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NEW SERIES.

Improved Hotel Annunciator.

The old plan for calling servants in hotels to the rooms of guests, whenever they were needed, was to have a cord in each chamber connected to a wire which was led along the corners of rooms to the bar-room or office where it was attached to a bell, suspended on a spiral spring; each bell bearing a number corresponding to the number of the room with which it was connected. When a bell was rung the sound called the attention of the attendant, and the motion of the bell showed which of the bells was rung, and its number indicated the room from which the call came. But a few years since there was invented an instrument called an annunciator, by which the long row of bells along the edge of the ceiling was superseded by a neat square ornamental box standing by

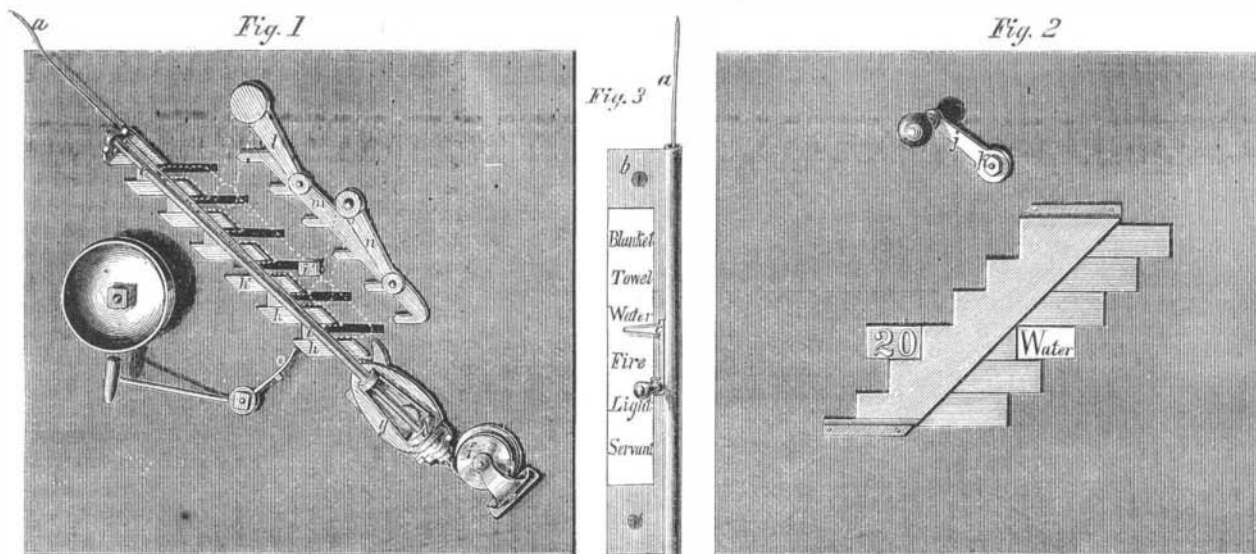
of which Fig. 1 represents a back view, and Fig. 2 a front view. The wire, *a*, coming from the chamber of the guest, is attached to the slide, *d*, Fig. 1, which slides along the rod, *e*, being drawn down in the position shown, by a coiled spring in the pulley, *f*. An elongated plate, *g*, is pivoted near its lower end to the slide, *d*, and has a pin projecting inward from its upper end to catch against the edges of the short plates, *h h*. When the guest presses down the slide, *e*, so far that the index will be opposite the word "blanket," the slide is drawn along the rod, *e*, just far enough to bring the pin upon the plate, *g*, to the upper edge of the lower plate, *h*. The plate, *g*, being hung upon a pivot near its lower end is bent aside as it moves along the rod by its pin pressing against the lower edge of the plate, *h*, and this pin is carried to

nected behind the plate which conceals their words and numbers. This restores the apparatus to a condition ready for a second announcement.

It will be seen that a guest may call for one, two or more of the articles on the list to be brought at a single journey of the servant. As the plate, *g*, is drawn up the rod, it actuates the lever, *o*, and rings the bell, thus calling attention to the exposed plate.

This annunciator is operated by a single wire from each room, it is exceedingly neat and compact, and must save a great deal of labor in large hotels. It is also well adapted to transmit orders from one part of a vessel to another, and for communicating intelligence in manufactories, colleges and other places.

The patent for this invention was granted through the Scientific American Patent Agency, Dec. 17,



BENNETT'S TELEGRAPHIC ANNUNCIATOR.

the side of the desk in the office. In this all the wires from the several rooms are connected with one bell, and each wire actuates a little disk or plate covering a number corresponding with the number of the room from which the wire is led, so that when the wire is pulled the disk falls and uncovers the number.

This plan is neater and more ornamental than the row of bells and has come into pretty general use, but it fails to save any labor on the part of the servants. It is still necessary for the servant to go first to the guest's chamber to learn what is wanted, and then to return below for it and to carry it up, making three journeys often over four or five flights of stairs before the guest can be served. The accompanying engravings illustrate a device for making known the wants of the guest by a single pull of the bell cord, so that the servant may take the article at his first journey to the chamber, thus serving the order in one-third of the usual time, besides saving the time and fatigue of the attendant.

The wire, *a*, Figs. 1 and 3, leads from the annunciator to the room of the guest, passing over a pulley at the room and descending vertically to the plate, *b*, Fig. 1, where it is attached to the slide, *c*. This slide traverses up and down the plate which is marked with the names of things most likely to be called for by guests, such as blanket, towel, water, fire, light, servant; and the list may be extended to include any other articles. In the office is placed the annunciator

the left hand end of the plate, *h*. When the slide, *d*, is released from its forward draft, it is drawn back by the force of the spring, *f*, and as it returns the pin catches on the upper edge of the plate, *h*, and slides along this edge from left to right; pushing the projection, *i*, before it. This projection extends through the instrument to the front side where it is joined to a sliding plate having the number of the room and the word "blanket" upon its face. This sliding plate is by the motion carried from under the cover which conceals it, and thus exposes to view the word "blanket," and the number of the room at which it is wanted.

If the bell pull, *e*, is pressed down as far as the word "water," the pin upon the plate, *g*, is carried up the rod to the upper edge of the short plate, *h'*, and when released this pin carries the projection, *i'*, to the right, as shown, sliding its corresponding plate on the front of the annunciator from under its cover, and exposing the word "water," and the number of the room at which the water is called for.

The crank, *j*, on the front of the annunciator is attached to an axle, *k*, passing through to the rear, where it is secured to the lever, *l*. At the opposite end of this lever is pivoted the bar, *m*, which is also pivoted to a second lever, *n*, parallel with the lever, *l*. A partial turn of the crank, *j*, carries the bar, *m*, into the position indicated in the dotted lines, and pushes back the projections, *i i'*, to their places, thus sliding back the front plates with which they are con-

1861, and further information in relation to it may be obtained by addressing the inventor, J. H. H. Bennett, at Hunt's Hollow, N. Y.

Making Steel from Iron with Gas.

About twenty-five years ago Mr. C. McIntosh, a manufacturing chemist in Glasgow, Scotland, made several tons of cemented steel by submitting iron, at a dull-red heat, to the action of lighted gas, operating with from 100 to 150 lbs. at a time, the iron bars being two inches broad and quite thin. The cementation took from eighteen to twenty hours; and when the operation exceeded that time supercarburization took place. Thus by the sole action of lighting gas, without mixture of any foreign body, it is possible to obtain either steel or cast iron; it is only a question of time or temperature. To obtain steel there is no need to add ammonia previously in order to nitrogenize the iron. Steel and cast iron differ only in containing diverse proportions of the same elements, as pure white cast iron can be tempered and even forged like steel; witness the white cast iron of Lieges used for making screw plates.

The Fort Pitt Works, Pittsburgh, Pa., have made arrangements for turning out twelve mortars per week, each weighing eight and a half tons. Large numbers of heavy Dahlgrens and Columbiads, and an immense quantity of shells, are also being manufactured at this establishment.