

in width, was filled with rammed stone and earth. The other monuments underpinned were the Mam-museum, the openings to which were sunk outside the building so as not to disturb the paved floor, the Temple of Hathor, and colonnade and rooms of the Isis forecourt, the masonry in each case being carried down to R. L. 97. Furthermore, the gateways of Hadrian and Adelpheos respectively were strengthened.

The Coptic village, which comprised for the most part a collection of mud-brick dwellings in an advanced state of ruin, and constituted an eyesore, was almost entirely cleared away, and the sandstone contained therein was washed and used for the new masonry. Two Coptic churches and a few of the better houses, however, were left untouched.

During the excavations several stones and tablets freely inscribed with hieroglyphics were discovered, and these were carefully preserved for the Antiquities Department, to be subsequently deciphered.

The work was carried out by 300 native laborers and 26 Italian timber men and masons, under the supervision of four English inspectors. The work of underpinning was attended with constant and considerable danger, since the masonry of the buildings as already described had failed, owing to the undermining of the foundations, and was not able to withstand any further subsidence, such as might have ensued while the excavations were in progress. It was only by skillful shoring up and timbering, and constant vigilance, that the task was successfully completed without even an accident to either the laborers or monuments. With the extensive new foundations which have been supplied to these remaining valuable relics of the epoch of the Pharaohs, a new lease of life has been imparted to Philæ, sufficient to preserve the famous ruins indefinitely. In fact, the structures now rest upon a more substantial and solid foundation than they have at any time during their prolonged existence.

Lloyd's Wreck Returns.

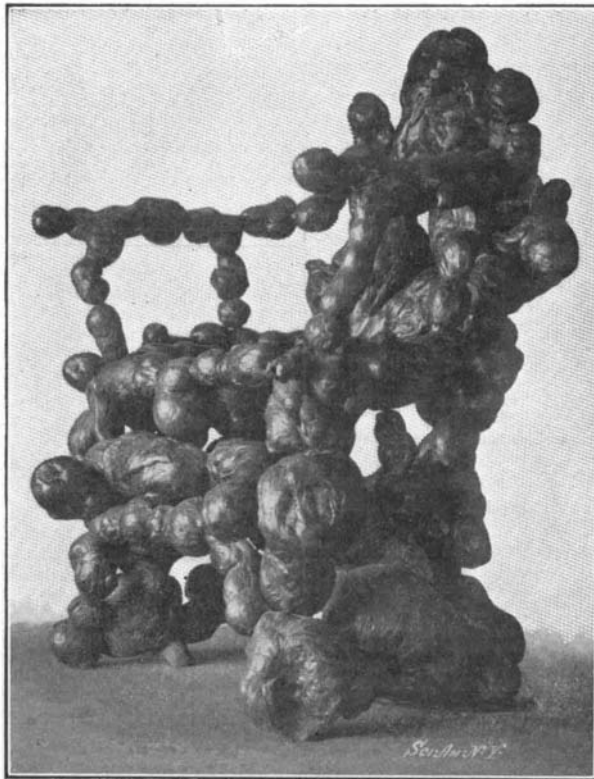
The returns of vessels totally lost, condemned, etc., during the quarter ended June 30, 1902, have just been issued by Lloyd's Register. These give particulars in reference to 45 steamers, aggregating 67,581 gross tons, and 89 sailing vessels, unitedly equal to 50,827 tons. Among the steamers the heaviest loss, 45 ships of 42,109 tons, comes under the head of "Wrecked;" while under that even more terrible heading "Missing" comes the second heaviest loss, viz., 3 ships of 10,135 tons. Collisions provide the next most serious item in these returns, 10 steamers, of 9,017 tons, figuring under this head. It is, on the other hand, satisfactory to find that no steamer was abandoned at sea in the quarter referred to. Among the sailing vessels the greatest losses were also due to wrecks, 43 ships of 20,946 tons being entered under this head alone. Four sailers, aggregating 5,258 tons, were burnt, and 10, of 6,612 tons, met their end by collision, while 6, of 5,105 tons, are reported missing. In apportioning the losses it is to be observed that the French nation had the lowest ratio in regard to their steamers, their figures being 1 ship of 559 gross tons, or 0.05 per cent of their total steam tonnage. The British Colonies were the worst sufferers in this class, their 4 steamers, of 4,332 tons, representing 0.57 per cent of their tonnage. The losses of British-owned steamers were 16 in number, their tonnage, 24,593 gross, equaling 0.19 per cent of our holding. In the matter of sailing vessels, France was also the most favored nation, her 7 sailers, of 1,405 tons, which appear in these returns representing but 0.34 per cent of her holding. The heaviest losers were the Dutch with 3.24 per cent of their total. Of British sailing tonnage exactly one-half per cent was lost, this being made up of 7 ships and 7,736 tons gross.

New French Submarine Boat.

The French Admiralty have decided upon the construction of a new submarine boat which will exceed in dimensions and displacement any yet attempted. Hitherto the largest submarine in that navy has been the "Gustave Zédé," of 266 tons, but this new vessel is to be of 350 tons. It will measure 160 feet 9 inches in length by approximately 9 feet draught. The boat will be driven by a single screw, and will have a surface speed of 11 knots. The torpedo armament will comprise four tubes. It is estimated that the cost of this vessel will amount of \$250,000, which is about a third more than the cost of the most expensive submarine yet built for the French navy. It is intended to be an offensive arm, being sufficiently large to attack an enemy's ports, and to cruise along the commercial routes.

AN ARMCHAIR FORMED BY NATURAL GROWTH.

The armchair pictured in the accompanying illustration may be said to have partly grown out of the ground, although its shape was furnished by twisting and turning a vine out of which most of its framework was formed. It was brought to the United States by a sea captain who saw it in a Korean city. The chair is studded or ornamented with seeds of the ginkgo tree of various sizes, which have actually grown to the fiber of the vine. A Korean gardener, familiar with the adhesiveness of the seed, took



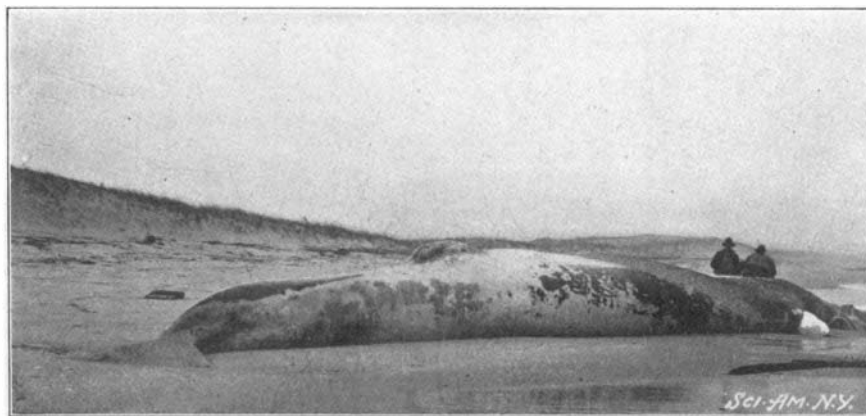
AN ARMCHAIR FORMED BY NATURAL GROWTH.

a native vine, noted for its toughness, and rudely made it into the form of a chair, holding it in place with branches of small trees. The seeds fresh from the tree were bound to the vine until they had firmly fastened themselves to it, the vine being allowed to grow in the meantime. After the seeds and boughs had become attached, the vine was cut from the roots, and this natural chair exposed to the sunlight until the sap had dried from the fiber and all of the material had hardened into a substance as solid as oak. It was then polished until its surface glistened like mahogany. Although but three feet four inches in height and twenty-five inches in width, the weight of this curiosity is over a hundred pounds, on account of the hardness of the material of which it is composed.

The armchair may well be regarded as a striking example of the gardening skill of the Far East.



Cutting Up the Whale for the Whalebone



The Dead Whale on the Beach.
THE LARGEST FINBACK WHALE.

THE LARGEST FINBACK WHALE.

BY WALTER L. BEASLEY.

The American Museum of Natural History has recently secured for its department of mammalogy a mighty leviathan of the deep, in the shape of a huge female finback whale, considered the largest specimen so far obtained, as it measures 68½ feet in length. The full-grown right whale averages from 45 to 50 feet in length only. This new specimen is a noteworthy contribution to science, and when mounted will form a striking exhibit of marine life seldom seen save by whalers and voyagers in the Arctic regions. The great creature was found stranded on the beach near Forked River, N. J., the latter part of November. Before the body came ashore it was first sighted a mile or so out on the shoals by the lookout of the life-saving station, from which point it appeared like an overturned schooner or craft of some sort. Acting on this supposition the life-savers launched their boat and pulled out to the assistance of a supposed wreck. On a near approach they discovered the true nature of the object, which was the great carcass of a dead whale. The pulling strength of the combined crew of ten men was not equal to moving this large, weighty animal from its stranded position, so all efforts in this direction were abandoned. The next day the heavy body was gradually pounded and pushed ashore by the incoming waves. On learning the news, Director H. C. Bumpus, Curator of the Department of Invertebrate Zoology, recognizing this as a favorable opportunity for securing a rare and splendid specimen, immediately sent Mr. George H. Sherwood, his assistant, and Mr. Figgins to investigate, and secure the body, if possible. Being first on the spot, they captured the prize ahead of other institutions. A number of local fishermen, however, had in the meantime laid claim to the big whale, but were induced to part with the same for a money consideration. A baby whale 16 feet long was also found near by.

The caudal fin or tail of the large whale measured 12 feet 4 inches from tip to tip, the body was 30 feet in circumference, and its estimated weight was about 75 tons. The length of the ponderous lower jaw was 14 feet 7 inches, and its open mouth could have more than taken in an average-sized horse. Her spacious interior, including mouth space, would more than shelter fifty men.

The specimen belongs to the group of whales known as genus *Balaenoptera*, which has a world-wide distribution. This particular species is named finner or finback by the whalers, who seldom hunt it, owing to the little amount of blubber and the small-sized whalebone it carries.

There were 375 plates two feet long on each side of the upper jaw of the whale. The right whale, the one regularly pursued for commercial purposes, has whalebone 12 feet long, and 25 to 50 barrels of blubber oil.

The color of the whale was slaty blue on the back, and white with some blue markings below. There were some eighty longitudinal folds and stripes on the ventral surface of the skin. The two bodies, after the measurements were taken, were buried in the sand to preserve their skeletons until spring, when they will be unearthed and taken to the museum for mounting in the near future.

The whale is highly prized by scientists for exhibition purposes, from the fact that it is one of the best examples known illustrating the influence of environment in the modification of structure. They are considered as descendants of terrestrial mammals which have assumed an aquatic existence—a change which has brought about very remarkable modifications in the structure of the animals. Some organs have become highly specialized, while others have completely degenerated. Teeth, for instance, which are a characteristic feature of land mammals, are entirely lacking in the adult finback, their place being taken in part by the whalebone. The fore limbs have ceased to be appendages of locomotion, and have become mainly balancing organs, and they still retain the structural plan of the mammalian fore limbs. The external fish-like form is perfectly adapted for swimming through the water, and the tail is not placed as in fishes, but horizontally. The hind limbs have disappeared entirely externally, and are represented by the rudiments of hind legs, which are found buried deep in the interior of the animal. These serve no practical purpose, but they serve to indicate its former life and habits as a land mammal and to show in a striking way the effect of environment.

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

HAY-STACKER DRUM.—P. E. SNEER, Ellensburg, Wash. This drum, which is designed for use on hay-stackers, increases the motion of the fork without adding to the speed of the horse or other power, and also furnishes the greatest amount of power when most needed, and the greatest speed when most needed.

MOTOR-OPERATED AGRICULTURAL MACHINE.—D. LUBIN, New York, N. Y. The patent covers a machine with a motor-operated mechanism, whereby digging devices are forced into the ground and then the machine moved forward one step as the diggers are lifted with the earth and breaking devices rapidly operated to finely pulverize the lifted earth.

AGRICULTURAL MACHINE.—D. LUBIN, New York, N. Y. Two patents have been granted to Mr. Lubin for inventions under this heading. The first machine is of the class operated by a steam or other motor, and it comprises a rotary digging-tool with means operated by the motor for moving the vehicle forward at predetermined distances to rotate the tool and at the same time cause it to gradually enter the ground to the desired depth.

The second machine is of the class in which a motor mounted on a wheeled vehicle alternately operates a ground digging or breaking tool and moves the vehicle a short distance for the next operation of the tool, the object being to provide a machine so made as to automatically change the gear connections to cause the different movements or operations.

POWER-OPERATED AGRICULTURAL IMPLEMENT.—D. LUBIN, New York, N. Y. The object of this invention is to have the implement operated by steam or other motive agent in such manner as to alternately move the device and operate the ground digging tool or tools by means of which the ground will be uniformly operated upon, finely pulverized, and prepared for planting or seeding.

Miscellaneous Inventions.

BEDSTEAD POST AND RAIL JOINT COUPLING.—A. W. BUSBY, Milwaukee, Wis. A novel, simple and strong dovetail connection has been invented by Mr. Busby, which is especially adapted for joining the rails and bed posts of wooden or metal bedsteads. The device may be easily disconnected when desired. The angle-iron side rails may with this connection be so secured to the bed post as to dispose either the outer or inner surfaces of the rail uppermost.

SHOE-TREE.—M. HAYES, New York, N. Y. Means for expanding and re-shaping boots and shoes to prevent them from being crushed or wrinkled while not in use, is provided in this invention. The construction of the tree is simple and so arranged that it may be easily manipulated and inserted in the shoe.

BADGE.—G. H. BROOKS, Louisville, Ky. The badge has a fastening formed of a spring wire having one end constructed as a hook and the other as the pin proper, the fastening being inserted through holes in the backing. The hook is provided with a shank which holds it rigidly in place, projecting on the face of the backing.

DISPLAY-RACK.—G. A. WEEKS, Sheldon, Ill. Improvements in devices for exhibiting lace curtains, portieres, wall paper, dress goods, and other articles, are provided in this invention. Provision is made for bringing any desired article into view and also a suitable cover is provided whereby dust will be excluded from the articles to be exhibited.

DISINFECTANT-DISTRIBUTING DEVICE.—S. HESKETH, Auckland, N. Z. A device for distributing disinfectant material is provided in this invention. The device may be either portable or stationary and is arranged to constantly feed the disinfectant material at desired strength and in desired quantity, to a pivoted self-emptying receptacle, which, when discharging material from one compartment will present another compartment to be filled from the source of supply.

GATE.—F. E. JACKSON, Wayne Township, Wayne County, Ind. The gate is more especially designed for use on farms, driveways and other places. The construction permits convenient opening or closing of the gate by a person on foot, in a wagon or on horseback. For the passage of small animals such as sheep and swine the gate is raised bodily without being opened.

ANNULAR TANK FOR LIQUIDS.—O. INTZE, Aix-la-Chapelle, Germany. The principal difficulty attending the construction of large tanks of cylindrical form consists in the connection of the bed or bottom of the tank with the lower parts of the cylindrical walls and in the construction of a supporting structure, capable of transmitting a heavy load in an advantageous manner onto the supports. The present invention provides new means for overcoming these difficulties.

BRICK.—J. B. DUNLAP, Tonkawa, Okla. Ty. Mr. Dunlap is the inventor of a novel composition of brick or building blocks, to be used for all purposes, either above or below ground, for which bricks are ordinarily employed. The brick is composed of sand and certain chemical binder ingredients, combined in a new manner.

LUBRICANT FOR WOOL AND PROCESS OF MAKING SAME.—G. B. HOLDEN, Lowell, Mass. The underlying idea of the invention is

to cause wool to run smoothly through the machinery used in operating the same during the process of manufacture, and also to soften the wool and render it pliable. Mr. Holden has invented an improved lubricant which will accomplish this result.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring information. In every case it is necessary to give the number of the inquiry.

MUNN & CO.

Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 3889.—For dealers in the different parts of suspenders.

AUTOS.—Duryea Power Co., Reading, Pa.

Inquiry No. 3890.—For a second-hand Becker vertical milling machine.

"C. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 3891.—For parties to manufacture a suitable trophy for a public gift representing Indian craft.

Coin-operated machines. Willard, 284 Clarkson St., Brooklyn.

Inquiry No. 3892.—For makers of steam turbine engines of 50 horse power.

Blowers and exhausters. Exeter Machine Works, Exeter, N. H.

Inquiry No. 3893.—For makers of metalophones. Dies, stampings and armature discs. Advance Manufacturing Co., Racine, Wis.

Inquiry No. 3894.—For machines for folding and stitching at the same time.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co., Box 13, Montpelier, Vt.

Inquiry No. 3895.—For trolley tracks for overhead hoisting for use in warehouses for piling up heavy cases.

Metal Stamping Co., Niagara Falls, N. Y., cuts and forms sheet, bar, rod, or wire any shape.

Inquiry No. 3896.—For a practical ice plant of capacity 50 to 100 lbs. a day, of a small cooling plant for reducing the temperature to 40 or 50 degrees.

FOR SALE.—60 h. p. Otto gas engine, the latest type, practically new. Colborne Mfg. Co., Chicago.

Inquiry No. 3897.—For a speed and time recorder to be attached to an automobile or other vehicle.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y.

Inquiry No. 3898.—For a machine for grinding or pulverizing hard substances.

SAW MILLS.—With variable friction feed. Send for Catalogue B. Geo. S. Comstock, Mechanicsburg, Pa.

Inquiry No. 3899.—For makers of portable boring bars.

Gear Cutting of every description accurately done. The Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

Inquiry No. 3900.—For manufacturers of accordion pleating machines.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadriga Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 3901.—For the manufacturers of the Coats sheep shearing machine.

Crude oil burners for heating and cooking. Simple, efficient and cheap. Fully guaranteed. C. F. Jenkins Co., 1103 Harvard Street, Washington, D. C.

Inquiry No. 3902.—For importers and makers of sewing needles.

The largest manufacturer in the world of merry-go-rounds, shooting galleries and band organs. For prices and terms write to C. W. Parker, Abilene, Kan.

Inquiry No. 3903.—For a machine for testing lubricating grease.

We manufacture anything in metal. Patented articles, metal stamping, dies, screw mach. work, etc. Metal Novelty Works, 43 Canal Street, Chicago.

Inquiry No. 3904.—For a pulley-turning lathe which will finish a pulley complete.

The celebrated "Hornaby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

Inquiry No. 3905.—For manufacturers of steam engines.

WORKS MANAGER WANTED FOR EUROPE.—For the manufacture of small scientific machines. Must be a thoroughly competent practical engineer, well versed in working the most modern types of automatic machinery for making screws, studs, washers and other small machine parts. To a thoroughly competent man a good position is offered. Address W. W. W., P. O. Box 145, New York City.

Inquiry No. 3906.—For machines for picking cotton from the stalk in the field.

INVESTMENT OF CAPITAL.—Stock for sale in a going electrical manufacturing company within one hundred miles of Chicago. Fine business and good plant well located. Investigation courted. For particulars write to M. Harwood, 2d Floor, Electric Building, 118 W. Jackson Boulevard, Chicago.

Inquiry No. 3907.—For makers of electric floor planers.

Wanted—Revolutionary Documents, Autograph Letters, Journals, Prints, Washington Portraits, Early American Illustrated Magazines, Early Patents signed by Presidents of the United States, Valentine's Manuals of the early 40's. Correspondence solicited. Address C. A. M., Box 773, New York.

Inquiry No. 3908.—Wanted to correspond with parties prepared to supply a machine for cutting washers or gaskets directly from a hose as the hose is fed into the cutting machine.

Inquiry No. 3909.—For makers of the one man elevator which is run by water.

Inquiry No. 3910.—For makers of electric lighting machinery.

Inquiry No. 3911.—For the best motor freight carriers run by electricity.

Inquiry No. 3912.—For makers of the very lightest engine possible, of 2 or 3 horse power, such as for aerial machines.

Inquiry No. 3913.—For a wire-tapering machine.

Inquiry No. 3914.—For machinery for making flour from banana.

Inquiry No. 3915.—For dealers in presses and dies for making mosaics and artificial stone.

Inquiry No. 3916.—For manufacturers of decor-



HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(8869) W. J. C. wishes to know how to remove indelible ink marking from clothing. A. Indelible inks are of such variable character that it is quite impossible to reply. Many of these inks have nitrate of silver as a basis; in this case, a solution of hyposulphite of soda might help. Some other inks might possibly be bleached out with javelle water and weak muriatic acid; this can be used only in white goods, as most dyes would be destroyed. Possibly also a solution of sulphurous acid might be of service.

(8870) R. D. H. asks for a recipe for making (on a small scale) a varnish which will restore to shabby rubber boots and shoes a gloss such as is imparted by the manufacturers in the first instance. A. Digest 1 part of shellac with 10 parts of strong aqua ammonia until thoroughly dissolved.

(8871) C. A. asks: Can you send me a formula for making condensed milk? A. In general, condensed milk is made by evaporating in vacuum pans to about one-quarter of the original volume, and then adding 25 per cent to 30 per cent of cane sugar.

(8872) G. R. asks: 1. If there was a hole straight through the earth, and you were to drop some heavy object into it, how far would it go? A. If there was a hole through the earth, a ball dropped into the hole would fall as far beyond the center of the earth as it had fallen before it reached the center, if also we do not consider the resistance of the air. 2. Does a traction engine pull on the same principle as a horse, or can it pull more with a longer hitch? A. A traction engine pulls exactly as a horse pulls, or as any other power pulls.

(8873) J. G. H. asks: I wish to raise water 60 feet with an air pump, for domestic purposes. 1. Is it practicable? 2. If so, what should be the relative sizes of the air and water pipes? 3. What is the best type of air hand compression pump to do the work? 4. Would a two-cylinder or double pump, one cylinder a suction pump for water, the other an air compression pump, be practicable? A. There is no actual economy in raising water 60 feet with air compressed by hand. There is great loss of labor on the compressed air by its discharge to refill the tank with water in using the tank system. The air lift system requires a well as deep below the water as the lift is above it. We advise that a combination air and water pump, such as you suggest, cannot be made practicable.

(8874) A. P. A. asks: A dam is 10 feet high and 10 feet wide. A claims that with 10 feet of water on one side and 7 feet on the other, that there is more pressure on the whole dam than there is when there is 7 feet on one side and none on the other. B claims the opposite. A. The absolute pressure on the dam is due to the difference in the total pressures at the level of the water on each side. Thus the total pressure at 10 feet minus the total back pressure at 7 feet is less than the total pressure of 7 feet on one side only. We make the mean pressure per foot at 10 feet 309 pounds, and the mean pressure at 7 feet 203 pounds, and 309 — 203 = 106 mean pressure, as against 203 pounds for the mean pressure at 7 feet. B is correct.

(8875) G. A. D. writes: I have been watching your paper for some information about the new copper goods put on the market called "Royal" copper or "Olympia" copper. It is a dark color, and it is claimed to wear without scratching. Will you please tell me how it is done, or if you have published it, in which paper you have it. A. To produce this color on copper, either dip in a solution of 2 drachms of antimony sulphide and 1 ounce pearl ash in one pint of water, or boil for fifteen minutes in a strong water solution of tartar.

(8876) J. A. S. writes: Can you tell me or put me in the way of finding out how much a tall chimney made of brick will sway, if it will sway at all? I do not know how to look for the information, and I want to be acquainted with the condition for personal satisfaction. A. Tall chimneys that are small in size sway in strong winds so much as to be easily observed and measured: 6 to 8 inches from the center is not uncommon with very tall factory chimneys. Bricks and mortar are elastic.

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Cash register, A. Pfister	721,915
Cash register, electrical, J. C. Vahjen	721,981
Cast hollow ware, caring openings in the walls of, P. J. McGuire	721,730
Casting machine, pig, J. S. Fielding	721,878
Cattle guard, G. A. Preston	722,043
Centrifugal machine, E. D. Mackintosh	721,714
Chain, detachable link drive, J. M. Dodge	722,001
Chains, detachable open link for drive, J. M. Dodge	722,002
Cheese cutter, J. Birch	721,658
Chuck, E. J. Skinner	721,753
Chute, coal, R. K. Teller	721,977
Cigar display box, D. C. Uffelman	721,758
Cloth shearing machines, lifting mechanism for the cutting parts of, E. H. Marble	721,903
Clothes peg, R. Hawbridge	721,702
Clutch, Z. R. Tucker	721,925
Clutch, E. W. Miller	721,964
Clutch, friction, M. C. Harris	721,799
Clutch, friction, G. L. Scott	722,150
Clutch, magnetic, E. R. Douglas	721,678
Coal or rock drill, L. K. Koontz	721,895
Cock, stop, P. R. Fern	722,092
Coherer system, self-decohering, A. Popoff	722,139
Coin receptacle, A. Gross	721,887
Coke ovens, apparatus for making briquets for circular, J. W. Seaver	722,151
Combustible fluid, producing, C. A. Kuenzel, Jr.	721,957
Conveyor, endless, W. L. McCabe	721,725
Cooking utensil, E. V. Santee	721,750
Core bar, W. D. Ross	721,837
Corn husking machine snapping rolls, F. Hagen	721,798
Cornice brake machine, H. Schott	722,149
Cotton conveyor, pneumatic, G. E. Richmond	721,743
Coupling. See Automatic coupling.	
Cover, kettle, G. C. Bulgin	722,082
Cracker box rack, O. G. Anderson	721,992
Cranes, automatic rail gripping or locking device for electric, Wellman & Moore	722,066
Crate, folding, J. A. Stewart	722,161
Croquet board, parlor, B. T. White	721,764
Curtain roller bracket, H. Reimann	721,833
Cushion, F. Bueh	721,936
Cylinder lock, J. A. Horne	721,802
Dental clamp, W. A. McCarter	722,033
Detector bar clip, G. Smith	721,975
Die, J. R. Bikesiee	721,650
Disinfectants to water closets, apparatus for applying, F. W. Norris	721,900

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