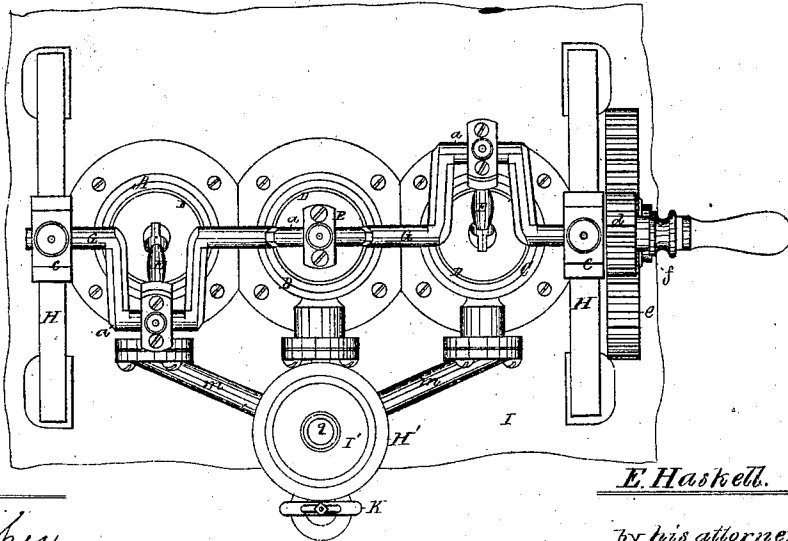


Erza Haskell's Alarm Pump for Navigable Vessels, etc.
 No. 120,194. Patented Oct. 24, 1871.

Fig 1.



Witnesses

E. N. Piper

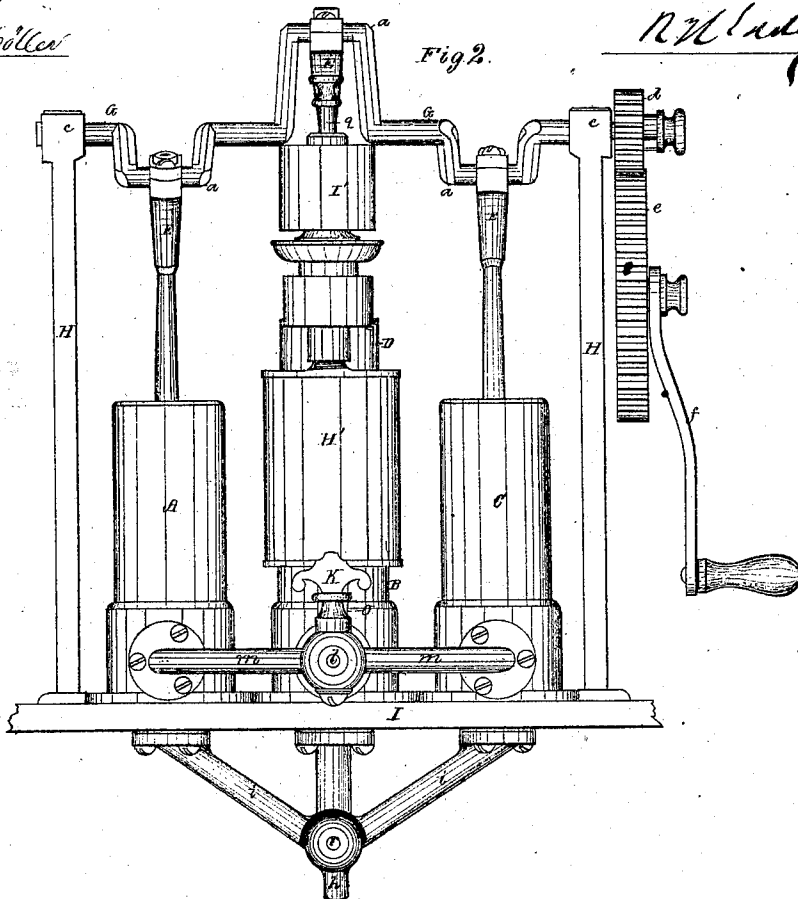
L. N. Moller

E. Haskell.

by his attorney.

R. M. Ledy

Fig 2.

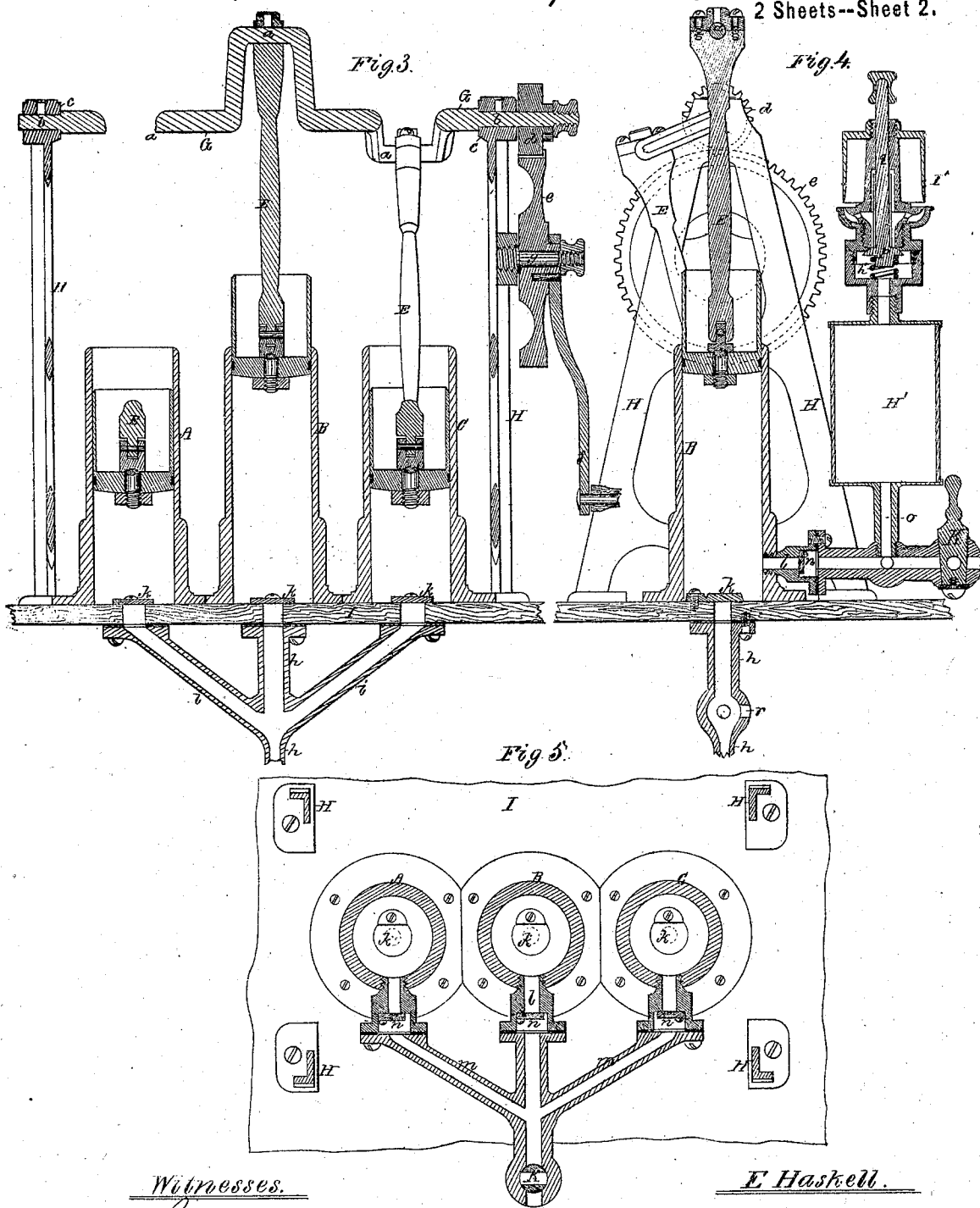


No. 120,194.

Patented Oct. 24, 1871.

Esra Haskell's Alarm Pump for Navigable Vessels, etc.

2 Sheets--Sheet 2.



Witnesses.
S. N. Piper
L. N. Moiles

E. Haskell.
by his attorney
N. W. May

UNITED STATES PATENT OFFICE.

EZRA HASKELL, OF DOVER, NEW HAMPSHIRE.

IMPROVEMENT IN ALARM-PUMPS FOR VESSELS.

Specification forming part of Letters Patent No. 120,194, dated October 24, 1871.

To all whom it may concern:

Be it known that I, EZRA HASKELL, of Dover, in the county of Strafford, of the State of New Hampshire, have invented a new and useful Alarm-Pump for Navigable Vessels; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section of the said alarm-pump or apparatus for sounding an alarm or giving signal sounds on shipboard, and raising water from the hold of a vessel, or for forcing water for washing a deck, for all or either of which purposes the apparatus is particularly useful.

In the drawing, A B C denote three pump-barrels arranged in a row and provided with pistons D D D, one to each barrel. Each piston is pivoted to one of three connecting-rods, E E E, which are respectively pivoted to three bell-cranks, *a a a*, of a driving-shaft, G, having its journals *b b* supported by bearings *c c* in two standards, H H, erected on a stand, I. A pinion, *d*, fixed on the cranked shaft, G, engages with a gear, *e*, of larger diameter, and provided with a crank, *f*, and arranged on a stationary shaft, *g*, all as shown. By revolving the crank the shaft G will be put in revolution so as to indirectly impart to the several pistons reciprocating vertical movements within the pump-barrels. An induction-conduit, *h*, leads into the bottom of the middle pump-barrel, and communicates, by lateral branch-pipes *i i*, with the lower parts of the other pump-barrels, there being a valve, *k*, in each barrel, and so as to open upward over the induction-entrance. Furthermore, an eduction-conduit, *l*, leads horizontally out of the lower part of the middle pump-barrel, and communicates, by means of two branch-pipes, *m m*, with the other pump-barrels. A valve, *n*, to open outward, is arranged in each of the eduction-passages of the pumps. Fig. 5 is a horizontal

section of the pump-barrels, their eduction-passages or conduits, and the valves thereof. An air-drum or fountain, H', is arranged over the junction of the three eduction-conduits, and opens into the bore of the middle one by means of a pipe, *o*. A whistle, I', provided with a stop-valve, *p*, fixed to a stem or key, *q*, provided with an elevating-spring, *h'*, all as represented, is arranged over and communicates with the air-fountain. Furthermore, there is a stop-cock, K, within the middle eduction-conduit and in advance of its junction with its branch-pipes. There is also at the junction of the three induction-pipes a hole or passage, *r*, leading laterally out of the bore of the middle of such induction-conduits.

When the apparatus is to be used for pumping water the hole *r* is to be stopped by a plug, and the stop-cock K is to be open; but when employed for sounding the alarm-whistle or giving signals thereby the said hole *r* is to be open and the stop-cock K is to be closed.

When the fountain contains compressed air a downward pressure on the valve-stem or key, so as to force the valve off its seat, will enable the air, by its expansive power, to pass into and blow the whistle, the spring on the valve-stem serving to restore or aid in restoring the valve to its seat on the power employed to depress the valve-stem or key being removed therefrom.

I claim as my invention—

The improved pumping and alarm apparatus, constructed substantially in manner and to operate as described, viz., of the three pump-barrels A B C, their pistons D, induction and eduction-pipes *h i l m*, air-opening *r*, stop-cock K, valves *k*, air-fountain H', steam-whistle I', and its valve *p*, and key *q*, all arranged in manner and to be operated by a cranked shaft, all as set forth.

EZRA HASKELL.

Witnesses:

R. H. EDDY,
J. R. SNOW.

(137)