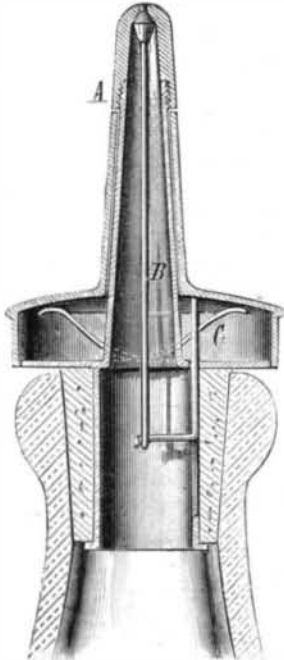


**Serviette Magique.**

In France, a species of cloth for polishing metal ware is manufactured under the name of serviette magique. It consists of small pieces of woolen cloth which are saturated with soap and tripoli and colored with fuchsine. It is manufactured by dissolving 60 grains of Marseilles soap in 300 grains of water and adding 30 grains of tripoli. The mixture is colored red by means of fuchsine, and the pieces of cloth are saturated in it and afterwards dried.

**IMPROVED BOTTLE STOPPER.**

The bottle stopper represented in the engraving consists of a flanged tube provided with a perforated screw cap, A, and a larger spring actuated flanged tube set over the inner tube and connected with the rod, B, of the valve which closes the opening in the cap of the inner tube. It will be seen that whenever the flange, C, of the outer tube is pressed down the valve will be drawn from its seat, when the contents of the bottle may be discharged through the perforated cap.



**HOUTS' BOTTLE STOPPER.**

This novel bottle stopper was recently patented by Mr. John Q. Houts, of Sioux Falls, Dakota Territory.

**Guatemala's Exhibition.**

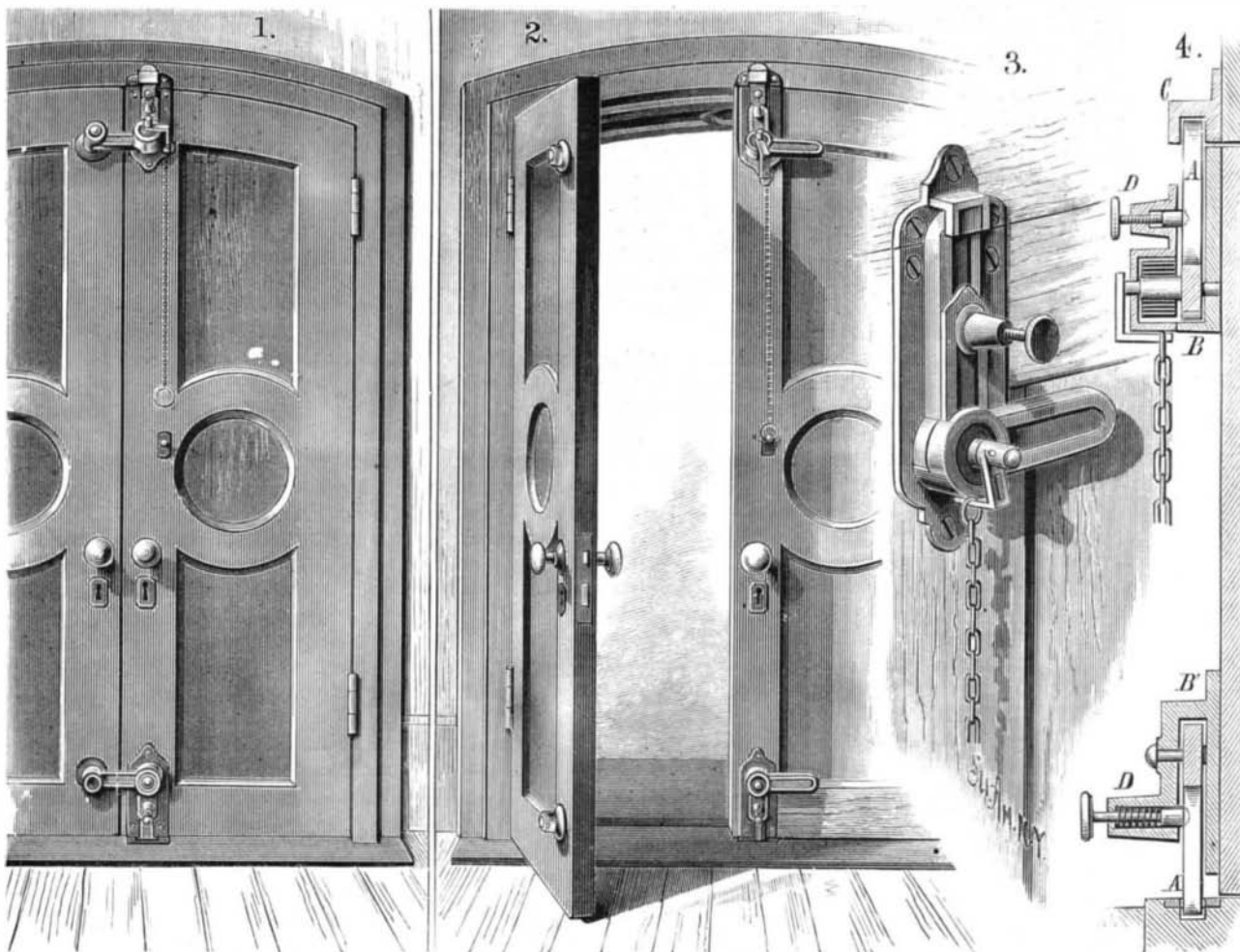
The largest and most enterprising of the Central American States, Guatemala, has entered the list of exhibitors, and announces the intention of holding an industrial exhibition in 1882. This is likely to furnish American manufacturers of articles suitable for the markets of that region a convenient opportunity for placing their products in a favorable way before the Guatemalan dealers and consumers.

**IMPROVED BOLT FOR DOUBLE DOORS.**

The engraving represents a novel bolt for double doors recently patented by Mr. William P. Brachmann, of 147 Walnut street, Philadelphia, Pa. This bolt is in the form of a right-angled lever pivoted at its angle, and provided with a spiral spring acting on its pivot, and having screws or spring pins for locking it in different positions. The bolts fit in appropriate sockets in the sill or jamb.

Fig. 1 shows the bolt applied to double doors with both doors fastened. Fig. 2 shows one door bolted and the other unfastened. Fig. 3 is an enlarged perspective view of the bolt, and Fig. 4 is a vertical section of the door and the bolts.

The bolt, A, is in the form of a right-angled lever, pivoted at its angle in a casing, B, attached to the door. Each arm of the bolt is provided with a recess for receiving the end of the spring pin, D, which serves to hold the bolt in either of its positions by engaging one or the other of the recesses. The pivot of the upper bolt is provided with a short arm to which is attached a chain for operating the bolt, and the pivot is provided with a spiral spring which tends to throw it into the position shown in Fig. 1, with one of its arms in the socket on the jamb and the other one in the socket on the other door. The chain is drawn down to throw the bolt into the position shown in Fig. 2, and to retain it in this position the ring at the end of the chain is placed on the pin projecting from the door.



**BRACHMANN'S BOLT FOR DOUBLE DOORS.**

The lower bolt, A', has no spring, and is kept in place by the spring pin, D'. One arm of the bolt enters the socket attached to the door, and the other enters a slotted socket in the door sill, as in Fig. 1, when both doors are bolted. When only one door is bolted, the lower bolt is in the position shown in Fig. 2.

This bolt fastens both doors with a single operation, and to securely bolt the top and bottom of both doors requires only two bolts instead of four as in the ordinary method, and the shrinking or swelling of the doors makes no difference in the operation of the bolt, as it engages a simple, open-hooked socket which admits of the lateral movement of the bolt without interfering with its working.

The bolt is made in very handsome shape, and is an ornament to the doors rather than otherwise.

**The New Steamship City of Augusta.**

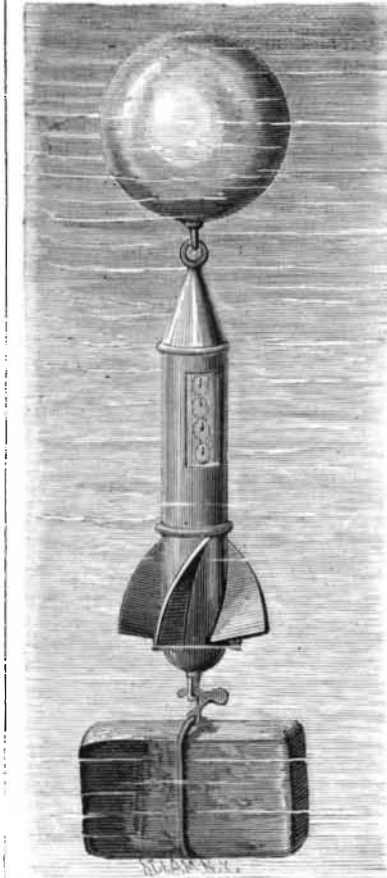
The new iron steamship City of Augusta, of the Ocean Steamship Company, is described as the largest ship engaged in the coast wise trade. Her capacity is 6,000 bales of cotton, or 3,000 tons. She is 310 feet long at the water line, 323 feet over all, and is of 40 feet beam. Her cabin accommodations are for 100 first class passengers. She is equipped with a compound engine, with two inverted cylinders, 42½ and 82 inches respectively in diameter, and each of them with 54 inches length of stroke. These engines are capable of a speed of sixty revolutions per minute. The screw is 16 feet in diameter, with 26 feet pitch. The working pressure is 100 pounds of steam. In addition to this there is an auxiliary or independent engine, with force pumps attached and an air circulating pump. Steam is furnished by six tubular steel boilers, 12½ feet in diameter and 11 feet 5 inches long, with one superheater 12½ feet in diameter and 13 feet high. These boilers are ample to furnish all the steam required for a speed of sixteen knots. There are steam steering gear, steam capstans and windlass forward and steam capstan aft, with donkey engines for freight hoists at all the holds.

The City of Augusta was built by John Roach, of Chester, under the supervision of Captain Lefevre, marine superintendent of the Ocean Steamship Company.

THE new dump car of the New England Car Company, which was illustrated in the SCIENTIFIC AMERICAN some time since, was recently tried at Brookline, Mass. The stockholders of the company and several railway men were present. The car, which was built by the Watson Manufacturing Company, is probably the longest and largest dump car in practical use in the country, and its size made the test of its workings all the stronger. It is thirty-two feet long, weighs 19,860 pounds, and contained 36,590 pounds, or over eighteen tons, of coal. All things being in readiness, a medium-sized man turned the crank, the machinery responded, the car tipped, the coal was

**DEEP SEA-SOUNDING APPARATUS.**

The engraving shows an improved sounding apparatus recently patented by Paul C. Rousset, of St. Petersburg, Russia. The invention consists of a novel device for connecting the sinker with an ordinary registering log, and in the arrangement of a buoy of sufficient capacity to raise the log to the surface after the sinker has been detached.



**ROUSSET'S DEEP SEA-SOUNDING APPARATUS.**

The registering mechanism of the log is provided with a ratchet and pawl that prevents it from operating as the log descends, but allows the register to operate when the log ascends. A sinker is suspended from an eye on the lower end of the log by means of a hook which is weighted so that as soon as the sinker touches bottom the hook drops out of the eye, and the log being released is carried to the surface by the buoy, the screw meanwhile actuating the mechanism of the log, which records the distance through which the log passes.

This device renders a sounding wire or line unnecessary, and insures more accurate soundings than can be obtained in the ordinary way.

**RECENT INVENTIONS.**

A ball and instep stretcher for boots and shoes, so constructed that it can be readily inserted into and removed from the boots and shoes, has been patented by Mr. Francis A. Fay, of Brooklyn, E. D., N. Y.

An improved milliner's steamer and presser has been patented by Mr. Thomas Hicks, Jr., of Gravesend, N. Y.

This invention relates to that class of devices designed for milliners' use for the purpose of raising the pile on velvets, etc.

An improved mechanism for changing and adjusting the height of revolving seats of stools and chairs has been patented by Mr. John M. J. Wernert, of Paw Paw, Mich. The invention consists of a spring-actuated rod enclosed in a slotted cylinder that projects downward from the under side of a chair or stool seat into a grooved socket which is fixed vertically in the central standard of the stool or chair, said rod being provided on its lower end with a laterally projecting lug, which is made to engage in the grooves of the socket and thereby hold the stool or chair seat at any desired elevation.

Mr. John R. Hastings, of Lampasas, Texas, has patented a military saddle so constructed that the valises and other equipments may be connected with the saddle

in such a way as to distribute and balance their weight, and at the same time make the saddle comfortable for the rider.

Mr. John S. Worth, of Coatesville, Pa., has patented an improvement in gearing for rolling mill rolls and other machinery. The invention consists in gear wheels, each of which is provided with several longitudinal rows of epicycloidal