

**Heart Diseases.**

Under the title, "Is the American Heart Wearing Out?" Prof. J. W. Darling, M.D., of the New York Homœopathic Medical College, recently read before the New York State Homœopathic Medical Society a paper which is of considerable interest and value, in view of the numerous deaths attributed to heart failure that have occurred in recent years in this country.

Dr. Darling states that disease of the heart is certainly either more common among us than formerly or else the physician of the past failed to recognize this malady when it did exist. The object of his paper is to fathom the causes of the terrible mortality due to cardiac trouble, to call attention to the indiscretions that give rise to certain forms of the malady, to show how persons suffering from organic heart disease can, by their own unaided efforts, prolong their days, to account for heart failure as the cause of death in many diseases which, without this factor, would be recovered from, and to explain some of the most common forms of heart disease and correct certain misconceptions with regard to them, for it is popularly supposed that there is but one form of heart disease, and that invariably fatal.

At the outset, the author states, as the result of his long experience and special study, that cardiac disease is not necessarily fatal; that many apparently grave forms are entirely recovered from; that enlargement of the heart is not in itself a disease; that with serious valvular disease developed in childhood, patients have been known to live to be aged men and women; and that, with a large majority of those supposed to be suffering from disease of the heart, that organ is, in reality, perfectly sound, and, if affected at all, is suffering secondarily to functional disturbances of organs remote from the heart, and which are capable of proper hygienic measures.

Diseases of the heart may be divided into two general classes: those originating from an inflammatory process within the heart and those originating from without. In addition to these may be mentioned certain nervous affections of the heart which are secondary to disturbances elsewhere, which subside with the removal of the cause.

The first class of cardiac diseases are common to all periods of life; they involve almost exclusively the left side of the heart, and more frequently the mitral valve, and result from an inflammation of the lining membrane, the endocardium. This inflammation is more intense along the edges of the valves, the tips of which subsequently develop a growth of fibrous tissue which causes a permanent deformity of the valve or orifice—"valvular disease of the heart"—the result being a permanent obstruction at that point.

A person suffering from valvular disease is crippled, "but," says Dr. Darling, "if the nutrition of the heart be good, by avoiding indiscretions and adopting an occupation that does not require great physical strain, by living on a level, as it were, life may be prolonged in comfort for many years. All are liable to the diseases producing this form of heart lesion, whether their lives are good or bad, discreet or indiscreet, but not equally liable by any means.

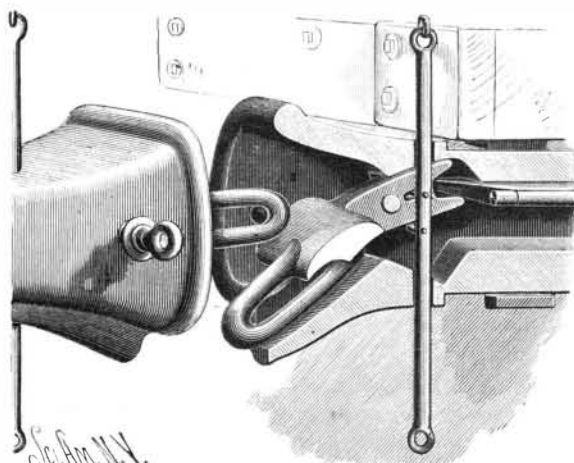
Heart diseases of the second form are, save in exceptional cases, the direct result of hereditary influences or of indiscretions in life, and by proper knowledge and precautions can, in the majority of cases, be avoided; or, if already established, be checked in their progress. The predisposing causes of this form of disease are long continued mental work, and such indiscretions as the habitual use of wine or excess in the eating of food highly charged with nitrogen (such as beef, mutton, and venison), which bring about conditions of the digestive organs, especially of the liver, that result in arterial changes which cause the heart to fail long before it should. The author unhesitatingly asserts that the forms of heart disease which kill so suddenly, and which do not result from endocarditis, or the presence of a specific poison in the blood, arise in nearly every instance directly from the pathological condition known as "gouty diathesis," or lithæmia, due to certain disarrangements of the liver. Conceding that liver disturbance is the primary cause of the premature wearing out of the heart, it is proper to ask: What mode of life will prevent these diseases? and, When they do exist, how shall a life be regulated so as to avoid sudden death, or the rapid failure of that most vital of all organs, the heart? The answer to the first question is simple enough: A discreet life, temperance in all things, and particularly the avoidance of the above mentioned indiscretions, especially the habitual use, even in moderation, of stimulating drinks, and the ingestion of too much meat. In answer to the second question, the author quotes approvingly the three following rules laid down by Dr. George Harley: (1) Take exercise without fatigue, (2) nutrition without stimulation, and (3) amusement without excitement.

**Alcohol.**

The death rate in the case of brewers, commercial travelers, and other classes exposed to the temptation of frequent alcoholic drinking is six times greater than in all the other industries combined.—*Medical Review.*

**AN IMPROVED CAR COUPLING.**

A car coupling designed to be automatic in its operation, and adapted to couple with drawheads of different heights, has been patented by Mr. Samuel Byrne, of No. 158 Robert Street, Toronto, Canada, and is illustrated herewith, our engraving showing a plan view partly in section, with two drawheads in the act of coupling. The link is held to swing horizontally in the middle of the drawhead, and is formed with an extension pivoted in the back of the drawhead. The extreme inner end of the extension is forked, and adapted to be engaged by a weight swinging from above it in the center of the drawbar, the forks of the rear end straddling the weight to hold the link in an inclined position in relation to the longitudinal axis of the drawhead. Instead of the weight, a spring may be employed to accomplish the same purpose. On one side of the link, in front of its pivot, is a curved plate, extending vertically in the drawhead opening, and adapted to be engaged by the link of the other drawhead. On top of this curved plate is an outwardly extending flange, on which rests the lower end of the coupling pin. The rear end of the link extension is engaged by a pin on the under side of a rod sliding in horizontal bearings, to the ends of which may be attached chains extending to the sides of the car. In coupling two cars, the coupling pins are placed in their uppermost position, both pins being supported on the outwardly extending flanges of the respective drawheads. The operator then, by means of the horizontal rod, swings the extension and its link into the position shown at the left in the illustration, causing the coupling pin to drop and hold the link in longitu-



BYRNE'S CAR COUPLING.

dinal position, adapted to engage the curved plate of the link in the other drawhead as the cars come together, the link of the other drawhead being thereby swung outward into its recess, while the coupling pin drops into the front end of the entering link.

**A New Deodorant.**

Bromine has for a long time been recognized as being valuable in the treatment of gangrene and foul-smelling ulcers; but until recently its merits as an effectual and cheap deodorant have not been appreciated, according to the *New York Medical Journal*. It was brought into prominence a few months ago by Mr. Martin, the chemist of the Health Department of this city, who suggested its use upon the earth thrown up in laying the electric subways. As it is a by-product obtained in the manufacture of salt, and is not used extensively in the arts, it is sold at a very reasonable price—about seventy cents per pound. It has the property of precipitating the hydrocarbons of illuminating gas, and thus can be used to deodorize the earth exposed in excavations in the vicinity of gas mains. More valuable than this is its effect upon decomposing organic bodies, which it renders completely inoffensive. This property renders it particularly valuable for use in stables, privy vaults, urinals, cesspools, or in any place which may contain foul-smelling organic matters. It is soluble in about thirty-three parts of water; but a solution of this strength is not advisable, as there is a constant escape from it of the vapor of bromine, which is very irritating to the eyes and air-passages, and which may even attack wood and metals. For ordinary purposes it is used in solutions containing one part by weight to about eight hundred of water. In this strength it may be used freely without its affecting anything which it may touch. A few gallons used daily will remove all ammoniacal odors from stables, or a few quarts will thoroughly deodorize the entire plumbing system of an ordinary house. It also might be used with advantage upon ordinary house garbage, which usually becomes offensive so speedily in warm weather. There would appear to be scarcely any limit to its usefulness in this branch of sanitary science; and it will, as soon as its merits are better known, undoubtedly be adopted universally as a substitute for the deodorants now in use, which usually act by substituting one unpleasant odor for another. The only drawback in its use lies in the fact that the undiluted bromine is strongly corrosive, and, if it

touches the skin, causes a painful burn. Where it is used in large quantities, this can be obviated by opening the bottle, or, what is simpler, breaking it, under water. As its use becomes more extended, it will undoubtedly be put up in pearls or tubes containing only as much as would be needed at one time in the average household.

**The United States Navy.**

Our readers are aware that the United States have determined upon making great additions to their navy. At the same time a navy is not built in a day, even by American energy; and it will be seen from the details which we are about to give that a good deal has yet to be done before the country will possess a navy of even respectable importance from a European point of view. The additions to the American navy may be divided under two heads, the first comprising unarmored vessels and the second armored vessels. Of the unarmored vessels, four are already in commission, viz., the Dolphin, 1,485 tons and 2,240 horse power; the Boston, 3,189 tons and 3,780 horse power; the Atlanta, 3,189 tons and 3,350 horse power; and the Chicago, 4,500 tons and 5,084 horse power.

The Dolphin carries one 6 in. rifle gun; the Boston, two 8 in. rifle guns and six 6 in. rifle guns; the Atlanta, two 8 in. rifle guns and six 6 in. rifle guns; and the Chicago, four 8 in. rifle guns, eight 6 in. rifle guns, and two 5 in. rifle guns.

Five other unarmored vessels were recently launched, and will shortly be put in commission, viz., the Charleston, 3,730 tons and 7,000 horse power; the Baltimore, 4,413 tons and 9,000 horse power; the Yorktown, 1,700 tons and 3,000 horse power; the Petrel, 890 tons and 1,100 horse power; and the Vesuvius, 725 tons. The last named vessel is a dynamite cruiser, which is expected to steam at the rate of 20 knots per hour.

The Charleston will carry two 8 in. and six 6 in. rifle guns; the Baltimore, four 8 in. breech-loading rifle guns and six 6 in. breech-loading rifle guns; the Yorktown, six 6 in. breech-loading rifle guns; the Petrel, four 6 in. breech-loading rifle guns; and the Vesuvius, three 15 in. dynamite guns. In her trial trips before a board of United States naval officers, the Vesuvius has developed a speed of nearly 21½ knots per hour, so that she has more than realized the anticipations and estimates made respecting her. Her three 15 in. dynamite guns will render her one of the most formidable vessels in the American navy.

Six other unarmored vessels are being built, viz., the Newark, 4,083 tons burden and 8,500 horse power; the Philadelphia, 4,324 tons, and to attain a speed of 19 knots per hour; the San Francisco, 4,083 tons, to attain a speed of 19 knots per hour; the Concord, 1,700 tons and 3,400 horse power; the Bennington, 1,700 tons and 3,400 horse power; and a first class torpedo boat, not yet named, 99 tons, to steam at the rate of 23 knots per hour.

The Philadelphia is to carry twelve 6 in. breech-loading rifle guns; the Concord, six 6 in. breech-loading rifle guns; the Bennington, six 6 in. breech-loading rifle guns; and the torpedo boat, eight locomotive torpedoes.

Six other unarmored vessels have only reached at present the projection stage. These vessels are a cruiser of 5,300 tons, to steam at the rate of 20 knots per hour; two other cruisers of 3,000 tons each, to steam at the rate of 19 knots per hour; two other cruisers of 2,000 tons each, the speed of which is still unsettled; and a practice ship of 800 tons.

As regards the new armored vessels of the United States navy, they are in a less forward state than their unarmored contemporaries. There are seven armored ships at present being built, viz., the Maine, 6,648 tons and 9,000 horse power; the Texas, 6,300 tons and 8,000 horse power; the Puritan, 6,060 tons and 3,058 horse power; the Terror, 3,815 tons and 838 horse power; the Miantonomoh, 3,815 tons and 1,030 horse power; the Amphitrite, 3,815 tons and 1,000 horse power; and the Monadnock, 3,815 tons and 3,000 horse power.

The Maine will carry four 10 in. and six 6 in. breech-loading rifle guns; the Texas, two 12 in. and six 6 in. breech-loading rifle guns; and the Puritan, the Terror, the Miantonomoh, the Amphitrite, and the Monadnock will each carry four 10 in. breech-loading rifle guns. Plans have been prepared, but the building has not yet been commenced, of a vessel intended for coast defense. She is proposed to be of 4,000 tons burden and 5,400 horse power. This at present unnamed vessel will carry one 16 in. 115 ton breech-loading rifle gun, one 12 in. 48 ton breech-loading rifle gun, and one 15 in. dynamite gun. An armored cruiser not yet named, and proposed to be of 7,500 tons burden, is also in contemplation, but has not yet been commenced.

In closing these details, we may add that Great Britain has now 10 war vessels of 3,000 tons and upward, with a minimum speed of 19 knots per hour; the United States, 8; France, 5; Spain, 3; Japan, 2; and Russia, 1. The United States, accordingly, now claim that in the important matter of high speed war ships they now rank second, and are not far behind Great Britain. The Americans are, in fact, going in heavily for high speed cruisers.—*Engineering.*