

SHOE REPAIRING



AT HOME

BY
S. CURRIE



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*Look after your shoes and save
money*



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FOREWARD



IN these hard times, we are all on the look out for ways and means of saving money. Were you to keep an account of all you spend on shoes and shoe repairs in the course of a year, you would probably be surprised. It is a considerable sum, especially if children of school age affect the Family budget. Here is a suggestion. Why not cut the shoe bill in half or reduce it even more drastically ? It can be done by doing your own repairs. The work is not really difficult. Anybody can do it by taking a little pains. This book tells you how

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BE KIND TO YOUR BOOTS AND SHOES.

Boots and shoes are precious. Materials, especially leather and lubber are in short supply and labour is hard to find. All this means that you must get all the

wear you can out of the boots and shoes you possess. In these days, it is not just a case of putting your hand in your pocket and buying a new pair as soon as the old ones are shabby. If everybody did that, there would not be enough to go round and some people would have to suffer needlessly.

Boots and shoes soon deteriorate if neglected. To look after them then is an excellent policy, for the habit will not only save you money but will save materials for the country.

Don't wear the same pair day after day if you can help it. Leather benefits by being given a rest. Two pairs worn on alternate days will last considerably longer than twice the life of one pair worn continuously.

Don't wear your walking shoes indoors more than you are obliged. As soon as you have done going out for the day, change into a pair that is past outdoor use. And when you arrive at the office, factory, etc., change into a second-rate pair, if it is at all possible. Not only do these simple schemes help to make your best shoes last longer, but they give you a great deal of extra foot comfort.

If you dig on your allotment, don't do it in shoes that are fit for better service. And any form of stooping or kneeling puts a strain on the stitches of the instep that soon tells on the boot or shoe.

When you have been out in wet weather, don't dry your shoes in front of a fire. Rapid drying kills the leather, pulls the shoes out of shape and weakens the stitches. Ram the shoes full of paper, tie the laces together and hang them on a line where they can dangle in a draught. (Fig 1).



Fig. 1

When your shoes are wet hang them up on a line to dry Don't stand them in front of the fire.

When you take off a pair of damp as opposed to wet shoes, place them on their sides so that the air can get into them as well as to their soles.

Whenever your feet are hot, such as through running, continued walking, etc., change into old shoes if you can. Perspiration helps to rot leather.

Mud sticking to your shoes is very bad for them. The mud sucks the natural oils out of the leather in much the same way as blotting paper sucks up ink. Wipe away the mud while still soft with a moistened rag and then go over the leather with a dry cloth.

In wet and especially snowy weather, shoes should be oiled. Use a vegetable or animal oil for preference, not a mineral oil. Hold the shoes sideways, pour about twenty drops in the "gutter" formed where the sole joins the upper : then, by tilting the shoe flow the oil from the heel to the toe. Next, turn the shoe over and do the same to the other side. The uppers may be smeared with the same oil or dubbin can be used; but, if you apply a good polish, it ought to be sufficiently waterproof.

You know that old saying, "A stitch in time saves nine." It applies very much to footwear. If any little thing goes wrong, attend to it at once. The repair will then be much easier to do.

KEEP YOUR FOOTWEAR SMART.

You cannot hope to look smart if your shoes are shabby; therefore, keep an eye on your footwear and see that it does not deteriorate unnecessarily. Here are a few "five minute" jobs that will help to preserve your trim appearance.

Suppose that there have been several wet days lately and you have been wearing fairly new shoes or shoes that have been resoled recently. The leather of new soles has an unpleasant way of fraying round the edges. It is due to the spread of the leather while you are walking in the wet. It does no harm but it looks untidy.

Take a sharp pocket-knife or safety razor blade, put one hand in the shoe and, with the other, trim away the frayed part. You must not cut away much. All you have to do is to restore the neat edge of the sole leather. If you prefer it, don't use a knife, but rub down the edge with a piece of glass paper. Afterwards, apply plenty of shoe polish to tone down the colour of the bared leather. Then, give it a good shine.

Brown leather shoes often, look shabby when they still have many months of hard wear in front of them. If they are dark and dirty, give them a good wash in warm soapy water. When they are too bad for this treatment, rub the leather with a pad dipped in turpentine and immediately the colour is restored, sponge over with a little warm water.

Sometimes brown shoes are too light or, too conspicuous for one's liking. To tone them down and make them subdued, wash them in warm soapy water to remove any surface dirt; then go over them with a dry cloth to mop off the water

and follow with an application of diluted liquid ammonia. Put it on evenly and, as soon as the shoes are dark enough, go over them with a cloth wrung out in warm water.

If a brown shoe is marked by grease or oil, it can usually be put right by being dabbed with a weak solution of oxalic acid. This acid damages the leather when allowed to stay on any considerable time. Therefore, immediately it has done its work, give the leather a good rinse.

Ink stains on brown shoes are treated in the same way as grease marks.

Suede shoes soon look shabby if they are not frequently frictioned. A stiff clothes brush serves the purpose, but, if the suede has been out in much wet and has become hard and matted, a wire brush, used carefully, may be needed. If the suede is hard and shiny in well defined parts, rub it lightly with glass paper.

Patent-leather becomes very brittle in cold and especially frosty weather. Therefore, if you then put on such shoes they are apt to crack when you bend your feet. To prevent this, warm them slightly before putting them on. Actually, the best plan, when it-can be done, is to place the shoes in a warm room for an hour or two before they are wanted. Never use ordinary black shoe polish to clean patent-leather. Either apply a cream made specially for this leather or wash in warm soapy water and, when dry, polish with a velvet pad. Good furniture cream is also useful.

When patent-leather shoes are to be put away for a time, smear over them a trace of Vaseline.

Rubber overshoes and Wellingtons ought to be cleaned by being washed in cold water without any soap. If grease, oil or, petrol falls on them, wipe it off at once and wash in water as soon after as possible. When not wearing rubbers, put them in a dark cupboard or wrap them up in newspaper. Daylight slowly injures them.

ARE YOU DOWN AT HEEL ?

Like most people, you probably wear your heels unevenly at one side or the other. If the uneven wear becomes excessive, the whole shoe will be twisted out of shape and this will put a strain on the sole, causing certain parts to wear thin before they need. It will also tend to make you walk badly and you will appear down at the heel, which, of course, you will be.

Now, whether you are any good at shoe repairing or not, you ought to be able to keep your heels well set up. It is not difficult work and it does not call for tools beyond those found in ordinary homes.

When you come to the conclusion that your heels may need attention, examine them to see if they are surfaced with rubber or leather. Take the case of rubber heels first because they are the easier to do and decide whether they are (a) only slightly worn, (b) moderately worn or (c) much worn.

(a) If only slightly worn, carefully take the rubbers off and change them over, putting the left-hand rubber on the right shoe and the right-hand rubber on the left shoe. Your heels will then have a new lease of life at no cost at all and, what is more, you will not be using up precious material.

(b) If the rubbers are moderately worn, cut away the worn half from each heel and, in place, fix the half of a new rubber heel. We will tell you in a moment

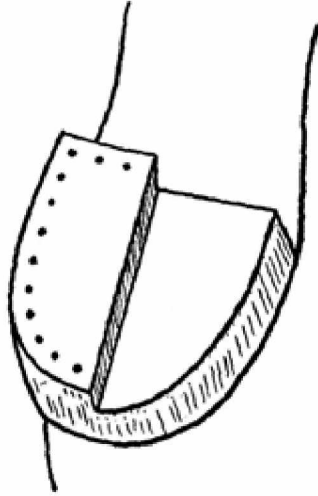


Fig.2

Making a half Rubber Heel do the work of a whole one

how to do this. This scheme saves half the cost and half the material, for one new heel repairs two worn heels.

If the rubbers are considerably worn, there is nothing for it but to buy a new pair of the requisite size or, if you cannot do that, get a piece of sole rubber and cut the heels out of it.

There are many things that may provide you with makeshift material for the rubber heels. We once walked for six months on heels fashioned out of an old rubber stair tread. So look round the house. You may have rubber in some form or other that has outgrown its original use that will serve your present purpose.

Having decided these matters, the next thing is to get down to the work. First of all, take off the old rubber heel or, in the second case above, take off half of it (Fig. 2).

If it is a half you are removing, get a sharp knife or an old safety- razor blade and cut down the centre of the heel until you reach the leather underneath. Then, with a screw driver lift up the part that has to come away. In doing this, you will

slightly raise some of the nails. Get hold of them with the pincers and draw them out. Gradually, the rubber will be released, whether it is the whole or only a half of the heel.

When the rubber heel has come away, look at the surface on which it was bedded. There may be some old nails left standing up. Pull them out, as the new rubber must rest on a flat surface. In any case, tap the heel all round with the hammer. You may have drawn some of the under layers of leather apart in tugging at the old rubber. The tapping will drive them back into position.

Now comes the work of fixing the new rubber. To be able to do this properly, the shoe should be slipped on to a metal last; but you may not possess such a thing and you certainly will be lucky if you are able to buy one. But, don't worry. There are plenty of things you can use as a makeshift. For instance, turn the kitchen table upside down, wrap some cloth around the end of one of the legs and slip the shoe on to it. You have a perfect substitute, unless the leg is unusually stout. Of course, you may prefer to look round the house or, more likely, the garden and seek out a post. Cut three feet off it, round off the edges of the top and use this instead of the leg of the table. It will serve equally well.

When the shoe is fitted snugly on to the last, put the rubber heel in what you think is its correct position. Then drive a nail three-quarters of its way in at the centre of the heel. That done, look all round the edge of the rubber to see if it completely covers the heel everywhere. If it does, then drive the nail right home and follow with other nails all round the edges. But, if it does not cover the edges properly, rotate the rubber slightly and then it may do so. If, however, it is so badly centred that even this will not make it cover properly, draw out the nail with pincers and begin all over again. Having inserted the nail only three-quarters of its length, it is easy to get it out; but it would be difficult to pull it out had you driven it right home. That is why we advise you not to send it in as far as it will go at the outset.

The rubber heel is now fixed; but it may not be an exact fit, especially if you have shaped it out of a piece of discarded material. To take the shoe off the last, put your hand inside it and with the safety razor blade, trim it round, using the wall of the heel to guide you. When you have made a good job of the trimming, make it even better by rubbing the edges with glass paper of medium coarseness.

If the heel is shod with leather and not rubber, it is usually a little more difficult to get away the worn top lift. The work is the same, but it takes longer because it is fixed with more nails.

Now, are you going to use rubber or leather for the new surface? We suggest rubber as it is easier to put on, is easier to replace in the future and is less jarring to walk on, which means that you will be able to walk further without becoming tired. If you decide on rubber, the fixing is exactly as already described.

But there are some people who feel they are not properly dressed when walking on rubber and they must have leather heels. In such cases, take off the worn top lift of leather, pull out any upstanding nails, get a new piece of leather,

cut it roughly to the shape of the heel, but larger all round; then insert an edging of nails, $\frac{3}{4}$ in. long ; when this is done, trim neatly all round and the job is finished. How to do the trimming is fully explained later on under a separate heading.

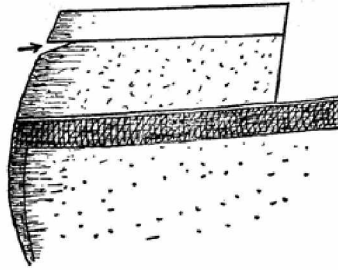


Fig. 3

Here is a shoe that was allowed to go too far before a new rubber heel was fixed to it. As a result, there is a worn space, shown by the arrow. In this chapter you are told how to treat a case of this kind.

Sometimes a heel is worn so much that the wear has gone further than the top lift and has bevelled a slight portion of the second layer as well. If the new layer is then fitted on top of the second layer, there will be a wedge-shaped gap between the two. It will only be a small gap but, even so it will be sufficient to give the heel an untidy appearance.

In such cases, take a small piece of leather—it must be thin—shave down one edge, lay it in the bevelled area, and fix it with two small nails. The idea is to make it fit the space caused by the excessive wear. Then, put the top layer of rubber or leather oil it and fix, as already described.

A last point to note. In the case of ladies' shoes, the heel is sometimes made of wood and covered around the edges with a coating of material. Before attempting to deal with the worn layer, slide the point of a pocket-knife between the wood and the covering material and loosen the latter. Then, fold the material back and proceed with the work of setting the heels. And, when this is done return the material to its proper position after having coated the wooden sides with tube glue. Press well down and the shoe should look as good as new.

PATCHING A SOLE.

Shoe repairing is becoming expensive and, if there are many pairs of shoes in the household, the bill for a year's repairs is considerable, especially when some of the feet are those of youngsters of school age.

The question of money is not the only one. The professional repairer, in these days, is very short of labour and, in many cases, he cannot execute a job in less

than a fortnight. What are you going to do when it is your favourite pair of shoes that is out of commission all this time ?

Of course, the only answer is to do the work yourself. It will not be as difficult as you probably think, especially if you are prepared to try your hand at some of the easier jobs first.

Suppose your shoes are wearing thin in the middle of the sole, or it may be that you are hard on the toes or perhaps you are heaviest on the outside edges. Everywhere else, the sole is good for many more months. A patch is called for in any of these cases and it may be regarded as one of the easy jobs. You see, a patch is much easier to put on than an entire sole and it will be as well to get some practice at patching before you attempt soleing.

For your first attempt, pick on a shoe that has not been knocked about too much and let it be of medium thickness. In other words, you do not want to break your heart at the outset with something that is falling to bits, nor do you want to wrestle with a shoe that seems to have no substance in it. Later on you will be able to cope with the special problems, but to begin with nothing will suit you better than an ordinary pair of boy's school shoes.

The materials and the tools have, of course, to be considered. Fortunately, small pieces of sole leather are not difficult to buy and rubber in sheets of the required thickness is available. The length of the rivets you will need depends on how stout is the leather or rubber. But if you reckon on the rivets as being one and a half times the thickness of the leather or rubber, you will not be far wrong. A handy size to have for general work is $\frac{1}{2}$ in.

For tools, you will need an ordinary household hammer, screwdriver, pair of pincers and a knife. A fine pointed awl, a rasp or shoemaker's file and a sharpening strop will be useful. In addition to this modest kit, you will require a metal foot.

There are various kinds of metal feet, but the "three-way" foot is the best for an amateur. It has three feet of different sizes, joined together. The largest serves for men's shoes, the medium for ladies' and children's shoes and smallest for kiddies. Usually, the smallest foot has a heel attached to it and this heel serves for heels of all sizes.

In cases when a foot cannot be obtained, some form of improvising must be resorted to. What is needed is something fairly flat and made of stout metal to fit under the spot where you are hammering.

Now, let us imagine that we are about to start on an actual job. On examining the shoe we are going to mend, we find that it is worn as shown in Fig. 4, A, B or C. The shaded part shows where the leather has worn thin or, in worse cases, where it has worn completely through to the undersole. If it has gone through, take a candle and rub it on the hole; thus providing a generous layer of grease. Then, hold the shoe in front of the fire for a moment while the grease melts. When the new piece of leather covers the candle grease, you will have a patch that does not let in the water. This is a very useful tip that may make all the difference between wet and dry feet on a rainy day.

In each of the three cases, cut the leather to the shape shown by the dotted lines, allowing a generous margin for trimming where it reaches the edge of the shoe. Trimming the edge of the shoe is done after the rivetting, but the other edges must be rendered properly beforehand. Straight lines are easily cut with a safety-razor blade and a metal ruler; but curves will need a sharp knife.

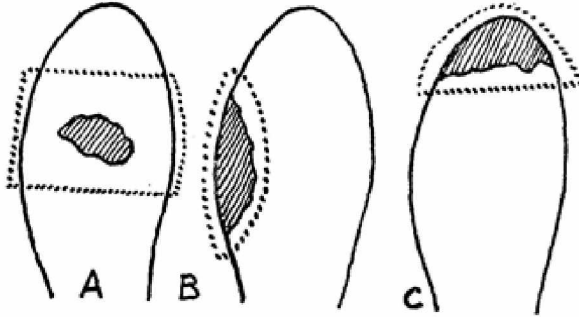


Fig. 4
The three kinds of patches for putting on a sole.

In patching, none of the original sole leather is taken off, the patch being put on top of what is there already. That being so, the edges of the new leather that lie on the sole will stand up and be a source of danger to the walker unless something is done to them. The correct plan is to bevel them by shaving off a certain amount on the underside. The shaving should be done until the edges fade to nothing and have no thickness at all. As they must be done on the underside of the leather, it follows that this work has to be taken in hand before the rivetting is commenced.

Having prepared the piece of leather as explained, put the shoe on the last : arrange the patch exactly where it is wanted and drive in one rivet. As suggested in the chapter dealing with heels, do not send the rivet fully home because the patch has a tendency to slip and, when the one rivet is holding it, you may find that it is not quite where you want it. Then, you must pull out the rivet and begin again. If the rivet is only half way home, it will be easy to draw out, but if it is right home it will be difficult.]

When the patch is held by one rivet, make quite sure that it is covering the exact area you require and especially the edges of the shoe. A little rotating one way or the other may make all the difference.

As soon as you are satisfied that the patch is in correct position, begin to drive in the remaining rivets. They should all go vertically into the leather. They will then grip the various thicknesses of material and hold them together and, in addition, the tip of the rivets will be turned over by reason of the action of the

metal foot underneath. But, if the rivets are allowed to penetrate in a slanting fashion, they will not grip and the tips will not be turned over, as is needed.

How to make sure that the rivets do penetrate vertically and not slanting? Get the shoe comfortably on the last. The last may not be quite as large as the shoe, but that does not matter as long as it is approximately right. You merely see that the last does fit under the exact spot where you are hammering and, as you proceed, you shift the shoe on the last from time to time. Then, with the awl you prick holes in the leather where the rivets are to be driven in. If you do not make these holes, the tips of the rivets will slide about on the polished face of the leather and, when you do strike them on the head, they may not be exactly where you want them. The prick- marks avoid all this trouble and, in addition, they

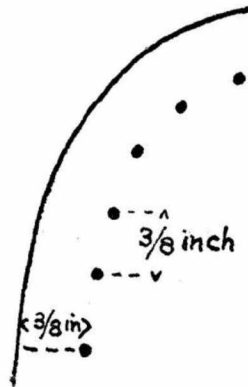


Fig.5

How far the rivets are to be placed between each other and from the edge of the soul.

tend to start the rivets on their downward direction in a vertical manner. The rivets should be set about $\frac{3}{8}$ of an inch from the edge of the leather and about the same distance one from another (Fig. 5).

Having driven in all the necessary rivets, take the shoe off the last, insert your hand and feel all round to find out if any points are sticking through. If there are, return the shoe to the last and use the hammer vigorously over the offending area. This is usually effective and the point is flattened out; but there are times when for unexplainable reasons it seems that you cannot blunt the point. The only thing to do then is to decide which rivet is offending and to draw it out.

There is no entirely satisfactory way of pulling out a rivet once it has been driven completely home; but the best you can do is to force the tip of a screw driver under the head of the rivet so that the leather is compressed; then there is some

small space provided which enables a pair of pincers to get a grip on the rivet. Once the rivet is out, its place must be taken by another. Use a shorter one if possible and be very careful to see that it is driven in vertically and that its tip is blunted by the metal last.

It remains now to trim up the leather where it goes beyond the edge of the shoe. No ordinary knife will serve for this job. A safety- razor blade does the work quite well but a knife with a good stout blade that is sharpened constantly is what is really wanted. When using the knife, be careful to keep your left hand behind it. It is very liable to slip and, if your hand is somewhere in front, a nasty cut is then possible.

The last stage of the work is to blacken the edges of the leather. This can be done by painting them with Indian ink or by using the heel-ball finish, described later.

A Second Patch—It often happens that a patch wears out and a new one has to take its place. In such cases, the work of fixing the second piece of leather is practically the same as that described for the first. But it is well to note the following points. (1) Make the new patch cover a trifle more of the sole than did the first. This will slightly alter the position where the shoe takes the strain. It will also cause the rivets to come in a different place. (2) Draw off the leather of the old patch and pull out the old rivets. Do this gently without straining the shoe. (3) Fill up the old rivet holes with candle grease, as already described.

HALF SOLEING A SHOE.

Under the previous heading, we talked of patching soles; but some shoes will have gone too far for patching and will have to be half soled. Do not think that half soleing is some makeshift way of doing the repair—that you are, in fact, merely half doing it. In the trade, to sole a shoe really means to recover it from the tip of the toe to the back of the heel, and to half sole it is to recover from the toe to the instep only. The latter, of course, is what we are about to describe.

Now, suppose you have a pair of shoes in front of you that are to be half soled, how do you propose to fix the new leather ? It can be done with rivets or by stitching . Stitching is an art that takes a long time to learn and unless it is well done is likely to prove unsatisfactory. Riveting, on the other hand, is comparatively easy and is the method that all should follow in the early stages of their career.

There is another matter to decide before the actual work is commenced. Are you going to rip off the worn outer sole before fixing the new one or are you going to do what is know as clump the shoe, which means to put new leather on top of the existing sole? Clumping, of course, makes the sole heavier which may be an advantage sometimes; but as a rule it does not provide a neat job and, unless there are special reasons, it is not advised.

Having settled these preliminaries, you are ready to start. Take the shoe you are going to repair and look at the edge of the sole. There ought to be a line running all round the shoe, dividing the thickness of the sole into two.

This line is where the outer and under soles lie together (Fig. 6). If you cannot see such a line and the sole is of slight substance, take care. To rip off the outer sole then may mean that you are pulling off the only sole and you will wreck the shoe.

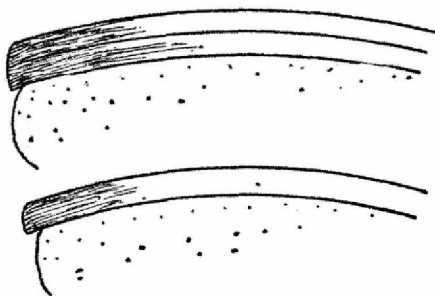


Fig. 6

If the edge of your shoe looks like the top drawing, i.e. it has a line running through the thickness of the sole, you may safely strip off the top layer, In the second case, where there is no central line, it would be dangerous to attempt any stripping.

Cheap machine-made shoes and very dainty shoes for ladies are often given a single thickness of sole and they are the ones that must be treated with caution. If you suspect you are dealing with a shoe of this kind, your only course is to go over the surface of the sole with a shoemaker's file, known as a rasp, and thin down the leather as much as you dare. You should aim at evening up the tread so that the worn and unworn parts are much about the same thickness but you must stop immediately you get down to the stitches. Having done that, you fit a new sole over the old one, using as thin a piece of leather as you can find. You clump such a shoe, in fact.

But we will suppose that on examining the edge of the sole, you clearly see the line where the two layers of leather meet : then you may consider it reasonably safe to proceed in ripping off the outer sole. To do this, force the tip of a screw-driver at the weakest point you can find between the two layers and prise up the leather (Fig. 7). If the shoe has been worked a great deal, there is usually some part at the edge where the layers are almost gaping apart. This, of course, is a suitable spot to begin forcing in the screw-driver. Once having made an opening, work towards the toe of the shoe. If the worn sole was fixed with rivets, pull them out with pincers as the prising forces them up and, if the worn sole was stitched, cut the stitches as you proceed.

On reaching the toe, clutch the leather with a pair of pincers and draw it back over the shoe, keeping the pincers bearing down on the sole.

Should you hold the pincers well above the shoe and give an upward tug, you are likely to weaken the shoe. You might even pull it to pieces.

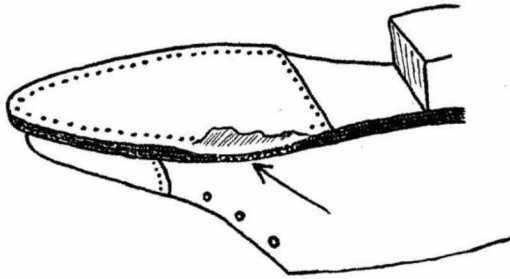


Fig. 7

The arrow shows a weak spot where it will be convenient to begin pulling off the worn sole

We now have to decide another matter. Has the shoe been already half soled at some time in the past or does it still possess the original outer sole with which it was made? If the first is the case, you know exactly what old leather must be pulled off. It is the piece used for mending the sole on the last occasion. But if the shoe has never been repaired before, the matter is not quite so simple because the sole and the instep are all in one piece. Clearly, you must stop pulling out the rivets or, what is more likely, cutting the stitches, before you reach the instep. And the old leather must be cut so that the instep remains undisturbed and the sole is removed.

Where should the cut be made? Consider this point with great care for it is extremely important (See Fig. 8). It will help if you can find some other shoe that has been half soled because you will be able to see from it how far the new sole should reach down on the instep.

But do not think that the point where you decide the new sole is to reach indicates the place where the old sole has to be cut away. There must be a lap of about an inch of the leather to make a water-tight join. Therefore, the old sole should be cut off about an inch before reaching the limits to be covered by the new leather.

When you have made the cut, take a sharp knife and bevel down the edge of the cut so that the new piece of leather will lie smoothly over it without forming a ridge and, when you have done that, run in three or four rivets to hold down the bevelled edge.

Now get the leather you are going to use for the new soles. Cut it roughly to shape, but leave a generous edging all round to allow for the final trimming.

The old piece of leather that you pulled off the shoe will help you to form a rough idea as to the size and shape of the new piece, but do not forget that, if the shoe has never been

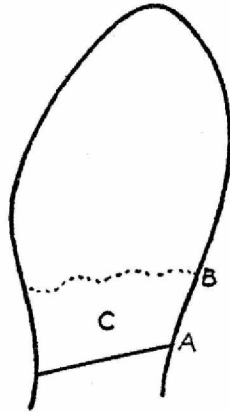


Fig. 8

A shows where the new half sole is to finish at the instep. *B* shows where the old sole is to be cut away. *C* is, therefore, an area where there is a double thickness of leather.

repaired before the cut-away piece will not be long enough on the instep. The reason for this has been explained above.

When roughly shaping the new soles, do not lose sight of the fact that the two pieces—one for each foot—are not alike, but that one is the reverse of the other (Fig. 9). It is a point you are bound to know; yet it is something that you can easily overlook. In one the instep edge runs up and, in the other, it runs down.

While speaking of this instep line, it may be mentioned that this part of the leather must be finally trimmed up before it is fixed to the shoe, simply because it cannot be trimmed on the shoe. Cut the line quite straight and bevel it slightly on the underface, but do not give it an edge of wafer thickness. Leave it with about two-thirds of its original substance at the edge.

The next step in the work is to toughen the two new pieces of leather. You do this by plunging them into cold water for five minutes. After that, the surface moisture is wiped off and the back or flesh side of the leather is hammered. Shoe repairers do this on a flat slab of lead, but as you will not possess such a thing, do it on the face of the metal last or, if you have a stone step at the scullery door, that will serve just as well.

The hammering should be done equally all over. Its purpose is to tighten, the grain of the leather and make it tougher and less liable to soak up moisture on wet days. It also tends to give the leather a slightly curved surface which allows it to rest more snugly on the shoe. This hammering process is well worth the few minutes spent on it, but no one could say it was necessary and many workers omit it.

We now come to the real test of skill which is to nail down the new sole. For the

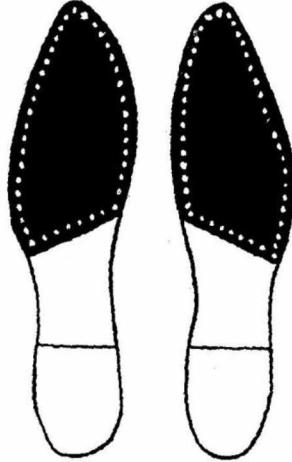


Fig.9

Do not overlook the fact that the two soles are not alike, but that one is the reverse of the other.

work, you must have a metal last, a supply of rivets, a hammer, a pair of pincers and an awl. A three-way metal last with three feet of different sizes is best because one of the feet is sure to be a reasonable fit for the size of shoe you happen to be repairing. If you have not a last, there are plenty of people who have and you may be able to borrow one from a neighbour. If that is not possible, we tell you later on how to fix soles by methods that do not need a last. As for the rivets, they should be about one and a half times the thickness of the leather.

All being ready, put the last on a kitchen chair and sit on another chair, drawn up to it. Slip the shoe on the last and arrange the new piece of leather on it. Get the line of the instep exactly where you want it and drive in one rivet at the centre of the line. Then see that the leather reaches well up to and slightly beyond the toe and put another rivet in, this time at the toe. Now look all round the shoe and make sure that the sole is amply covered everywhere. If it is not, draw out one or both of the rivets and begin again; if it is, then proceed with the riveting.

Fix down, the whole of the instep line first, putting in the rivet fairly closely together, say one eighth of an inch apart. Remember, that this part of the tread serves as a kind of hinge and it has to bend every time the foot is carried forward. That is why it must be held firmly. Elsewhere round the sole, the rivets need not be spaced so closely. A quarter of an inch apart will then serve.

There is, of course, a knack in driving in the rivets. They have to go in just where you want them to go; they must penetrate vertically downwards and their heads must lie level with the surface of the leather. To drive a nail in wood is simple by comparison with leather. The shiny surface encourages them to slip about and they can be very aggravating. But we have already suggested a way out of the trouble. Take the awl and prick slight vertical holes all-round the sole exactly where you want the rivets to come and, that done, stand a rivet in the first hole, give it one or two taps with the hammer and it goes home in a docile manner. Proceed with all the other rivets in the same way. As each is knocked in, make sure that the area of the shoe at which you are hammering, is lying dead flat on the last. Otherwise, the points of the rivets will not be turned over and they may stick into the wearer's foot.

When you have finished the riveting, take the shoe off the last and feel inside it with your fingers to find out if there are any rivet points coming through. If there are any, note which are offending, return the shoe to the last and hammer vigorously over the area. That usually puts matters right; but if, as sometimes happens, a point persists in sticking through, there is only one thing to do. Dig the offending rivet out. Then, either put a shorter rivet in the same hole or take a rivet of similar length, nip off the tip and drive that in.

When the riveting is completed, the edges of the leather must be finally trimmed and finished, off. That is the subject of the next chapter.

TRIMMING AND FINISHING.

Having fixed the roughly shaped leather to the shoe, the next part of the work is to trim it neatly round the edges and give it a professional finish.

For the trimming; you will need a sharp knife and, what is more, it will have to be kept sharp. At one time, a proper shoe-maker's knife could be bought for less than a shilling, but any strong pocket- knife will do well enough as long as the blade does not bend. We have even done much useful work with a discarded safety-razor blade—one having a single cutting side and a stiff back.

Whatever knife is used it will soon be blunted and must be constantly sharpened afresh. An excellent strop for the purpose can be made by covering a strip of wood with emery paper. The wood should be about 15 inches long, 1½ inches wide and ½ inch thick. The emery paper is wrapped around the strip and tacked along the two narrow sides. It will impart a fierce edge to the knife which will soon be blunted, but a few strokes on the strop will restore its keenness.

When you are ready, take the shoe and see that the leather is quite dry. You will remember that you perhaps wetted it previous to the toughening process. If it is not quite dry, it will pull out of shape and prove very difficult to cut. But when dry, it will cut with a slight hissing sound. Cut only flakes off at a time and go on taking little bits off until you come down to the original edge of the sole. You will find that the easiest way to do this is to press the heel or the toe—according to the side on which you are working—against your chest and always draw the knife towards you. But be particularly careful to have the hand holding the shoe either behind the knife or well below it. The knife is sure to slip at times because you must exert, a great deal of pressure on it and, if your hand is somewhere in its path, you will then receive a nasty cut.

When the new, leather has been trimmed approximately to the shape of the original sole, the final edging is done with a scraper. Grindery stores used to sell scrapers for a few pence; but here again the razor blade may be pressed into service, or a piece of glass with a straight edge will do just as well. Hold the scraper almost vertically over the edge of the shoe and run it along. It scrapes off the leather in the form of powder and provides an excellent smooth surface. If you like, a rub round with fine glass paper may be given by way of a finish

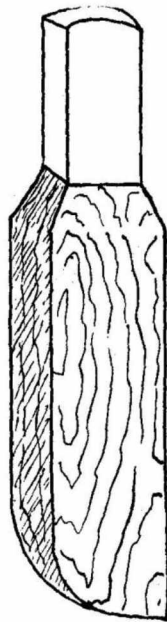


Fig. 10
A Useful type of Burnishing Iron – (see page 20)

Now, in the case of black shoes, you must do some inking to tone down the fresh colour of the new leather, but with brown shoes this is unnecessary. Ordinary writing ink put on with a brush, followed by a generous application of blacking and then polishing will complete the job.

But you may want something a little smarter than this kind of finish. Then you need to burnish the edges. For this work buy a cake of black or brown heel ball (cost about a penny each), put the circle in, say, an empty blacking tin and then provide yourself with a burnishing iron. There are several patterns of irons; some have a domed head and some have a domed head with a side flange. The former are more generally useful and they cost about a shilling. (Fig. 10).

Place the iron in the glow of a fire and, when it is very warm rather than actually hot and long before it has turned red, take it out, dab it on the surface of the heel ball and, without wasting a second smear it round the edge of the shoe. Do this several times and, little by little, you pick up melted heel ball and transfer it to the edge of the shoe, where it quickly hardens. You will naturally try to get it on as evenly as possible, but however hard you try it will persist in remaining in waves. To work out the-waves, take a small piece of cloth, velvet is even better, wrap it round your thumb, place your thumb in front of the fire until the material is hot, then rub with some force round the shoe. The warmth softens the heel ball, the pressure smooths out the waves and the two together impart a shine that is permanent. Your work is now quite finished and there is no reason why you should not have done it in a professional manner.

Though we have spoken here of finishing soles only, heels are done in exactly the same way.

HALFSOLEING WITHOUT RIVETS.

If you do not possess a metal last and are unable to buy or borrow one, you cannot half sole your shoes with rivets in the way already described. But that need not deter you. Instead, you can fit rubber soles and fix them with a rubber solution. For this, you do not need a metal foot.

Suppose you decide on this method of repair. First, buy a pair of rubber soles and be careful to get the correct size. Let them be a trifle too small rather than too large, but of course they ought really to fit. And mind they are rubber soles intended for sticking. Those meant to be put on with rivets are much too thick and will never grip tightly with solution. They will give endless bother and will rot be a success at the finish.

When buying the soles, buy also the solution. With some brands, the two are sold together. Then, you will be sure of getting the right sort of sticking material.

Before beginning the work, pack the shoe tightly with soft material and, on the table, lay a pad of cloths. Put the shoe on this pad, sole uppermost, and there will be no fear then that while you are at work you will damage the toe cap or any part of the upper.

The first stage of the work is often omitted by beginners, but never for professionals, because it is important.

It is to go over the sole with a rasp or rough file and fluff up the surface of the sole. No layer of the existing leather should be stripped off. If some parts are thick and others thin, the rasp must equalize them to some extent.

That done, you are ready for the real part of the work. Squeeze a generous portion of the solution on to the sole of the shoe and some more on the underface of the new rubber sole. You can spread it evenly across the two surfaces by drawing over them the edge of a piece of cardboard. Now wait a few moments and much the solution will gradually dry away. Then, apply more solution, exactly as before and again wait, but not so long as the first time. While the two surfaces are still tacky, though neither wet nor dry, put the rubber sole into position. Press from the centre outwards. The flat head of a hammer is useful for this, but use it to press, not knock. When you arrive at the edges, see that they hold down properly.

As it is at the edges that you are likely to have most trouble with the sticking, be ready with some bull-nosed paper dips and slip them on so that they hold wherever the rubber tries to ride up.

In about two hours time, the sole ought to be fixed hard and then you can tell whether you have made a good job of the work or not : but do not walk about in the shoes for a day and wait two days If you can.

Another method for fixing rubber soles, but not so good as the one already described, is to put them on with tiny screws. If this plan is adopted, the rubber soles intended for fixing with rivets may be used; but, as you have no metal foot, you must use screws instead of rivets.

The shoe is filled with soft material and rested on a pad of cloths as before; and the screws are inserted by making holes with an awl and turning them in with a screw-driver. You must be careful to get screws that are not too long or they will penetrate the entire thickness of the shoe and hurt the feet. Also, they must be long enough to bind the rubber to the undersole. A screw not quite one and a half times the thickness of the rubber sole is what is wanted.

As a rubber sole never presses very tightly against the leather under-sole, water may be let in, with the result that the wearer has wet feet. To overcome this, paint the two surfaces that come together with a generous coating of varnish and put the rubber sole in its position while the varnish is still wet.

REPAIRS TO UPPERS.

It is very aggravating when your favourite shoes begin to give out, especially in these times when they are not easily replaced. But, of course, there are many little jobs you can do for them and so give them a new lease of life.

Here, we are thinking of the uppers. And no part of them is more likely to want attention than the stitches up the back of the seam, at the heel. They often break away, especially if you are in the habit of slipping off your shoes without undoing the laces.

Now, this is not a difficult repair job and it will make all the difference between the shoe being wearable and unwearable. For the work, you will need

some strong thread, a stout needle, a little wax if you can get it, an awl with a fine point and a pair of pincers.

The needle is threaded double and the thread is given a rub up and down with the wax. Then, the old stitches of thread are picked out of their holes and each hole is opened up by forcing the awl into it. Begin on the inside of the shoe. Work the needle backwards and forwards through the holes and form the stitches. It is not much use wearing a thimble to push the needle through the leather as the material is too stout. The best way to handle the needle is to, force it a little way in with the fingers and, then, pull it, the rest of the way through with the pincers.

After every stitch or two, rub the thread with the wax, especially, where it passes through the eye of the needle. This will strengthen it and save it from snapping.

When the stitches are completed, slip the heel on something solid and tap down the thread. This will close up the holes made by the awl and tighten the thread.

When stitching has to be done further inside-the shoe, such as at the toe, exactly the same plan is followed, but it is far more difficult, because you cannot see what you are doing and you have to feel your way through the holes.

An entirely different kind of job is to fix an invisible patch. Often a shoe splits somewhere across the instep after it has had a considerable amount of wear. To stitch on a patch would not only disfigure the shoe, but it would be very difficult to do.



Fig. 11

Fixing a patch on the upper by means of gutta-percha solution

Here is a far better way. First, decide on the area that is defective; then pencil a line on the shoe a full quarter of an inch all round and beyond the defective part.

All the sides of the inscribed area should be curved and there must be no corners. Now cut a piece of leather of the requisite shape and as much like the leather of the sole as possible.

When it is shaped turn it over and thin down the edges so that they gradually taper away to no thickness at all. Then, place the patch in its proper position on the shoe and pencil a fresh line all round it. With a sharp pocket-knife score along the outline and dig it somewhat into the leather. Follow by scraping away the face of the leather to be covered by the patch. Every bit of the smooth surface must go (Fig. 11).

You now want a bottle of gutta-percha solution. It can be bought at grindery shops. Be careful with it, as it is highly inflammable. It must be warmed, but not by standing the bottle on the hob or near a gas ring. Place the uncorked bottle in a basin of very hot water. When it turns into an easy flowing liquid, paint it generously over the two surfaces that are to be stuck together. In a few moments the coating changes to grey. At that point, hold the patch and the shoe near to the fire, the grey colour rapidly disappears and looks gummy. That is the moment to stick the patch in its place and press it well down, especially at the edges.

The patch is finished, but it is a good plan to rub some heel ball all over the edges, as suggested under the heading Trimming and Finishing. There is no reason why the patch should be at all visible, if you have followed the instructions faithfully.

MISCELLANEOUS.

What is more annoying than going about among people all day long, wearing a pair of shoes that squeak? You feel all the time that you are the subject of personal remarks, and may be you are. Various cures have been suggested for squeaking shoes, but before trying any of them, it is well, to seek out the reason for the noise. It is due to the outer sole and the inner sole not lying flush together. There is, in fact, room for a certain amount of play between them when the heel rises and creases the shoe across the instep. The longer sole rubs across the shorter and causes the squeak.

You will notice that well-made shoes never squeak; it is usually a shoe that has been resoled that causes the trouble. You might even say that it is due to faulty workmanship.

A common suggestion is to stand the shoe in a tray of water for some hours or to go for a walk in wet weather. This certainly silences the shoe for a time, i.e., as long as it is still wet or damp. However, as soon as the leather becomes dry once more, the squeak returns.

A way that will get rid of the squeak twice out of three times but not the third time, is to force a screw-driver between the outer and inner soles and make an opening about two inches long. With a riveted shoe, you will have to draw out two or three rivets and with a sewn shoe two or three stitches must be cut. Into the gap, pour two or three teaspoonsful of dry french chalk and, with a feather, scatter it about as much as you can between the two layers of leather. That done, put the shoe on a last and drive in four or five rivets. As we say that stops the trouble more often than not.

An even better scheme, which can only be done when the shoes are riveted, is to draw off the outer sole from toe almost to the instep, but not quite. Then lift up the outer sole and on the inner sole arrange a piece of cloth cut to shape (Fig. 12). Return the flapping outer sole and nail it back in position, using the existing rivet holes, but not the same rivets.

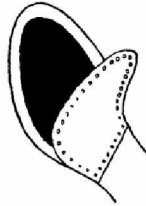


Fig. 12

Lifting a portion of the sole to put on an underlay of felt (shown black), to stop the shoe squeaking.

This will master the worst noise : it will make the shoe a trifle heavier, but it will help to keep the feet warmer.

This last statement may be remembered, with advantage, by people who suffer from cold feet. When their shoes are being resoled, it is an excellent plan to have a layer of cloth or felt between the new sole and the foundation sole. Nothing is better for the purpose than a shape cut from a man's discarded soft felt hat.

Shoes that pinch the toes are an abomination. If you have a pair that you cannot wear because they hurt, stand the toe part in a bowl of water, carefully propped up so that the shoe cannot drop into the bowl and allow water to pour inside. Leave them like this for a couple of days and the leather will become supple. Then ram wads of newspaper into each shoe so that they bulge out the leather.

If the ramming is done well, the leather will be stretched, probably enough to permit you to walk in comfort.

Here is a hint about shoe laces. Now that they are made of materials which have not the strength of mohair, they are much more likely to snap. But don't wait until a lace breaks in two. Every now and again alter its position ever so slightly in the shoe. This will take the strain off the parts, where a weakness is developing and the lace will last twice or three times as long.

If the metal tip come off a lace, form a new one out of dark a coloured sealing-wax.

Lastly, when shoes are beyond further use, not only to you but to anybody short of cash or coupons, do not throw them away. Pull them to pieces and save the materials. Parts of the sole leather may be suitable for setting up heels or even patching soles, while the soft leather of the uppers may come in for mending the uppers of more serviceable shoes.

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