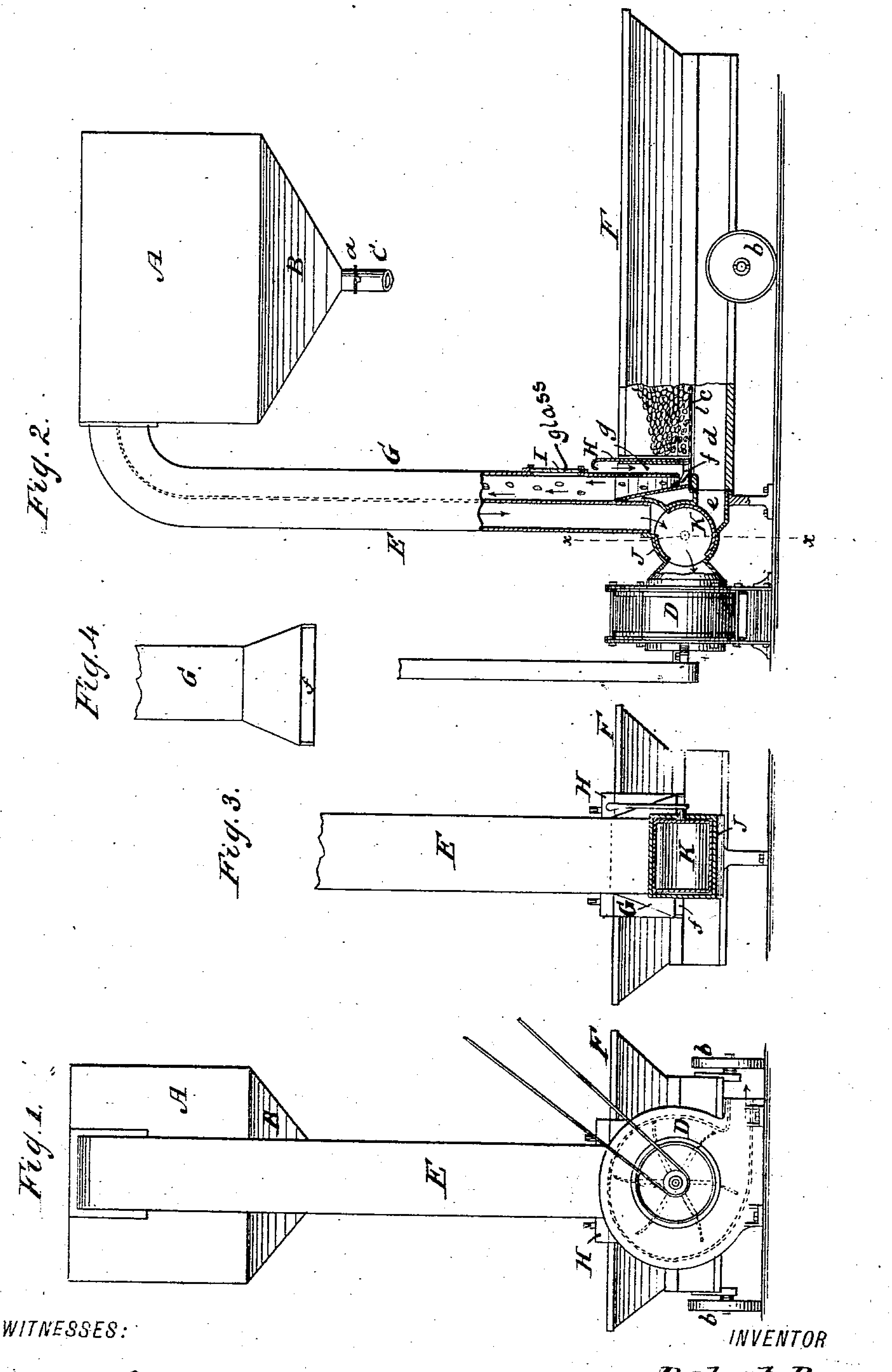
(No Model.)

R. BURNS.

APPARATUS FOR COOLING, STONING, AND BAGGING COFFEE.

No. 411,710. Patented Sept. 24, 1889.



WITNESSES:

Edward Wolff.
William Miller

INVENTOR

Robert Burns.

BY Van Santvoord & Hauff

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT BURNS, OF BROOKLYN, NEW YORK.

APPARATUS FOR COOLING, STONING, AND BAGGING COFFEE.

SPECIFICATION forming part of Letters Patent No. 411,710, dated September 24, 1889.

Application filed March 8, 1888. Serial No. 266,561. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BURNS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Apparatus for Cooling, Stoning, and Bagging Coffee and other Materials, of which the following is a specification.

This invention relates to an apparatus which is intended more particularly for cooling, stoning, and bagging coffee, but which can also be used for other materials.

The peculiar and novel construction of my apparatus is pointed out in the following specification and drawings, in which—

Figure 1 represents a front view. Fig. 2 is a side elevation, partly in section. Fig. 3 is a transverse vertical section in the plane *x x*, Fig. 2. Fig. 4 is a detached inside view of the lower end of the delivery-pipe.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the hopper, which is closed and provided with a bottom B, of the form of an inverted pyramid, from the apex of which extends the spout C. This spout is provided with a valve or gate *a*, by means of which it can be closed or opened.

D is an air-suction apparatus, which, in the example shown by the drawings, is made in the form of a fan-blower. This air-suction apparatus connects, by the suction-pipe E, with the hopper A, so that when said suction apparatus is in motion the air is drawn from the hopper and a partial vacuum is created therein.

F is the receptacle which contains the coffee-beans or other material to be acted upon. This receptacle is by preference made movable, and in the example shown in the drawings it is provided with wheels *b b*, so that it can be readily pushed up against or drawn away from the air-suction apparatus A. Said receptacle is provided with a perforated bottom *c*, and beneath this bottom it is also provided with an air-channel *d*, Fig. 2, and if the receptacle is pushed up against the air-suction apparatus its air-channel *d* is placed in communication with the end of a channel *e*, which extends from the air-suction apparatus. In order to produce a tight joint between the receptacle F and the air-suction apparatus, a suitable packing may be interposed.

G is the delivery-pipe, which extends from the hopper A to the receptacle F. The lower end of this delivery-pipe is made flaring, (see Figs. 3 and 4,) and it is provided with a channel *f*, which communicates with an air-channel *g*, Fig. 2, which is provided in one end of the receptacle.

H is a gate which slides up and down in suitable guideways formed in the sides of the receptacle, and which controls the communication between the channels *f g* and the receptacle.

I is a glass pane inserted into the side of the delivery-pipe, through which the interior of said pipe can be inspected.

In the case of the air-suction apparatus is formed a valve-chamber J, which communicates with the suction-pipe E and with the channel *e* of the air-suction apparatus, and in which is fitted a valve K. When this valve is turned to the position shown in Fig. 2, and the air-suction apparatus is set in motion, the air contained in the hopper A is rarefied and a current of air is created through air-channel *g*, channel *f*, delivery-pipe G, and suction-pipe E, as indicated by the arrows in Fig. 2. If the gate H is raised, the coffee-beans contained in the receptacle F are carried up into the hopper A by the upward current of air in the delivery-pipe G, the force of which is so regulated that stones or other heavy particles mixed with the beans remain at the bottom of the channel *f*. The force of the air-current can be regulated either by changing the speed of the air-suction apparatus or by turning the valve K so as to partially close the suction-pipe E. As the operation progresses, the coffee in the receptacle F must be successively moved up toward the gate H, and if the contents of the receptacle are exhausted a freshly-loaded receptacle can be moved in its place. The beans which are carried into the hopper A can be readily discharged into bags or other suitable receptacles by opening the spout C. If the gate H is closed and the valve K is turned so as to close the suction-pipe E and to open the communication between the air-suction apparatus and its channel *e*, an air-current is created through the beans contained

in the receptacle F, and freshly-roasted beans can be rapidly cooled.

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

1. The combination of an air-suction apparatus, a receptacle for containing the material to be operated on and having an air-channel *g*, a hopper, a suction-pipe leading from the hopper to the air-suction apparatus, a delivery-pipe leading from the hopper to the receptacle and having an air-channel *f* in communication with the air-channel of said receptacle, and a gate for controlling communication between said receptacle and channels *f* and *g*, substantially as described.

2. The combination of an air-suction apparatus provided with a valve-chamber J and a channel *e*, a rotary valve K in the valve-chamber, a receptacle F, having a perforated bottom and an air-channel *d* thereunder for connecting with the air-channel *e*, a hopper A, a delivery-pipe G, leading from the hopper to the receptacle and having an air-channel *f* in communication with the receptacle above the perforated bottom, and a suction-pipe E between the hopper and the air-suction apparatus, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

ROBERT BURNS. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.