(No Model.)

J. T. PENNYCOOK.

PNEUMATIC SIGNALING APPARATUS.

No. 421,429. Patented Feb. 18, 1890.

Fig. 2.

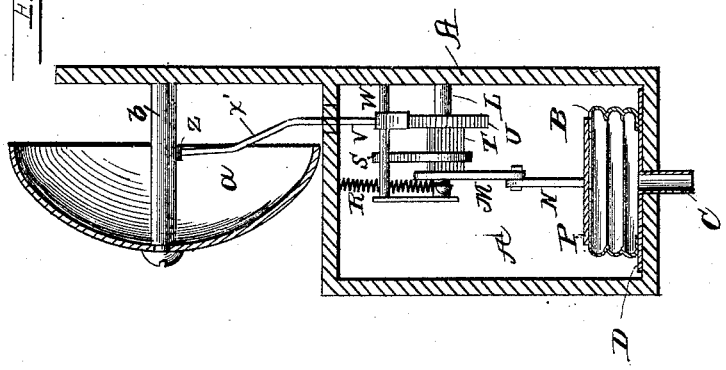
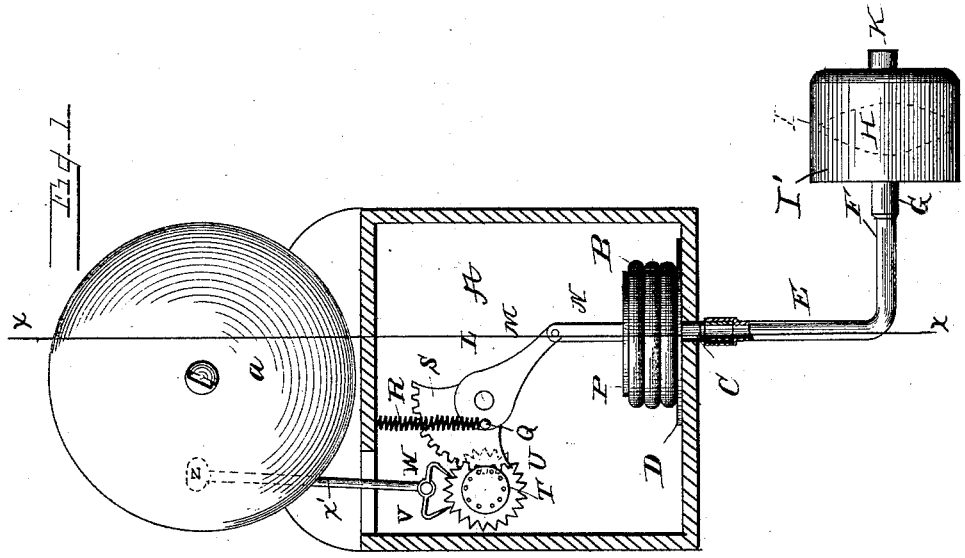


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN T. PENNYCOOK, OF NEW YORK, N. Y., ASSIGNOR TO THE ALPHA GLASS AND METAL COMPANY, OF NEW JERSEY.

PNEUMATIC SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 421,429, dated February 18, 1890.

Application filed April 12, 1889. Serial No. 307,011. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. PENNYCOOK, a citizen of Great Britain, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pneumatic Signaling Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to pneumatic bells for use in offices, stores, dwellings, and public buildings, and other places where such devices can be conveniently used; and it consists in the construction and novel combination of parts, as will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings, Figure 1 is a view, partly in vertical section and partly in elevation, of a pneumatic bell embodying the improvements of my invention; and Fig. 2 is a vertical sectional view, taken on the line *x x* in Fig. 1, of my improvement.

Referring by letters to the accompanying drawings, A designates the supporting-frame or incasement, in which the bellows, the short tube projecting therefrom, the operating-gearing connected to said bellows, the escape-wheel, and the oscillating bell-hammer are supported.

B designates the bellows, which is supported on the bottom of the incasement and is provided with a short tube C, which extends downwardly from the base-plate D thereof and projects below the bottom of the incasement A, the extension E of the tube C being connected with the outer end of a tube or pipe F, which is connected at the other end to the short tube G, leading from the case H, in which is inclosed an air-chamber I′, of flexible rubber, nearly globular in form, and attached to the inner end of the short tube G within the case H and operated by a push-button K. I have described and illustrated this form of push-button and flexible rubber globe I as one method of operating the bellows; but it is evident that any pneumatic tube may be used, and that the bellows may be operated by simply blowing through the pneumatic tube.

L is a transversely-disposed shaft, supported in suitable bearings in the walls of the incasement and provided with a downwardly-inclined lever M, which has hinged at its lower end the upper end of a vertically-disposed rod or stem N, which extends vertically upward from a metal disk P, resting upon the bellows B. The head or upper end of the inclined lever M on the shaft L is connected with a cross-piece or portion G of the frame by a spiral retracting-spring R, which serves to return the lever M to its initial position and to expel the air from the inflated bellows after they have been inflated. The shaft L is further provided with a miter gear-wheel S, the teeth of which engage the miter-teeth of a pinion-wheel T, which wheel T is also provided with peripheral teeth U, which permit it to serve also as a pallet-wheel and operate the pallet V on the shaft W, from which shaft W the hammer-rod *x′*, provided with a hammer Z, extends upwardly into the hollow of and near the edge of the bell or gong *a*, secured upon a supporting screw-threaded stem *b*, projecting from the incasement or supporting-frame. By this construction of the gearing the bell-hammer is operated and caused to strike the bell both while the bellows are being inflated and also during the time the air is being expelled from the bellows by the action of the retracting-spring R upon the inclined lever M to return it to its initial position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the supporting-frame and the bell or gong mounted thereon, of the bellows connected with a pneumatic tube, a transverse shaft provided with a miter gear-wheel and a downwardly-inclined lever provided with a hinged stem having a disk at its lower end engaging the top of the

bellows, a miter-pinion in engagement with the miter gear-wheel, and a bell-hammer provided with a pallet at its lower end engaging the miter-pinion, whereby the bell or gong will be sounded both while the bellows are being inflated and also while the air is being expelled therefrom, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. PENNYCOOK.

Witnesses:
J. McNAMEE,
HENRY J. ENNIS.