



FORTUNES
MADE IN BUSINESS

A
SERIES OF ORIGINAL SKETCHES

Biographical and Anecdotic

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MESSRS. BASS AND THE BURTON
BREWERIES.

IT is no extravagant assertion to say that throughout the world there is no name more familiar than that of Bass. A household word amongst Englishmen, it is one of the first words in the vocabulary of foreigners whose knowledge of the English language is of the most rudimentary description. And while the cognomen of the great Burton brewer is of cosmopolitan celebrity, there is no geometrical figure so well known as the vermilion triangle which is the trademark on his bottles. It is as familiar to the eye as Her Majesty's visage on the postage stamps. It would, indeed, be a difficult task to say in what part of the earth that vivid triangle does not gladden the heart of man. Thackeray contended with great humour that far as the meteor flag of England

may have carried the glory of this country, the fame of her bitter beer has gone farther still. The word "Bass" is known in places where such "names to conjure with" as Beaconsfield, Gladstone, Bright, Tennyson, and Dickens would be unintelligible sounds. To what corner of the habitable world has not "Bass" penetrated? He has circumnavigated the world more completely than Captain Cook. The sign of the vermilion triangle is sure evidence of civilisation. That trade-mark has travelled "from China to Peru," "from Greenland's icy mountains to India's coral strand." There it is in Paris or St. Petersburg, Madrid or Moscow, Berlin or Bombay, Brussels or Baalbec, New York or Yokohama, San Francisco or San Stefano, Teheran or Trichinopoly. You meet the refreshing label up among Alpine glaciers and down in the *cafés* of the Bosphorus, among the gondolas of the Grand Canal at Venice, the dahabeahs at the first cataract on the Nile, and the junks of China. It has reached "the Great Lone Land." It has refreshed the "mighty hunter" camping out in Wyoming, Montana, or Dakotah. It sparkles before the camp-fire of the Anglo-Saxon adven-

turer out in the wilds of the Far West, and its happy aroma is grateful to the settler in the Australian bush. When the North Pole is discovered, "Bass" will be found there, cool and delicious.

Mr. George Augustus Sala, writing recently of *Paris Herself Again*, insists that the French people are rapidly becoming a nation of English beer-drinkers. He says: "Bavarian beer, for political reasons, they resolutely refuse to drink; and similar causes render them averse from partaking of the once-beloved beverage of Strasbourg. Their own beer, from Nancy and other parts of the east of France, is very bad; and I hold that Burton-on-Trent has a very bright future before it, and, so far as supplying the French market is concerned, might eventually beat Vienna—great as has been the name of Dreher—out of the field. 'Cerevisia de Palyaly,' as the Spaniards call Bass's pale ale, is making great way in all the towns of Andalusia, and all the first-rate *cafés* in Paris sell it, either bottled or on draught."

In countries where wine is cheap and "Bass" dear, "Bass" is preferred; and if in England

“ Bass ” were the price of “ Heidsieck,” “ Mumm,” or “ Moët & Chandon,” and these the price of “ Bass,” then the Burton beer would prevail over the champagne. Farquhar, in the *Beaux’ Stratagem*, makes Boniface say, as he pours out a glass of his Burton beer, “ Smooth as oil, sweet as milk, clear as amber, and strong as brandy : ” “ fancy it Burgundy—only fancy it—and ’tis worth ten shillings a quart.” Even a higher value was placed upon the wine of malt by the Oxford “ Union,” where it was once gravely deliberated which had conferred the greatest boon on the human race—the printing-press or Bass’s beer. The debate was conducted with great ability, and on the division taking place “ Bass ” was triumphant. Beer is a truly national drink ; “ Git ma my aüle,” says Tennyson’s “ Northern Farmer ; ” and he only expresses the request of Englishmen everywhere. Give the Frenchman his *absinthe* and his *vin ordinaire*, the Dutchman his schnapps, the Spaniard his sugar-and-water, the Russian his *vodka*, the Oriental his sherbet and his coffee, the American his iced cobbles, but give the Englishman his beer. “ To rob a working man of his beer ” is, in the eyes of the English artisan, an

act of the deepest turpitude. A draught of "Bass" is popularly supposed and currently believed to have saved the life of his Royal Highness the Prince of Wales during the terrible crisis of that deadly fever when all the country watched with affectionate solicitude by his bedside; Dr. Tanner interested himself in "Bass" as soon as he left off fasting and began feasting; beef and beer are somehow bound up with old England's greatness, and are associated with the battle of Waterloo, the conquest of India, and the exploration of the world.

The beer-trade is a great industry, seeing that the number of brewers in the United Kingdom is registered at 22,278.; but Mr. M. T. Bass stands at the top of it. Mr. Gladstone, in his Budget speech of June 10th, 1880, addressing himself to the vexed question of the malt-tax, spoke of Mr. Bass as one who, "both from his ability and his long experience and skill in that branch of industry, stood at its head," and he alluded to the great brewery at Burton as "a permanent and respected institution of the country." It may, however, be remarked in parenthesis that the recent financial proposals of the Government

have not altogether the countenance of the firm the Premier so pointedly eulogised; for Mr. Arthur Bass, M. P., presiding at the anniversary festival of the Licensed Victuallers' School shortly afterwards, is reported to have said that he thought their result would be to make beer dearer, and to stimulate its manufacture from an inferior article. Mr. Gladstone at a subsequent date, in the discussion on the Customs and Inland Revenue Bill, said the beer trade had its high priests and its hierarchy. Sir Wilfrid Lawson, therefore, with his customary facetiousness, christened the well-known member for Derby "Archbishop Bass."

The history of Messrs. Bass & Co. as Burton brewers does not reach back much beyond a period of a hundred years; but the fame of Burton ale is as ancient as the reputation of Sheffield steel, of which we read in Chaucer. The archæology of ale would make an interesting work: but to record all that antiquarians and historians and poets have said on the subject would demand the space occupied by Alison's *History of Europe*, or as many volumes as the *Encyclopædia Britannica*. The Egyptians are

claimed as the originators of ale. Humorous cynicism has surmised that it was for the beer-pots as well as the flesh-pots of the Pharaohs that the parched Israelites sighed in the thirsty desert. We have not traced back Mr. Bass's genealogy, for he is a living reminiscence himself, a Nestor belonging to the last century, carrying his experience to the eighth decade of this century. But, remembering that the Egyptians were the inventors of beer, it has been assumed that the Burton brewer descended from Bassareus, the Egyptian god, to whom oblations of wine of barley were periodically offered. And in support of this natural supposition may be cited the Egyptian pyramid in red—the coat-of-arms worn by "Bass" at the present day. Bringing the history of beer down to English annals, we find that the Anglo-Saxons and the Danes drank beer at their religious festivals, and it was provided at the banquets of their kings. "Whitsun ales" are bound up with the ecclesiastical history of "Merrie England." At Haddon Hall, in the mighty mediæval days, beer formed one of the great hospitalities of the baronial castle; and in the wainscoting of the banqueting-hall to this

day is to be observed by the curious the iron ring fixed there in the "good old days" for the wrists of teetotalers, who were thus suspended while the potent ale the abstainers abjured was poured down their sleeves. Burton beer figures early in our "rough island story." Ben Jonson sings the praises of Burton ale; while its panegyric by John Taylor, the Water-Poet, is one of the quaintest conceits in English composition. And while Shakespeare pronounces "a quart of ale a dish fit for a king," we find he puts in the "fiery Hotspur's" mouth the opinion that the Burton district is the best in all England for a flagon of good beer, and makes Percy express his determination to keep it for himself, though he had to turn the Trent from its course to obtain it. It is plain, therefore, that the product of Burton was famous in Shakespeare's time; and we have historic evidence that Mary Queen of Scots was solaced in her solitary confinement at Tutbury Castle by draughts of Burton beer. Sir Walter Scott introduces the connection between Burton and beer in the pages of *Ivanhoe*; but the Staffordshire mash was celebrated before the time of Richard Cœur de

Lion, for the Saxon kings built a bridge over the Trent at Burton, to give their subjects facilities to drink the beer of the place. Indeed, so liberally were these facilities employed, that in the twelfth century it was found necessary to raise the parapets of this bridge, in consequence of the frequent accidents that happened to people passing over it on their return journey. Old Dr. Plot, in his Staffordshire history, mentions Burton as the first and last place in which he had seen maltsters dry their barley in the sun in the open streets. What a revelation would meet the quaint gossiping writer's eyes could he but behold the Burton of to-day!

It was not, however, until the beginning of the eighteenth century that brewing as a distinct trade was begun in Burton. The first common brewer was a Benjamin Printon. When he commenced the business he employed only three men. But he may be said to have founded the export trade of Burton. He sent out by waggons his barrels to distant towns. The fame of Burton beer spread. The demand for it induced new men to follow his enterprise. Among these was William Bass. He was a Burton carrier. Im-

pressed with the increasing traffic in beer carried by his own teams, he determined to brew and transport his own brewings, instead of conveying those of other traders. This was in 1777. The honest old carrier's shrewd decision founded the largest and most famous firm in the world. William Bass was the grandfather of Michael Thomas Bass, the present head of the Burton business. London, however, only took a barrel or two in those days. It was sold at a hostelry in Gray's Inn Lane, called the Peacock. St. Petersburg was a great market for the Burton brewings long before the English metropolis. Orders from the Russian capital exceeded 600 hogsheads at a time; but they were for a strong dark liquid, quite unlike the present pale tonic for which Bass and Co. are celebrated. The St. Petersburg traffic taking precedence of that of London is accounted for by the expense of inland communication; while the Trent navigation gave direct access *via* Gainsborough to Hull, the English port for Baltic captains. The trade with Russia had grown to a large and important business when, in 1822, a despotic tariff imposed by the Czar's Government was so heavy as to be practically prohibitory. At

first sight, the imposition of these heavy import duties seemed to augur unfavourably for the future of Burton. On the other hand, they proved the foundation of Burton's fortune. Had they been repealed at the petition of the Burton brewers, Burton would probably have been a big village brewing the heavy heady dark Muscovite beverage to this day. But the action of Russia not only led to the popular introduction of Burton beer into London and the south of England, but to the establishment of that trade with the East, which marked an era of prosperity, the mercantile magnitude of which could not have been conceived by William Bass, even had he been endowed with an Oriental imagination, inspired by his own "juice benignant." The history of that important departure is worthy of recital.

At that period the whole of the Indian market was monopolised by one house, the London firm of Abbott & Hodgson, of the Old Bow Brewery. Hodgson's India pale ale had established itself in the East. India was dependent on Hodgson; but he had just then given offence to some of the East Indian merchants. About this time, Bass's

beer had been introduced into London, and a gentleman in the East India Company's service suggested to Mr. Bass that he should brew a special beer for the Indian market ; not the strong sweet brown ale synonymous with Burton ; but a beer suited for consumption under a tropical sun. Mr. Bass tasted Hodgson's produce. He was of opinion that he could not only brew it, but that he could improve upon it. He brought practical determination to the question, and a series of scientific experiments were entered upon. A beer had to be produced which should bear the atmospheric vicissitudes of a voyage round the Cape, and that should, when unloaded in India, be as clear as amber, sparkling as champagne, pleasant to the palate, and wholesome to the liver. Malt had to be dried a different colour, and the treatment of hops rose to quite a fine art. The experiments were numerous and costly ; but the result was a triumph. It was Bass's bitter beer. The first consignment sent out to India produced a most favourable impression. Its popularity was instantaneous. When the next cargo followed the success was confirmed and complete. Hodgson, with his moneyed monopoly and his

Eastern standing of half a century, could not withstand the competition with Burton. The price of his produce fell, and Bass steadily progressed in favour, until his name became a household word in India. This invention of bitter beer was the key to a splendid fortune. The trade to-day between the Burton firm and the Eastern Empire is one of colossal proportions.

It was what we call chance that introduced Bass to India. Chance brought him into notice at Liverpool. Until 1827 Messrs. Bass appear to have exported all their bitter beer for that Indian consumption for which it was originally manufactured. In that year, however, an accident was the agency for introducing it to another constituency. A cargo of 300 hogsheads of bitter beer was wrecked in the Irish Channel. The salvage was landed at Liverpool. It was disposed of for the benefit of the underwriters; but instead of being reshipped to Calcutta, it was drunk at the great Lancashire port. It gained instant favour, and the north-west of England and Ireland became a great market for "Bass." In the Liverpool of to-day, at the Gill Street stores of Messrs. Ihlors & Bell—the

great exporters—may be seen at a time 2,000 butts of Bass, each butt holding 108 gallons, and each worth 10*l.*; while at the North End stores of the same firm there are 3,000 butts. Messrs. Ihlers & Bell send to the Brazils, Pernambuco, and other distant markets about 5,000,000 quart bottles a year, and pay Bass & Co. over 60,000*l.* a year. Several bottling firms in London and Scotland pay the Burton firm similar sums for export only.

It was not until the Exhibition year of 1851 that Bass acquired an important hold upon London. The London brewers considered their position impregnable; but in that year of all nations, Mr. Bass took up a place in the metropolis which has grown stronger every succeeding year. An Englishman's heart is reached through his stomach, and it was at the refreshment department of the world's show that Bass gained the affections of London. Messrs. Masters & Young-husband divided the commissariat at the Crystal Palace. With both firms Mr. Michael Thomas Bass obtained permission to lay on his bitter beer in draught. All the world and his wife were tempted, they tasted, and were conquered; and

if the Prince Consort's Universal Exhibition did not introduce the period of universal peace, it brought about universal bitter beer. It was just about this time, when "Bass" was achieving a wide popularity, that a deadly blow was aimed at its reputation. Seven-and-twenty years suffice to cover many matters of moment with the cold mantle of oblivion, and the great pale-ale controversy of 1852—which was more bitter than the bitterest beer—is well-nigh forgotten. It owed its origin to an allegation made in a series of lectures on hygiene, by M. Payen, delivered at the Conservatoire des Arts et Métiers at Paris, that the bitter of bitter beer was not derived from hops, but owed its presence to strychnine. The English medical press gave currency and comment to this serious statement, which met with emphatic denial by the Burton brewers. The public was alarmed, and M. Payen persisted that the French Government were aware that large quantities of strychnine were made in Paris, and that its pernicious use did not prevail there, but that the poison was exported to England in order to fabricate bitter beer. The Burton brewers triumphantly refuted the

calumny, and showed its base untruth in a most signal manner. They called in the services of a commission of acute and scientific investigators. The published report of these experts (who submitted to severe analysis bitter beer, brewed before M. Payen's accusation, in bottle and barrel, and from wholesale and retail places all over the country) states that the result of the chemical and microscopical examination of forty samples of bitter beer, pale ale, or India pale ale, brewed by Messrs. Bass & Co., and by Messrs. Allsopp & Sons, and obtained under circumstances which precluded the possibility of error, fallacy, or of preparation for the selection, is in every case recorded as follows: "*Analysis.* The produce of malt and hops, and the constituents pure spring-water; not any other ingredient, either organic or inorganic." The commissioners added other important evidence as to the quality of these beers: "First, that the bitter beers of Messrs. Bass & Co., and of Messrs. Allsopp & Sons, contain only a moderate amount of alcohol; and, secondly, that they contain an unusually large quantity of bitter extract, consisting of the extract of hops." They concluded

the report of their scientific investigations by adding a recommendation of bitter beer, which, considering their high position as chemists, pharmacutists, surgeons, and physicians, is worthy of quotation in these pages. They write :

“From the pure and wholesome nature of the ingredients employed, the moderate proportion of alcohol present, and the very considerable quantity of aromatic anodyne bitter, derived from hops, contained in these beers, they tend to preserve the tone and vigour of the stomach, and conduce to the restoration of the health of that organ when in a state of weakness or debility.

“These bitter beers differ from all other preparations of malt, in containing a smaller amount of extractive matter, thus being less viscid and saccharine, and consequently more easy of digestion ; they resemble, indeed, from their lightness, a wine of malt, rather than an ordinary fermented infusion ; and it is very satisfactory to find that a beverage of such general consumption is entirely free from every kind of impurity.

“The admirers, therefore, of the bitter beer

manufactured by the celebrated brewers we have mentioned may enjoy with advantage this their favourite beverage. The report so commonly circulated, that it contained a deadly poison, was a severe reflection on the sagacity and judgment of the members of the medical profession; because it is perfectly well known that bitter beer or pale ale first acquired, and afterwards maintained, its general celebrity in consequence of the universal recommendation of our profession—a recommendation which is now proved to have had the best possible foundation.”

This is the age of adulteration, and it is not surprising that the British public received a scare from the smart Parisian’s novel alarm of a “French Invasion.” But it was impossible for an assertion so mendacious and mischievous to receive a moment’s credence from people who knew the mercantile character of Bass & Co. In the preparation of their bitter beer, scrupulous pains are employed in getting the finest malt, the best hops, and the purest water; the greatest cleanliness and the most exact skill are directed to the process of brewing; while the

reputation and wealth of the firm have been altogether built up by an unswerving and un-deviating honesty, and a constant and conscientious determination to manufacture the most acceptable article that a combination of capital and chemistry can produce.

So much for the history of bitter beer. Something now as to the breweries of Messrs. Bass and Co. Brewing is the staple industry of Burton-upon-Trent. There is nothing particularly picturesque about the place. It lies in a flat position on the eastern border of Staffordshire. Its many chimneys and its monotonous warehouses, indeed, make a very commonplace town, although the artist might find a pretty "bit" in the grey old Trent bridge, with its thirty-six arches of proud antiquity, the broad broken river, and the wooded slopes of Stapenhill rising on the opposite bank. The railway position of the town is, however, a central one; and while the Midland Company is the principal carrier, three other railway systems—the London and North-Western, the Great Northern, and the North Staffordshire—run into the breweries. Burton is indeed a curious congeries of railway

lines—"a mighty maze, but not without a plan." The brewery lines cross the principal streets and cut up the borough into every denomination of geometrical shapes. Fussy little locomotives, with trains of barrels behind them, are puffing everywhere. Bass & Co. have, indeed, twelve miles of railway on their own premises, and a working arrangement with the Midland Company over seven miles of their branches. The firm are customers to the Midland Railway to the extent of some thousands of pounds annually. In one year, that ending June 30th, 1878, the firm paid the railway and canal companies and other carriers in that period the sum of 180,102*l.* for carriage alone. Some idea of the magnitude of their traffic to London alone may be gathered from the fact that the ale-stores of Messrs. Bass outside St. Pancras Station cover three floors, each two acres in extent, and each containing 30,000 barrels of 36 gallons of ale. Besides this, Bass and Co. have a large export bottling store under the Midland Goods Depôt at St. Pancras, with accommodation for 8,000 butts, together with export stores at Poplar for the continental business.

The breweries of Messrs. Bass are spread all over Burton. They have grown with the trade from the smallest of premises to quite a town of themselves. How great has been that development may be best inferred from the statement that the amount of business transacted during the whole of one year, 1827, by the father of Mr. Michael Thomas Bass, was not more than is now achieved by his son's firm in three days! The area of the father's brewery was that of a moderately large garden; that of the son's occupies freehold business premises extending over forty-five acres, of the value of a quarter of a million sterling, and more than 100 acres of leasehold property. Then steam-power was unknown in the place; now Bass and Co.'s brewery has thirty-two steam-engines daily at work, nine locomotives, two portable engines, and 100 powerful cart-horses. Mechanical and scientific appliances have largely minimised manual labour, yet the Burton staff number nearly 3,000; while in addition hundreds are required to manage their places of business all over the United Kingdom. The father produced comparatively only a few barrels per week, delivered by his own carts;

the son, in the course of a brewing season, sends out by train and ship one million barrels, and the average annual amount of his business is assessed at 2,400,000*l.* In malt tax and license-duty Bass & Co. pay in one year 286,000*l.* Professor Leone Levi, in a calculation drawn up by him in March, 1871, states that the yearly revenue derived from beer and British and foreign wines and spirits amounts to about twenty-eight millions sterling, or considerably more than a third of the whole annual national revenue, towards which the firm of Bass & Co. pay upwards of 780*l.* per day.

The art of brewing may be divided into three processes: the manufacture of malt, the production of the fermentable fluid called "wort," and the conversion of "wort" into beer. Messrs. Bass & Co. are their own maltsters. The firm have thirty-three malting establishments at Burton; while they possess branch maltings at Retford and Lincoln. Sir John Barleycorn, who acts as our cicerone to the Burton breweries, takes us to the Shobnall maltings which are the latest and largest of the buildings devoted to this branch of the trade. They form of them-

selves seven complete malt-houses in one block of buildings. In the upper story of one of the houses Sir John Barleycorn points out a trifling heap of over 5,000 quarters of barley. He tells us that an average yearly brewing of Messrs. Bass's demands 300,000 quarters of malt—that is, over two million bushels; that an acre of land produces about thirty-two bushels of barley; and that close upon 70,000 acres are thus doing nothing else but growing barley for Bass & Co.'s beer. Another 3,000 acres are employed in growing the 36,000 cwt. of hops which are required for this annual maltage. In the hop storehouse 10,000 "pockets" of hops may be seen at one time. The market price of one "pocket" is 20*l.*, so that the value of hops alone in stock represents a capital of 200,000*l.* The process of malting requires a close attention to little things. First of all the grain is "blown"—a screening operation by means of which the inferior seeds and impurities are eliminated. Then it is steeped in water to a depth of six or seven inches. It remains in the cistern for some fifty hours. The "couch-frame" is the next transition of the germinating

barley, where it remains for twenty to thirty hours to swell; and the various stages through which it passes on its way to the kiln take up about ten days. Notice the exquisite cleanliness of the kiln-floors. The smooth-tiled area occupies an enormous superficial space; but the faintest defect in the cement jointing is at once marked with a white cross for instant remedy. When roasting has completed the malting process, the grain is screened and conveyed to the dry-malt store ready for mashing.

And this brings Sir John Barleycorn to the breweries proper. They comprise three great breweries: the Old, or "Red" Brewery; the Middle, or "White" Brewery; and the New, or "Blue" Brewery. They extend over three sides of a parallelogram broken by sheds, stores, offices, cooperages, malthouses, &c., all connected by railway lines. Burton owes its supreme position as the brewing centre of the world to its natural water-springs. These well-waters, submitted to exhaustive and repeated analysis, show a complete immunity from organic matter. Their chemical composition, however, contains an emphatic percentage of sulphate of lime, a

large proportion of the sulphates of potash and magnesia, and a considerable amount of carbonate of lime. The Burton well-water is palpably a hard water, and *à priori* would be considered bad water for brewing. But though hard at first, it really becomes a soft water, as contained in the beer. As an analysis which appeared in the columns of the *Lancet* shows, "in the course of boiling, the excess of carbonic acid in the water, by which the carbonates of lime and magnesia are dissolved, is expelled, and these salts are precipitated; while the alkaline phosphates present in malt have the power of decomposing and precipitating sulphate of lime, phosphate of lime, and a soluble alkaline sulphate being formed, the greater part of the phosphate of lime so formed is redissolved in the acid generated during fermentation. Thus the water from being at first hard becomes comparatively soft, and in this state is well suited for the extraction of the active properties of the malt and hops used in the manufacture of bitter beer." The chemical constitution of the Burton water explains also another circumstance connected with Burton

ales. The depurating power of the lime clarifies the beer, and renders it bright, transparent without the aid of "finings." The sulphate of lime is obtained from the gypseous deposits of certain strata of the district; and it has been computed that the average amount of gypsum derived from the water used in brewing 1,000 barrels of ale may be estimated at 250 pounds weight. The revenue estimate of the annual brew of Messrs. Bass & Co. is 1,000,000 barrels, so that firm are absorbers of 200,000,000 pounds of gypsum each year! The Artesian borings are 200 feet deep, and Sir John Barleycorn shows a pardonable pride in the powerful pumps.

We are now in the midst of the breweries. A network of railways. An atmosphere of ale. Barrels everywhere. Full casks and empty casks; thirty-six gallon casks and eighteen gallon casks. Casks are the masters of the situation. There they are being rolled from drays, or loaded into railway waggons. Trains of beer, drays of beer, with Titanic horses and drivers as rotund as the barrels. A brewer's horse with even a suspicion of ribs would be as great a natural curiosity as the dodo; while

a lean and gaunt brewer's drayman would be a *lusus naturæ* that Barnum might madly covet.

Now for the process of brewing. The malt, after being again submitted to a winnowing process, is conveyed to the rollers by a "Jacob's ladder"—an endless band, suggestive of "perpetual motion," with a series of small tin buckets attached to it, like a dredging machine. These cans load themselves at the lowest level and empty at the highest. Sir John Barléycorn speaks of the precautions that have to be observed against explosion in this process, as the malt-dust is highly combustible, being almost in a gaseous state. Then the malt is crushed between two iron cylinders with roughened surfaces, which revolve rapidly in diverse directions. Now slightly crushed, and rendered more ready to yield the saccharine matter to be extracted in the mash-tubs, the malt is conveyed by the agency of an Archimedian screw to the various hoppers, which are placed immediately over the mash-tubs. Such tubs! Compared with them, the traditional tun of Heidelberg is as a child's porringer. There is a whole series of these

megatherian vessels. Seven of them are on one floor of the Old Brewery, and about three times as many in the "White" and "Blue" Breweries, each capable of mashing sixty quarters of malt. Bigness, in fact, is the predominant impression Bass & Co.'s breweries give you. Everything is so Brobdingnagian in its proportions that there is danger of one's phrenological equilibrium suffering from the sudden development of the bump of wonder. When the mash-tubs have been supplied with a precisely measured quantity of water, heated to a temperature of from 140 to 170 degrees, the charged hoppers are opened. The malt descends into the mash-tuns, and the process of mashing begins. A revolving series of rakes, set on a central pivot, and called, in brewing parlance, "the porcupine," commences to beat up the entire mash until it attains the consistency of gruel. The mash then stands until the saccharine element of the malt has been thoroughly extracted. This operation takes from one to three hours. Anon the "sweet wort" is drawn off from the tub, and conveyed in pipes by powerful pumps to the "under-back,"

another Titanic receptacle, from which it is passed into the coppers, and when brought to boiling-point is mixed with the hops. The exhausted malt, now "grains," is let down a shaft to the floor below, whence it is carted away. Hops and malt having boiled together for some hours with a fierceness that suggests that the sweets are quarrelling with the bitters, and that makes the earth vibrate with its violence, the whole is then run off from the caldrons into the "hop backs," large open tanks with bottoms of perforated copper. In these the hops are separated from the "wort," which is now conducted by pipes to the coolers at the top of the building; while the hops are pressed by a hydraulic machine patented for the purpose, and subsequently disposed of for manure. The cooling-room may be likened to a lagoon of liquor, a lake of beer, a waveless tideless ocean of ale. From the refrigerators the "wort"—now a near approach to ale—is conducted to the fermenting squares. The process of fermentation takes up from two and a half to three days, and Sir John Barleycorn shows us a hundred squares on one floor holding about

fifty barrels each. A singular natural transmutation now takes place, and the quantity of carbonic gas given off is considerable. A better description of this mysterious change could not be given than one which appeared in the *Daily News*, and we avail ourselves of part of the account: "Hitherto the 'wort' has been a dull phlegmatic fluid, seemingly incapable of being stirred into animation. But the yeast soon alters its temperament. We see the process of active fermentation in a variety of different stages. In one square the 'wort' is sulking—the yeast has not yet stimulated it into briskness, and has only evolved on the surface a white-brownish froth. The contents of another square have thrown up a 'head' resembling a dingy iceberg; the surface of another is like snow that has lain a couple of days in a city churchyard. There is a pungent sweetish smell, not unpleasant, as we have it here with plenty of ventilation, but not a happy thing to encounter in the bottom of a well, or in the far interior of a coal-mine. It is the carbonic acid gas we smell, evolved in the destruction of the sugar and the formation of the

alcohol. A lighted candle held close to the surface of the fermentation burns blue for a second, and then goes out. I hold my face where the candle had been, and am right fain to withdraw it while as yet consciousness remains. In the 'squares' for the first time we recognise beer. It would be possible for a man to get drunk upon this mawkish loaded fluid, if he could bring himself to undergo the preliminary ordeal of swallowing what tastes so remarkably nasty. But let the fermentation be finished, and the cleansing be accomplished, and nastiness will no longer be the characteristic of the fluid."

This fermentation having proceeded to a sufficient extent, it is checked in the "cleansing" room. And in this chamber Domonic Sampson might have been forgiven for giving vent in his bewilderment to the expression "Prodigious!" On only one of a series of similar floors behold in one glance 1,248 casks, each capable of accommodating 160 gallons! The ale is run into these casks through the "union" pipes, and by a scientific arrangement these are kept constantly full, while the

ale continues to discharge its balm. The beer thus cleanses itself, and becomes perfectly bright, and ready to be let off into the barrels awaiting its reception. Each cask is filled to the bung; a handful of Kent hops is flung in to "feed the ale;" the bung is driven home; and the practice of the brewer's art is completed.

But Sir John Barleycorn has much more to show us. There is the laboratory, or experimental brewery, where skilful chemists are analysing water and making experiments: and the allowance store, where a liberal share of beer is allowed to each *employé* every day, thus putting him out of the reach of temptation in the way of surreptitious "tapping." There are few of the men who refuse the daily allowance of ale generously afforded by the firm. It is the custom of grocers to allow their apprentices the run of all the dainties in which they deal, giving them extravagant access to the fruits and candies; and they soon grow sick, and avoid the fruit for the remainder of their days. Confectioners are equally generous with their young assistants, who have a wild debauch

on tarts and sweets, and are surfeited for life. But with the lusty young brewer the surfeiting sensation never arrives. Not that brewers, as a class, are intemperate. Really no representation could be more remote from the truth. It is Macaulay who remarks that "the natives of wine countries are generally the most sober of mankind, and that in places where wine is a rarity drunkenness abounds. A northern army encamped on the Rhine or the Xeres finding themselves able to indulge without restraint, nothing is to be seen but intoxication. Soon, however, plenty teaches discretion; and, after wine has been for a few weeks their daily drink, they become even more temperate than they ever had been in their own country." Macaulay applies this liquor comparison to liberty, but it will equally illustrate the relation of Bass & Co.'s men to Bass & Co.'s beer.

We are now conducted to the store-rooms, which must be great, because while there is a demand for beer throughout the entire twelve months, the actual process of brewing can only be conducted during six months, or at the most seven months, of the year. The cellarage

covers acres of ground, and contains samples of ales and stouts of all prices. In one store into which we are introduced there are stocked some 120,000 barrels. Millions of gallons of beer are warehoused in these long low capacious rooms. Barrels to the right of us, barrels to the left of us, barrels in front of us, barrels behind us. Barrels everywhere, like the water round the fated phantom ship of Coleridge's *Ancient Mariner*; but here the resemblance ceases, since there are "many drops to drink." And as one is conducted through room after room in this vast arsenal of ale, one can scarcely refrain from hazarding a conjecture as to how many "drunks and disorderlies" and "drunks and incapables" these casks contain; although it has been wisely said that "the people of England are yearly becoming more sober, and that towards that result no one has contributed, or is contributing, more than Michael Thomas Bass, the biggest brewer of the best beer in the world."

The cooperage, together with the saw-mills, fitters' and other workshops, employs something like 500 hands, and gives one some idea of

the extent of Messrs. Bass's trade. The magnitude of the concern has been thus vividly realised by a previous writer, who says; "The firm uses as many as 60,000 railway trucks in the course of six months, and often as many as 370 trucks in a day, that, placed close together, would make a train one mile and 453 yards long; or would reach, say, from the Marble Arch, along the whole length of Oxford Street, to the beginning of Holborn. Mr. William Bass could possibly tell almost every one of the casks he had in use in business by headmark, or enter the whole of them on a page of his cask stock-book. What a tremendous page it would be that would receive the numbers of the casks belonging to the firm now! The stock of casks necessary to carry on the business consists of 46,901 butts, 159,608 hogsheads, 139,753 barrels, and 197,597 kilderkins, in all 543,869 casks. Concerning these numbers it is scarcely possible to convey an idea of what they really represent. We can only try. St. Peter's at Rome is 450 feet high; put on end, these casks would make 2,440 pillars as high as St. Peter's, and they would

make 3,300 pillars as high as St. Paul's, London. If they were laid end to end, starting from London in the direction of Manchester, they would overlap Manchester by more than ten miles."

Messrs. Bass & Co. sell their ale in casks. The bottle trade is a separate one. With so many gallons of bitter beer so many labels for bottles are issued. One year's issue of these labels amounts to over a hundred millions, and the printer's contract for the same is something considerable. To prevent the public being deceived by unscrupulous dealers, great pains are exercised by the Burton firm to detect a fraudulent use of the trade-mark. The chief difficulty, indeed, in their business is in pirated trade-marks and bad beer sold under imitations of their labels. It is said that Germany used to be a great culprit in these frauds, and Brussels was an extensive emporium for base Bass; but recent international treaties are leading to more honest dealing. Messrs. Bass & Co. are keenly jealous of their reputation. They will not dispose of their goods to traders who are not masters of the art of

bottling, or whose cellars are not favourable to keeping the beer in condition; while the pains that are taken at Burton to keep each barrel sweet and clean is one of the most striking experiences of a visit to the breweries.

A description of Messrs. Bass & Co.'s breweries without some personal reference to the head of the firm would be woefully incomplete. In this connection we may remark that the business of Messrs. Bass & Co. has, since March 1st, 1880, been carried on by a private company, registered under the name of Bass, Ratcliffe & Gretton (Limited). This company was formed of the existing partners in the firm upon the basis of their present capital, and it is not intended to offer shares to the public. Mr. Michael Thomas Bass, the senior and principal member of the company, is in his eighty-second year. Born at Burton-on-Trent, and educated at the grammar school of that town, he is the most beloved man in Beeropolis, which he has made with his business energy and ability, and which has largely profited by his princely generosity. He has represented the borough of Derby for a space of over thirty years. His parliamentary

connection with the town is of an affectionate character, such, perhaps, as exists between no other constituency and its members. His last election address to the men of Derby, began: "My dear kind friends," and in these tender words is expressed much of the personal feeling which exists between representative and represented. A Liberal in politics, he has shown that "the Liberal man deviseth Liberal things;" for Mr. Bass is not the Radical "Liberal" whose "Liberalism" is synonymous with illiberality, and who postures as the good Samaritan, but without the necessary oil and all-important twopence. Mr. Bass has shown his interest in the borough of Derby by many acts of exceptional munificence. Dr. Samuel Johnson, when taking stock as an executor under Mr. Thrale's will of the brewery that afterwards became Barclay & Perkins', remarked to Topham Beauclerk that he had at last found "the source of boundless prosperity and inexhaustible riches, with the potentiality of growing riches beyond the dreams of avarice." Mr. Bass owes his colossal fortune to his mash-tub; but if he is a modern Cræsus he is also a modern Mæcenas.

He may rank with the late George Peabody and the Baroness Burdett-Coutts in acts of public and private philanthropy. He has been in a particular sense Derby's benefactor. The sun of his beneficence has shone on Radicals and Tories alike. He has given that town free swimming-baths, an art gallery, a spacious recreation ground, and a free library and museum costing him alone something like 30,000*l*. He divides a few superfluous thousands among the local charities. His private benevolence is known to be as great as his public philanthropy. No deserving charity appeals to him in vain. He is the particular prey of that most imposing of the army of impostors—the begging letter brigade.

Mr. Bass had high qualities of head as well as heart. Of his keen business capacity the Burton breweries are sufficient evidence. Although not a "pushing" member of the House of Commons, he is a much respected one, and more than one cabinet has sought his advice in times when wisdom and experience were required. A peerage has been offered to and declined by Mr. Bass, who playfully protests that he prefers

to remain in the beerage, and thinks the honour of representing the opinions of the men of Derby in the Commons greater than the distinction of sitting in the Upper House.* The most prominent of the measures promoted by Mr. Bass is the Act against that "modern troubadour," the Italian organ man. Londoners only know how that Bill was needed. Poor John Leech was ground to death by hurdy-gurdies. How many able brain-workers less known to fame have been so too! Mr. Bass has largely interested himself in the cause of railway servants. He founded the Railway Servants' Orphanage at Derby, and started the *Railway Servants' Gazette*; and while politicians were interesting themselves in the great Eastern Question, he discovered another Great Eastern Question, at which at his advanced age he kept working perseveringly, so as to make the starved line profitable to the shareholders. Commercial travellers likewise owe much to the interest Mr. Bass shows in their welfare. The other day he gave practical illustration of the solicitude he takes in the progress of the excellent

* Mr. Bass retired from the parliamentary representation of Derby in the summer of 1883, being succeeded by Mr. Alderman T. Roe.

schools for the necessitous children of that body by a subscription of a thousand guineas.

Mr. Bass married in 1835 the eldest daughter of Major Samuel Arden, of Longcroft Hall, Staffordshire. He has two sons. Michael Arthur Bass, the elder, is a county magistrate for Stafford, and member in the Liberal interest for the Eastern Division of that county ; and the younger son, Mr. Hamar Bass, represents in the present Parliament the Liberals of Tamworth. Both share their father's administrative business capacity, Parliamentary aptitude, and amiable nature.

In thus dealing discursively with the Burton Breweries, we have chosen Messrs. Bass & Company as the chief of some thirty other Burton firms, all more or less famous for the purity of their products, and which, with the premier brewers, Messrs. Bass, represent nearly one-tenth of the entire brewing industry of the United Kingdom. As old-established as the house of Bass, and second to that firm in extent and position, come Messrs. Allsopp & Sons, who have agencies all over the world. Their Indian Ale is one of the specialities of the trade, and in

the East they and Messrs. Bass are as the rival Kings of Brentford. Among other Burton firms we may cite for separate mention those of Messrs. Salt & Co.; Messrs. Ind, Coope & Co.; the Burton Brewery Company (Limited); Messrs. Truman, Hanbury & Co.; Messrs. Charles Hill & Son; Messrs. Mann, Crossman & Co.; Messrs. Worthington & Co.; Messrs. Robinson & Co.; and Messrs. Bindley & Co., who won the gold medal at the Paris Exposition of 1878.

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