Here's the answer
REPAIRS TO HARVESTER WHEEL

Recently we had to dismantle and rebuild a Sunshine harvester main wheel. We managed to complete the job fairly satisfactorily but probably a few hints on the correct procedure would have enabled us to do the work with only a fraction of the expenditure of time and labour. Could you publish any notes that might help?

Thanks to the generous co-operation of the makers of the machine, Messrs. H. V. McKay-Massey-Harris Pty. Ltd., we were able to obtain the following notes and trust that they will be helpful.

FITTING OF WOODEN RIMS

1. Completely dismantle wheel, including rivetted segment lugs, taking care before doing so to mark the respective locations of the wooden rims and the segment-securing lugs.

2. Remove all burrs from the inside circumference of the steel rim, and inspect the assembly for roundness.

3. Measure with a blacksmith's trammel, or similar tool, the inside circumference of half the steel tyre, i.e., from the point where the original wooden member joined, to the corresponding point directly opposite. Note this dimension, which we shall call "A", carefully.

4. Remove the packing-piece mounted across the diameter of the new wooden rim, and mark off around the outer circumference, dimension "A". It is recommended that before measuring, a short offcut, say 2in. long, be cut off square at one end of the wooden rim.

5. Fit the wooden half-rim into the steel section, taking care to locate it exactly in the position of the original part, and in line with the markings previously scribed. Draw the wooden member, by means of two or three D-clamps, hard up against the inside of the steel tyre. Secure wood rim temporarily, until such time as all rims are fitted, by boring two or three ½in. holes at intervals through the existing grip holes in the steel tyre, and bolt into position.

6. Measure the second half wooden rim, as outlined above, and tap into position. Remember, measurements must be accurate, as the wood rims should hold securely in the tyre before any bolts or spokes are fitted. Repeat items 5 and 6 on the second pair of wood rims.

7. Bore all holes and mortise the wooden rims for the insertion of the segment-securing lugs. Secure lugs tightly with red-hot rivets.

On a 14in. wheel, which embodies two 6in. wide and two 8in. wide wooden rims, the wheel is assembled with the 8in. wide rims to the side of the wheel on which the segment-securing lugs are rivetted.

When repairing a flanged steel wheel, the segment lugs are not removed, but they should be checked and re-rivetted if found at all loose.

FITTING OF CENTRE

Place wheel rim, segment-side up on a pair of trestles or a suitable frame which will allow for freedom of movement around the wheel and will not foul the wheel centre when it is being placed in position.
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It is essential that spokes with worn heads be renewed, and that the bore of the wheel centre is in good or new condition.

To fit the wheel centre concentric to the rim, a trammel, as shown in the accompanying sketch, is required. This piece of equipment can be built to suit individual requirements.

There are three nuts on each spoke, which, for the purpose of identification, we will call X, Y, Z.

Nut X is for the purpose of securing the spoke to the rim, and should be tightened as soon as all spokes are in position, and before any attempt is made to true the wheel.

Nut Y is a lock, and should be left loose until the truing operations of both centre and segment have been completed.

Nut Z, i.e., the nut inside the flange of the centre, and the last to be assembled on the spoke, is for the purpose of truing the wheel.

1. Take a spoke and place it through one of the lower lines of holes in the rim and tighten, then run on second nut (Y), using all available thread.

2. Place centre (with brake-rim down) on the spoke, using the top line of holes in the wheel centre, and hold centre in position by using third nut, Z. Place a second spoke along side the first, using the same line of holes in both centre and rim. The third spoke is assembled in a position on the opposite side of the wheel, using in this case the top line of holes in the rim and the lower line of holes in the centre. As a guide, nut Z, referred to above, should be screwed on to its full depth. Insert the remainder of the wheel spokes in a similar manner to that outlined above. The wheel should then be trued by the adjustment of the nuts Z until the trammel gauge, when moved in a circle, just touches the rim at all points.

Note.—Nut Y should be left loose until such time as both centre and segment have been true to the rim.

FITTING OF SEGMENT

Place segment on to the lugs, ensuring that leather packing-pieces are placed between segment and lugs. These packing-pieces should not be more than one-sixteenth of an inch thick.

The trammel gauge should again be used to ensure that the segment is fitted concentric with the wheel centre. If difficulty is experienced then in obtaining concentricity, it is recommended that the segment be rotated one-third or two-thirds of a turn, thus lining up an alternative lug to any one particular segment bolt hole.

BLOOD IN MILK

Noticing a red tinge in the separator recently I isolated the suspected cow’s milk and allowed it to stand overnight. The cream carried a number of red spots about the size of pin points. No blood was visible during milking. Does this symptom indicate any disease and if so what is the remedy?

Small quantities of blood in the milk are not uncommon and usually result from the rupture of small capillary blood vessels in the udder. The condition is most common among cows which have calved recently and are yielding heavily. No effective method of treatment can be recommended, but the condition usually disappears as the milk yield declines.

“BOTTLE JAW”

Some of my sheep have developed large swellings under the chin, large enough to make feeding difficult. I am told that the trouble is known as “Bottle Jaw” and would welcome advice on this trouble.

The condition known as “Bottle Jaw” indicates that the animals are suffering from a heavy infestation with Large Stomach Worms (Haemonchus contortus).
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Drenching with one of the phenothiazine preparations will assist in reducing the worm population and it is suggested that the flock be drenched immediately and the sheep moved to a dry paddock where feed is plentiful. Leaflet No. 679 which may be obtained free of charge from the Department of Agriculture contains full information on worm infestation and treatment.

**IMPACTION**

Recently one of my sheep died and on being opened I found that she was suffering from impaction. Could you tell me what causes this trouble and would linseed oil or spirits of nitre be suitable remedies?

Deaths from impaction are by no means as common as many farmers imagine. "Impaction" and "dry bible" are often blamed for the deaths of sheep and cattle. On opening up an animal, the "bible" or third stomach is often found to be hard and dry. This is quite a normal condition and many animals which are believed to have died from impaction or "dry bible" in reality died from the condition known as Toxic Paralysis or Botulism.

Linseed oil and spirits of nitre are not usually given to sheep and are unlikely to be of much value in curing the usual ailments encountered in the flock.

**MYCOTIC DERMATITIS**

When I commenced shearing I found that some members of the lamb flock had some sort of disease on their backs. This showed itself by horny patches of wool which made it almost impossible to shear the animals cleanly. It seems to be contagious, as one of the ewes in the same flock is affected very badly. I would be pleased if you could advise me on the cause and cure of this trouble.

The description suggests that your lambs are affected with Mycotic Dermatitis. This is an infectious disease of the skin caused by a mould or fungus which invades the wool and gives rise to a heaping up of thick scabby material which binds the wool fibres into a hard mass. The condition is largely a disease of young sheep.

The fungus is readily destroyed by a weak solution of copper sulphate (one part to 500 parts of water). Dipping should be carried out during the late autumn. Alternately zinc sulphate solution at the same strength is equally effective.

At shearing time the affected sheep should be shorn last and the lumpy wool should be burnt and the shearing shed and all gear thoroughly cleaned up and disinfected. Fuller information on this disease is contained in Leaflet No. 763, "Mycotic Dermatitis (Lumpy Wool) and Fleece Rot."

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