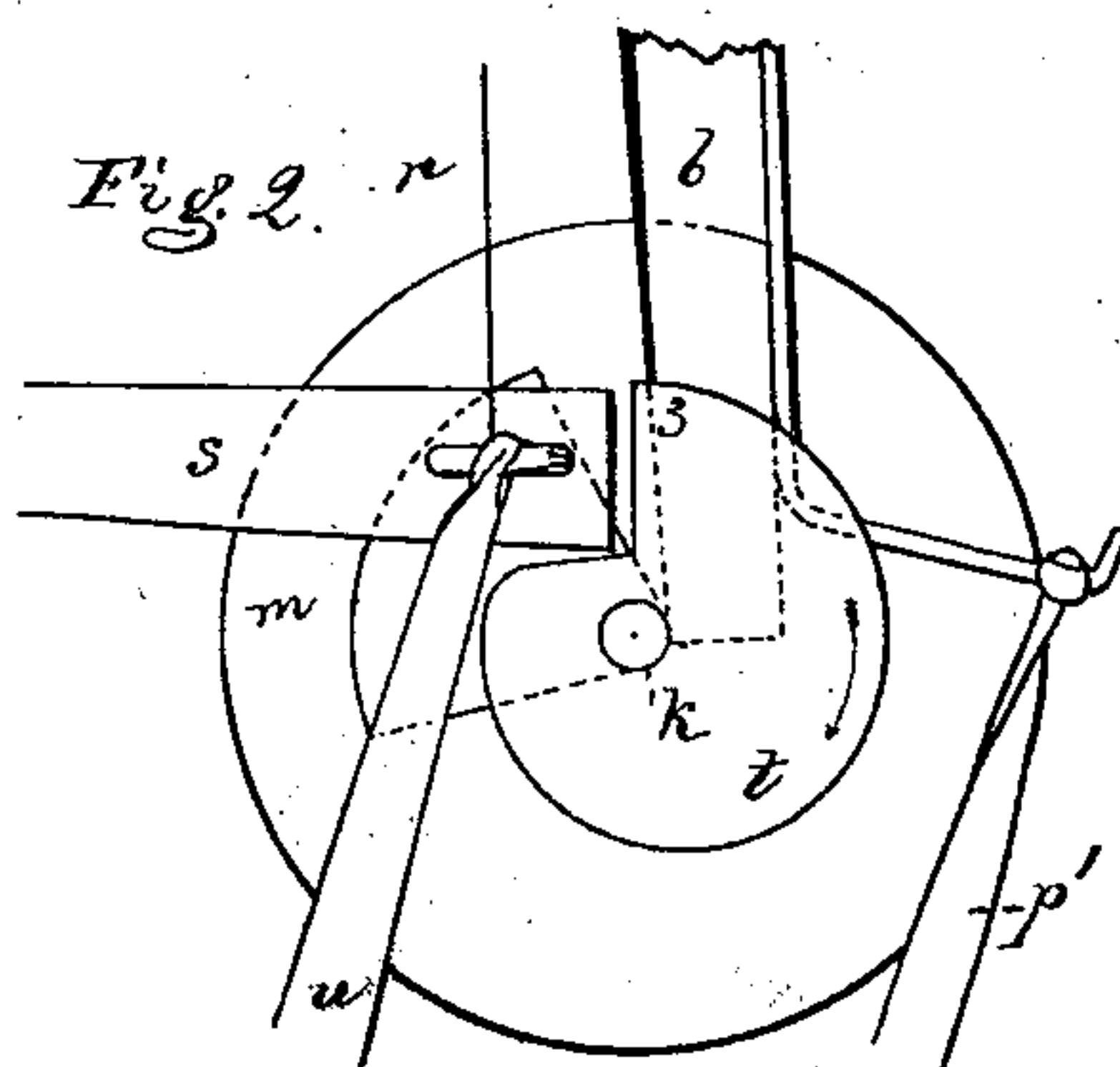
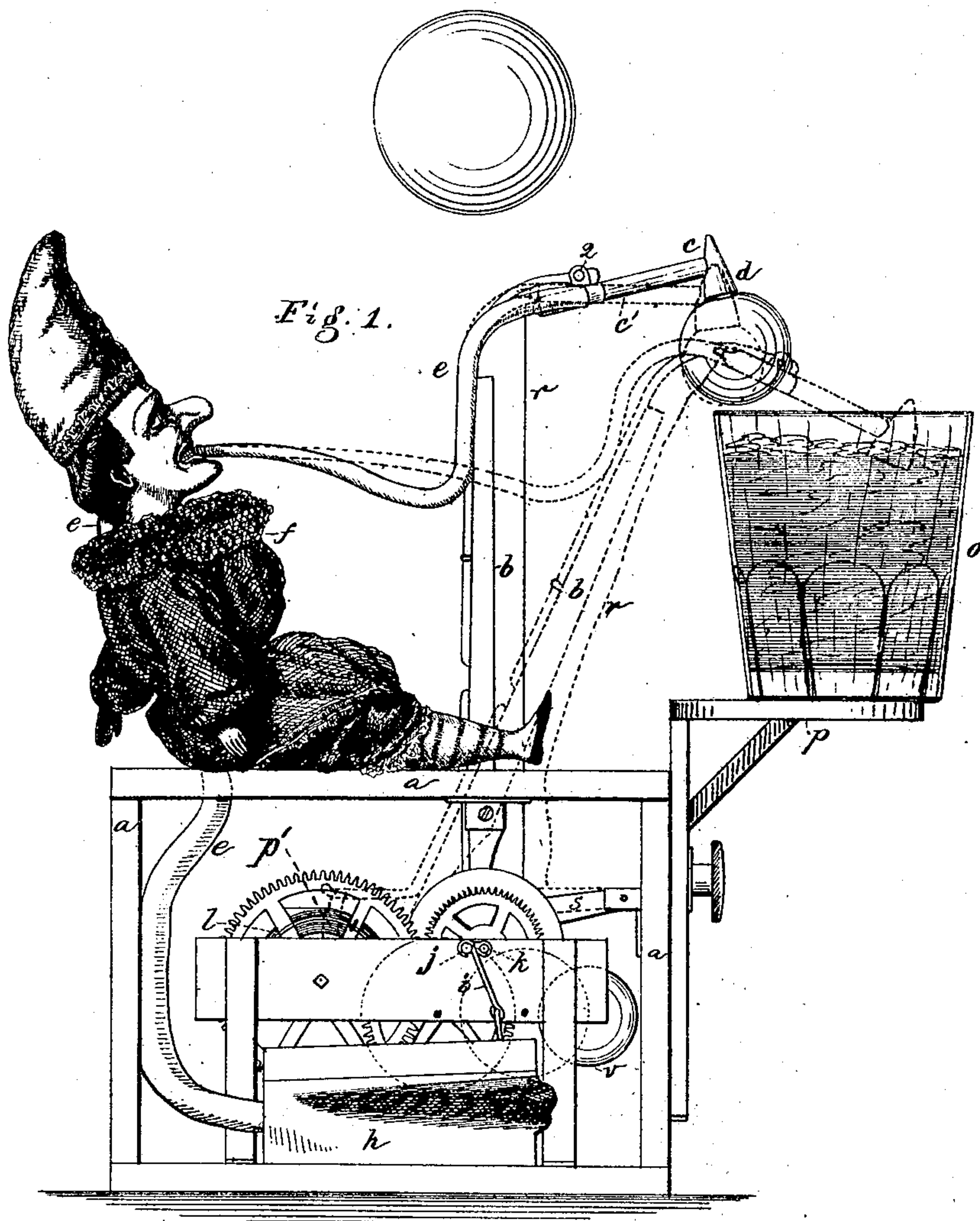


W. E. BAKER & T. NOONAN.

AUTOMATIC TOY.

No. 185,279.

Patented Dec. 12, 1876.



Witnesses.

L. M. Latimer.
W. J. Pratt.

Inventor
W. E. Baker
and Timothy Noonan,
per Crosby & Gregon Attys.

UNITED STATES PATENT OFFICE.

WILLIAM E. BAKER, OF WELLESLEY, AND TIMOTHY NOONAN, OF BOSTON,
MASSACHUSETTS, ASSIGNORS TO SAID WILLIAM E. BAKER.

IMPROVEMENT IN AUTOMATIC TOYS.

Specification forming part of Letters Patent No. **185,279**, dated December 12, 1876; application filed
October 2, 1876.

To all whom it may concern:

Be it known that we, WILLIAM EMERSON BAKER, of Wellesley, Norfolk county, and TIMOTHY NOONAN, of Boston, Suffolk county, all in the State of Massachusetts, have invented Improved Mechanical Apparatus for Blowing Bubbles, of which the following is a specification:

This invention relates to a machine for automatically blowing bubbles; and the invention consists in the combination, with a pipe and a lever for moving it, of a bellows, or equivalent, and a tube for transmitting air to the pipe to form a bubble, substantially as described.

Figure 1 represents our invention in side view, the pipe-carrying lever being shown in its two extreme positions, and Fig. 2 a detail of the lever-actuating cam, at the opposite side of the machine.

On a frame, case, or box, *a*, of any proper shape, is pivoted a lever, *b*, to the upper end of which is pivoted, at 2, a pipe, *c*, having a bowl, *d*, of any proper shape. The end, or a stem from the pipe *c*, is joined with a flexible pipe, *e*, herein shown as connected with, or as entering, the mouth of an image or figure, *f*, seated upon, or it may be standing upon, or near, the box *a*. This pipe *e* is shown as passing through the figure or under its clothing, and into the box *a*, where it is joined with a bellows, *h*, or equivalent, connected by a link, *i*, with a crank, *j*, on a shaft, *k*, of an ordinary clock-gear, or train of gear, driven by a suitable spring, *l*, or it may be a weight.

The clock-power is not new, and its operation to rotate the shaft *k* is too well known to need description. Any other usual form of power, weight, or spring may be employed instead of the one shown, and the power may be more or less strong, as required.

On shaft *k* is a cam, *m*, that strikes the lower end of pipe-carrying lever *b*, and moves it from the position shown in full to that shown in dotted lines, Fig. 1, the pipe *c*, in such forward position, dipping the mouth of the bowl *d* into the suds in the tumbler or vessel *o*, on a suitable stand or support, *p*. After the cam *m* leaves the lever, a suit-

able spring, *p'*, Fig. 2, returns the lever to the position in full lines, and when the lever is fully back, the pipe and bowl rest in the position shown in dotted lines *c'*. In this position the bubble is fully formed, ready to be cast off.

At the end of the pipe is a cord, *r*, connected with a lever, *s*, held down against the action of a cam, *t*, by a suitable spring, *u*. Just, or substantially, as the lever *b* reaches its backward position, the end of lever *s* drops from the end 3 of cam *t*, and the lever *s*, descending quickly under the action of the spring *u*, pulls the cord *r*, and throws the pipe to the position *c d*, (full lines,) this sudden upward movement of the pipe throwing or casting off the bubble, as indicated at 4.

The bellows act to force the air through the pipe *e* after the bowl *d* leaves the suds, forming the bubble as the lever moves backward.

The speed at which the power runs may be regulated by means of pressure against the fly or regulating wheel *v*, or by increasing or diminishing the area of the air-supplying passage for the bellows. The lever *b* may be moved by other devices than the cam *m* and spring, as by a crank or link.

In some instances I may employ a second figure or image, it being connected with, and seemingly to operate, the lever, moving the pipe backward and forward, while the first image seemingly blows through the flexible pipe.

Instead of the bellows shown, we may employ any other well-known or equivalent apparatus for forcing a gentle current of air into the pipe *e*.

The figure *f* is not essential to the apparatus, and in operation is merely as a portion of the pipe *e*.

Instead of throwing the pipe upward to cast off the bubble, it might be detached by a gentle current of air through a separate pipe.

We claim—

1. As a new article of manufacture, a mechanical toy, adapted to automatically form and discharge bubbles, substantially as described.

2. A pipe and pipe-moving lever, in combination with a flexible pipe and apparatus for forcing air through the flexible tube and pipe, substantially as described.

3. The pipe-moving lever and pipe, in combination with mechanism for moving the pipe upward to cast off the bubble, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WM. EMERSON BAKER.

TIMOTHY NOONAN.

Witnesses:

G. W. GREGORY,

W. J. PRATT.