) on the bobbin case caps. To increase the tension, turn this screw to the right. To decrease the tension, turn this screw to the left.

## INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

### Thread Controller

The function of the thread controller spring is to hold back the slack of the needle thread until the eyes of the needles nearly reach the goods in their descent, as without this controlling action of the spring, the slack thread or silk (more especially silk) will sometimes be penetrated by the points of the needles as they are descending.

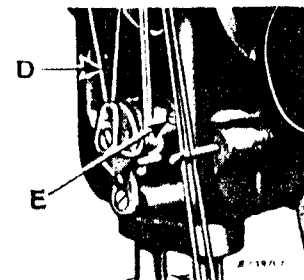


Fig.13.

When the amount of controller action has been once correctly adjusted for thin material, the controller spring stop automatically compensates for varying thicknesses by moving with the presser bar. For more controller action on the thread, loosen the screw (D, Fig. 13) which projects through a slot in the throat plate and set it lower, or for less action set it higher.

To change the tension of the controller spring on the thread, loosen the small set screw (E), then from the inside of the face plate, turn the controller spring stud forward or backward. When an unusually light thread tension is used, the controller spring tension should be correspondingly light.

The coils of the controller spring should be oiled occasionally.

### Adjustments of the Ruffler

The ruffling blade lifting lever (H, Fig. 14) should lift the blade high enough so that the material can be moved under it without catching, when the presser bar is raised, but should not lift the blade while the presser foot is down on the material. The lifting lever may be raised or lowered on the presser bar after loosening the clamp screw (G, Fig. 14).

The ruffling blade should be set so that the points of the blade extend about  $1/32$  inch beyond the needle when the blade is at the extreme end of its throw, which should occur when the needle is about  $1/8$  inch above the throat plate on its downward stroke.

The blade may be moved forward or back after loosening the two set screws (J, Fig. 14). For heavy or stiff material it may be desirable to set the blade more than  $1/32$  inch beyond the needle.

The ruffler may be set to reach its forward position at the proper time by loosening the two set screws in the ruffling blade eccentric (which is reached by removing the small cover plate on top of the arm) and turning the eccentric on the shaft as required.

### To Set the Needle Bar

See that the needles are up in the bar as far as they will go. There are two lines  $3/32$  inch apart on the needle bar about two

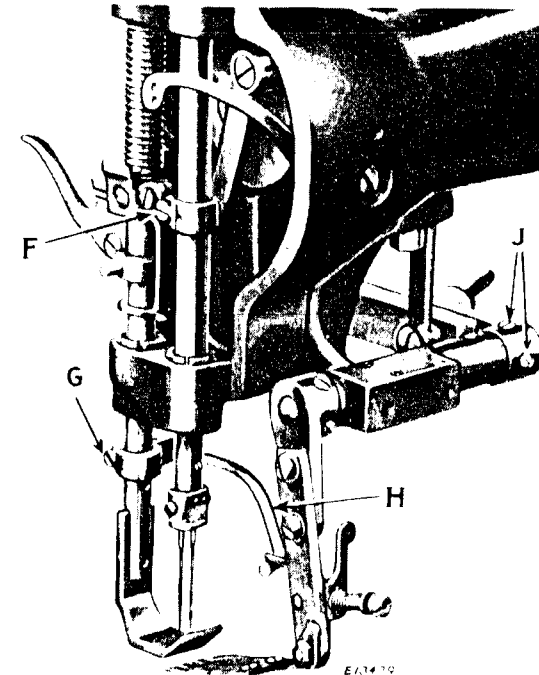


Fig. 14.

inches above the lower end. When the needle bar is at its lowest position, the upper mark should be just visible at the bottom of the lower needle bar bushing.

In case the needle bar is not correctly set, loosen the needle bar clamp screw (F, Fig. 14) and place the needle bar in correct position, then securely tighten the screw (F).

**TO SET A NEEDLE BAR WHICH HAS NO MARK:** Set the needle bar so that when it rises  $3/32$  inch from its lowest position and the point of the hook is at the center of the needle, the eye of the needle will be about  $1/16$  inch below the point of the hook.



### To Time the Hooks

Remove the throat plate and turn the balance wheel toward you until the lower mark on the needle bar is opposite the bottom of the needle bar bushing on the upward stroke of the needle bar. If the hooks are correctly timed, the points will be opposite the centers of the needles. If they are not, loosen the two screws in the hub of each hook driving gear (U, Fig. 15) and turn the gear until the hook is properly timed.

On very heavy work it may be necessary to use a slightly slower hook timing and a lower needle bar setting.

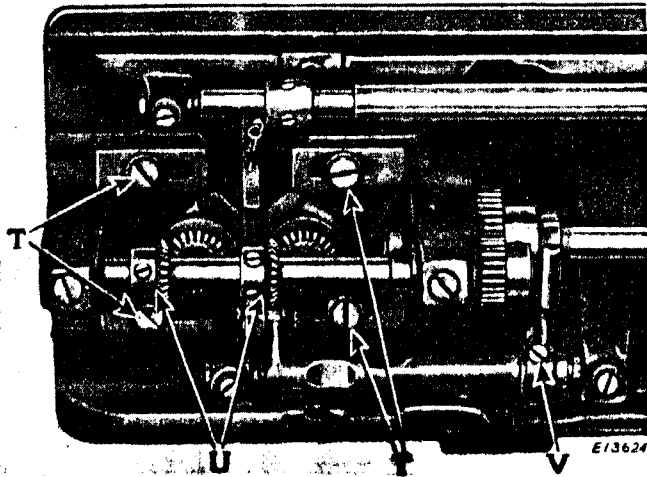


Fig. 15.

### To Set the Sewing Hook To or From the Needle

To prevent the points of the hooks from dividing the strands of the thread, they should run as close to the needles (within the scarf) as possible.

Turn the balance wheel over toward you until the points of the sewing hooks are at the centers of the needles. Loosen the two screws (T, Fig. 15) in each hook saddle and move the hook saddles to the right or left as may be required until the point of each hook is as close to the needle as possible without striking it, then securely tighten the two screws (T).

The needle guard (W, Fig. 16) which is part of the hook washer should be sprung outward enough to keep the needle from being deflected into the path of the hook but not far enough to touch the needle in its normal path.

### To Remove the Sewing Hook

Remove the gib screw at the heel of the hook, swing the gib aside as shown in Fig. 17 and lift out the bobbin case base. Then

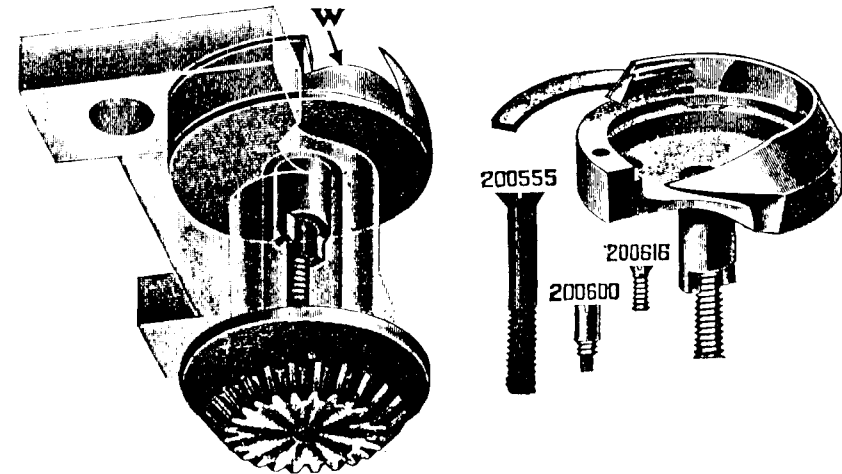


Fig. 17.

Fig. 16.

remove the screw at the center of the hook and lift out the hook.

When replacing the hook be sure that the prongs of the shank enter the slot in the socket correctly, or the hook will be out of time.

### To Raise or Lower the Feed Dog

The feed dog is usually set so that the full depth of the teeth is visible above the throat plate when it is in its highest position.

Tip back the machine and turn the balance wheel toward you until the feed dog is at its highest position. Loosen the feed lifting cam fork screw (V, Fig. 15), move the rocker shaft up or down until the feed dog is at the desired height, and retighten the screw.

### Balance Wheel

The balance wheel is counterbalanced and must be placed so that the second of the two set screws to appear as the balance wheel is turned toward you, enters the groove in the shaft.