

Somercotes Polar Star, no stranger to the honor, was champion, while J. G. Williams won female championship with Penalty Rose.

T. L. Walker's very massive bull, Sentry, very fresh for his years, was the male champion of the Hereford section. The Earl of Coventry's veteran cow, Madrigal led in females. Longhorns were relatively in few hands. Lord Gerard's bull, Eastwell Empire, was the champion male, and the champion female was Captain Cottrell-Dormer's Romp of Rousham. The Sussex breed made quite a fair display, J. Raynor Betts winning the male championship with Otham Oddfellow 4th, and J. Aungier the trophy for the best female with Lynwick Knelle Flirt 4th.

The champion Red Poll bull was W. Woodgate's Redgrave Reveller, and the champion cow or heifer, the Marchioness of Graham's Ashlyns Fawn.

In Aberdeen-Angus the breed society's chief prize fell to a young Dalmeny-bred bull, bred by the Earl of Rosebury but owned by A. W. Bailey Hawkins, Stagenhoe, Welwyn, and a nice, evenly-fleshed bull, short on the leg and boasting a deep body. James Kennedy's bull Matador of Bywell was reserve.

David Brown's bull Jovial of Blackmore won the Galloway breed's memorial prize.

Jerseys again made keen competition. The champion bull was from Middlesex, W. M. Jackson, Potters Bar, winning with Mabel's Star, while a five-year-old cow in milk, Pretty Victress, from the herd of the same exhibitor, took the female championship award. The Royal Jersey Agricultural Society's special prize for three animals went to J. H. Smith Barry, Stowell Park, Wilts, with an aged cow, a three-year-old and a calf.

Guernseys included some notable cattle, among them being F. Pratt-Barlow's bull, Robert Boy Sequel, from Hazlemere, which won the English Guernsey Cattle Society's championship for males, Mrs. J. J. Basingstoke, being reserve. The female champion-

ship fell to Hertfordshire, where the Channel Islands dairy breeds are very popular, Mr. Bailey Hawkins being the victor with Stagenhoe Rose of Gold 1st; J. F. Remnant, M.P., Twyford, was reserve with Donnington Jane.

Sheep.

Some typical classes of the Wensleydale breed of sheep were on show. The quality of the exhibits was also well maintained. Always a prominent Royal winner, Lord Henry Bentinck, M.P., Kirby Lonsdale, swept off the bulk of honors in these classes, three firsts and three seconds falling to his exhibits. His chief competitor was J. A. Willis, Manor House, Carperby, Yorkshire, who won three thirds, a first and a second. Another Yorkshire exhibitor, J. W. Greensit, Holme-on-Swale, Thirsk, won the chief awards with a shearing ram and a pen of three shearing ewes. In three classes of Lonk sheep, Edward Smith, Summerhouse Farm, Cowling, Keighley, met with much success, but he had a strong competitor in Sir John O. S. Thursby, Bart., Ormerod House, Burnley, whose ram, Field Marshal, was placed first in its class, and whose pen of three shearing ewes brought him a similar honor. The Earl of Lonsdale and S. D. Stanley-Dodgson, Cockermouth, shared honors in the classes of Herdwicks, and Walter N. Cochrane, St. John's Chapel, Durham, had matters much his own way with his exhibits of black-faced mountain sheep.

In Southdown sheep His Majesty the King won one first, five seconds and two thirds, his chief antagonist being Captain Dermot McCalmont, still in the trenches with his regiment. In Shropshires, leading honors fell to A. S. Berry, E. C. Tanner and the Duke of Westminster. In Lincolns, R. & W. Wright, Nocton, took premier prizes, and E. F. Jordon and George Harrison scored in Leicesters. R. G.

Murray & Sons won the championship cup in Border Leicesters.

Pigs.

The middle white breed of pigs was perhaps the feature of that section. There was a strong parade of old boars, the first prize and champion medal going to Shrewsbury, shown by John Chivers, Histon, Cambridgeshire. The Yorkshire breeder, Leopold C. Paget, Middlethorpe Hall, York, won second and third awards. In young boars Paget won a first and second in a strong lot of exhibits, and among the breeding sows John Chivers had his Perfection Pride placed first. Sows farrowed in 1915 made up what is perhaps the strongest class of gilts ever seen at the Royal, and Chivers won with Histon Pride, true to type. The animal also won championship honors.

In large white boars the judges gave first to Spalding Vulcan, shown by A. W. White, Hillegom, Spalding. Second and third awards went to Sir Gilbert Greenall, Bart, C. V. O. There was a fair class of boars over 18 months old, and Sir Gilbert carried off the first and second awards. Among young boars, D. R. Daybell, Rottesford, Nottingham, won first and second prizes with two good animals. The pick of the breeding sows, farrowed in 1912, 1913, or 1914, is undoubtedly Sir Gilbert Greenall's fine sow, Worsley Lady, last year's Royal winner, and the same breeder again scored among the sows over 18 months old with Worsley Queen. The two champion gold medals offered for the best boar and best sow both went to Sir Gilbert.

Julius Fricker won the Berkshire championship, and Robert Ibbotson appropriated both Tamworth honors. In large blacks K. M. Clark and T. F. Hooley won the supreme titles, as did H. Caudwell and G. Simpson in curly-coated Lincolnshire pigs.

ALBION.

Automobiles, Farm Machinery and Farm Motors.

Hot Weather Lubrication.

It is a well recognized fact that any piece of machinery requires lubrication, and so we cannot too strongly urge car owners to keep this salient point constantly in sight. A visit to any large factory engaged in the iron and steel business, will reveal to visitors the very evident care that is taken at all times in the operation of every device doing hard work of any kind. Most of the machines are operated with oil sprays placed upon vital parts and this open air lubrication can be readily seen and thoroughly understood. In automobiles the system of oiling is along the same principle, but not as apparent. Oil from the reservoir in the lower half of the crank case is pulled through a screen to a pump that forces it past a little round glass on the instrument board. The latter is called a sight feed. It assures the driver, when in operation, that the circulation of the oil is being accurately cared for from the sight feed. The oil is distributed to splash trays or troughs where connecting rod strips force it around such vital parts as the connecting rod bearings, the interior of the crank case, the pistons and cylinders. There is an intense heat developed under any circumstances by the motor, but in these hot July days the extra strain calls for the exercise of maximum care in order that troubles may not develop on the road through carelessness. It is well to remember, however, that too much lubricating oil carbonizes the cylinders and makes it necessary to have them burnt or scraped out in order that a knock may not develop in the machinery. There is an old expression that an ounce of prevention is worth a pound of cure, and so we would suggest that the best manner of fighting carbon is the introduction of a spoonful of kerosene through the spark plug holes and allow it to stay in the motor for ten or twelve hours. Do not put in too much of the mixture, however, as it may lower the quality of the lubricating oil and produce seizure around the pistons.

Your motor oil should be a high grade, medium heavy product with a flash point of not less than 400

degrees Fahrenheit and be used exclusively for the pump shaft bearing and for all small parts not included in the regular system of lubrication. We refer to such pieces of machinery as the rocker-arm ball joints, clutch-release yoke, small joints of spark throttle and accelerator connections etc. Steam cylinder oil should be a heavy mineralized brand entirely free from acid, and should be utilized for the timing, transmission, differential and steering gears. Hard cup grease finds its best use on the rocker-arm brackets and fan spindle. Do not purchase it until you are sure that the stuff offered has a melting point of not less than 250 degrees Fahrenheit. Soft cup-grease of pure mineral production must be placed in all other grease cups, such as those found on the front axle, the brake shafts, driving yoke and ring, steering connecting rods, wheel hubs, etc.

There is a happy medium in the use of oil. Do not put in too small a quantity and certainly do not use too much. The former method may find you developing too great a friction and the latter plan will only result in the collection of dust and dirt in those parts of the car where the excessive oiling runs into the open. We would strongly urge that you drain out the motor, transmission and rear axle three or four times a year, washing them out thoroughly with gasoline before refilling. At least once every twelve months the car should receive a thorough overhauling in order that you may determine exactly what effect your lubrication is producing. If the parts are found to be in perfect alignment and free from wear, you can rest assured that your efforts have not been in vain, but should you find excessive use at any one point, the fact is established that your oiling has not been properly done. Perhaps it would be well for the new driver to secure the literature of well known oil manufacturers, as their books, present plans whereby the utmost efficiency can be secured at minimum expense, and one can safely advise the novice to frequently consult garage superintendents regarding the car's condition. Do not think that a perfect system of lubrication is going to cause a great deal of worry as in a month or two, a very rapid glance is enough to satisfy a fairly expert driver as to the condition of automobile mechanism in so far as its easy running is concerned.

AUTO.

About Nails.

The holding power of nails varies with the kind of wood into which they are driven. Austin T. Byone gives the relative holding power of woods about as follows: white pine, 1; yellow pine, 1.5; white oak, 3; chestnut, 1.6; beech, 3.2; sycamore, 2; elm, 2; basswood, 1.2.

Very thorough tests of the comparative holding power of wire and cut nails of equal lengths and weights were made at the United States Arsenal in 1892 and 1893. From 40 series, comprising 40 sizes of nails driven in spruce wood, it was found that the cut nails showed an average superiority of 60.50 per cent.; the common nails showed a superiority of 47.51 per cent., and the finishing nails, an average of 72.22 per cent.

In eighteen series, comprising six sizes of box nails driven into pine wood, in three ways, the cut nails showed an average superiority of 99.93 per cent. In no series of tests did the wire nails hold as much as the cut nails.

The quantity of nails required for different kinds of work are as follows:

For 1,000 shingles, allow 5 lbs. 4-penny or 3½ lbs. for 3-penny.

For 1,000 laths, 7 lbs. 3-penny fine, or 10 lbs. for 100 square yards.

For 1,000 square feet beveled siding, 18 lbs. 6-penny.

For 1,000 square feet sheathing, 20 lbs. 8 penny, or 25 lbs. 10-penny.

For 1,000 square feet flooring, 30 lbs. 8 penny, or 40 lbs. 10-penny.

For 1,000 square feet studding, 15 lbs. 10-penny and 5 lbs. 20-penny.

For 1,000 square feet 1 inch by 2½ inch furring 12 inch centers, 9 lbs. 8-penny or 14 lbs. 10-penny.

For 1,000 square feet 1 inch by 2½ inch furring 13 inch centers, 7 lbs. 8-penny or 10 lbs. 10-penny.—S. I. Ross, Colorado Agricultural College, Fort Collins, Colorado.

A motor car has been used as power in moving a house in Tulsa, Oklahoma, relieving a number of horses.

Toronto, Montreal, Buffalo, and Other Leading Markets.

Toronto.

The total receipts of live stock at the City and Union Stock Yards for the past week were:

	City	Union	Total
Cars.....	51	476	527
Cattle.....	546	5,036	5,582
Calves.....	168	718	886
Hogs.....	523	7,461	7,984
Sheep.....	937	2,470	3,007
Horses.....	81	2,053	2,134

The total receipts of live stock at the two markets for the corresponding week 1915 were:

	City	Union	Total
Cars.....	25	783	808
Cattle.....	145	7,301	7,446
Calves.....	37	830	867
Hogs.....	569	12,202	12,771
Sheep.....	485	2,568	3,053
Horses.....	82	4,797	4,879

The combined receipts of live stock at the two markets for the past week show a decrease of 281 cars, 1,864 cattle, 4,787 hogs, 46 sheep, and 2,745 horses, and an increase of 19 calves.

The past week was very unsatisfactory to the commission men. Packers not seeming to care whether they bought cattle or not. Heavy fat steers were especially slow at from 50c. to \$1 lower

than the week previous. Light butcher cattle held their own until Thursday, when packers cut the price by about 25c.

Cows.—Choice cows were steady to firm all week. Choice milkers and backward springers of good quality were steady to strong, but poor-quality animals were not in demand.

Stockers and Feeders.—There is a steady market for the better class, but very few are being offered.

Sheep and Lambs.—Choice, spring lambs and light, handy sheep were firm at prices quoted below. Heavy, fat sheep are, however, not wanted and hard to sell at any price.

Hogs.—The hog market was steady to strong all week at prices quoted by the packers: select hogs selling at \$11.25, fed and watered, and \$11.50 weighed off cars. Packers say they will be 25c. per cwt. lower this week.

Butchers' Cattle.—Choice, heavy steers, \$9.10 to \$9.50; good, \$8.60 to \$9. Steers and heifers, choice, \$8.90 to \$9.40; good, \$8.50 to \$9; medium, \$7 to \$8; common, \$6 to \$7. Cows, choice, \$7 to \$7.75; good, \$6.25 to \$7; medium, \$5.75 to \$6.25; canners and cutters, \$3.50 to \$4.50. Bulls, best, \$7 to \$8.25; medium to good, \$6.50 to \$7; common, \$5.25 to \$6. Stockers and feeders, \$5.50 to \$8.25; milkers