

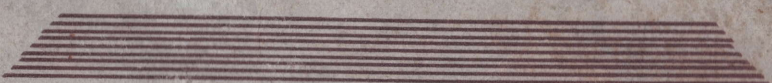


THE BOLSOVER COLLIERY
COMPANY LIMITED

The Further Reduction
of
Accidents Underground

An Illustrated Pamphlet by
W. V. SHEPPARD
Safety Superintendent

With a FOREWORD by
T. E. B. YOUNG, Esq.
Mining Agent



DECEMBER, 1936

Foreword.

WHEN, a little more than a year ago, our Safety Superintendents were appointed for the purpose of trying to bring about a reduction in the number of accidents at the Collieries, it was thought by many that accidents were inevitable and that their number could not be reduced. The extent to which this theory has been falsified is indicated by the particulars given by Mr. W. V. Sheppard on the following page. This is a great achievement, but it is quite evident from the particulars which have come to my notice of recent accidents that a great deal more remains to be done.

Much of the success so far achieved is attributable to the co-operation of all Officials and workmen at the Collieries with our Safety Superintendents, and in commending this pamphlet to you, I would ask you to go through it with great care and to "read, mark, learn and inwardly digest." Finally, by your own personal example, demonstrate to others that doing work the right way is invariably the safe way.

T. E. B. YOUNG.

16th December, 1936.

Introduction.

SINCE the appointment of whole time Safety Superintendents, in an effort, as far as possible, to prevent our workmen being hurt while at the Pit, we have learnt many points from the study of accidents under our conditions.

In this pamphlet, we pass on some of these experiences to you, in the hope that each one of you may benefit by them.

Apart from the pain and suffering to you and yours when you get hurt, there is the money lost in wages, and if these few pages can help you to lessen the risk to yourself, as is the idea behind its publication, we feel it is worth while.

Due to a happy co-operation between the Safety Superintendents, Management and Workmen alike, our records show that the work is definitely bearing fruit.

Briefly, the results up to the end of November, 1936, shew that the Compensation Accident Rate has fallen by over 20%, which means that, *compared with 1935, there have been 300 fewer of our employees hurt to the extent of being off work for more than three days.*

We are confident that the accident rate may be still further reduced, and ask you to read the following remarks, which concern *all classes* of work Underground.

THE FURTHER REDUCTION OF ACCIDENTS UNDERGROUND.

1. Coal Face Work.

By far the biggest source of accidents, and especially those causing serious injury, is from falls of coal. From investigations we have made, these few simple rules should be remembered by all:—

(a) To avoid personal injury, our first and most important job is to keep our minds on our work. Concentrate every minute of the working shift, and say to yourself, "Am I doing this the safest way?"



Fig. 1.

Well set sprags and stakers when holing or slotting.

(b) When cleaning out, slotting, or holing coals, say, "Have I got enough sprags set? Are they set well? Are there any loose fronts likely to fall off?" Try and remember that a loose end is a danger and wants a sprag of its own setting apart from the regulation distance between sprags (Fig. 1).

(c) If, when you have taken your sprags out to try and get the coals down, and they will not come, **RESET ALL THE SPRAGS** before you do any further cleaning out. It will take a minute or two, but it makes you quite safe (Fig. 2).



Fig. 2.

The dangerous practice of further cleaning out without resetting sprags when the coals will not drop.



Fig. 3.

Pulling coals off with a pick instead of a ringer.

(d) Before you try and pull coals, say to yourself :—

1. "If I use a ringer, and not my pick, I shall be farther away when the coals come over, and there is always a ringer handy" (Figs. 3 and 4).
2. "Have I got a clear road behind me?" Note: Several fractures have been due to men stumbling over loose coal, tools, props, etc., as the coals came over in his direction.
3. "Is the man in the next stint well out of the way of the coals I am pulling, or likely to liberate?"
4. "If I pull these fronts, what about the backs where I am standing? Will they follow?" If you are at all doubtful, then set a sprag to these backs.
5. "What props are likely to be knocked out by the coals? And will they fly towards me?"

(e) **TIMBERING.** Props and bars are set to protect you from falls of roof, and also to prevent the roof lowering, and so causing breaks which make falls more likely. Therefore :—

1. Set your timber as soon as ground is out, and set it as tightly and as square as you can. Loose props are extremely dangerous, and very bad workmanship.
2. Always put a good thick timber pad between a steel prop and a steel bar. Many accidents have been due to props flying out because they were set "steel to steel." It does mean dinting some days, but it is well worth any trouble you may have to take.
3. Get your mate to help you set your bars, and be willing to help him with his (Fig. 5).
4. Look carefully in your roof for slips or breaks—they are both enemies and require more timber, and sooner!
5. If you expose a "pothole," set a support as soon as ever you can, they too are enemies of yours.
6. Do not try and set a badly bent steel bar, they make the props more likely to fly out, and offer very little more support to the top than would two props (Fig. 6).
7. In every case knock both props and sprags up with a hammer, you cannot tighten either enough by using a pick.
8. Do try and arrange your bar settings so that they lie just at pack sides. This makes the packers' work so much safer and easier. It may mean running an extra bar in occasionally, in order to keep to distances, but you are doing others a good turn.
9. It is either forgetful or foolhardy to wait until an Official arrives to tell you to set timber.

PROPS ARE NOT SET TO SATISFY EITHER REGULATIONS OR OFFICIALS, BUT TO SUPPORT THE ROOF OVER *YOUR* BACK.

(f) As you are lifting a large lump of coal on to the face belt, make certain there is not another lump coming along against which you will burst your fingers (Fig. 7).

(g) In the same way, as you reach over the belt to get a prop or bar from the gobside, glance down the belt to see if a lump is on its way to trap your hand between it and the bar (Fig. 8).

(h) Rather than struggle to lift a very large lump on to the belt, split it with your pick first, and so avoid the risk of a rupture.

(i) All accidents where men are hurt by tools or timber being thrown about, or by striking your neighbour with ringer, hammer or pick are brought about by thoughtlessness.

(j) We have had four serious injuries due to men or lads sticking their arms inside tension ends to liberate the belt (Fig. 9). This is absolutely inexcusable and must never be attempted by anyone at any time.

2. Packing and Drawing-off.

Scores of finger injuries are suffered by packers in these four ways:—

1. Not watching as you pick a packer from the bottom of a heap, which may allow another stone to roll down on to your hands.
2. Throwing packing stones to your mate without warning him, or seeing first that his hands are not in the way.
3. Swinging a packer into position, and catching your hand against a prop which you had forgotten about.
4. When a large packer is being lifted by two men, a misunderstanding often causes a trapped finger.

Throughout your shift, constantly try the roof above you, and do not hesitate to set a catch prop if you are doubtful (Fig. 10). Small falls of Connie in the wastes are frequent, and have grazed or bruised many necks and backs.

Also, a catch prop in your packhole is a great safeguard until the pack is nearly completed, when a short prop may be set off the heap to steady the roof until you are ready to finish off. (Note: Props must not be built into packs).

No person living can be sure a roof is good, and if you get into the habit of treating all roof as doubtful, setting timber accordingly, you will make one of the greatest steps yet made in preventing accidents, fatal and non-fatal, from falls of roof.

UNDER NO CIRCUMSTANCES IS IT PERMISSIBLE, OR SAFE, FOR ANYONE TO GO PAST THE GOB TIMBER INTO A WASTE, UNLESS HE FIRST SETS SUFFICIENT TIMBER TO PROTECT HIMSELF.

To those engaged in drawing-off, remember that the Sylvester is your best friend, and to risk your life, and perhaps other lives, by knocking waste props out with a hammer is unforgiveable.



Fig. 4.

Trapped with coals, which could not have happened if he had used a ringer, or if there had not been a lump to fall over.

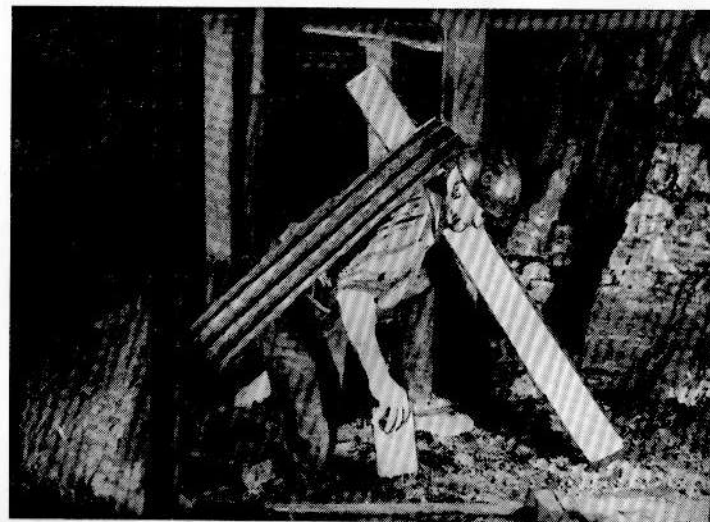


Fig. 5.

A frequent result when some men try to set a bar without help.

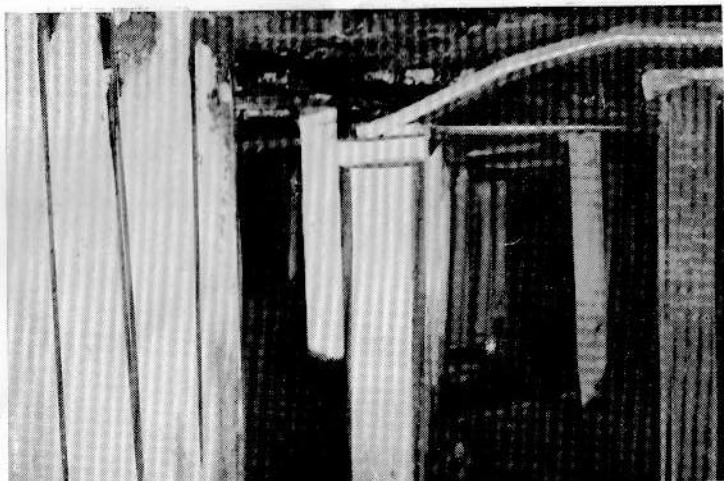


Fig. 6.

A bent bar set. This offers no real support to the roof, and renders the prop very liable to flying out.



Fig. 7.

Trapping his hand between the lump he is putting on to the belt, and one already travelling.



Fig. 8.

Reaching over the Belt for a bar, and trapping his hand against a lump he ought to have looked out for on the belt.

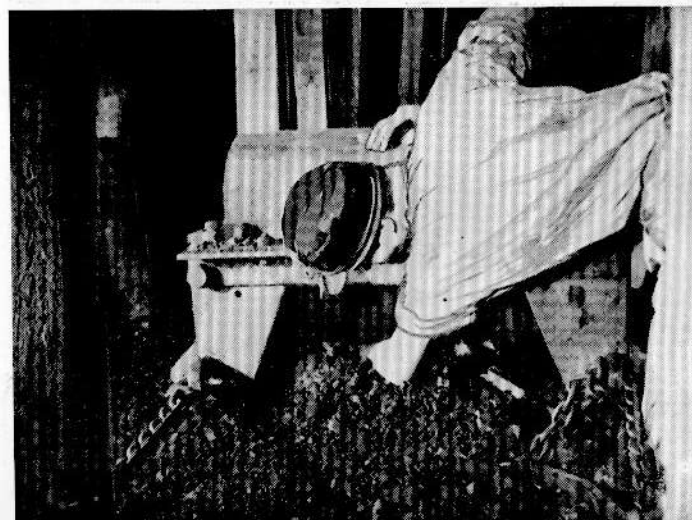


Fig. 9.

The highly dangerous act of putting an arm into a Tension End to liberate a lump.

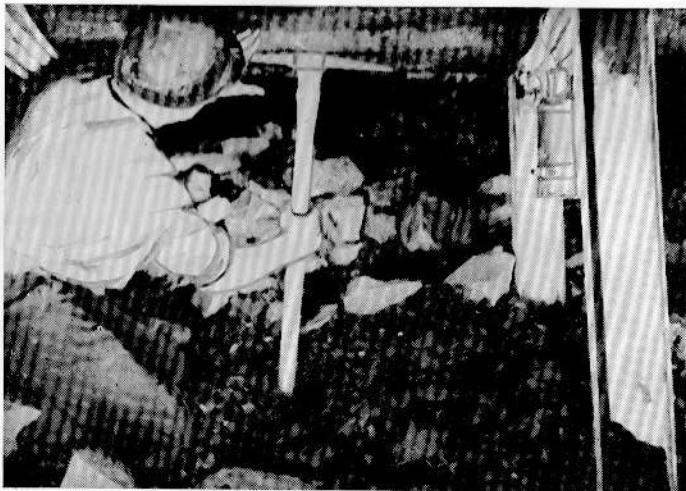


Fig. 10.

To be safer from falls, we must get into the habit of more frequently testing the roof above us.

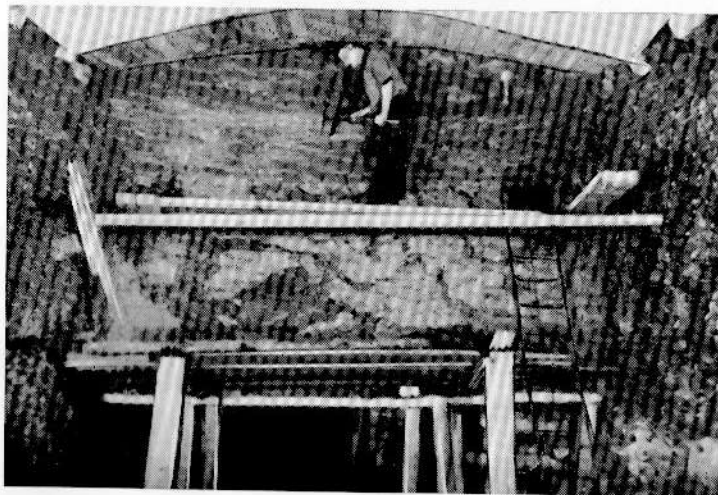


Fig. 11.

A scaffold at a high lip must be well set up.

Try too, to get your Sylvester as near the face as possible, when you will be working under the best roof and well away from a waste if it flushes.

A specially set Anchor Prop is now required to cut out the danger of disturbing newly-set timber.

3. Ripping.

Two or three serious cases of injury have been directly caused by badly set working scaffolds.

If your baulks are long enough, then stomp them well into both sides, if not, use a good solid arrangement of trestles (Fig. 11).

Many falls have happened in the past between the last girder or arch, and the lip. If your last girder does not come right up to the lip, set a stretcher bar, catch prop, or, when the distance is not great, strong runners will suffice.

Every conveyor gate lip should have a good "umbrella" erected when ripping is completed. This would have saved a fatal accident last year, when a piece fell away off the face of the lip. Bear in mind too the rule now made, that anyone who is working immediately under the edge of the lip, shall move away while the cutting machine is passing.

It is found that the most common accident to rippers is when a piece of side under which they are working falls on to them.

So often these can be cut out by better plucking, and more regular inspection, which, when you are so intent on the actual work in hand, are apt to get neglected.

Many accumulations of gas at lips occur when the ripper has accidentally, or injudiciously blocked the airway with debris.

To all rippers it should be said: "Use your oil lamp from time to time during the shift, and if the air road does become blocked, make arrangements to clear a hole on both sides straight away." But better still, try and arrange your work so that fresh air may always get to the top of the lip.

4. Coal-cutting.

During one week in the summer, three coal cutter chargemen were off work due to small lumps of coal falling off the face and hitting their hands as they were operating the switch. Keep this possibility always in your mind, and if the fillers have left any overhanging coal, either get it down, or sprag it well before you take your machine past.

Nearly all injuries to coal cutter men concern falling coal. Gloves will help to save your hands here, and also from strands of wire sticking out of the haulage rope.

Only reliable men should be allowed to set the derrick prop, and they should make quite sure that the rope will not foul any props before giving the word to tighten up.

Here are four important "don'ts":—

- (a) Don't leave any picks in your chain for the next shift to catch their legs against.
- (b) Don't go into, or come out of a corner before you see that the cloth is in good order.
- (c) Don't, when turning your machine, take out more timber than is absolutely necessary, and reset this timber as soon as you possibly can.
- (d) Don't use the machine without its chain guard—the cutting chain is an excellent friend, but may be a terrible enemy.

5. Haulage.

In the pit bottom, the two most frequent accidents to lads are these:—

1. Pushing at a full tub in which is a large lump of coal that topples over and traps fingers against the tub top. Therefore, keep your eyes open, and if you see a large lump likely to roll back, keep your fingers out of the tub (Fig. 12).
2. When pushing down at a tub, another one runs in from behind and nips your arm between them. In many cases this results in a fractured arm, and it can be cut out if all the time you bring yourself to realize that a tub may run in from behind, and just give that quick glance over your shoulder to make sure all is well every time (Fig. 13).

UNCOUPLING was a fruitful source of damaged hands until the hooks, now in general use, were adopted. Lads new to the work may not realize the danger of not using the hook provided, and should be instructed always to make use of it.

COUPLING ON. Where men and lads are still getting trapped whilst dogging-on, it is nearly always discovered that they were taking a risk to couple on just as other tubs were about to bump in, or just as the clipper was about to hang the run on to the rope. Instead of risking your hands, arms or body, wait until the tubs have bumped in, or warn the clipper not to clip on until you have done your job in safety.

What used to be a common accident was lifting a tub on to the road without first taking your pony off. Nowadays the same danger may arise unless you take the time and trouble to knock the clip off first, and then throw the tub on afterwards (Fig. 14).

CLIPPING. Here are three Golden Rules to reduce injuries when clipping:—

1. See you have a clear road behind you, and that there is nothing over which you may trip as you walk back (Fig. 15).



Fig. 12.

Showing how fingers are trapped by a big lump rolling over when pushing at the top of a tub.

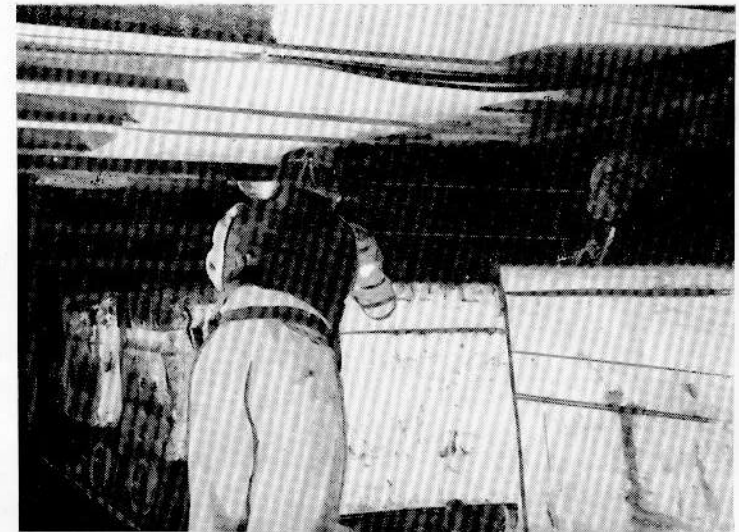


Fig. 13.

How an arm is fractured. A run behind coming down on to his elbow.



Fig. 14.

Lifting a tub on the road with pony still attached.

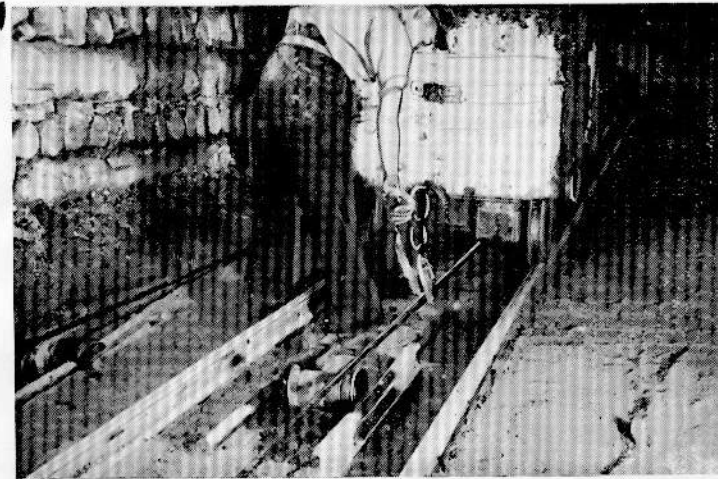


Fig. 15.

The danger of clipping on without seeing that there is a clear road behind. In this case a roller frame.

2. Be prepared for a thick piece of rope coming along as you stand in front of the run getting your clip on. It may snatch forwards unexpectedly, so be prepared to hop quickly out of the way, and never stand with both feet in the rails unless you have to.
3. Keep your hands away from the rope itself, so many punctured wounds are got from wires protruding from the rope when you thoughtlessly "feel" the rope into the clip jaws.

KNOCKING-OFF. Four rather serious occurrences could have been avoided when, in struggling to get a tight clip off the rope to knock a run off, instead of stopping the rope, youths have been crushed between the run and standing tubs.

If at any time you find it is doubtful whether you will get the clip off soon enough—**LEAVE IT, AND STOP THE ROPE WITH THE BELL WIRES** (Fig. 16).

LOADER TENDS. Very few accidents are now taking place at loader ends. Perhaps that which gets into the Accident Book most is when a lump of coal rolls off a newly filled tub and hits a man who is busy shovelling in the spillage hole.

This can only be prevented by a greater watchfulness on the part of the man responsible for filling, and the man with the shovel realizing that such a thing may happen to him, and keep his eyes skinned to this end.

6. Handling Material.

This work is a constant source of painful injuries to hands and feet. In many cases, such as when two or more men are lifting a girder, it is due to misunderstanding as to when to lift or when to drop. Therefore, one of the team must be made solely responsible for giving instructions.

Again, feet are damaged by girders, arches or props rolling off the tram or tub. In all cases, the men must try and give such a load a wider berth, and if they are accompanying a tub of, say, bent arches along the haulage road, there is no need to walk actually alongside as one so often finds was the case when an accident has occurred.

An old piece of brattice cloth over the ends of a tub will help to stop such steel slipping off, and gloves are very strongly recommended for wear by all whose work is to handle material.

7. Hats, Gloves, Shinguards, etc.

Now that all have Safety Hats, and so many cases are known in which these hats have definitely saved life or serious injuries, wear them every minute of the shift.

Please do not take your hat off during snap to shade your light, or on the travelling road to shade the glare from the man behind you.

Remember the wise saying about a pit that—"OWT CAN HAPPEN, AT ANY TIME."

Two nasty feet wounds have happened to men wearing only light boots, quite unsuitable for the pit. Whilst real Safety Boots are recommended, next time you need a pair, at least come to work in a strong and suitable pair of boots.

The men on some of our conveyor faces are now all wearing Shinguards, and swear by them, especially in thick work, they are a real protection to legs and are comfortable.

Gloves for many, but not all, jobs are proving a real protection from minor injuries to the hands. Do not forget that there is always a stock kept at your pit.

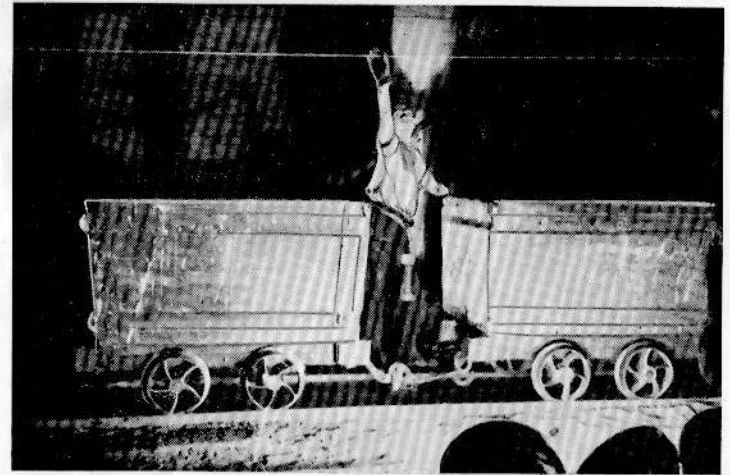


Fig. 16.

Not risking getting crushed by a tight clip as he is knocking-off, this lad is stopping the rope.

8. General Remarks.

The pages you have read are not written from the tiresome basis of supposition, but every remark is based on an actual accident, or number of similar accidents that have occurred during the past year at our own pits. There is still plenty of room to get a much lower Accident Rate, and with your continued help, and with you all doing your best to look after yourselves and others, at the end of another year we hope for better results still. After all, a man's safety at work does depend upon him to a very large extent.

As long as there are pits at work there are bound to be some accidents, but then, as long as there are motors on the roads the same thing may be said about walking in the street.

One of the first jobs is to forget the old tradition that a pit must produce a crop of accidents each year, and that it is being "soft" to take extra care at work, or wear such things as Shinguards to save your legs. This is nonsense; so get it out of your minds very quickly. Try and cultivate "Safety Consciousness" every minute you are at work, help to keep the place tidy, and above all, please give freely of your experience in the prevention of accidents to those who have yet to learn. If you have had to learn in the painful school of being bitten before you are shy, get others to be shy from the beginning and steer them clear of the bite!

