F. BOYD.

PNEUMATIC-SIGNAL.

No. 193,474. Patented July 24, 1877.

Fig. 1.

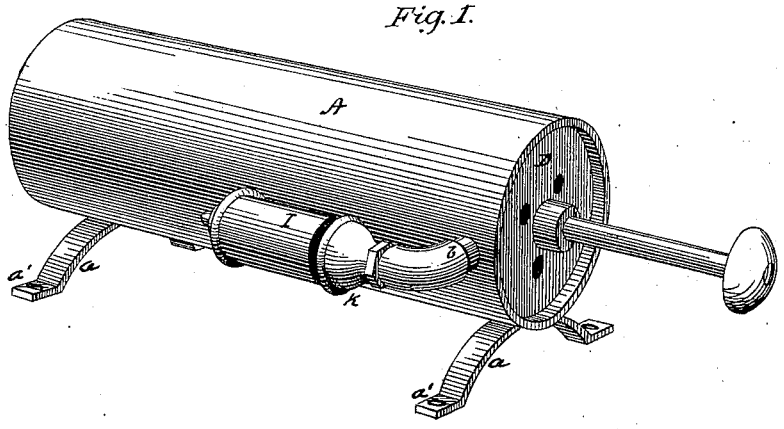
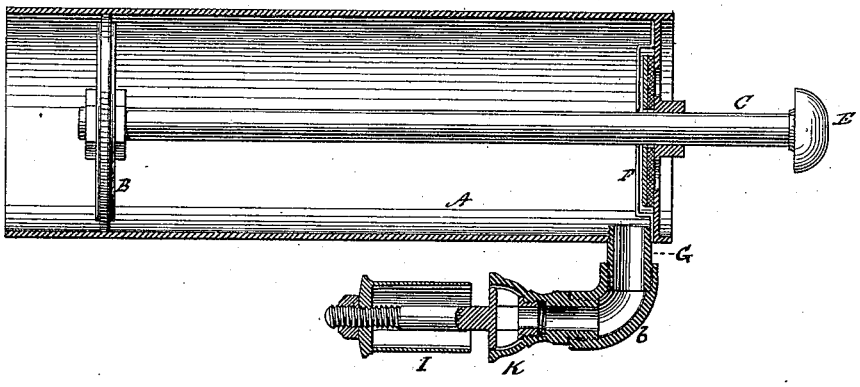


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK BOYD, OF OSHKOSH, WISCONSIN.

IMPROVEMENT IN PNEUMATIC SIGNALS.

Specification forming part of Letters Patent No. **193,474**, dated July 24, 1877; application filed July 3, 1877.

To all whom it may concern:

Be it known that I, FRANK BOYD, of Oshkosh, Winnebago county, Wisconsin, have invented certain new and useful Improvements in Pneumatic Alarms or Signals, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view. Fig. 2 is a longitudinal section.

This invention relates to improvements in pneumatic alarms or signals, the object being to make a simple apparatus or alarm for hand use on sailing vessels, for farm use, &c.; and the invention consists in the general construction and arrangement of an air-pump, with a whistle or vibrator attached thereto, as will be hereinafter fully described.

In the drawings, A represents a metal tube or pump cylinder, supported horizontally upon legs *a*, which are provided with holes *a'*, whereby the cylinder can be secured upon the deck of a vessel or other convenient place. B represents a piston fitting and playing within said tube or cylinder A, and C represents the piston-rod fitting and passing through the perforated head D of the tube or cylinder, and E the handle of the piston-rod. F is a valve placed in the lower end of said tube or cylinder, and in front of the perforated head D. This valve admits the air to the cylinder, and is opened by pushing the piston-rod and piston forward, and is closed by the pressure of the air when the piston is drawn backward. G is a pipe or tube communicating with the tube or cylinder near its lower and air-inlet end, and to this pipe or tube G is fastened the screw-threaded end of a hollow spindle, *b*, of a whistle, K, preferably formed like a common steam-whistle.

As the piston is thrust forward air passes freely into the tube or cylinder, and as the piston is drawn backward the air is forced out through the hollow spindle, and against the cup I, thereby producing the alarm-whistle. The alarm or signal is operated by short quick reciprocations of the piston, and by a system of prearranged signals (the meaning of respective signals depending upon the number of whistles given) the apparatus may be made useful for different purposes.

I am aware that various forms of pneumatic signals or alarms, consisting of an air-pump and a whistle or vibrator, are old, and such I do not claim, broadly, as my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

The herein-described pneumatic signal, consisting of the tube or cylinder A, having the perforated head D and valve F arranged in one end thereof, the piston B, piston-rod C, and whistle or vibrator K I *b*, the several parts constructed and relatively arranged as specified.

FRANK BOYD.

Witnesses:
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