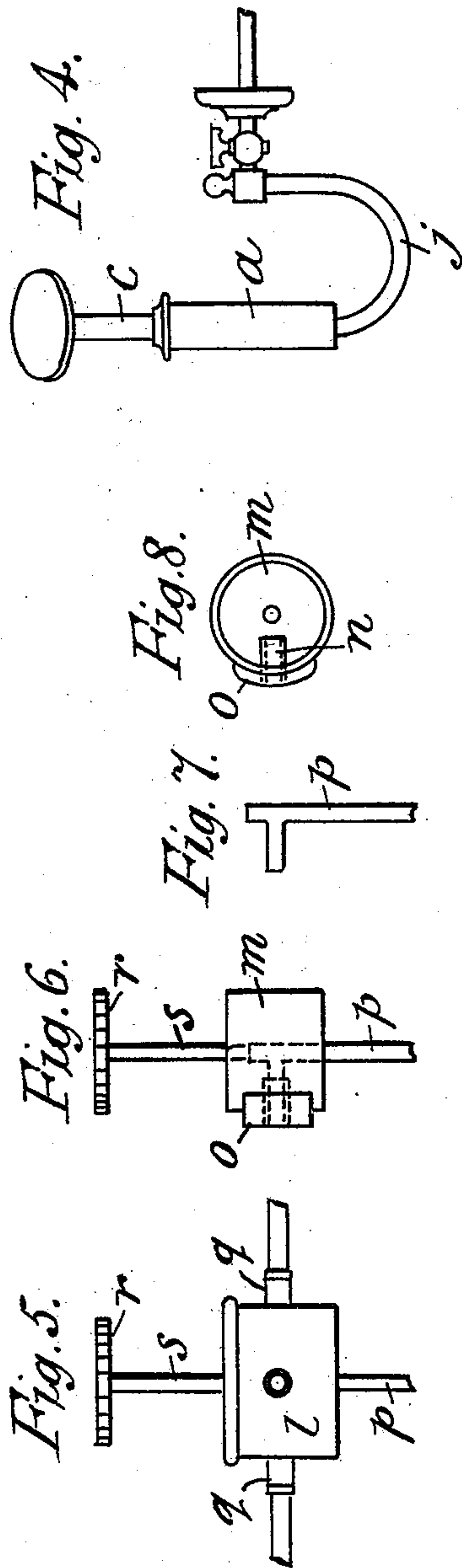
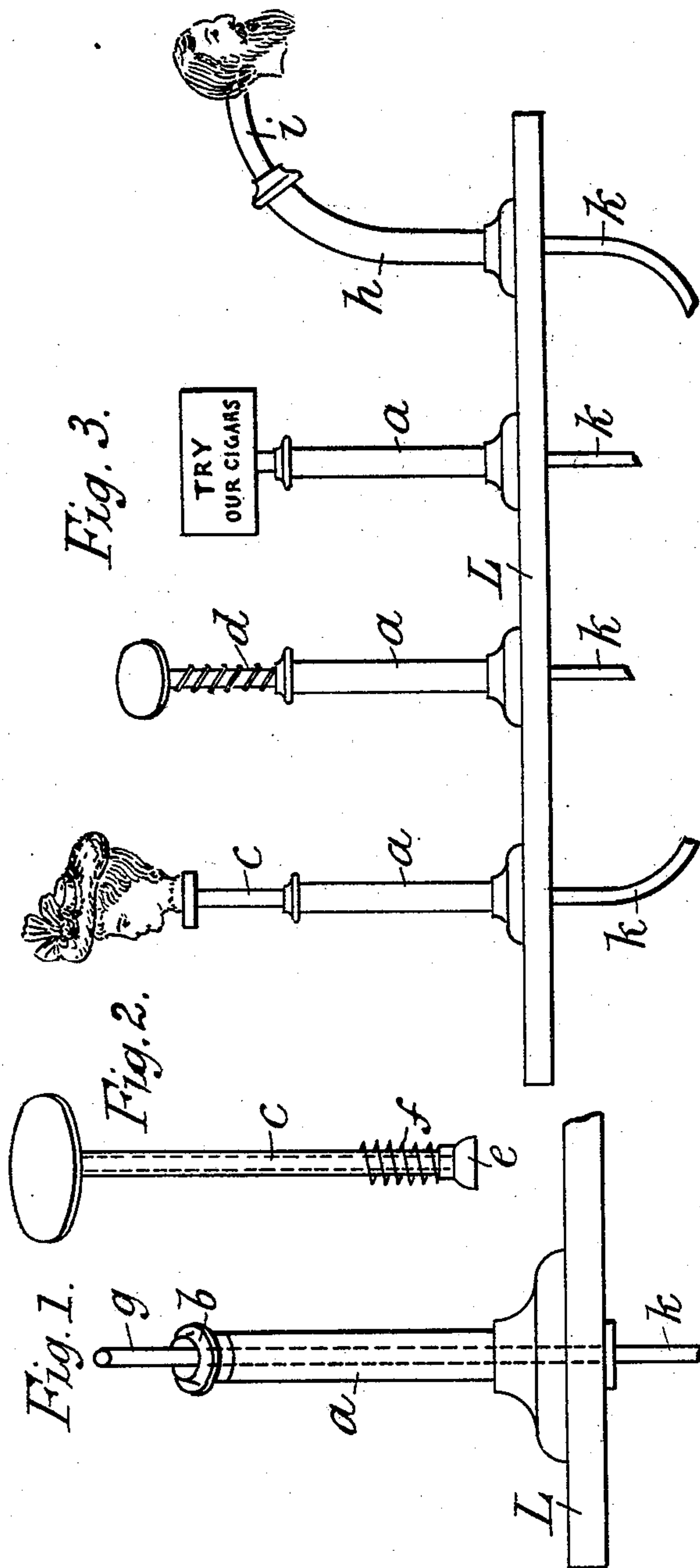


H. E. HUPTON.  
MOVING STAND OR FIGURE.

(Application filed July 20, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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H. E. HUPTON.  
MOVING STAND OR FIGURE.  
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(No Model.)

2 Sheets—Sheet 2.

Fig. 9.

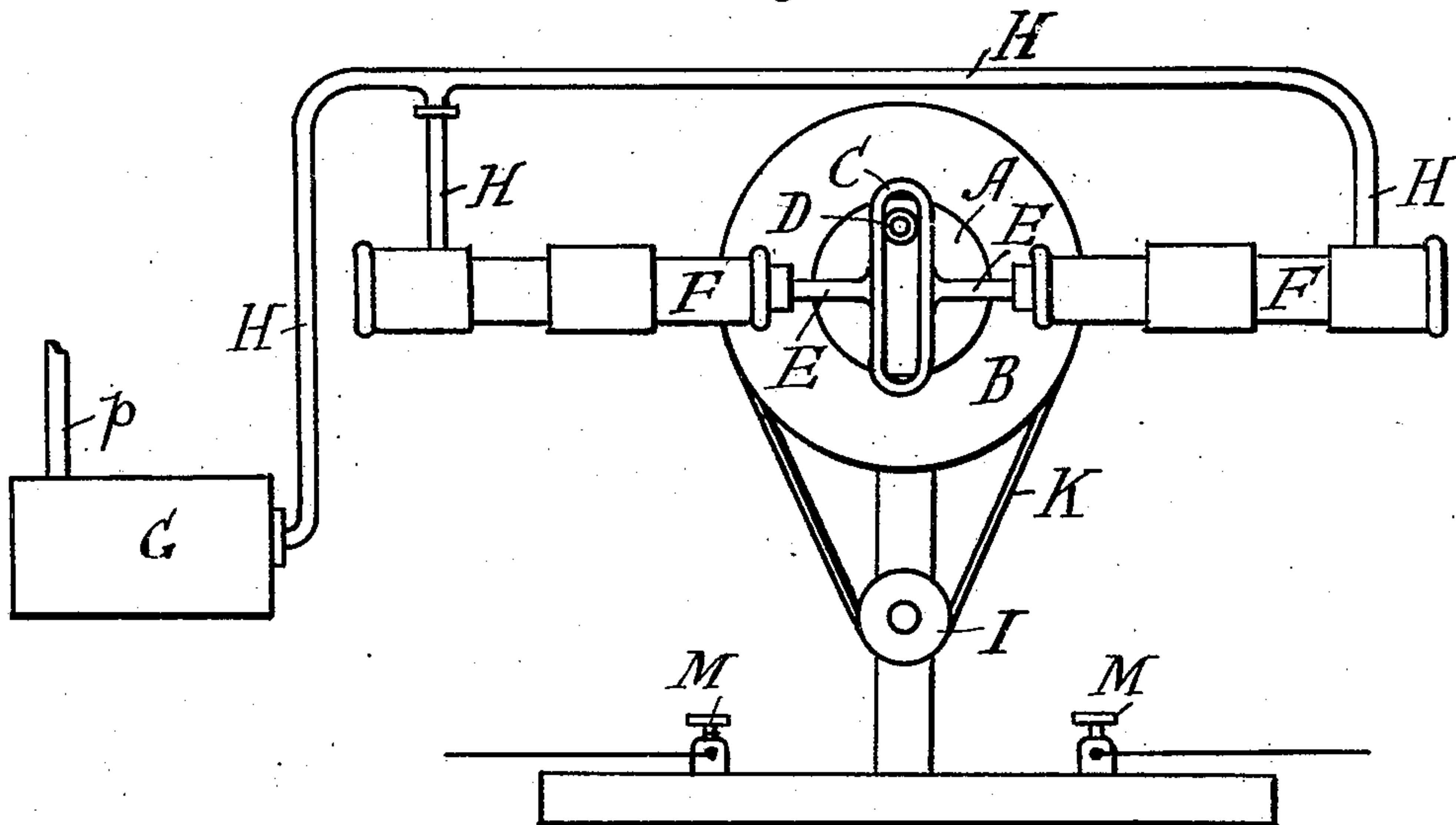
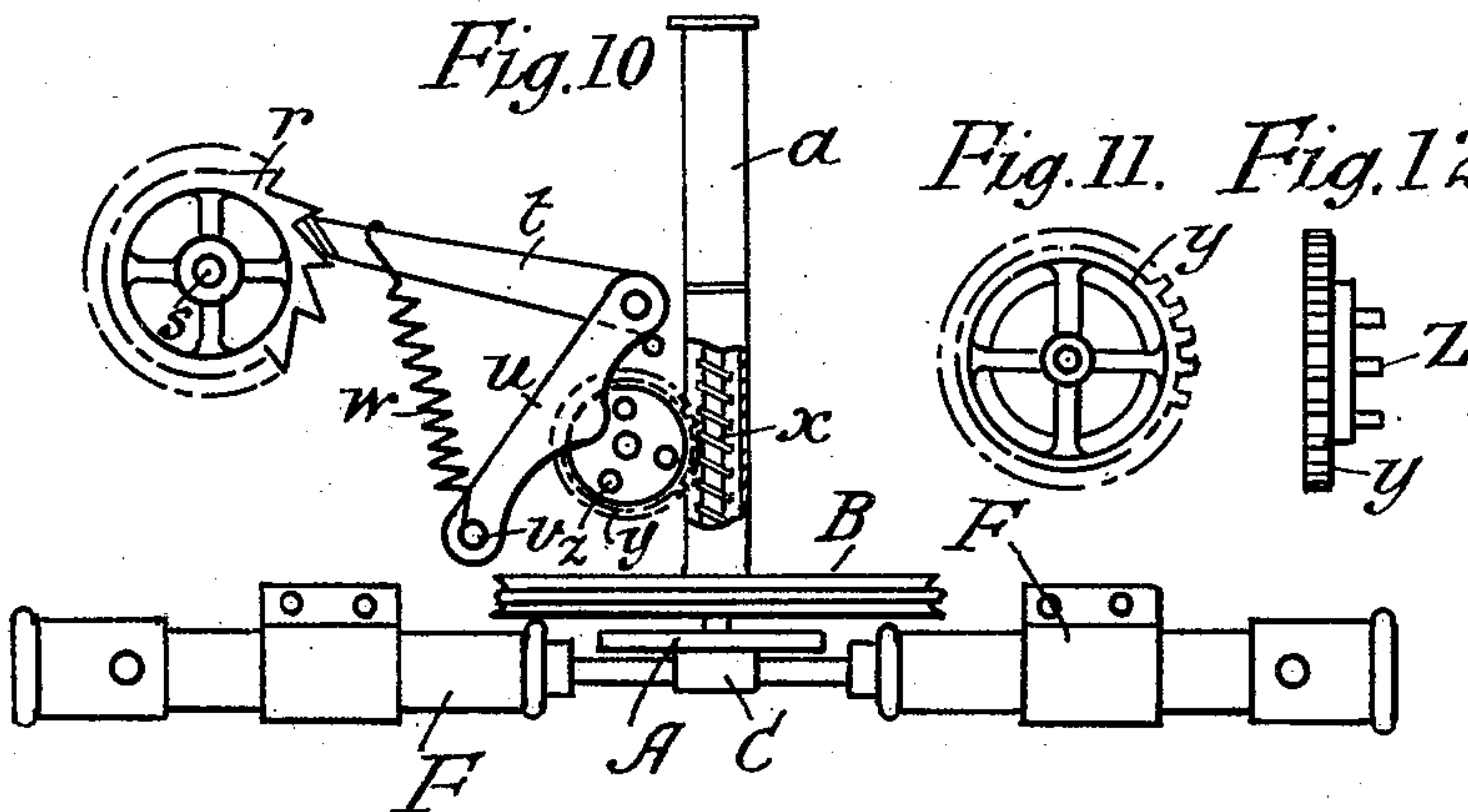


Fig. 10

Fig. 11. Fig. 12.



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# UNITED STATES PATENT OFFICE.

HORACE EDWIN HUPTON, OF BRIGHTON, ENGLAND, ASSIGNOR OF ONE-HALF TO THOMAS MUTTON, OF BRIGHTON, ENGLAND.

## MOVING STAND OR FIGURE.

SPECIFICATION forming part of Letters Patent No. 713,221, dated November 11, 1902.

Application filed July 20, 1901. Serial No. 69,042. (No model.)

*To all whom it may concern:*

Be it known that I, HORACE EDWIN HUPTON, a citizen of the Kingdom of Great Britain and Ireland, residing at 59 West street, Brighton, England, have invented a certain new and useful Improvement in Moving Stands or Figures for Exhibition, Advertising, and Similar Purposes, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a device wherein a rising-and-falling as well as rotary movement during such rising and falling may be produced in advertising-figures, display-stands, &c., at a minimum cost for construction, operation, and supervision.

To such ends such invention consists, in substance, of a plurality of cylinders, a piston reciprocating in each of the cylinders, means for normally forcing the pistons into the cylinders, a piston-rod connected to each of the pistons, means for causing rotation of the piston-rods upon reciprocation of the pistons, an air-pump, an air-reservoir, an air-distributing-valve chamber in connection with the air-reservoir and with each of the cylinders, a valve located in the valve-chamber adapted when actuated to direct the air intermittently in turn to each of the cylinders, and means actuated in unison with the air-pump for actuating the air-distributing valve.

Such invention is fully shown and described in the following specification, of which the accompanying drawings form a part, wherein similar letters of reference designate like or equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a side or perspective view of a cylinder, and Fig. 2 is a like view of a piston removed therefrom, adapted to reciprocate in the same, on top of which is a table or display-stand. Fig. 3 shows an exterior or perspective view of four cylinders provided with pistons carrying display-heads of different forms. Fig. 4 is a view of a single cylinder and piston. Fig. 5 is an exterior view of the air-distributing-valve chambers with the air-distributing valve in position therein. Fig. 6 is a side view of the rotating air-distributing valve located within the casing shown in Fig.

5. Fig. 7 is a view in detail of a portion of the interior mechanism shown in dotted lines in Fig. 6 removed from the casing; and Fig. 8 is a top plan view of the construction shown in Fig. 6, the wheel *p* being removed. Fig. 9 is a side view of the double-acting air-pump and air-reservoir which I prefer to use. Fig. 10 is a top plan view of the construction shown in Fig. 9, showing the mechanism connecting the air-pump-actuating mechanism with the air-valve; and Figs. 11 and 12 are views in detail of the wheel which forms an actuating connection between the two.

This invention is designed for advertising purposes, the display of goods, and for exhibitions and like purposes.

It consists of the following pneumatic device, driven by a small electrical or other suitable motor. A small double air-pump drives air into a reservoir, whence it passes under pressure into a distributor which somewhat resembles in construction a five-way or six-way tap. This distributor is by preference of cylindrical shape, having various outlets, any of which can be closed at will or which may be opened and closed successively or alternately by a rotating drum or disk, thus forming a series of valves, or in any other suitable way. The air passes from the distributor through pipes into telescopic standards or vertical stands, which by the pneumatic pressure project tubes or arms which may have a vertical, horizontal, curved, or slanting direction or the action or motion of which may be straight or spiral, alternate or intermittent. When the air-pressure is intermittently cut off, a rising-and-falling action can be produced, the telescopic part of the stand gradually falling by gravity, which action, especially if combined with the spiral motion before referred to, causes a very curious and life-like effect when the standard is surmounted by a doll, animal, reptile, or dressed figure or a head. A series or row of such dummy figures rising and falling intermittently has a peculiarly-striking appearance. Similarly an umbrella or parasol could be made to open and shut. Fruit and flowers made of elastic air-tight material could be made to distend and imitate growth and then gradually or suddenly collapse. This movement is



especially suitable for displaying millinery or other goods in shop-windows and for attracting notice to advertisements and notices.

*a* is the external tube of the pneumatic stand. *b* is a cap on summit of same. *c* is the telescopic tube of same.

*d* is a spiral-action telescopic tube formed by soldering a spiral wire on tube *c* and cutting a notch in the cap *b* to engage with same.

*e* is the piston end of tube *c*, which is made in cup form and of elastic material, so that it dilates when the air-pressure is applied and clings to the inner surface of tube *a*, thus forming an air-tight piston-head in same.

*f* is a coiled spring around the tube *b*, which prevents jar when the tube *c* ascends and also assists the commencement of the return movement of same, and *g* is the inner air-supply tube of the pneumatic stand, *h* being the external tube or cylinder of a curved stand, of which *i* is the telescopic tube or piston.

In Fig. 4, *j* is a tubular bracket mounted with pneumatic stand, the air-supply being introduced from behind the wall.

In Figs. 1 and 2, *k k* are air-tubes connecting stands to pressure-air system.

In Fig. 5, *l* is the cylindrical case of the air-distributor, which may have any number of outlets *q* and is fitted with removable covers at its ends. *m* is the drum, which rotates inside *l* and which has a cork or other suitable packing *o* on one side to prevent escape of air. *n* is a projecting nozzle inside *m*, which forms

an air-tight connection with the supply-pipe *p* on the inside and with the outlets *q* on the outside. *o* is the packing outside the drum *m*. *p* is the pipe which conducts air from reservoir *G* to the distributor *l*. *q q* are nozzles or outlets on the cylinder *l*. *r* is the ratchet-wheel, which operates the drum *m*. *s* is the spindle of the ratchet-wheel *r*. *t* is the jointed arm, the end of which rotates the ratchet-wheel *r* intermittently. *u* is an arm

pivoted to a fixed pin *v* and connected to *t* at its other extremity. This arm is operated by the pin-wheel *z* and in turn operates *t*. *w* is a coiled spring which returns *t* to its normal position after each movement. *x* is the worm, which engages with toothed wheel *y*, which wheel *y* is the worm-wheel which engages with *x* and carries the pin-wheel *z*, *z* being the pin-wheel fixed to *y* and rotating therewith which imparts motion intermittently to the arm *u*.

*A* is a disk wheel attached to axle of driving-wheel *B*, which carries a roller-faced eccentric-pin *D*, which pin revolves in the slide *C*, and thereby operates the pistons *E* of the air-pumps *F*, which pistons are connected to said slide. Said pumps *F* drive the air into the air-reservoir *G* through the pipes *H*. *B* is the driving-wheel, actuated by a belt *K* or by other suitable gear connecting the same with the pulley *I* of the motor. *G* is the air-reservoir, which imparts steadiness to the pneumatic air-supply. Should, however, a jerky motion of the stands be desired, this

reservoir can be dispensed with. *L* is the counter on which the stands are placed. *M M* are terminals for the electric current of the motor which actuates the pulley *I*.

The mode of working is as follows: The motor being set in motion rotates the driving-wheel on the axle of which is the eccentric wheel and pin which operate the slide connected to the pistons *b'* of the air-pumps *p*, which pistons drive the air under pressure through the pipes *s* into the reservoir *t*, whence it passes to the distributor *q*. On the axle of *g* is the worm *l*, which engages with the toothed wheel *m*, connected to the pin-wheel *n*, which actuates the jointed arm *j*, pivoted at *j'*, the other end of which, *i*, acts as a pawl to push forward the ratchet-wheel *h*, which is mounted on the spindle attached to the distributor-drum *q'*. The motion communicated by the arm *j* serves to rotate this drum. This action can be timed so that two teeth of the ratchet-wheel represent the distance between each outlet to the pipe of a telescopic stand, every other tooth being arranged to cause a rest of the drum between two contiguous outlets, so as to afford time for the air to accumulate in the reservoir and also for the stand recently distended to collapse. The exhaust-air from the stand returns by the pipe to the distributor and escapes in the space around that part of the drum which has no packing.

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

1. In a device of the class described, the combination with a cylinder, of a piston located in the cylinder, means for forcing the piston outward in the cylinder, means for normally forcing the piston to its former position when released from pressure, and means for causing rotation of the piston during its reciprocation, substantially as shown and described.

2. In a device of the class described, the combination with a cylinder, of a piston located in the cylinder, a piston-rod connected to the piston extending out of the cylinder, a spring for normally forcing the piston into the cylinder, a fluid-pressure supply, and means for intermittently bringing the fluid-pressure supply into and out of communication with the cylinder in such manner as to cause reciprocation of the piston in the cylinder, substantially as shown and described.

3. In a device of the class described, the combination with a cylinder, of a piston located in the cylinder, a piston-rod connected to the piston extending out of the cylinder, a spring for normally forcing the piston into the cylinder, means for causing rotation of the piston-rod as it is reciprocated in the cylinder, a fluid-pressure supply, and means for intermittently bringing the fluid-pressure supply into and out of communication with the cylinder in such manner as to cause reciprocation of the piston in the cylinder, substantially as shown and described.



4. In a device of the class described, the combination with a plurality of cylinders each having a piston provided with a piston-rod reciprocating therein, of means for causing rotation of the piston-rods as they are reciprocated, a fluid-pressure supply in communication with each of the pistons by way of a suitable conduit, a distributing-chamber forming a portion of the conduit, and mechanism located in the distributing-chamber for intermittently bringing each of the cylinders into and out of communication with the fluid-pressure supply, substantially as shown and described.

5. In a device of the class described, the combination with a plurality of cylinders each having a piston provided with a piston-rod reciprocating therein, of means for causing rotation of the piston-rods as they are reciprocated, a fluid-pressure supply in communication with each of the pistons by way of a suitable conduit, a distributing-chamber forming a portion of the conduit, and mechanism located in the distributing-chamber for inter-

mittently bringing each of the cylinders into and out of communication with the fluid-pressure supply actuated by the pressure-supplying mechanism, substantially as shown and described.

6. In a device of the class described, the combination with a plurality of cylinders each having a piston provided with a piston-rod reciprocating therein, of a fluid-pressure supply in communication with each of the pistons by way of a suitable conduit, a distributing-chamber forming a portion of the conduit, and mechanism located in the distributing-chamber for intermittently bringing each of the cylinders into and out of communication with the fluid-supply actuated by the pressure-supplying mechanism, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

HORACE EDWIN HUPTON.

Witnesses:

ERNEST HARPER KEMPE,  
ARCHIBALD GREVETT.