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<h2> TOOLS FOR SEWING </h2>

Regardless of what I say about how important a tool is, don't buy it until you feel the need for it -- aside from the possibility that you won't ever do the chore it is supposed to help you with, there is no way you can buy what you need until you have had enough experience to know what you like.

On the other hand, never stint yourself on cheap things. Too many of us spend thousands of dollars on things that don't do us much good, then struggle with a dull seam ripper, or fight over the only pencil in the house.

ESSENTIAL TOOLS

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Scissors

You can't sew it if you can't cut it, and a *good* pair of shears will allow you to do better work with less frustration. Good scissors are cheaper in the long run, because good shears can be re-sharpened when they get dull, while cheap scissors have to be replaced.

Do not use your sewing scissors for anything except cutting fabric. Paper is abrasive, and dulls scissors quickly. (When I used to cut-and-paste the illustrations for a newsletter, I had to stroke my knife twice on a stone after one stroke through paper.)

Wipe scissor blades after use, to remove any lint that may have accumulated on them. Wipe in the middle of a job if the scissors start to feel wrong. Wipe frequently when cutting silk even if they don't feel funny.

It is very easy for an incompetent scissor-grinder to ruin your shears. Before sending your shears out, get a recommendation from a good sewing shop -- NOT a craft shop with a little fabric on one side. (As far as I know, all chain "fabric stores" are craft stores.) If there is no sewing shop in your town, consult a hairdresser -- barber shears are nothing like fabric shears, but a sharpener that a hairdresser will entrust his livelihood to should know that.

In addition to a good pair of bent-handle trimmers (which we usually call "shears"), you are going to need guardian scissors: cheap scissors for cutting paper, and small scissors for snipping threads.

The black-handled steel dollar-store scissors are quite good, and at least one pair should be posted prominently where it is easier to find than your discreetly-stashed sewing scissors. I keep a pair everywhere in the house that a heedless family member is likely to decide to cut something: stuck to a magnet on the fridge, one in each pencil mug, tethered to the magazine rack, the pocket of my suitcase . . .

While scissors of good quality make thread-snipping (and needle-threading!) easier, any sort of scissor will chew through a thread; the most important quality in a thread snip is that it be small enough that you'll keep it where it's easier to get at than your good shears.

I keep the seam ripper that came with my sewing machine tucked behind the feed-dog-lowering button, as a handy alternative to the built-in thread cutter, and a pair of

cheap embroidery scissors in the drawer of the sewing-machine table. These have a sheath I made from two left-over leather patches when I was working in a sewing-machine store, so that I could keep them up my sleeve while helping customers. This sheath keeps them and the other stuff in the drawer from bothering each other, and it also reminds me to put the scissors back into the drawer, instead of dropping them and going on with the next step.

A good pair of "straight operating scissors" -- these are small scissors with one sharp point, and a blunt point that keeps the sharp point out of trouble when the scissors are closed -- hang beside the ironing board when I'm not carrying them in a pocket. The blunt point doesn't catch the layers below the seam allowance I'm trimming, and the sharp point allows me to begin cutting at places other than the edge. Since these scissors are apt to wander, I crocheted a chain two yards long out of thick black cotton, joined the ends, and looped it through one finger-loop. This allows me to wear the scissors around my neck or hang them almost anywhere, and when I mislay them, I can follow the black string.

You may need special scissors for special work: for example, some sorts of cutwork embroidery require scissors with very small, very sharp, blades that cut clean at the very sharp points.

If you open a lot of buttonholes, you will need a woodworker's chisel, a mallet, and an end-grain block of wood. If buttonholes are rare in your sewing, a seam ripper will do.

A great long pair of paper-cutting scissors is nice to have, if you can find one.

Razor blades are discussed in the file on ripping seams. A single-edged razor blade can substitute for scissors in an emergency.

Needles:

Needles are so cheap that you should have a wide assortment from which to choose the best needle for the job at hand.

Needles are so small that you should never be caught without one.

Needles are so important that you should treat them as though they were still hand-made and precious.

Needles are usually made of steel. Sometimes the eye of a needle is gold-plated to guard against rust.

Needles named after precious metals are usually plated steel. A gold needle should not be pure gold, but plated or

an alloy, because gold is too soft to make a good needle. Silver is also soft, and it tends to rub off on the work. Pure platinum would make a good needle, but platinum is hard to shape. Needles made of metals that tarnish, such as silver, brass, bronze, and copper, should be plated with non-tarnishing metals such as nickel, gold, or platinum. (Gold wears off very quickly if it isn't laid on thick, so some embroiderers regard "gold" needles as purely decorative.)

Very large needles are sometimes made of plastic or aluminum. Precious needles in this class can be carved from bone, wood, ivory, stone, etc.

Though pins are stainless steel nowadays, needles are rarely rustproof -- needles must be kept away from water.

Never store needles in contact with plant fibers, for plant fibers draw humidity out of the air; a needle stuck into a linen curtain and forgotten will be found, when it is finally remembered, to have a ring of rust at each place where it pierced the fabric.

All animal fibers make excellent needle books and pin-cushion stuffing. (The traditional stuffing for pin cushions was human hair, saved when brushing and combing a lady's long tresses.)

No general statements can be made about synthetic fibers and plastics. Rayon (which is man-made but not synthetic) should be considered a plant fiber for pin-cushion purposes.

Choose needles by length, thickness, eye style, and point style.

Short needles are used for quilting and other stab-straight-down styles of sewing. "Sharps" are the general all-around length. Long needles are used for darning and other work where the needle is to be woven as many times as possible before being drawn through. Extremely-long needles are used for pushing through thick stuffed things such as rag dolls, soft sculpture, and upholstery.

The needle should be thick enough to make a hole the thread can slide through easily -- but no thicker. Large holes not only mar the work, they take energy and force to create.

You also get worse results for more work when you force thread through a hole that is too small for it.

"Milliner's" needles are easier to find in very thin sizes than "sharps" or "crewel" needles.

Round and oval eyes are used for thread, long eyes for fluffy yarn and multiple strands.

I prefer long-eyed needles for all the jobs they can handle, because they are easier to thread than round-eyed

needles. However, a long-eyed needle makes a slightly larger hole in the fabric, and it is considerably weaker than a round-eyed needle.

Whether the eye is round, oval, or long, there should be a groove on each side that runs from the eye to the blunt end of the needle. Without this groove, the thread emerging from the eye is a lump that is hard to yank through the fabric, and the hard yanking quickly wears through the thread.

Sharp points are used for most sewing, so blunt needles often have names that imply that they are only for embroidery. Blunt points slip between the threads of a fabric without piercing them, so are mostly used on loosely-woven fabrics; they are good for some types of darning. Blunt needles may taper, end abruptly, or have a small ball on the point.

Needles may also have sharp-edged, three-cornered points to cut through heavy fabric and leather; don't use these if a less-destructive needle pierces easily.

Also consider using an awl to pre-punch holes, or a "sewing awl": a strong needle in a thick handle that you can push hard on without injuring yourself or losing control. There is a spool of thread in the handle of the awl, and the special needle has an eye in its point, like a sewing-machine needle. You can make a chain stitch with the awl, or pull out extra thread at the beginning and thread it through each loop you push through the leather or canvas to make a lock stitch like the stitch your sewing machine makes.

There are also special thimbles, such as the "sailor's palm", which allow you to push hard on an ordinary needle.

Thimble

You aren't going to sew very industriously if the end of the needle keeps piercing your finger. Get a thimble and learn how to use it.

The most important quality in a thimble is fit -- it must fit the end of your finger, and also fit your way of sewing.

The classic thimble-shaped thimble is for general sewing. It is slightly wider at the open end than at the closed end, and the top is slightly domed, but there is a definite corner between the top and the rest of the thimble. It is dimpled all over the end for skid resistance.

The best thimbles are made of nickel-plated brass, second best of nickel-plated steel. Silver thimbles are good, but hard to come by, and one is apt to be nervous about losing them. Silver thimbles are a godsend, however,

for those who are allergic to nickel.

Porcelain thimbles and thimbles of other unusual materials are often intended for display only.

Plastic thimbles sometimes come apart at the mold marks, and if a thimble splits, it is sure to be when you are pushing on the needle extra hard. This is a major YEEEEOWWWCH!, so look at a plastic thimble with a jaundiced eye before every use.

I have, of late, seen bright-colored thimbles made of a rubbery plastic. I haven't looked closely yet, but they appear to be particularly good for beginners and children, as it would be easier to get a good fit -- assuming that they are made in as many sizes as hard thimbles, which may be a rash assumption. (But then hard thimbles aren't made in as many sizes as they ought to, these days.) Soft plastic can't split at the mold marks, but would be easier to puncture than steel. On the other hand, you should be able to feel an incipient puncture and ease off the pressure.

Some people find that a metal thimble fits better if they step on it ever so lightly, making it subtly oval. It is often possible to feel a difference without being able to see a difference. If stepping lightly on the thimble doesn't deform it, a higher-tech approach is needed. Borrow a heavy-duty vise, attach scrap wood to the jaws with rubber bands, and squeeze the thimble between the two pieces of wood until it fits the end of your finger. If it springs back when you back off the vise, over-squeeze it just a tad, back off again, repeat until you get a good fit. Remember that you can always squeeze it a little more, but you can't squeeze it a little less.

There are leather thimbles, leather thimbles with a metal patch, elastic-mesh thimbles with a leather patch, open-topped thimbles, ring thimbles, and on and on for special uses. There are also "sailor's palms" and other hand-protectors for heavy work. Look around every time you see a display; something might be just right for what you have been doing.

You can also improvise a thimble by sticking a dot of heavy-duty first-aid tape to the spot that keeps getting pricked. Such a "thimble" can serve where anything reusable would be much too clumsy. If you are substituting tape for a thimble as an emergency measure, be sure to cover the end of your nail, so that a needle that slips can't slide into your quick.

Measuring tools

At the least, you need a yardstick and a tape measure. The housewife of old scratched equal intervals on a

stick, and used that to mark off a ribbon.

As long as all measurements were made with the same stick, or with measures accurately made from the same stick, it worked fine.

Nowadays, we can buy measures ready-made, and all are copied from the same platinum-iridium stick, so any ruler or tape can be used with any other.

The primary quality to look for in a tape measure is that it should not stretch. Most are five feet long and five-eighths of an inch wide, but you can get narrow measures to carry around with you in a pill bottle, and longer tape measures are sometimes available. The "retractable" measure that comes in its own case is only for carry-around work; get a plain measure for day-in, day-out use.

Hardware-store tape measures are meant for distances too long for a stick, rather than for measuring around things, and are apt to be too stiff for sewing measurements.

Yardsticks used to be made of raw wood, and were given away as advertisements. Nowadays they are covered with paint -- not an improvement, in my opinion -- and even those with ads on them cost a few dollars. Some have decorations on the back, so that they can be hung up as ornaments when not in use. Try to get one that's a measure on both sides, so that you can use it any way up. Some sticks are so marked that they read from left to right no matter how you hold them. A stick that can measure from either end is more convenient.

Meter sticks tend to be thicker and better-made than yard sticks, since they are primarily used by scientists, and meter sticks are likely to be varnished instead of painted.

A meter stick is thick so that it can be stood on edge to get a more-accurate measure, by putting the mark on the stick right against the thing being measured. Everyday measures make the stick thin, or thin on the edge, so that the mark isn't too far from the thing being measured. A triangular ruler has it both ways: in one sense, it has a thin edge; in another, it is "stood on edge" no matter how you put it down.

An excellent way to avoid parallax is to print the markings on the bottom of a transparent ruler. Since plastic is flexible, these rulers are usually shorter than a full yard or meter.

If you need both metric and inch measures, get two sticks, each with the same system on both edges.

A few shorter rulers are handy to have around, particularly a six-inch ruler with a sliding pointer on it. An aluminum six-inch ruler with a plastic slider is sold in fabric stores, where it is called a "hem gauge" or "seam gauge". A higher-quality gauge can be found in the hardware store, where it is called a stainless-steel pocket ruler.

A carpenter's folding ruler is handy if you measure long things frequently.

And there are still uses for home-made measures -- a "ruler" with only one mark on it is very handy for pinning a hem, for example. The old way was to cut a notch in the edge of a slip of cardboard -- the stiffeners inside three-yard packets of tape or braid are a handy size; so are business cards. I prefer to draw a line across the card, as I can match the edge of the hem to the entire line.

For some purposes, you should cut card or stiff paper to the exact size needed. Here, measures grade into templates and patterns.

Historical note: the oldest known measuring tapes have no marks; it is presumed that the user marked the tape with a pin or a stitch or by holding the thumbnail against it, then measured the tape with an ell stick, or transferred the measurement directly to the work in progress.

Tailors used to measure customers with strips of paper or parchment that were then kept as a record. They cut notches on both sides and diamond-shaped holes in the middle, which presumably allowed them to record also the meaning of the measurements. In addition to dispensing with the need for standard units of measure, such strips allowed one to determine halves and quarters by folding the paper, without any error-prone calculation.

I once read mention of a flock of seamstresses in a foreign port who measured clients with pieces of string, which they knotted to record the measurements. I wonder whether they used tatting technique to place the knots precisely.

pins

I gave up my beloved nickel-plated brass "silk" pins in an instant the day my mother-in-law gave me a magnetic pincushion. Throw a steel pin at it from any distance, and it sticks!

Silk pins are sometimes made of magnetic stainless, but the tiny heads don't lift the pin enough to allow easy removal from a magnet. (Needles also lie too flat to be picked up, and cannot be stuck on one side of a magnet; they get mixed in with the pins, and sink to the bottom of the pile, so it is not convenient to keep needles and pins on the same magnet.)

I use only large-head pins now, even though they distort the fabric more than the traditional pins do, and make it harder to press a pinned-in fold. On the other hand, when you drop one, you have a much better chance of finding it before somebody steps on it barefoot, and I get fewer complaints about pins left in finished garments.

I prefer glass-head pins to plastic, because glass doesn't melt when touched by an iron, and because glass heads are usually smaller than plastic heads. Glass heads also come on finer pins than plastic heads do.

If you use a magnetic pincushion, take a magnet with you when buying pins, to make sure that the stainless in question is strongly attracted to magnets. Some stainless steel is only weakly attracted, and some isn't magnetic at all.

If you don't use a magnetic pincushion, pins with the heads formed all in one piece with the shank, like miniature nails, are the best -- unless your eyes are fading, or you have trouble picking up small-headed pins. Even if you suffer from both conditions, you may need small-headed pins for particularly dainty work.

There are many head styles for special work: T-pins, also called "bankers' pins" because they were used to secure bundles of papers before the stapler was invented, are good when you have to push hard on the head and don't mind a thick shank -- thick is good when pinning out lace by slipping the pin through pre-existing holes. "Flower" pins have two-dimensional heads so that they can lie flat even though the head is very large; these are always very long, because they are used mostly by quilters. Pearl-head pins are intended to be decorative -- most are bought by florists to give away with corsages -- but are handy when you want an extra-long pin with a large head, and don't mind that it's a bit coarse. Pearl heads are more likely to be round on short pins, and more likely to be tear-shaped on long ones.

Like needles, pins come in many lengths and thicknesses. Pins that are too thin for the fabric are apt to bend in use -- and so are pins that are too thick: when you punch a big hole in the fabric, you have to push pretty hard, and may bend the pin. I buy the thinnest of the generally-available pins; since they are easier than heavier pins to push in, they hold up pretty well -- unless I use them for fitting, or in other ways that put force on the pin after it's in the fabric.

Coarser fabrics require thicker and longer pins. As an extreme example, a silk pin stuck into agricultural burlap will fall right out. For a **really** coarse fabric, use the picks sold for use with hair rollers.

Safety pins in assorted sizes are useful, particularly for making marks that don't fall out, brush off, or prick you. Unfortunately, even the smallest safety pins are fairly coarse.

How many pins do you need? This is a matter that will always require your attention. Too many pins slow the work: in addition to the time spent putting pins in, and the time spent taking pins out, there is the break in your rhythm

each time you stop stitching to take out a pin.

Rhythm-breaking is such a great inconvenience that some misguided souls advocate machine stitching right over pins, and taking them out later. This is a very foolish economy. Inevitably, the needle will hit some of the pins. Most of the pins that are hit will be struck a glancing blow, so that the needle bends aside and no damage will be done, aside from the slight displacement of the stitch. But some of the pins that are struck will be damaged, and the time saved by not taking them out will be used up sorting them after. Moreover, sometimes the needle will hit the pin so squarely that it breaks, and if you think that taking a pin out is a waste of time, try stopping in the middle of the seam to change your needle! And there is a pretty good chance that the needle will tear the cloth while it is breaking. There is also a chance that the needle will be blunted without breaking, and do considerable damage to your fabric before you notice.

No matter how much you love your contacts, wear your spectacles while you operate your sewing machine. Even people who never do anything foolish sometimes break needles -- and when a needle breaks, there is no telling which way the pieces will fly.

There is no way you can put in enough pins to use up as much extra time as taking the stitches out and doing the work over again would occupy, so at first, you will err by putting in too many pins. Your pin usage will diminish with experience, because both your skill in handling fabric and your ability to tell whether or not a given pin is necessary will increase.

Which direction?

A pin placed at right angles to a line will secure only a point along that line, while a pin placed parallel to a line will secure a segment of it. When you are first measuring a hem and have it correct at a point, but aren't sure that the edge goes in the right directions as it leaves that point, stick the pin in at right angles to the stitching line. You can put pins in the stitching line after you have measured points on both sides of the point being pinned, and are sure you aren't pinning in a wobble.

It is easy to put a pin in at right angles to a pin that's already in, but difficult or impossible to put two parallel pins in the same place. For this reason, when you want to pin from one side, then sew from the other side, put the pins in at right angles to the way they should go, then turn the work over and re-pin in the seam line, removing the old pins as you go. (Leave the first batch of pins with the heads overhanging the edge to make them easier to find from the other side.)

If you very carefully pin a seam, then realize that the heads are on the wrong ends of the pins, usually there is

enough redundancy that you can remove each pin, turn it around, and put it back -- but in difficult circumstances, you can pin at right angles to the pin before flipping it.

For machine sewing, in-seamline pins are nearly always best, because this best keeps the fabric from migrating. This is particularly important when matching plaids and patterns, or when sewing pile fabrics or other fabrics that tend to creep. When fabric is unco-operative, I may use a right-angle pin at the beginning of a seam, so that I can pull it out after lowering the presser foot on it, or at the end to hold after the last of the in-seamline pins has been removed. Turn the handwheel to approach a right-angle pin, so that you can pull it out as soon as it touches the presser foot, before it slides under it to get bent, before it's at risk of encountering the needle.

Emergency Sewing Kit

It is both feasible and advisable to keep the essential tools on your person at all times, to keep small emergencies from becoming major nuisances.

It's seldom convenient to carry a bottle of pins around, but a few safety pins can be stuck into the lining of your wallet, the insides of pockets, inconspicuous parts of your clothing, etc.

A small pair of folding scissors or a small, razor-sharp penknife can be carried on your keychain. A single-edge razor blade still in the original wrapper can be stashed unobtrusively in a card case or wallet.

A thimble and an extra-narrow measuring tape can fit into a small pill bottle, and there are assorted folding or rolling rulers. You should know the dimensions of common objects, such as money and your own body parts. In particular, you should know how to strike a pose that makes it one yard from nose-tip to finger-pinch, and you should know how many inches are in the span of your spread fingers. (On me, from thumb to index fingertip happens to be half a foot. My full span is eight inches; the unit of length called "span", presumably taken from a man's hand, is nine inches.)

And don't forget the original rule of thumb. Step off ten thumb-widths on a ruler, then read the number of inches to get your thumb-width in tenths of an inch. If that number isn't neat, try sixteenths. Or measure from thumbtip to knuckle-crease.

Needle and thread, of course, can be secreted almost anywhere. It has been suggested that one open up a retractable ball-point pen, and lash a needle to the ink

tube with sewing thread. One can notch a business card, wind it with thread, slip a needle under the windings, and keep it in a business-card case. Look at the objects you always have with you with an eye to hiding a needle.

A four-compartment bobbin box can be made into a traveller's sewing kit: put a thimble and pins into one compartment, up to nine kinds of thread on sewing-machine bobbins into the other three, cut a piece of thick wool fabric to fit inside the lid, and stick needles into the wool.

The bobbins must be labeled, as you are sure to forget what is on them. Gummed reinforcements meant for notebook paper make good bobbin labels. The holes in my bobbins are larger than the holes in reinforcements, so I pressed a mailing label over the side of the bobbin, then shaved it around the edge with my Exacto knife, ran the point of the knife around the seam between the hole and the flat side, and lifted out the paper in the hole by puncturing it with the point of the knife. Another bobbin is marked with rub-on letters, and I engraved a cheap plastic bobbin with a large needle, then rubbed permanent marker in the scratches. Typist's removable correction tape is good for making temporary labels.

If the bobbins that fit your machine aren't suitable, buy a packet of cheap bobbins and wind them with an electric screwdriver. (See "odd tricks".)

It's a serious fault of the bobbin-box sewing kit that if it's subjected to vibration, the bobbins rotate and unwind the thread, which creates a dreadful mess. A suitcase is seldom subjected to enough vibration to cause trouble, but don't take a bobbin box on a bicycle tour without doing something stern to keep the bobbins from rattling. Or wrap each bobbin with re-positionable tape to keep the thread from unwinding, and let them spin.

A kit that's harder to use but easier to carry can be made in a 35mm film can. Cut slips of stiff paper into narrow bobbins the length of the can, and wind them with threads you are apt to need. Write the names of the threads on the bobbins. To keep the thread clean, make the bobbins triple-wide, to wrap over both sides of the thread. (See instructions for wallet sewing kit.) Stick needles into a fold of wool fabric the same size and shape as the bobbins. Put needles and thread into the film can, drop in a few straight pins and a safety pin, wedge all into place with a thimble, and drop a button into the thimble.
..insert drawing of bobbins and wallet kit here
..add cite for the photographs in the html files

A wallet-sized sewing kit can be made from a piece of stiff paper. Cut a strip exactly as wide as the length of a

business card, and at least four times as long as the width of the card. Use a ruler and a blunt point -- a #8 crochet hook, for example -- to draw a crease on the paper a bit less than the width of a business card from one end. Fold on that crease, and draw another crease a hairsbreadth from the edge of the part you have folded over. Fold again, crease just beyond the first fold. If you allowed extra paper, crease again just beyond the second fold. What you have in your hand now should fit neatly into your card case or a card pocket in your wallet. Unwrap all but one fold.

Use a paper punch to make a series of notches in one cut edge of the doubled part, then make exactly corresponding notches in the other edge. These notches should be quite deep, so that the thread won't be exposed to wear.

Write a thread description near the folded edge, write another between the first pair of notches and the second, and so on until all notches have been labeled. (Be careful not to put your labels where the thread will cover them.)

Slip the end of a piece of thread inside the fold, and wind it onto the notch-pair nearest the folded edge. You can tuck the end under the windings, slip it between the two layers of a tab between notches, or cut a snip in the paper to hold it.

Fill all the notches in the same way, working from the fold to the free edge. Put a single-edge razor blade (still in its original cardboard sheath!) into the pocket just created. Slip a needle or two under the threads, or weave needles through the upper layer of paper. Re-fold on all creases.

The outside of the packet may be decorated as you please, or it can be used as a place to jot down phone numbers and other data that you want to have handy, but the side of the paper that touches the thread should be kept clean.

The above instructions work for kits made of construction paper. If you decide to use nice card stock, it will be found to be too slick to hold the thread in place. Make a snip into each tab between thread-notches and secure both ends of the threads in the snips.

NECESSARY TOOLS

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pin cushions

Almost anything in reach gets used for a pin cushion; I once read an interview with a fellow who dis-assembled old mattresses, which said that he invariably found needles in them. This probably happens less often now that nobody

sews, but a bed with lots of firm pillows and a good light *is* a comfortable place to do hand finishing. Keep track of the pins and needles, and don't stick any into the mattress! A magnetic pincushion is handy here, because it will also hang onto your seam ripper and anything else made of steel.

Pincushions are a popular target of art needlework, and for ornamental pincushions, anything goes. For pincushions meant for use, stick to animal fibers, particularly if needles will remain stuck in them for long periods. You can get away with plant fibers, if only pins will ever be stuck in, and if all your pins are rustproof and tarnish proof. Many synthetics and tightly-woven fabrics show pinholes, so test-jab any fabric you are thinking of using in a pin cushion.

A scrap of wool rolled up tightly makes a good pincushion. The traditional recipe for a pincushion is to make a small bag, stuff it firmly with hair, or with snippets of wool and silk saved up in a bag hung on the sewing machine, sew shut, decorate. Since it's inadvisable to make a pincushion thick enough for a needle to go all the way in, I quilted my cushion with a few stitches to hold it flat and thin; this also made it firmer.

Closely related to the pincushion is the needlebook: pieces of fabric sewn together at one edge. Since wool felt is no longer available, and "craft" felt may tend to induce rust, make the needlebook of spun-silk scraps, or wool that has been washed in hot water. If you wash woven wool very thoroughly (perhaps using a washboard) and iron it mercilessly, it can be used for old patterns that require felt.

It is traditional to make a needlebook look like something; a popular pattern was a sunbonnet girl cut from felt, with a second, shorter girl sewn on top to represent her coat. When the coat-tail was lifted, you saw needles stuck into her apron.

I made mine look like a book: two rectangles of felt, the inner one slightly smaller, sewn exactly down the middle and folded to make four leaves, then sewn again to keep it folded and suggest binding. Needles are slipped under rows of embroidery stitches that suggest writing on the "pages". I used darning wool for the embroidery, since Woolworth didn't sell embroidery wool. Nowadays, I use embroidery wool for darning, and don't have nearly as much fun.

Iron

You can spend a lot of money buying a steamer that is powerful and short-lived, but the two irons I use the most are a very cheap modern iron, and an old iron I bought for a dollar or two at a garage sale.

The modern iron is an "ecological" energy-saving model that uses a lot more energy -- both mine and the power company's -- to do the laundry than the "wastrel" models, because I have to hold it forever to get results. But when I use it for sewing, I can take all the time I need to arrange a fold that I'm pressing; even when set on "linen", this iron won't melt or scorch the most delicate fabric. Since I use the highest setting for everything, I never worry about mis-setting it.

The old iron, on the other hand, has a setting above "linen" -- and it means it. This makes it perfect for ironing a whole bolt of damp denim.

What made me grab it from among the pile of oddments was that there are no holes in the soleplate. Since I never put steam in the iron when I intend to press something that I'm holding in place with my fingers, steam vents are nothing but a nuisance in a sewing iron. They catch on edges and corners and anything else they can catch on when you are sliding back and forth, and they leave little bumps when you press down and lift straight up.

I was startled at the old iron's weight the first time I picked it up. The missing water tank makes it look much smaller than the modern iron, but it weighs more: it is made of steel, and it is not hollow. I am just old enough to remember ads saying "Don't wear yourself out with a heavy iron; it is the heat, not the weight, that flattens cloth." But I found that I had been pressing down when I ironed things; this heavy iron can simply be slid back and forth. On big jobs, where one isn't continually picking it up, it is much less effort to use.

And lifting it isn't nearly as strenuous as the ads implied.

I also find the lower-slung shape and the longer nose easier to use than my modern irons.

The only drawback is the cone-shaped plug; now I realize why safety messages used to be so strident about the dangers of pulling on electrical cords; with this slippery, tight-fitting plug, it's a genuine temptation. The modern electrical plug is an unquestioned improvement.

(Plugging the iron into an adaptor resolved all difficulties: the sides of the adaptor are ridged to give a good grip, and it doesn't take much force to get it out of the outlet.)

You should be aware that settings on old irons are a notch hotter than the same settings on current irons. When dry irons were in fashion, dime stores sold oilcloth liners for bushel baskets, and housewives of the era *needed* bushel baskets to hold their dampened ironing. Someone who irons a bushel of clothes every week pretty soon learns to move the iron so fast that it needs to be sizzling hot.

An iron is a heat-producing appliance, and all heat-

producing appliances should be unplugged whenever they are turned off, if only because thermostat-controlled devices have no true off -- you merely set them below room temperature. If the temperature drops below that setting, they will turn themselves back on. (A turned-off, plugged-in electric skillet is a great way to thaw food quickly without risk of cooking it.)

An iron can't take very many times of being knocked to the floor, and neither can your toes. It is a good idea to set the iron on the floor every time you unplug it, if you have a spot where it won't get tripped over. I used to store my irons under the bookcase, but have an elbow-height shelf for them now that my back is stiff.

It is a good idea to remove anything heavy or fragile from the ironing board whenever you don't need to have it there; the board is narrow and easily bumped, and you are usually busy in its neighborhood.

When an iron burns out, don't trash it unless you have two burned-out irons in your attic already. Someday when you are snowed in with nothing to do, and the power crews are too busy restoring power to hospitals and schools to worry about your sewing, you can dig out the ruined irons, remove the power cords, and heat them on the stove or over a candle. (Be sure to put a sheet of metal between the candle and the iron, or you will get soot on your clothes. If the stove is still working, heat them in a skillet. Wipe the iron with a rag just before using even if you are sure there is no soot on it.)

If you have more than two burned-out irons, keep the two heaviest, as heavier irons hold more heat.

Non-electric irons for remote locations are available in specialty catalogs.

If you get a pair of flat irons, get the kind that have two irons and one handle. The older kind are more picturesque, but the handles get hot.

There is also an "iron with a soul" -- a hollow iron with blocks of iron to heat and put inside; these inserts can be heated over open flame without fear of dirtying your clothes. New box irons are not being made, and the old ones are apt to be missing the souls, so don't set your heart on using one.

Some non-electric irons run on combustible gas, are thermostat-controlled, and if they weren't so expensive, and if I knew where to buy butane, I'd get one just to be rid of that &#%#@! electric cord.

It helps a great deal to buy two ceiling hooks of the sort sold for suspending lamps or flower baskets, and run an extension cord up to dangle over the ironing board. Use a heavy-duty cord that is meant for constant use and high

current. Repeat: go to a hardware store and get a cord designed for heavy-duty construction equipment.

An outlet in the ceiling is an even better idea, of course, but you can stick ceiling hooks in anywhere.

As a bonus, it is almost impossible to walk away and forget to unplug the iron when the cord is dangling from the ceiling.

Not to mention that reaching up is easier than bending over; this gets more and more important as you age.

A dangling lamp with an outlet will provide extra light as well as keeping the cord out of your way. You can buy a socket and outlet already on a cord, but these "drop cords" come only in orange, as they are normally used in places where they might get forgotten and stepped on. You can make the sewing room neater, once you've been using a light for a while and are happy with its location, by cutting off the excess cord and installing a new three-prong plug. Watch the wire colors and attach the correct wire to the correct prong!

Repeating for emphasis: Use a cord meant for high current. An iron plugged into a lamp cord can set fire to the house.

Cordless electric irons work on the flat-iron principle, but not very well, because you don't have a second iron to be heating while you are using the first one. If you use an iron intermittently, never long enough at a time to cool it beyond use, a "cordless" electric might be worth having. And no, they *can't* put a battery into the iron. They could put in more thermal mass, but thermal mass is also gravitational mass. (Translation: an iron that stays hot for a long time is going to be heavy.)

Ironing board

The most important feature of an ironing board is that you should be able to adjust it to the exact height required for each job, and do it so easily that you won't hesitate to sit down for a few minutes and then stand up again. It should be convenient to change the height subtly whenever you notice a slight discomfort.

The ideal working height varies; the height of your ironing board should vary with it.

You should make your own ironing-board cover out of some sturdy plant-fiber fabric that you can stick pins in; the "reflective" covers don't take kindly to having holes punched in them, and they are apt to be impervious to steam -- steamproofness might or might not speed up laundry ironing, but it slows the kind of pressing that you do when sewing.

The padding of an ironing board should be thick enough that you can stick pins in it, but it should also be very flat and firm.

Think twice before you throw out padding that has been pounded down thin and hard; if it is still smooth and even, it might be just the thing to put underneath your new padding.

The cheapest padding is cotton batting. Wool padding is more absorbent and more resilient. You can buy wool batting at high-end quilting shops.

When you go to a thrift shop or a rummage sale, keep an eye out for worn-out wool blankets; in addition to making excellent ironing-board pads, they supply warm interlining for coats, quilts, etc. You can spot old pure wool easily: when it is worn completely out, the shreds still look good.

The unworn edges of a worn-out mattress pad often supply enough material to cover an ironing board -- but not if it is filled with polyester fiberfill, or anything else that is inclined to melt.

As little as ten percent of nylon makes a blanket worthless as an ironing-board pad. If you aren't sure of the fiber content of potential padding, flame test it. Even if you don't know how to tell what the fiber is, you'll know whether it behaves badly in the presence of heat.

When I got married, my sister gave me an ironing board that was square on both ends. It seemed exceedingly queer, but I hadn't been using it long before I began to wonder why boards were ever made tapered.

After about thirty-five years, I ironed a pair of cotton-twill pants, and for the first time had to let down the hinged corner of the board. If I ironed pants a lot, I might have a tapered board just for pants and narrow skirts -- but if I could have only one, I'd hang onto my current board no matter how many pairs of pants I ironed in a day.

The board-shaped board must have looked queer to everyone, for I've never seen one for sale anywhere. If you want a convenient padded surface for sewing, you'll probably have to design and build it yourself. Some padded sewing surfaces are laid on tables, some fit over the tops of ironing boards. People who sew constantly may pad the top of a table.

An old blanket or mattress pad and a cotton-flannel tablecloth can be handy if you have yardage to iron -- but never throw them over a table that isn't already all beat up. No matter what precautions you take, using a table for an ironing board will ruin the varnish.

A small ironing board called a sleeve board is nearly essential for sewing. As the name implies, you can use it to press tubes without pressing both sides at once, and it

is also useful for ironing other things that aren't flat. When pressing the crotch seam in a pair of pants, for example, you can put the seam on the sleeve board and let the rest of the garment drape down on both sides out of your way. A dart can be laid on the point of the sleeve board, with the curve the dart creates dangling down out of your way.

For fine tailoring, you will also need a seam roll and a tailor's ham.

A seam roll is a firmly-stuffed tube meant to allow you to press seams open without pressing the edges of the seam allowances and making ridges on the right side. It can also fill in for a sleeve board, and fits into tighter places. You can simulate a seam roll by wrapping padding around a tightly-rolled magazine.

A tailor's ham is a firmly-stuffed egg shape, somewhat flattened, and larger on one end than the other. The small end simulates your shoulder, and the large end simulates your hip. Since rough sewing shapes things by cutting and sewing, not by steaming and shrinking, you can get by without a ham, but a ham is convenient. The stands sold to go with them don't work very well, however; make a nest by twisting and coiling a towel, or prop it up with two or three rice bags. More often than not, it works fine just lying flat on the table.

There are many other tools tailors use when pressing, such as clappers, point-pressers, and seam sticks; whenever you see a tool advertised, you should consider whether it would be useful for any of the chores you do, and then consider whether it would be useful enough to justify the space it occupies, and whether it would be useful often enough that you would remember that you have it.

A piece of quarter-inch plywood twenty-one inches long by six and three fourths inches wide wandered into the sewing room, and turned out to be invaluable whenever I need a firm surface on my ironing board. The combination of a pinnable surface and a patch of plywood is often more convenient than a table -- not to mention that I haven't room for a table; there's barely space to leave the board set up. And tables aren't easy to adjust to the currently-desired height. (Or easy to fold up and put away when you need the space.)

Plywood is also useful for putting inside tubes when I want to pin the upper layer without catching the lower layer. I keep thinking I should obtain a longer piece, and a few smaller and thinner pieces as well.

Only raw wood should be used for sewing tools; no finish is impervious to a hot iron, some finishes rub off on cloth, and many ironing tools rely on the porous nature of wood.

My pieces of plywood were improved considerably when I

took an orbital sander to them. Use a fine grit, and don't forget the edges. Corners should be slightly rounded.

Some kinds of wood are capable of staining fabric when wet.

Pressing Cloth

There are all sorts of special-purpose press cloths for sale, but for general use, a piece of white cotton you found in the rag bag is as good as any of them, and better than most. Much-washed plant fiber is more absorbent than new fabric, and dampness evens out faster. Worn-out sheets and pillowcases are about the right weight for most jobs. Choose white so that you will notice when the cloth is scorched or dirty. If a cloth becomes discolored, throw it into the laundry at once and take a fresh one.

Ironing through a damp cloth is more persuasive than using a steam iron, and safer if you are holding the bits in place with your fingers. In the old days, we would dip one end of the cloth into water, wring it, fold the wet half inside the dry half, and wring again to distribute the dampness evenly. This achieved the perfect degree of dampness quickly and easily -- but each time you use the cloth, you dry it out and it all has to be done again!

Nowadays I give the pressing cloth a few squirts with the spray bottle I keep for dampening ironing. A plastic garden sprayer is good for this purpose, as is a well-rinsed spray bottle that you bought a harmless cleaning agent in. My best sprayer has an air pump in it, and is used like a spray can. It was intended to spray oil on my cooking, but tended to clog, so I washed the oil out and use it to spray a fine mist of water.

Tear special shapes for special purposes. Sometimes you need a really-big press cloth to iron yardage, sometimes you need a long, narrow piece for creasing an edge, and so on.

Point turner

Anything that's thin or flat and has a sharp-but-not-too-sharp point or corner can poke your corners out from the inside. I often use the aluminum bodkins Grandfather made for Grandmother, which have square corners at the blunt end, and sometimes I use blunt-pointed scissors.

The most useful point turner I have is a bit of plastic that came in an advertisement. It looks like a ruler that was sawed off at thirty degrees -- it's two inches long on one side, four inches long on the other side, and an inch

and a half wide. The thickness drops abruptly half an inch from the slanted edge, like two sheets of pasteboard glued together with one sticking out half an inch. This makes it stiff to handle, yet thin to poke into things.

It's so well designed that I think it a pity that I can't remember what they were selling! (Next time, print it right on the point turner, guys.)

Marking tools

There are all sorts of special pens, pencils, chalks, crayons, inks, powders, and tools for marking, and there are tools that combine measuring and marking. Some marks are meant to come off easily, some go away by themselves, and some aren't supposed to come out at all.

Innumerable markers that aren't meant for fabric are useful in sewing, one can mark with things that the maker never thought of as markers, and you can pinch a crease with your bare hands.

Think twice and buy once: some marking tools are dirt cheap when compared to the convenience they give you, some aren't worth house room -- and nobody but you can tell which are which. Every tool that is priceless to one person is worthless to another.

The proper tool for sharpening a pencil is a knife. Most marking pencils are too soft to sharpen in a pencil sharpener, and a wedge-shaped point is usually better than a conical point. I use an Exacto knife and keep it in a pencil mug with my pens, pencils, and other pencil-shaped tools.

Any container that doesn't tip easily will serve as a pencil mug, but bear in mind that it's apt to be contaminated with substances you'd rather not drink, so if you use a drinking vessel, choose one that's chipped, ill-designed for drinking, or otherwise unlikely to be put back on the eating table by mistake.

Marking tools are discussed in more detail in the section on marking.

Sewing Machine

Some time during the nineteen-seventies, sewing morphed from a frugal necessity into an expensive hobby. As a result, you'll have a terrible time finding a new machine meant for practical sewing; either it will be loaded with easily-broken frills and fripperies, or it will be a flimsy "starter" machine.

Luckily, when sewing machines were tools, everybody had one, and they were so well built that most of them are still around. Because there are so many of them, they are very cheap.

Singer's "Featherweight" is being bought up at collector prices, but many old straight-stitch machines are almost as easy to carry around, and can be had for as little as \$25 at garage sales. These old machines are so simple and rugged that almost any handyman can clean, lube, and adjust one. If you aren't handy with wrenches, it can still be worth your while to spend more on a tune-up than you paid for the machine.

If shopping at garage sales, a machine old enough to be painted black or to have a visible motor bolted to the machine is almost certain to be worth restoring if it still sews when you turn the handwheel. And if it doesn't, the problem might be as simple as lint packed into the shuttle race. Inspect the insulation on the wires before you plug it in. If you can't plug it in at the garage sale, reflect that bolt-on motors are usually easy to replace.

One excellent machine made after black paint and bolt-on motors went out of fashion is the Singer 400 series.

Your best bet is to visit a competent mechanic who has a few used machines for sale, and tell him that you need a sound, reliable straight-stitch machine, and would like one that does zig-zag too.

There is a stitch called "mending stitch" or "multiple zig-zag" that may come in handy -- the machine takes a few stitches slanting to the left, then a few slanting to the right.

If you do a lot of blind hemming, it might be worth your while to learn how to use the "blind hem stitch". This is a stitch in which the machine sews straight for a few stitches, zigs once to the left, makes the same number of straight stitches, etc. The idea is that you sew on the hem allowance, and the zigs catch a fold of the main fabric. Adjusting it just so takes practice and setting up, but once you get going, you can blind hem almost as fast as you could top-stitch a hem. The same trick can be done with a plain zig-zag, but you can't space the "blind" stitches as far apart.

The blind hemmer can also be used with the zigs going over a folded edge, to pull it into decorative scallops.

Other fancy stitches are lots of fun, and some are useful, but don't sacrifice a good reliable straight stitch to get them.

If you want to embroider, it's best to buy a simple machine for sewing, and a dedicated machine for embroidery; a machine that tries to do both doesn't do either as well as it might, and you can get a good sewing-only machine for a small fraction of the price of an embroidery machine.

Most sewing machines are flat-bed machines. You can

also get a "free arm" sewing machine in which the machinery under the fabric is cantilevered out like the machinery that moves the needle. This makes the sewing of tubes such as sleeves and pants legs much easier -- but not so easy as the salesman will make it look. A free arm will be demonstrated on a ring of fabric about the size of a sleeve cuff, and indeed the free arm makes hemming sleeves and pants legs as easy as sewing flat.

But most of your tube sewing is done lengthwise, not around, and when you flat-fell a leg seam, you have to turn the leg through a right angle, and gather up the entire leg onto an arm that appears most remarkably short before you finish. But that is miles better than turning the leg through a hundred and eighty degrees and gathering it up in no space at all on a flat-bed machine.

A free-arm machine should convert to a flat bed for general work. I prefer a clip-on flat bed to a machine that rises up out of the flat bed. If the machine rises and isn't too low when sewing flat, it will be too high when using the free arm.

Free-arm machines appeared rather late in the serious-tool era, and never became common, so they are much harder to find second-hand than flatbed machines. But if you find a good sound free-arm machine that isn't encumbered with obtrusive fripperies, it is certainly worth paying extra.

If the sewing machine doesn't come in a cabinet, it will have to be set on a table. Your natural instinct will be to set the machine in the center of the space in front of your chair, but you should, instead, center the *needle* of the machine. This gives you a better view of what you are doing, and leaves more space on the table for the fabric being sewn.

Most tables are too high for comfortable machine sewing; you should be able to look down on your work. I use an old typewriter stand -- one from the years after they added big electric motors to typewriters, but before they stopped building them on heavy steel frames to hold them steady while the platen thumped back and forth.

If you have to set your portable on a too-high table, you can get a special prop that tilts the machine toward you to provide a view of your work. If you use such a gadget, make sure it is stable. Or just use a rice bag.

If at all possible, you should store your machine set up and ready to sew -- sewing time often comes in the form of a minute here and two minutes there; you don't want to spend all of it setting up and putting away.

Tricks for getting the machine out of sight when not in use range from throwing an old tablecloth over it to very expensive built-in furniture. You can sew a decorative cover -- if I discuss that, I'll file it under "bags".

A table with wheels on it can be very convenient. Since

typists had the same problem, typing tables nearly always have castors.

As long as we're in the office-furniture store, there is nothing quite so comfortable for serious sewing as a well-built secretary's chair -- one that rolls and swivels and adjusts to fit you. If you have trouble standing up and sitting down, get an "executive" chair, which is the same thing with arm rests. The arms bump your elbows while you are sewing, so don't get them unless you need them.

Whisk Broom

I like the kind that is made by tying a bundle of broom corn to make its own handle, sewing the business end flat, and adding a metal cap with a D ring to hang it by.

Whisk brooms are used for removing dust and snippets of thread from fabric, clothing, works-in-progress, the ironing board etc. They are also useful for straightening fringes, thinning bias edges, etc.

An old toothbrush is handy for smaller jobs; keep one with your sewing tools so that you won't absent-mindedly use a brush that's been dipped in bleach.

A "stencil brush", found in art-supply stores, is a teeny-tiny whisk broom.

Full-length mirror

Even if you have a dress dummy, there will be times when you need to put a work-in-progress on and study it in the mirror. A mirror is also useful when fitting a second person: it makes it possible for your model to see what is going on without wiggling.

You also need a hand mirror to inspect the work from the back, and to see how it looks from the side when your neck isn't twisted.

Cake of Beeswax

Any lump of wax will do -- candle stubs were traditional -- but the wax sold in fabric stores comes in a convenient plastic case that keeps it clean, and one lump will last forever, so the extra expense is irrelevant. The case has slots in it that appear to have been meant to allow you to wax threads without opening the case, but it's easier to remove one half of the case, and use the other half for a handle. Beeswax is primarily useful for sharpening the end of a thread to make it easier to thread into a needle, but some crafts require waxing the entire thread.

Threads were waxed more often when thread quality was less reliable, as wax prevents a weak, fuzzy thread from

wearing and getting even weaker and fuzzier as it is drawn through the fabric. Wax also tames threads that are inclined to twist and tangle. Most linen threads need to be waxed.

When a thread is heavily waxed -- as one would when sewing with ravellings -- the tail tends to become glued to the main thread if not separated after each of the first few stitches. But if the thread needs to be waxed that heavily, you'll be wanting to change the place where the eye wears on it frequently anyhow -- and if you've used a weak thread double, wax will weld the two strands together, which makes them as easy to sew with as a single thread. The gluing properties of wax also allow you to use a very short tail when sewing with linen thread or some other thread that breaks when folded sharply around a needle eye. (It helps to twist the threads together, roll them between your fingers to weld them, then re-wax the combined threads.)

Sometimes "beeswax" is a synthetic that makes threads sticky. Read labels carefully -- **especially** when the product was made specifically for sewing.

Seam Ripper

Used for correcting mistakes, removing basting, and opening buttonholes. It can also serve as an awl.

(More details in the file "Ripping Seams and Removing Stitches.)

Awl

I've never used an awl that was sold as an awl.

In embroidery, awls are used to make holes, as the name implies, but in rough sewing, they are mostly used for such jobs as tucking under folds that have started to come undone, controlling fabric closer to the sewing-machine needle than your fingers will go, picking up single threads, etc. For these jobs I use seam rippers, corsage pins, darning needles, doll needles, knitting needles, bodkins -- whatever comes to hand.

I once used a #4 pencil to enlarge holes that I'd punched with a fine brass knitting needle, but that wasn't sewing: I was punching holes in plastic bags so that I could file knitting tools in a ring binder. The plastic stuck to metal implements, but could be worked with a wooden "awl".

There is also the "sewing awl", discussed above under "needles". If left unthreaded, this can be used as an awl. (And unthreaded sewing machines are very good at poking regularly-spaced holes.)

Tweezers

Eye-brow tweezers are a great help in drawing threads, removing unwanted stitches, etc. The best kind are cut off at an angle, so that when held one way the flat end of the tweezers are parallel to the fabric while the tweezers are held at a comfortable angle, and when you turn them over, the acute corner serves to pick one thread out from among others.

USEFUL TOOLS

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Rotary Cutter and Mat

A rolling knife is more expensive to operate than scissors -- mats eventually wear out, and blades need frequent replacement. Moreover, there are jobs that knives just can't do, so you have to buy the scissors too. But a knife is a very convenient way to cut, and may be kinder to your arthritis than scissors. (It can happen the other way around, of course, but for most of us, having a choice and frequently changing methods is a great help.)

When cutting along drawn threads, I find it easier to see what I'm doing when looking straight down at the work, so I cut only a few inches before moving the fabric. For this reason, I bought a small mat just for cutting along threads, so that I wouldn't wear out the corners of the expensive big mat I use to cut out garments. Much to my surprise, this small mat has been quite handy. It's amazing how often I make things that consist entirely of small pieces.

Pinking shears

Notching a raw edge makes it look more "finished", and chops ravelings up into short pieces that don't show as much -- and each tab has to ravel separately, so the edge may not ravel as much.

In addition to notching edges, pinking shears can make zig-zag cuts -- for ornament, or to avoid a straight line showing through another layer.

There are wavy rotary cutter blades to use for the same purposes, but it is harder to position an already-sewn

seam on a cutting mat than to trim it with shears. On the other hand, a spare blade for a cutter you already own is much cheaper than a decent pair of shears, if you want to try out the idea, and a wavy knife may be easier to cut out patterns with than pinking shears. When sewing, don't forget that the little tabs added by the wavy cutter have made your seam allowances wider. (Cutting seams already pinked is useful primarily when making clothes for rapidly-growing children.)

I get my pinking shears out of storage maybe once in three years.

Laundry Starch

Starch can tame stretchy or flimsy fabric, and it makes creases stay where you put them.

There's one risk in the use of starch: it makes fabric look much better than it really is. If you starch a fabric before using it, you may, in a fit of absent-mindedness, use it for a job that calls for a higher grade.

(Fabric is sometimes starched -- "sized" -- at the factory for just this reason, which is another reason to wash fabric before cutting it.)

When you want to say "lie down, stay put, and no back talk!" undiluted laundry starch is at least as coercive as the iron-through-damp-tape method, but more laborious if you need to glue more than an inch or two of crease. Since undiluted starch is apt to make spots that still look wet when dry, it's best to reserve it for stout fabrics that will be washed early and often, and to keep it on the wrong side and in the seam allowance. A bamboo skewer whittled to a flat, brush-like tip will apply minute amounts of starch. If starch is dripped in the wrong place, rubbing at once with a wet washrag will dilute it.

To apply diluted starch to a controlled area, use a quarter-inch slice cut off a cellulose sponge. Keep it in a waterproof container so that it doesn't dry out between uses -- *IF* you are using starch with preservatives!

If you have a moldy sponge even once, keep the next one in an open container, let it dry out between uses, and dampen it a little while before each sewing session. And scald the old container before using it again for any purpose.

You can buy liquid starch in bottles or spray cans. Diluted bottle starch in a plant mister is cheaper and more convenient than starch in pressure cans -- and you don't run out without warning. Spray starch must be used frequently, or the starch will dry up in the fine channels and render

your sprayer useless. You might keep it near a sink, and squirt a bit down the drain each time you wash your hands. If you expect it to be a long time before you use it again, empty the bottle and pump plain water until you have cleaned the sprayer. Diluted starch will ferment and smell yeasty if you let it sit long enough.

You can make your own liquid starch from cornstarch, potato starch, or whatever is readily available and cheap in your cuisine, but only if you plan to use it within a day or two. If you want to keep a stock solution handy, you need commercial starch, which is stuffed with preservatives to keep it from fermenting, molding, mildewing, turning strange colors, stinking, sprouting fungus, and generally serving as food for whatever minute organisms may be floating around.

Since the mixture has to be stirred constantly until it boils, it's a good idea to make a very strong solution in a small amount of water, then add water little by little, still stirring, until the starch is thin enough to dump the rest of the water in. The resulting mixture can be used at once, or you can bring it to the boil without such close attention.

After spritzing either kind of spray starch, give it a few minutes to soak in before you iron -- otherwise it's likely to be found on the bottom of the iron instead of in the fabric.

More suggestions for making and using laundry starch are in the section on shrinking before you sew.

Sewing bird:

A clamp that is of considerable help in hand sewing, particularly seams and hems. Luxury models are actually shaped like birds. Some vendors call these tools "third hands".

The "bird" I use most often is a corsage pin stabbed through the fabric into whatever upholstered surface is the right distance away. I discuss using an ironing board for this purpose in various places.

traveler's sewing bird
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It's a good idea to keep a couple of wooden clamp-type clothespins in your suitcase, because they come in handy in all sorts of minor emergencies -- needing to hang a skirt on a dress hanger, for instance. (A wire coat hanger with two clothes pins is the most-convenient skirt-and-pant hanger I've ever used, and it's also a dandy way to store a length of cloth.)

If you drill a hole in one handle of each clothespin,

and stash a couple of two-yard pieces of braided nylon string in your suitcase, you've got two sewing birds without adding any weight or consuming any space.

To use this bird, tie one end of the string into the hole in the clothespin, and tie the other end to some stationary object. Or loop the middle of the string to the clothespin, and tie the doubled ends to an object.

A taut-line hitch is a good way to tie the string to the stationary object, because it makes it easy to adjust the string to the most-convenient length. Tying knots is one of those things that are easier done than said, so bear with me through a few digressions.

A taut-line hitch is a loop made by tying the end of a rope to its own standing part with a prusik knot.

A prusik knot is how mountaineers tied their slings to their ropes before ascenders were invented. A "sling" was a piece of rope spliced into a circle, perhaps with something wider to stand on at one spot.

To attach a sling to a rope, the climber would wrap a loop of sling around the rope two or three times, then pull the whole sling through the loop and snug down. A prusik knot is easy to slide along a rope when slack, but it jams when you pull on the ends. This made it possible for the climber to stand in one sling while sliding the knot of the other upward.

When your "sling" has ends and one isn't free, you can't push it through the loop, so you have to tie in a way that is harder to describe. First, note that the prusik is the cow hitch that you use to tie strings to clothespins and fringes to scarves, but with extra wraps.

So let's look at the cow hitch. First, fold a string in half, fold the loop over something, pull the free ends through the loop. Take another string -- or the free end of the "something" -- and duplicate the knot a more laborious way.

I'm going to suppose that you are on the side where you see a horizontal bar, and the two ends hang behind it, so if the two ends are in front of the bar, walk around to the other side so that we'll have the same picture in mind and I won't have to describe all the possible angles of view.

With the "something" horizontal before you, bring the end of the string up from below, pass up in front of the something, down behind it, and come out to the right of the trailing tail. Pass over the tail to the left, and up behind the something, come forward over the top, and tuck the end down through the loop just created, beside the trailing tail. Tug the two ends -- the end and the trailing tail, that is -- and you should see a cow hitch just like the one you made by pulling both ends through the loop together.

To convert to to a prusik, before you take the end across the trailing tail, take it up, back over, and forward at the bottom again, thus wrapping it around the something. You can wrap more than once, each wrap to the right of the preceding wrap. Similarly, wrap one or more times before tucking the end down through the loop, with each wrap to the right of the preceding wrap. There should be the same number of extra wraps on each side, and the two halves of the knot should be mirror images.

If the prusik knot is too hard to slide, retie it with fewer extra wraps. If it is too easy to slide, retie it with more extra wraps. If the string is fuzzy cotton, a cow hitch might do.

..add drawings of knots

## Magnifying Glass

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Magnifiers are essential for some people and pointless for others. I discuss magnifiers at some length in my essay on threading needles.

## Draftsmans' 45° triangle

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This is useful for marking the bias of fabric and for drawing right angles when drafting patterns; it also makes an excellent pattern weight when cutting with a knife, as you can put the long edge near a cutting line, then lean on it (or put a book on it) to hold the cloth firm.

## DESIRABLE TOOLS

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### Buttonhole attachment

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If you come across one of these that fits your sewing machine, grab it with both hands!

If it doesn't fit your machine, seriously consider buying a cheap second-hand machine to fit it, and leaving the buttonholer permanently attached, ready to make buttonholes at a moment's notice.

Zig-zag machines and embroidery machines make usable buttonholes, but nothing makes buttonholes like a machine that's designed to do nothing else. New buttonholers aren't being made, but there are a lot floating around on the second-hand market.

(If production resumes before this is printed -- very likely since the estimated time to finish writing exceeds my life expectancy -- BEWARE. Reproduction cast-iron cookware and reproduction treadle sewing machines are of extremely poor quality, and the same may be expected of reproduction buttonholers.)

## Dressmaker's Dummy

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Indispensable for the dressmaker who never makes the same dress twice, dress dummies are seldom used for rough sewing. They are very useful when you need to stand behind yourself, or when you want to fit someone who is disinclined to stand quietly for hours, but they are expensive, and they take up a lot of room in the house.

The most expensive and least satisfactory are the dummies that can be adjusted to various measurements by turning dials. The right measurements won't necessarily produce the right shape, but such a dummy is essential to the professional dressmaker who wants to use the same dummy for a different person every session; having the right measurements allows him to fit well enough to minimize the number of fittings on the actual customer.

Another variety consists of a stout, custom-made cover that compresses a foam core. If you should gain or lose weight, you can make a new cover. This dummy gets your shape a little better than the dial type, but still can't duplicate your posture.

Some dummies are made of a moldable mesh, which you press to shape over your body, then install on the dummy. Disadvantages: mesh that can be molded to a soft body can be re-molded by misadventure, and the holes in the mesh have to be covered with something.

Non-adjustable dummies are made in standard dress sizes. As is, standard-size dummies are useful only to designers who drape patterns for ready-to-wear companies, but they can be padded with layers of batting and then dressed in a custom-made cover that compresses the batting to your exact shape and posture -- if you are sufficiently patient and skillful. All standard dummies are bust B. If you are larger than that, you can put one of your bras on it and stuff it, but if you are smaller, you are out of luck -- unless the dummy can be sawn or chiseled to your shape.

The best dummy for the home dressmaker is the kind you make yourself. All dummy-making methods require two people, however. Since rough sewing requires few fittings, it might be that adjusting each other's patterns would be a better use of your time together.

There are many ways to make custom dress dummies, but they can be divided into two classes:

You can make a mold of your body, and then fill or line the mold with something that will solidify or firm up, and remove the mold.

You can put on an old T shirt, have your assistant cover you with layers of duct tape, brown-paper tape, or something else that can make a thin, stiff shell. (The assistant should be careful not to stick the tape to anything but the T-shirt, especially if it's duct tape.) When completed -- and cured if necessary -- the shell is split up the back, carefully removed, then repaired, stuffed, and mounted on a stand. Often, such a shell is placed on a commercial dummy that has been padded out to fit it.

Then again, you could make a life-size rag doll. I hardly need to belabor the disadvantages -- the suggestion was put forth in a spirit of humor -- but it *is* a way that you can make a dress dummy all by yourself. (I wonder how many pounds of kapok it would take to fill it?)

## LUXURY TOOLS

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Serger (more properly, overlocking machine)

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If you are a professional dressmaker, or if you have a large family who dress exclusively in custom-fitted T-shirts, you need a serger. Otherwise, it's an expensive toy.

If you can afford a serger (or if you get a good buy on a second-hand serger in good condition), it can make sewing more fun and, therefore, more likely to get done, so if you enjoy using a serger, wallow in it -- just don't fool yourself into thinking that you *need* one.

In serger-owning homes, a lot of seams get "finished" that would be much better if pinked and left raw. An overlocked edge is always thick, and apt to make a line on the right side. And, once you've persuaded yourself that all raw edges must be serged -- even those that are enclosed in facings -- the temptation to sew seams with the serger becomes overwhelming, since each pass with the sewing machine requires two passes with the serger. A home serger cuts off practically all of the seam allowance, so any slight mistake will ruin the fabric, and alterations are much more difficult if there is no seam allowance.

On the other hand, an overcast edge is often an ornamental alternative to a hem, and sometimes it's practical -- my best cycling shorts have an overlocked edge instead of a hem, which makes them less lumpy when worn under tights.

The overlock machine comes into its own when sewing

knits, particularly stretchy jerseys, because the looping stitches are a sort of knitting, and give with the fabric. Knits which run easily also benefit from having their raw edges covered the moment they are cut.

But if you don't have some particular need for jersey, interlock and doubleknit make better-looking, longer-wearing clothes, and interlock and doubleknit sew just fine on a sewing machine. You not only don't have to "finish" seams in doubleknit, you don't have to turn under the edges of hems!

You will notice that factory-made clothing is sewn almost exclusively with overlock machines -- at one time, checking for "chain stitched" seams was the way to identify cheap clothing, but now, even the finest garments have overlocked seams. You rightly conclude that overlockers have some overwhelming advantage.

The advantage is that all the threads an overlock machine uses can be fed directly off huge cones. When operating a sewing machine, you have to stop work every forty yards and change the bobbin. When you are making two hundred copies of the seam you are stitching, that is intolerable -- not because of the few seconds used up swapping bobbins, but because the interruption breaks your rhythm.

## Embroidery Machine

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If you get one of these, admit it, and don't try to get one that will also sew satisfactory seams; instead, buy a good housewife-era sewing machine to back it up. Make sure that your embroidery machine will allow you to stitch your own designs, or at least let you edit the canned designs that you buy on chips or disks. Otherwise, you'd get more options by buying pre-made embroidery in the notions department.

And if you are sure you'll enjoy using it, don't flinch at the price. Compare the expense per hour with going to the movies, or taking cruises, and you'll find it a bargain.

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Postscript: many makes of sewing tools are of superb quality, as is suitable to the precision of the work. But sewing is perceived as "women's work", and it is received wisdom among manufacturers that you adapt a product to women by making it smaller, flimsier, cheaper in quality, and higher in price -- even the best manufacturers sometimes succumb to the clear evidence that cutesy-poo sells. Keep a

sharp and jaundiced eye on the quality of the tools you buy,  
and when the hardware store sells a similar tool, give it  
serious consideration.

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