## VALUE OF BY-PRODUCT.

Work of Importance from Selfish and Public Standpoint.

slaughtered there which cannot be used for food. The late Philip D. Poor Richard's adage, that "a penny saved is a penny earned." The result of this policy is shown in the vast area occupied by the several factories operated by his firm and others is the same business for the manufacture of hundreds of useful articles from those parts of the steers, sheep and hogs that were formerly thrown

the hide, tallow and grease were used. but the blood, feet, head and offal were buried or hauled out on the prairies and dumped. The horns finally became of some value, and after the horn pitch was removed they were shipped to Europe and there mannfactured into horn buttous, combs and various ornaments; but no manufacturing of this sort was attempted in the United States until within the last twenty years. About the first buy material from the packers, but the story goes that the cattle heads and feet from the trenches in which they were buried by the packers during the day would be dug up at night. hauled to the glue factory and converted into glue and bone fertilizer. Soon after this packers found out that the material had some value and

began to charge for it. In the meantime quite an industry had been built up in the manufacture of glue, and in the year 1885 Armour & Co. purchased the Wahi Brothers glue factory. This was the first entrance of the packers into the manufacture of glues. The industry has grown rapidly, and largely from all the smaller packers.

hile in a plastic condition. During he process of glue boiling the tallow d grease are extracted and skimmed sdried, ground up and sold as fortili-It contains certain proportions initrogen and phosphorus, combined ith phosphate of lime. Gelatin is made from selected calves

tock and is very carefully manufac-ured, the process being somewhat milar to that used in the making of

Isinglass made from animal tissues

gh and a demand having arisen for mmercial fc. tilizers, it was suggested in rendering lard and tallow be for grapes and other crops. ied and used as a source of nitrogen compounding fertilizers, mixing dirsolving South Carolina rock ag of the fertilizer industry in Chi-

At the same time the blood accumuing from the killing of cattle, boilsteam dryers was also used as a fer- ders are also prepared. iter, the entire output for a number ears being shipped to New York Boston, as there was no demand fertilizers in the west. These maals with hoofs and horns, are valuchiefly for their nitrogenous conits, blood and hoof meal containsoda or sulphate of ammonia. For usiness himself, combining with phosphates from the South.

A visit to one of the packing-houses 7 This part of the packing business at the stockyards will give a very has grown very rapidly, and Armour clear idea of the enormous amount of & Co. now have plants at many points money saved and made by the utiliza- in the United States for the manufactions of the portions of the animals ture of fertilizers, shipping their blood and tankage to those points, making their own sulphuric acid and acid Armour was a very pratoical man and phosphates and supplying the trade always did business upon the basis of of each immediate section. Fertilizers are made of different strength for different soils; climates and crops, a quick-acting fertilizer being prepared for garden truckers, who must get their product into the very early markets, and a slower acting fertilizer for winter wheat. Practically all the cotton in the United States, with the exception of Texas, is grown with fertilizers, and nearly all the winter In the carlier days of the industay wheat producing States are now large-

ly using them. At the fertilizer works is now prepared blood albumen, which, up to within five years ago, had been imported entirely from Europe. It is used by calico printers in fixing certain pigment colors to the cloth, and is similar in appearance to the white of an egg. When its temperature is raised to a certain point it coagulates. After the cloths are printed they are steamed at a temperature approximatuse made of the offal at Chicago was ing 200 degrees Fahrenheit. This in the latter part of the 70s, when a action coagulates the albumen in the small blue manufacturing plant was ink, rendering it insoluble in water, established near Ashland avenue on and mechanically fixes the color in the river. There was no attempt to the cloth. Albumen is also used by tanners in finishing leathers, by makers of certain extracts, by sugar manufacturers and for the clarifying of

liquors. Dried blood is used as a fertilizer and is also beginning to be used largely as a stock food. It is the most con- ally killed for their hides and bones, centrated food we have, containing cannot possibly possess the delicious something like 87 per cent protein, flavor of those made from the carefully and gives exceptionally good results when fed to horses and other live States, the Chicago packers have enstock in connection with their regular | deavored to preserve the true flavor in feed, two or three ounces being given a concentrated form. Tons of fresh a day. The Kansas City experiment station has discovered that a disease known as the scours, which greatly troubles young calves, can be cured Armour & Co., having the largest glue by the addition of a little of this dried plant in the world, not only use all blood to the skim milk on which they he raw material furnished by their are fed. This discovery is saving wn packing-houses, but also buy thousands of calves every year. Certain portions of tankage are ground They manufacture several kinds of up into meat and largely sold for poullue. The phosphate of lime in bone try and for the fattening of hogs and sheld together by a nitrogenous ma- other live stock. Bone, coarsely granerial which can be taken out of the ulated, is used for the same purpose,

In the bone cutting department, antemperature and the glue is taken out. other branch of the fertilizer busi-After the glue is extracted it is con- ness, are made handles for knives, entrated in a vacuum, chilled by re- razors, etc., carved and dyed to rerigeration, cut up into thin layers, semble stag horn; also collar buttons, iried on wire screening in large hot pipe mouth-pieces, bone screws used has grown, so too have the varieties of preparation. One may obtain it as a solid or fluid, in tablets with a company of the meerschaum and other rade may demand. The diamond ptpes, dice, little square blocks used of asparox, which is extract of asparabase marks on sheet glue come from by dental students for filling teeth, gus and beef extract, or in tomato he wires on which the glue is dried for nursing bottle rings and shields boullion, a combination of tomatoes and bone buttons of all kinds.

In the manufacture of the fine steel parts of guns, bicycles, automobiles and the boney and meaty matter and other machinery, the steel is fashioned into its final shape when soft and then put into a box of hard granulated bone. This, box is then put into a furnace, heated to a certain color, dumped into water, and the result is that a very high carbon steel has been formed on the outside of the parts thus treated, making them extremely hard.

Hoofs are assorted into three grades; used by brewers in the clarifying of the white hoofs being used for a cerheir liquors. It is a transparent tain grade of button closely resembles a transparent tain grade of button closely resembles the finest grades of gelatin in tons. A striped hoof is flattened into a plate through pressure under in nutritive value may be had by comparing it with raw beef juice, which has a high reputation as a food for the sick. The London Lancet's analysis of soluble beef shows that it contains lt may be said that in the fertilizer heat and used in the manufacture of juice contains from 2 to 5 per cent dustry Armour & Co. were pioneers. hair-pins; striped hoofs are also used only. On that basis one teaspoonful the early '80s, Peruvian being very in the ranufacture of buttons. Black hoofs and hoof scrap are used in the manufacture of cyanide and chrome. affecting the nutritive value.

William E. Curtis. that the meaty and boney material Scraps of hoofs ground up into a fine posited in the bottom of large tanks powder make a nitrogenous fertilizer

The tallow and greate of a carcass are used in the manufacture of soaps. them the acid phosphate made At a certain time in the boiling of soap salt is introduced into the kettle, asphate with acid. A hot dryer which precipitates the glycer u of the ed testimonials, so don't hesitate to designed, and that was the begin- fat together which the lye, which is drawn off and from them is mi nufactured glycerin. All grades of soaps are made, from the very finest voilet and shaving soaps to the mottled iverto coagulate the albumen and dried man scrubbing soaps. Washing pow-

Curled hair is made in large quanti-

ties, and all grades and colors. The garnet sand used in the manufacture of sandpaper and the emery used in the manufacture of emery paper and cloth are fastened to the paper with gluc. Armour & Co. own almost as much nitrogen as nitrate a garnet quarry in Connecticut, and

The pharmaceutical laboratory is material potash from Germany, one of the most interesting parts of the Armour plant. Armour & Co.

are the largest manufacturers of pepsin in the world. Pepsin is a ferment something like yeast, and its function is to dissolve the alumenous parts of the food eaten so that it can be assimilated during the process of diges-

From time immemorial people have been troubled with goiter, a disease of the thyroid gland on the throat. Some years ago it was discovered that if the thyroid gland of sheep or other animals is administered to sufferers from this disease the trouble may be relieved. Hence it is now desiccated and sold to druggist as a powder, and physicians report exceptionally good results from its use. Other glands are desiccated and are supplied to the medical profession by Armour & Co., and a great deal of original research work is continually being done in their pharmaceutical laboratory.

The suprarenal capsule, a small gland immediately above the kidney, furnished an active principle which is an extremely powerful heart stimulant. It is used in eye surgery, and in the treatment of hay fever, as it seems to have a beneficial effect in reducing irritation when applied to membranes of the eye and nose. All these pharmaceutical articles are prepared in various shapes and are well known and used by the medical profession all over the world.

The pelts of the sheep slaughtered at the packing-house are cleaned, and the wool is pulled out, dried, graded, and soid to the wool manufacturers. The wool is so thoroughly prepared that it commands very high prices. The sheep pelts are then pickled and sold for the manufacture of gloves and other leather goods. The hides go to the tanners.

The history of the extract of beef serves to illustrate the progress of the packing industry during its rapid evolution from the old-fashioned slaughter-house to the wonderful plants of to-day, where every department is conducted under the most advanced scientific methods. Realizing that South American and Australian extracts, which are made from wild cattle, usufattened domestic cattle of the United meat are used daily for this purpose. After the extract has been taken from the meat the fiber is dried, ground or powdered and sold largely in foreign markets, where it is used in various form of food, principally for animals.

The liquor cooked from the meat is concentrated in vaccuum pans to either solid or fluid consistency, as may be desired. It is then a pure concentrated essence of meat.
Gouffe says that "beef broth is the

the soul of domestic cookery," but how to get that "soul" from the old-time "shin of beef" has proved a difficult problem to many housekeepers. with a pot of beef extract at hand, the cook has, without time or trouble, the best of stock for making soups, sauces, beef tea and other deli

As the consumption of beef extract and beef extract.

A few years ago a physician friend of the late Mr. Armour asked him why he did not make a preparation of beef that would be a nutritious food upon which life could be sustained; that this was needed particularly for the invalid and convalescent, and pointed out that his means and position as a packer made such an expen-pensive investigation possible. Mr. Armour gave instructions to his chemists to start the work, and as a result tract in that it is the real substance of the meat (fiber and all), concentrated and predigested. An idea of its nutritive value may be had by comparof soluble beef is equable to from 10 to 27 teaspoonsfuls of beef juice. It may be used with hot water without

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Send no money—simply write and try Botanic Blood Balm at our expense. A personal trial of Blood Balm is better than a thousand printwrite for a free sample.

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Some idea of the extent of their works may be obtained when it is said they writing Blood Balm Co., Atlanta, Ga. Describe trouble and free medical advice sent in sealed letter. This is an honest offer-medicine sent at once, prepaid. Sold in Anderson by Orr-Gaay Drug Co., Withite & Wilhite and Evans Pharmacy.

## County Mutual Benefit Association of America.

The County Mutual Benefit Association of America is now organizing the Anderson Division of 1,000 members. The membership fee is \$5.00, which covers the first advance death assessment. One Dollar for every member is deposited with Mr. James M. Payne, the Secretary and Treasurer of the Anderson Division, and is held in The Bank of Anderson, subject to the order of Nelson R. Green, the President of the Anderson Division, to pay the first death less by the Association. death loss by the Association.

death loss by the Association.

The Policy is clear and simple, agreeing to pay the sum of one dollar for every member in the Division upon the surrender of the Policy and approval of the proofs of death of a member in good standing. It is a home organization, managed by honerable, high-minded business men, for the benefit and protection of home people. It reduces life insurance protection to the minimum of cost that the average of human life will allow. There are no big salaried officers to now and there are no big annual promiums to be sent out of aried officers to pay, and there are no big annual premiums to be sent out of the County into some rich Northern insurance company's pocket. All the money stays right at home, and when it is paid out every member knows exactly to whose benefit it goes in time of trouble. Until the first thousand members are secured applicants will be received up to 55 years of age, thereafter no member will be admitted over 30 years of age. We want good, reliable agents in every township in Anderson County at once. Persons desiring to become agents for their township will write or call on THOS. W. NORRIS manager of agents for Anderson County.



#### GROWING!

WE have enlarged our Store room and added to our Stove and Tin business GLASS and CROCKERY, and would be pleased to have you call and inspect Goods and get prices.

We sell the best Cook Stoves, Ranges and Heaters on the market. Would call special attention to the Air Tight Wood Burner. It will burn knots, chunks, chips, corn-cobs, roots, trash of any kind, and gives the greatest amount of heat with less fuel than any Stove in ex-

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We shall be pleased to have your order.

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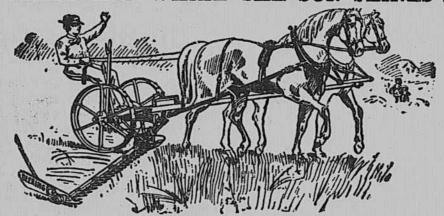


or mail 25 cents to C. J. MOFFETT, M. D., ST. LOUIS, MO.

Owton of Jr. H. Handy, Secretary of State, Austra Ers., Nov. 21, 1900.

ething child, every succeeding day warned us that we would inevitably loss him. I happened upon the secretary of State, and State of State of

### "MAKE HAY WHILE THE SUN SHINES!"



#### It is very easy to make Hay while the sun shines if you have A DEERING MOWER and RAKE.

THE many advantages the Deering Mower has enables the operator to work it with much more ease than any other machine, and no time lost in going around stumps and trees. This Machine is so constructed that the driver is at no trouble in lowering and raising the cutter bar in passing stumps and trees. With no effort scarcely he brings the cutter bar to an upright position without stopping the Machine. There are many other advantages the Deering Ideal Mower has that we will show you when you want a Mower. The Pitman Rod of this Mower has only two pieces, while all other Machines have from ten to twenty-five pieces to wear out and be replaced.

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New Fall Bargains in our Dry Goods Department		
8 cents Outings in dark and light shades at only	4700	

# Best Apron Giughams in brown, blue and green at only... 10 cent Outing, very wide and heavy, at only... 25 Piezz Curtain Swisses, white ground with red, blue, green figures at only... 10 Piece All Wool Eulerdown, in all colors, at only... 20 Pieces new Flannelletts, in all the latest olorings, at only... 20 Pieces double width Cotton Piads, beautiful designs at only... 100 yards of Remnants of Cheviots, extra heavy value 10c at only... One Lot Remnants and Sheet Lengths in all wool Red Flannel at only... 560 yards Dark Styles in Percales, tast colors, at only... 1000 yards Extra Heavy Cotton Flannel at 5, 6, 7, 8 and 10c yard... 800 yard Wool Plad Dress Goods, real value 25c, at onlye...

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