CROWELL (H.G.)

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AMERICAN PUBLIC HEALTH ASSOCIATION,

IN

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BOSTON, OCTOBER 3, 1876.

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SANITARY LAWS TO REGULATE THE BUSINESS OF SLAUGHTERING, A NECESSITY.

THE business of slaughtering is a very filthy one at best. From remote ages until the present day it has been carried on in private slaughter-houses in the most unskilful and disgusting manner. Frequently, in populous places, the slaughterers are avaricious men, who conduct their business with the least possible outlay for buildings or other appurtenances, and in total disregard of the health or the comfort of the public. Immature calves and other animals whose flesh is unfit for human food are killed, and even those that have died from disease or by accident are dressed, and the meat while fresh, or after being corned or manufactured into sausages, is offered for sale in the open market.

Many of the buildings in which the business is carried on are mere sheds or out-houses, wherein no attempt has been made to fit them for the purpose; consequently the floors and other wood-work soon become saturated with blood and bespattered with filth.

Moreover, the disposition of the offal and refuse material is necessarily attended with more or less offence. They are often suffered to remain in or about the buildings until decomposition takes place, when they are collected by different parties, one taking the hides, another the fat, another the bones, another the feet, etc., to be transported in different directions through the public streets, polluting the air with their noxious effluvia, until they reach their several destinations. Here the fat, bones, and

other refuse are placed in open kettles or retorts and subjected to heat, which liberates the remaining noisome gases, to the discomfort and disgust of all who live in the vicinity.

A still more objectionable method is not unfrequently adopted. The intestines of the slaughtered animals, with other decomposing animal matter, are thrown into the piggeries, usually found connected with these slaughter-houses, to be eaten by the hogs, or wallowed in, and exposed to the sun; thus becoming the putrid source of the foulest odors, which poison the atmosphere for a great distance from the premises. The hogs fed upon this disgusting material, so fruitful of trichinæ, are slaughtered in the adjoining shed, and the meat sent out to spread disease wherever it is eaten.

The drainage of these slaughter-houses, if there be any, is defective; allowing the animal liquids and bloody water filtering through the floors, to soak into the soil or to stagnate upon the surface. The cruelty sometimes exercised by the butchers towards the animals, before and while being slaughtered, is heart-sickening, and has in this State called for the interference of the Society for the Prevention of Cruelty to Animals.

The following vivid description of the condition of the animals, as they are herded in pens previous to being slaughtered, is by the late Dr. Edward B. Dalton, of New York.

He states that "they are herded in small, ill-ventilated pens, in many cases so crowded as to entirely prevent the cattle from moving about, where they are kept without food, barely long enough for the fever produced by the journey to subside, when they are killed, and at once distributed to consumers. While the cattle are thus penned up, they are the source not only of the greatest discomfort, but of great injury to the health of the community. The constant bellowing of the foot-sore and homesick cattle, the ceaseless moaning and bleating of calves and sheep, and the squealing and grunting of pigs

disturb, and, indeed, oftentimes entirely destroy, the sleep of the occupants of the surrounding tenements, which are generally filled with the laboring classes, who can ill afford to be thus robbed of their natural rest.

"The emanations from the animals themselves, thus kept in unhealthy condition, and from their excretions, keep the atmosphere constantly tainted, while the hordes of rats, flies, and vermin which they attract render a residence in their vicinity, especially in hot weather, almost intolerable."

This description will apply to most, if not all, private slaughter-houses. However cleanly such places in themselves may be kept, with such surroundings it is not possible that they should be other than sources of offence, and dangerous to the health of the public.

It is only by a personal inspection of these establishments that any one can fully realize their perfectly disgusting character, and the slovenly and wasteful manner in which the business is conducted. A large portion of the blood and other refuse matter which, under the abattoir system, is utilized and made a source of profit, in these places is suffered to run to waste. During the year 1869, 53,000 beeves, 342,000 sheep, and 144,000 hogs were slaughtered within six miles of this very hall, producing 3,763 tons of offal, and 417,000 gallons of blood, a very large portion of which was thrown aside as worthless except as food for hogs. In order, therefore, to make the business a profitable one, these slaughterers are forced to purchase animals of an inferior quality, and sell the meat at a price far in excess of its real value.

Such has been the condition of private slaughter-houses from time immemorial. With the exception of the old Mosaic law, which prohibited the Jews from eating the flesh of any unclean beast, or that of any clean beast, unless it was slaughtered in a peculiar manner by one of their own sect appointed for the

purpose (which law is still enforced by the Jewish Rabbi), there does not appear to have been any restriction upon the trade until the time of the Roman emperors. At first the slaughter-houses in the city of Rome were scattered throughout its various sections, but were finally concentrated in one quarter and formed the public meat-market. This market, in the time of Nero, was one of the most imposing structures in the Roman capital. Several coins of that era which bear a delineation of this ancient edifice are still preserved, and give some idea of its magnificence.

As early as 1567 the attention of the French authorities was directed to the subject, but no definite action was taken to regulate the business until the time of Napoleon I., who originated the abattoir. In 1810 a decree was issued for the erection of public abattoirs in the outskirts of Paris. They were nearly completed before the fall of the Empire, but it was not until 1818 that the Parisian butchers ceased to slaughter in their private establishments. From that time to the present the business has been confined to the abattoirs. In 1867, the grand abattoirs "La Vilette" were opened, and at these, most, if not all, the business of slaughtering for the city of Paris is now done.

In many of the cities of the continent, particularly in Vienna, the business is confined to abattoirs, where it is under the strictest supervision. Glasgow and Edinburgh have adopted the abattoir system with the most satisfactory results. In none of these places, however, has the rendering of the refuse material been confined exclusively to the abattoirs.

Not until 1844, when public opinion forced Parliament to interfere, was any action taken by the British Government to reform the abominable system which then prevailed; and then, owing to the large vested interest in the business, it was allowed to continue, under certain restrictions, for a period of

thirty years. In 1852 Smithfield market, one of the largest in London, situated in a very populous part of the city, became such an offence to the neighborhood that Parliament was obliged to interfere, and it was closed. A substitute for this market was provided at Islington. The first stone was laid in 1854, and it was opened on the 15th of June, 1855, by Prince Albert. It covers an area of some twenty acres, and is one of the best of its kind; yet it will not bear a favorable comparison with the abattoir La Villette. In 1874 the Metropolis Building Act of 1844 should have taken effect. It prohibited the slaughter of animals in London except under special conditions with which it would have been almost impossible for the butchers to comply, and would have closed 1,500 slaughter-houses in that city. Parliament, however, instead of suppressing them, allowed those who were in the business to continue, and only prohibited the erection or opening of any new establishments. And now, notwithstanding the strict laws and rigid inspection to which they are subjected, the slaughter-houses of London are a discredit to the capital.

In this country we have been slow to join in the march of improvement in this direction. While many of the States have enacted the most stringent laws for the regulation of slaughtering, but little, if any, attempt has been made to enforce them, except in a few of our larger cities.

In the city of New York, previous to 1866, the slaughter-houses were scattered throughout the thickly settled portions of the city, from one extreme to the other. The following year the Board of Health, finding it impossible to supervise the business and keep it under proper control while it was so scattered, issued an order forbidding the driving or slaughtering of cattle below Fortieth street. The slaughterers appealed to the courts for an injunction against the Board, which was granted, and the business was resumed. The question was then

carried to the Court of Appeals, which reversed the decision of the lower courts, and the action of the Board was sustained. Since that time the number of slaughter-houses in the thickly settled portions of the city has been constantly decreasing, and the business is being gradually concentrated in the large establishments or abattoirs. The Board of Health of New York, in their report for the year 1867, state "That a year ago it was argued, with some reason, that the sudden expulsion of slaughter-houses from the city would so embarrass the business as to seriously interfere with the supply of meat. Now, however, this is no longer the case. Extensive and thoroughly appointed abattoirs are now in operation in the immediate vicinity of the city, and in localities convenient to the public markets, of sufficient number and size to supply meat, fully and promptly, to the cities of New York and Brooklyn, even if all the private slaughter-houses should be closed to-morrow. These abattoirs are supplied with every facility not only for slaughtering animals, but for utilizing at once, within the same enclosure, all the refuse material while it is still fresh and inoffensive. A far less important, but still gratifying fact is, that experience of the past few months has proven that, by the use of abattoirs, cattle can be slaughtered, and the meat dressed and delivered at the public markets or elsewhere, not only in far better and more wholesome condition, but at a decidedly less rate of expense than by the present system."

The Commonwealth of Massachusetts has not been indifferent to the necessity of regulating a business so prolific of danger to the public health. I find that on the 25th of October, 1692, the Great and General Court of Massachusetts Bay passed an Act, "That the selectmen of the towns of Boston, Salem, and Charlestown, respectively, or other market towns in the province, with two or more justices of the peace dwelling in the town, or two of the next justices in the county, shall, on or

before the last day of March, 1693, assign some certain places in each of said towns (where it may be least offensive), for the erecting or setting up of slaughter-houses for the killing of all meat, still-houses and houses for trying of tallow and currying of leather (which houses may be erected of timber, the law referring to building of brick or stone notwithstanding); and shall cause an entry to be made in the town books of what places shall be by them so assigned, and to make known the same by posting it up in some public places of the town; at which houses and places respectively, and no other, all butchers and slaughterers, distillers, chandlers and curriers shall exercise and practise their respective trades and mysteries; on pain that any butcher or slaughterer transgressing this act by killing of meat in any other place, for every conviction thereof before any one or more justices of the peace, shall forfeit and pay the sum of twenty shillings; and any distiller, chandler, or currier offending against this act, for every conviction thereof before their majesties' justices at the general sessions of the peace of the county, shall forfeit and pay the sum of five pounds; one-third part for the support of the government and the incident charges thereof, one-third to the poor of the town where such offence is committed, and one-third to him or them that shall inform and sue for the same."

In 1696 this act was amended, requiring those distillers and tallow-chandlers who might be convicted of carrying on their business contrary to the act, not only to pay the fine imposed, but also to enter into recognizance to take down their stills, coppers or furnaces, and in default thereof to be committed to prison until he or they do cause the same to be taken down.

In 1710 the act was still further amended, as follows: "That when and so often, from time to time, as it shall appear any house or place assigned, or to be assigned, to and for the aforesaid trades or mysteries, has become a nuisance by reason of

offensive and ill stenches proceeding from the same, or otherwise hurtful to the neighborhood, it shall and may be lawful to and for the Court of General Sessions of the Peace within the county, to cause inquiry to be made thereinto by a jury, and to suppress such nuisances by prohibiting and restraining the further use thereof for the exercise of either of the aforesaid trades or mysteries, under a fine of forty shillings per month, to be to the use of the poor of the town or otherwise, as in their discretion they shall think fit. . . . . That the proof of any dead beast or beasts hanging up in any outhouse, or the lying or carrying out the entrails or garbage of beasts, or blood of creatures, in or out of such house, shall be sufficient conviction in law that such house is used for a slaughter-house, within the intent of the law against common nuisances."

These early and praiseworthy endeavors to regulate the business of slaughtering, and to control it in the interest of the public welfare, did not transmit to our more recent times their fullest beneficial effect. The business of butchering is prone to backslide, and Massachusetts butchers have illustrated the rule and not the exception.

The slaughter-houses and piggeries of Brighton for many years were a reproach to our good name for general cleanliness. At length, after years of persistent labor on the part of the State Board of Health, aided of late by the Board of Health of the City of Boston, on the 30th of November last, by order of the city board, all the private slaughter-houses within the limits of the city, with one or two unobjectionable exceptions in a remote district, were closed. Acting on the recommendation of the State Board, the Legislature of 1876 passed an act prohibiting on and after the first day of June last, the business of slaughtering within the limits of the city, except at the abattoir in Brighton. This abattoir was incorporated in 1870, but did not commence operations until 1873. The grounds, which cover an

area of about fifty acres are located on the bank of Charles river, about four miles from the centre of the city, in a sparsely settled district, away from the public street, yet conveniently near the railroads and cattle markets. It is constructed upon the most approved scientific principles, and is under careful and constant supervision.

The central building, called the rendering-house, is 200 feet by 80, and four stories high, on the sides of which are the slaughter-houses, with the necessary cattle-sheds, yards, stables, tripe-works, engine and boiler-house, etc. The beef slaughter-houses each cover a space thirty-eight feet wide by thirty feet long, or 1,140 square feet. Out of this space a room twenty feet square is taken, with double walls (two feet thick) packed with fine shavings, for a "cool-room," in which the meat is hung for several days before being sent to market. The temperature is maintained in warm weather by the cold air from an ice-box of fifteen to twenty tons' capacity built over the "cool-room" and connected with it. The circulation of air between the "cool-room" and the ice-box is regulated by means of valves in the air-ducts. The remaining space, fifteen feet wide, is used for slaughtering the cattle. The floor is of double plank, calked water-tight, like the deck of a ship, and laid upon iron beams with a slope to an iron gutter which catches the blood and conveys it below. There are several trap-doors in this floor, through which the hides, offal, etc., are dropped into separate iron tanks on wheels in the basement. The slaughtering-place opens to the rear upon the close-pen, the cattle-yards and sheds; and in front is the loading-shed, where the meat is put into the wagons. The "cool-rooms" are twelve feet six inches high. The slaughtering-places have the whole height of the building up into the roof, and are lighted by windows above the roofs of the sheds. By means of pulleys and shafting from the rendering-house, the cattle are hoisted for dressing, and the ice is lifted to the

ice-chambers. Hot and cold water are supplied to each slaughter-house.

The basement story under the slaughter-houses is of brick walls, with a concrete floor, and has ample drainage. It extends, without partition, three hundred and eighty feet, from one end of the block to the other. In this story, under the trap-doors, are the iron tanks (on wheels) to receive the hides, heads, feet, tallow, tripe, blood and offal. When filled, the tanks are wheeled into the rendering-house and their contents distributed,—the hides being left in the basement and the blood and offal taken to the rendering-tanks and dryers by means of elevators.

The sheep slaughter-houses are similarly arranged, with "cool-room," slaughtering-place, etc., etc.

The rendering-house, which forms the centre of the whole group of the abattoir, is 200 feet by 80 feet, and four stories high, including a brick basement, which has a concrete floor like the basement of the slaughter-houses. The rendering-tanks are in the third story, suspended from the fourth floor. These tanks open at the top, on the level of the floor of the fourth story, where the offal is emptied into them from the small "tanks on wheels" coming from the slaughter-houses.

The dryers are in the second story, with openings in the floor above, near the rendering-tanks.

The boiler and engine house, of brick, stands quite near the rendering-house, and around the central smoke-flue are constructed four large flues or shafts for ventilating the various rooms of the rendering-house.

The animals slaughtered at this abattoir are mostly received by railroad from the West. On their arrival they are taken into the cattle-yards, thence they are led to the slaughter-houses, knocked down and bled. The blood is drained into a receptacle below. The hides, heads, feet, tallow and offal are dropped

through their respective openings in the floor into iron carriages, in which they are removed to the rendering-house and distributed. The hides are taken to the basement to be salted, or sent to the tanneries in the neighboring towns. The blood, tallow, heads, feet, and other refuse, are taken to the rendering-house and placed in their several tanks or retorts, which, when filled, are firmly closed. Steam is then turned into the tanks to the full pressure of the boilers. When the whole mass has been thoroughly steamed, the grease is drawn off at the side of the tanks, after which the contents or scraps are dropped through an opening in the bottom of the tank into large iron wagons and taken to the presses. After being pressed it is passed into dryers below. From the dryers it is taken into the lofts, where it is cooled, packed and sold for fertilizing purposes. The blood and heads of the animals are treated in much the same manner as the other refuse, except that they are put directly into the dryers without being pressed, the steam having coagulated the blood and reduced the bones to a pulp. The tallow is rendered in a tank by itself; when rendered it is pumped into coolers, from which it is drawn into casks ready for shipment. The feet and shin-bones are treated somewhat differently. They are skinned in the basement of the slaughter-houses, then taken to the rendering-house and steamed for twenty minutes, after which the hoofs are taken off and placed in a tank, when the neats-foot oil is extracted; when this is accomplished, and the shin-bones are thoroughly washed, they are removed to the attic to dry. The smaller bones, belonging to the feet, are taken to the fertilizing tank to be rendered with the other offal. The principal part of the tallow and all of the shin-bones and hoofs are sold to be shipped to Europe. The noxious gases are intercepted while passing from the different tanks and dryers, when in operation, at a point conveniently arranged where condensation takes place, and where they are

separated from the steam. They are then discharged by means of a fan-blower, and forced under and through the fires of the boiler furnaces, which effectually destroy all offensive odors. After this purification they are discharged into the air through a chimney one hundred and sixty feet in height. This most important part of the process requires constant watchfulness and careful manipulation to avoid the escape of offensive odors.

Thus, within twenty-four hours after the animal is slaughtered, every part is either rendered or otherwise disposed of in such a manner as to be free from offence.

The act of incorporation of this abattoir provided that the plans, with all the details of construction of the buildings, should be submitted to and approved by the State Board of Health, and the business carried on under the supervision and in accordance with such regulation as said Board should, from time to time, establish. It was further provided that, for each violation of any regulation so made, the corporation should be liable to a fine of not less than twenty nor more than five hundred dollars, to be recovered by indictment against said corporation. The act was amended the present year (1876), and the supervision of the abattoir was transferred to the Board of Health of the City of Boston, who were authorized to make whatever regulations may seem to them fit, in order to prevent the slaughter and sale of animals unfit for human food, and were empowered to appoint one or more inspectors to see that the rules and regulations of the Board were fully obeyed, and that none but healthy animals were slaughtered.

To protect the public still further against the liability of purchasing or eating diseased or unwholesome meat, the same Legislature passed an act, authorizing the mayor and aldermen of cities and the selectmen of towns to appoint one or more inspectors of animals intended for slaughter.

These inspectors were empowered to enter into all buildings or

enclosures where such animals are kept, and to seize and destroy, or otherwise dispose of, all such as are unfit for human food.

Let the business be concentrated in one locality, where suitable buildings and appliances have been prepared for the slaughter of animals and the disposition of their refuse. Let there be a strict enforcement of laws like the foregoing, together with a constant and careful supervision by the health officers, and a rigid inspection of the animals intended for slaughter. There will then be no reason why the business may not be carried on at a convenient distance from the centre of any city without annoyance or detriment to the public health, and even with more profitable results than under the old system; and the problem, "How can the nuisance created by the ordinary slaughter-house be most effectually abated?" will be satisfactorily answered.