

(No Model.)

2 Sheets—Sheet 1.

H. H. FISHER.  
PIPE MOLD AND FLASK.

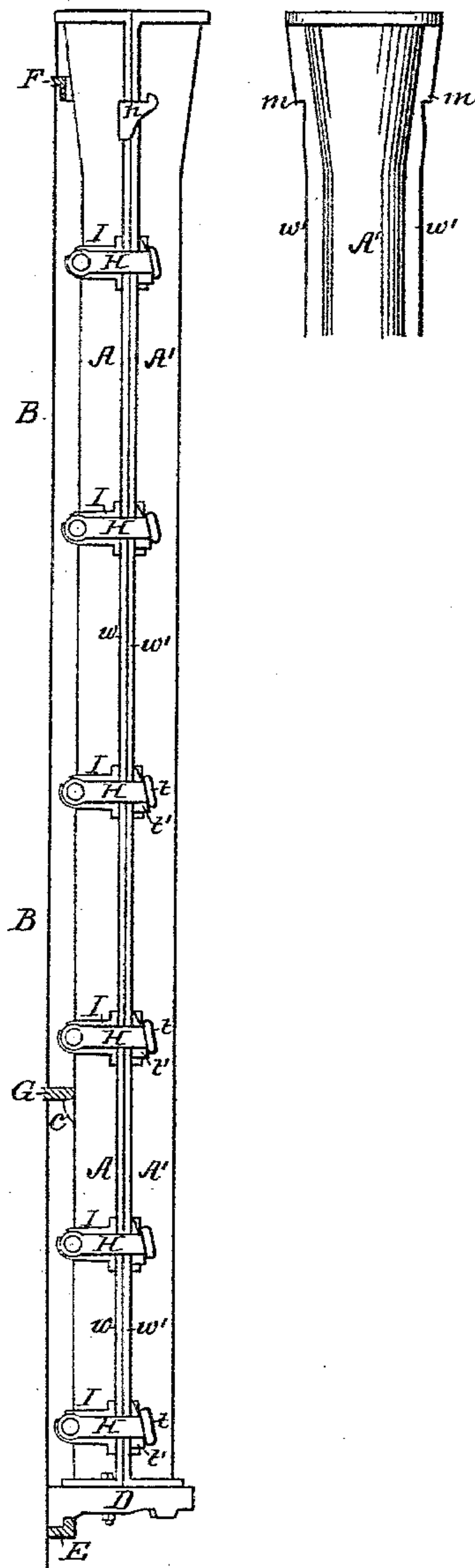
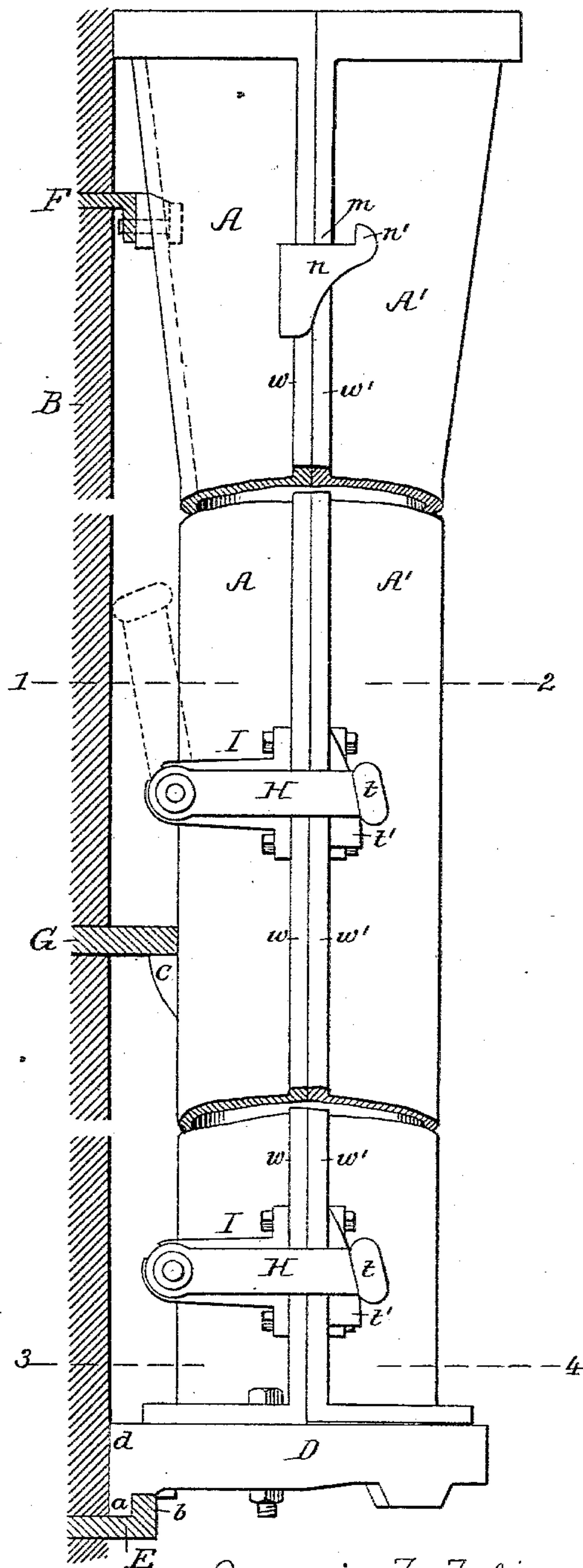
No. 300,239.

Patented June 10, 1884.

FIG. 3.

FIG. 1

FIG. 2.



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by his Attys.  
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(No Model.)

2 Sheets—Sheet 2.

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FIG. 4

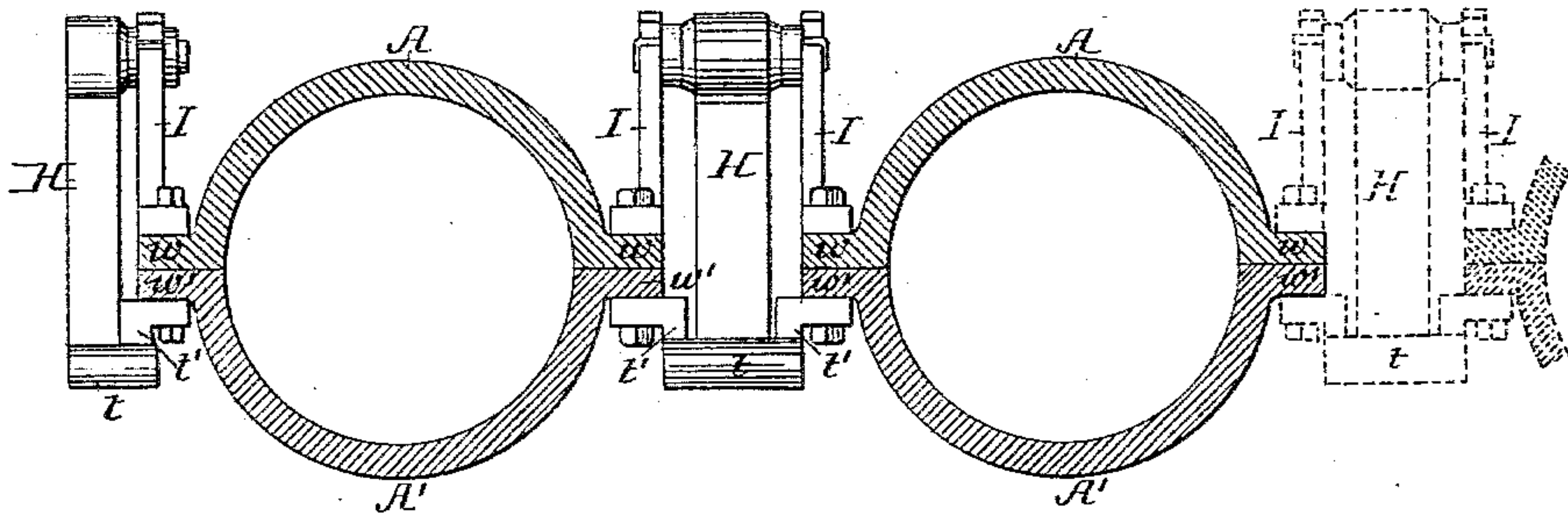


FIG. 5.

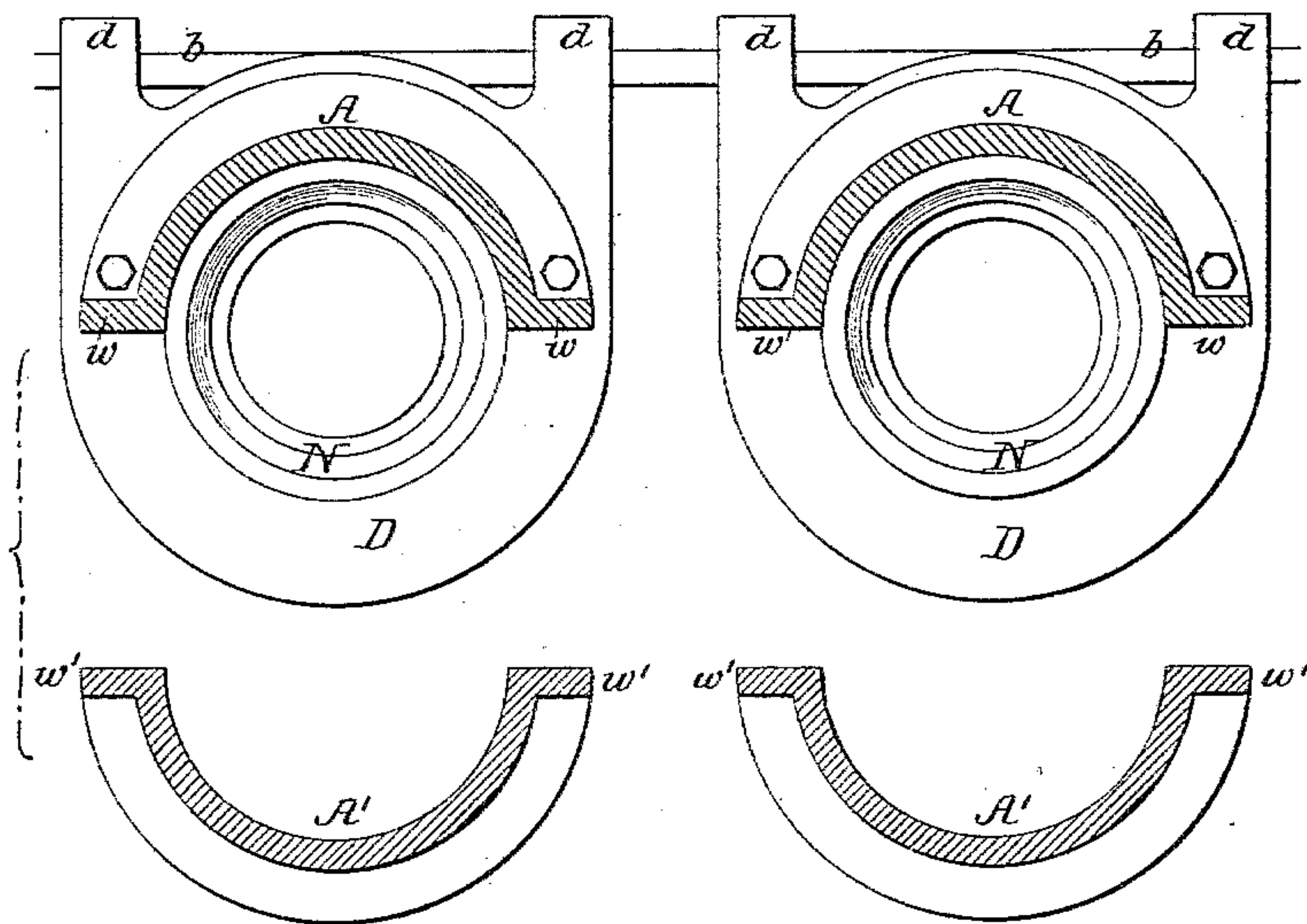


FIG. 6.

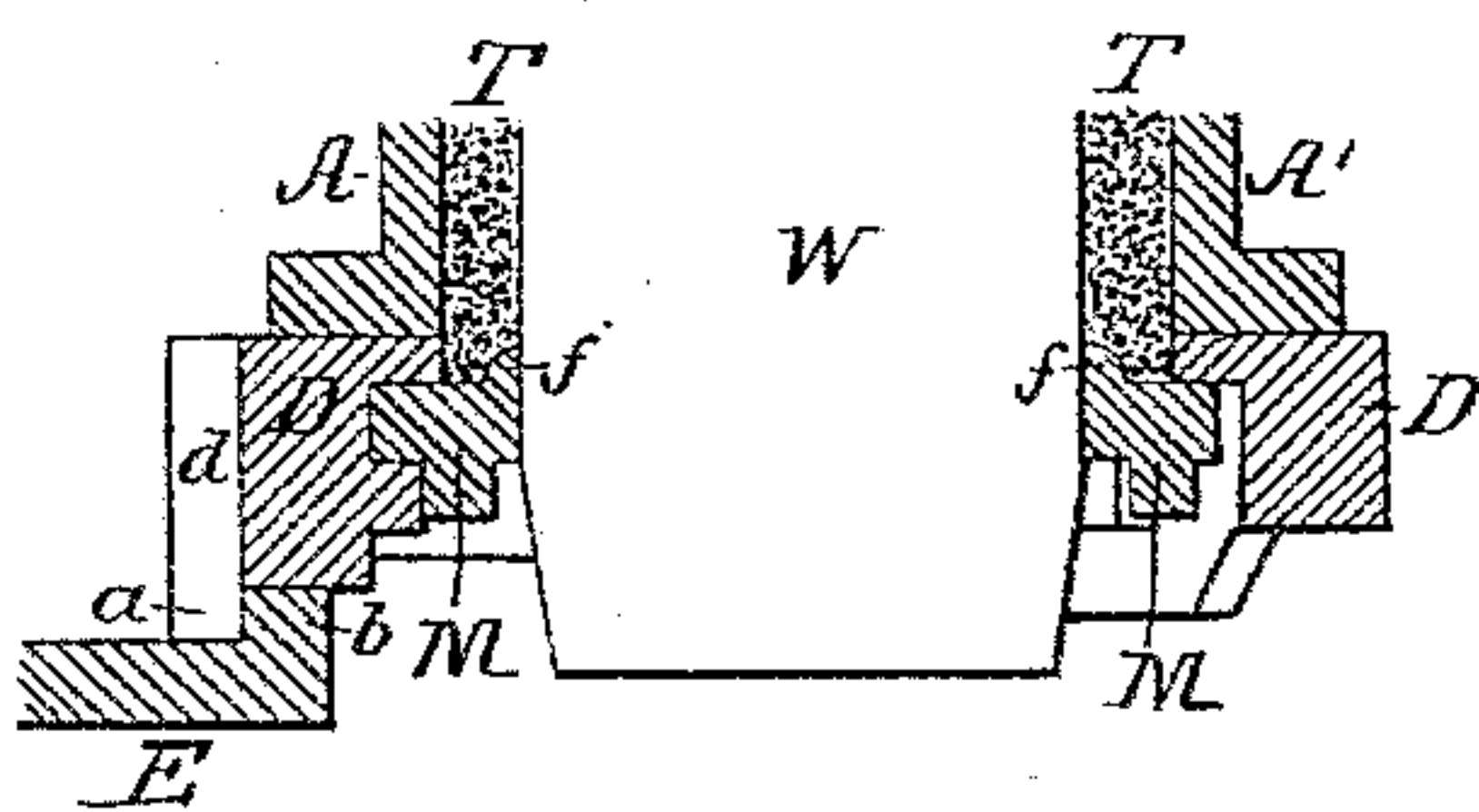


FIG. 7.

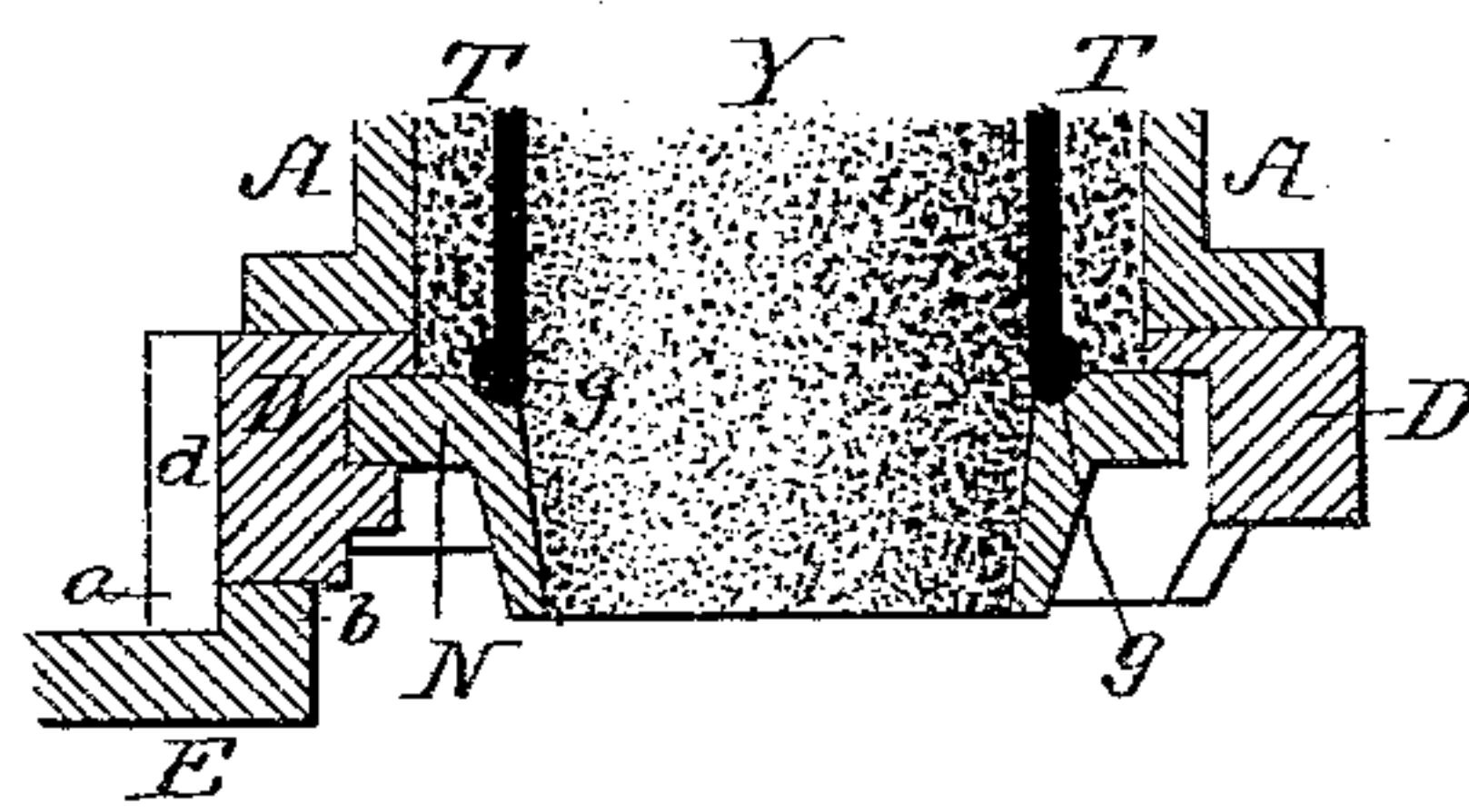
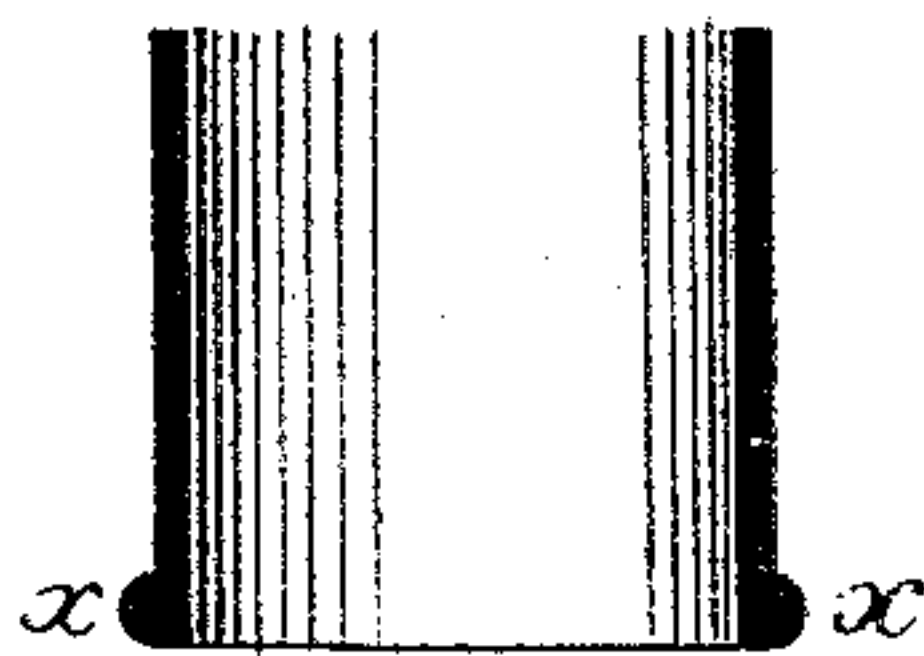


FIG. 8



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# UNITED STATES PATENT OFFICE.

HIRAM H. FISHER, OF ALLENTOWN, PENNSYLVANIA.

## PIPE MOLD AND FLASK.

SPECIFICATION forming part of Letters Patent No. 300,239, dated June 10, 1884.

Application filed March 15, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM H. FISHER, a citizen of the United States, residing in Allentown, Lehigh county, Pennsylvania, have invented certain Improvements in Pipe Molds and Flasks, of which the following is a specification.

My invention relates to improvements in the construction of flasks wherein to form molds for cast-iron pipes; and the main object of my improvements, which are fully described hereinafter, is to afford facilities for the ready detaching of one half of the flask from the other when the casting has to be removed from the mold; and for the ready attaching of the removable half of the flask to the fixed part of the same, preparatory to forming a mold.

In the accompanying drawings, Figure 1, Sheet 1, is a side view of one of the pipe-molding flasks; Fig. 2, a front view of the upper portion of the same; Fig. 3, a side view of parts of the flask drawn to an enlarged scale; Fig. 4, Sheet 2, a sectional plan on the line 1 2, Fig. 3, of two adjoining flasks; Fig. 5, a sectional plan on the line 3 4, Fig. 3, showing the front parts of two flasks detached from the fixed parts; Figs. 6 and 7, vertical sections of lower portion of a flask and supporting-base; and Fig. 8 is a sectional view of one end of a cast pipe.

A and A' are the two parts of the flask, the former being attached to the wall B, and the latter being removable from the part A. A supporting-base, D, for each flask has two projections, *d d*, which fit into notches in a rib, *b*, on a plate, E, built in the wall B, a lip, *a*, on each projection *d*, overlapping the rib *b* of the said plate; or the supporting-base may be otherwise so adapted to the plate E that the former cannot be moved outward or laterally on the latter. The part A only of the flask is bolted to the supporting-base. Another plate, F, is built into the wall, and to this plate is bolted or otherwise secured the part A of the flask, near its upper end, a lug, *c*, at the rear of this flask, extending beneath an intermediate plate, G, also built into the wall, and thus serving to prevent the part A of the flask and the base D from being raised when the pattern is being forcibly removed from the mold.

On referring to Fig. 2 it will be seen that shoulders *m m* are formed on the part A' of the

flask—one shoulder on each flange *w'*—for bearing on the lugs *n n*, one on each side of the part A of the flask. I prefer that these lugs, each provided with a projection, *n'*, shall constitute the sole support of the part A' of the flask, in which case the lower end of the latter will be free from contact with the base D. In adjusting the part A' of the flask to its place it is lowered until its shoulders *m m* bear on the lugs *n n* of the part A, then released from the tackle to which it was suspended, then pushed against the said part A of the flask, and finally secured thereto in the manner about to be described, the projections *n'* of the lugs serving no other purpose than that of preventing the accidental escaping from the lugs of the part A' of the flask when first released from the tackle, and before it is adjusted and secured to the part A.

To the flanges *w* of the fixed part A of the flask are secured, at suitable distances apart, as shown in Fig. 1, brackets I, and to the brackets are pivoted arms H, having inclined shoulders *t*, which, when the arms are depressed, bear against the inclined or slightly-rounded ribs *t'*, either cast on the flanges *w'* of the part A' of the flask, or attached thereto, as shown in the drawings, so that on striking the outer ends of the said arms H downward they will tend to force the removable part A' of the flask against the fixed portion, this part being released when the arms have been struck up and are clear of the ribs *t'*.

On referring to Fig. 1 it will be seen that the part A' of the flask is secured to the part A by arms H at six points, there being six securing-arms on each side of the flask, the length of which, however, will determine the number of releasing-arms.

It should be stated here that a number of flasks are arranged in a row adjoining the wall B, two only of the row being shown in the plan view, Fig. 4, on reference to which it will be observed that each arm H serves to confine the flanges of two flasks, and this plan may be adopted through the entire row of flasks, excepting, of course, the two end flasks, one set of pivoted arms being devoted to the outer flanges only of each end flask, one of which is shown on the left in Fig. 2. There may, however, be a set of confining pivoted arms for each pair of flanges of each flask. It



is immaterial whether the retaining-arms are pivoted directly to the fixed part of the flasks or to brackets I.

Referring to the sectional views, Figs. 6 and 7, the base D of the flask has a central opening, into which may be fitted either of the removable rings M or N. The ring M, Fig. 6, is used in preparing the mold by packing sand between the flask and the pattern W, a rim, *f*, on the ring leaving an annular cavity in the sand T. After the pattern has been withdrawn the ring M is replaced by the ring N, which has an annular cavity, *g*, and which supports the core Y, the cavity *g* in the ring, with the cavity formed in the sand, corresponding with the rib *x* on the end of the pipe, Fig. 8, which has been cast in the mold. This device for forming the rib on the pipe forms no part of my present invention, as the interchangeable rings M and N and the manner of locking and releasing the same are shown in Patent No. 185,904, granted to me January 2, 1877, in which, however, the removable rings were in an attachment to the flask, whereas in my present invention they are adapted to the base D.

Those familiar with the art will readily understand the facility with which the removable parts A' of a row of flasks may be disconnected from the fixed portions by striking up the pivoted retaining-arms H when it becomes necessary to remove the pipes which have been cast in the several molds.

I claim as my invention—

1. The combination of the part A of a pipe-molding flask and the retaining-arms H, pivoted thereto, each arm having an inclined shoulder or shoulders, *t*, with the part A' of the flask and its inclined or rounded ribs *t'*, all substantially as set forth.

2. The combination of two adjoining flasks, brackets I, secured to the flanges of the parts A of the two flasks, and arms H, pivoted to the said brackets, and having inclined shoulders *t* and inclined or rounded ribs *t'*, secured to the flanges of the removable portions A' of the two flasks, all substantially as set forth.

3. The combination of a two-part flask, one part, A, of which is attached to a wall, substantially as described, and has a lug, *e*, with a plate, G, built into the said wall and projecting over the lug, all substantially as specified.

4. The combination of the part A of the flask, attached to the wall and having lugs *n*, with the part A' of the flask, having shoulders *m m*, adapted to rest on the lugs, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HIRAM H. FISHER.

Witnesses:

JOHN E. PARKER,  
HENRY HOWSON, Jr.