

(No Model.)

W. ARNOLD.
WASHING MACHINE.

No. 333,050.

Patented Dec. 22, 1885.

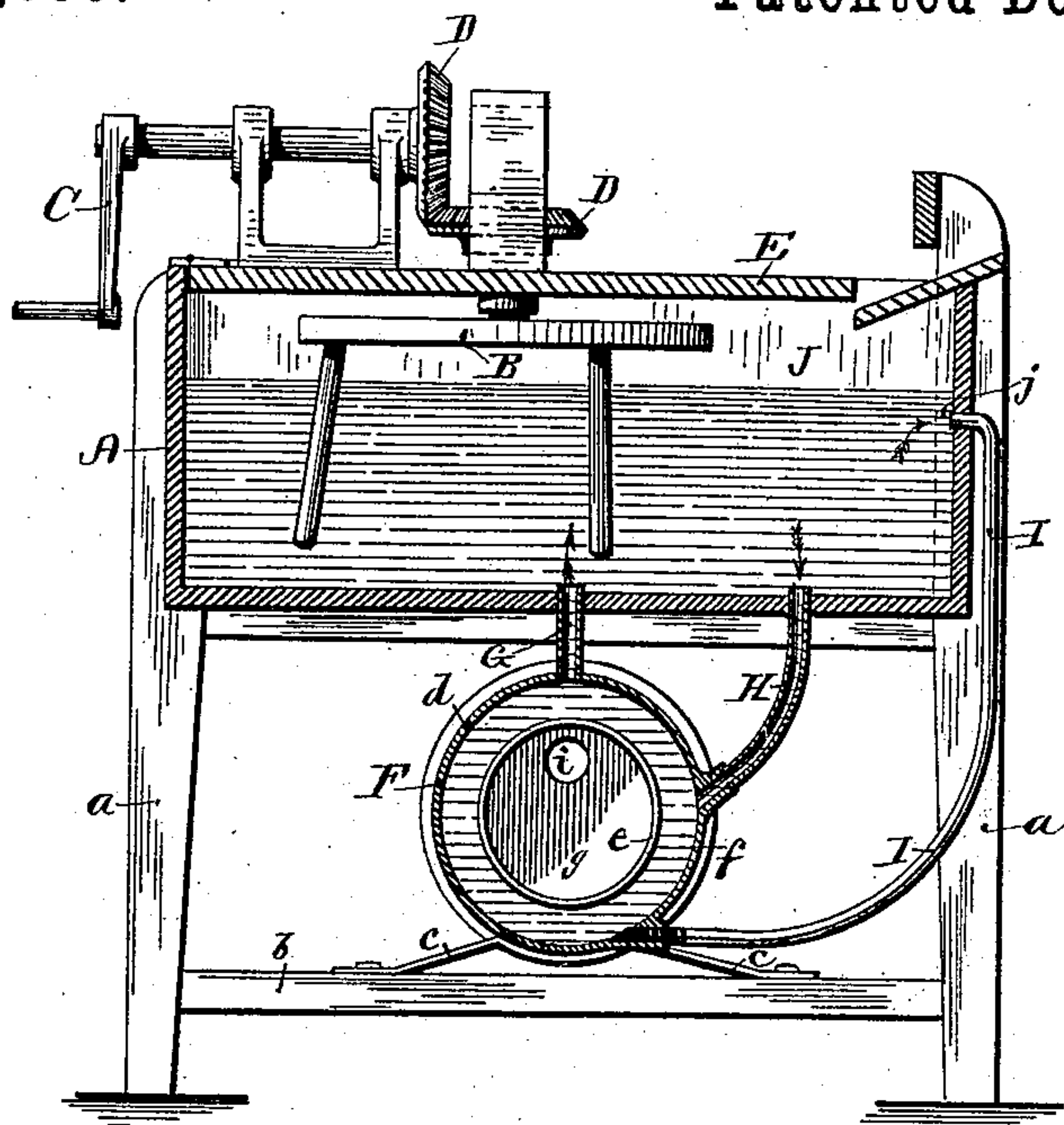


FIG. 1.

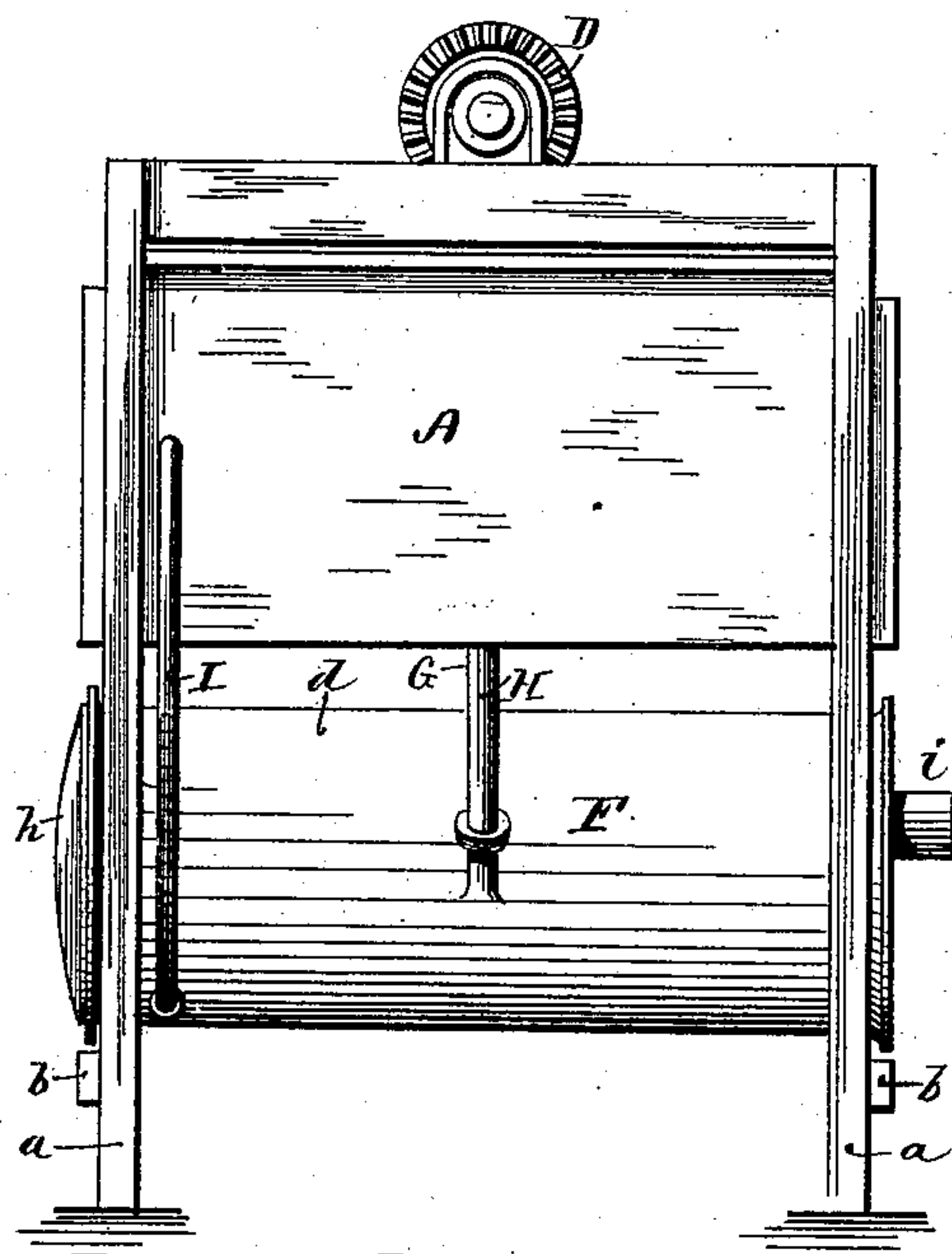


FIG. 2.

WITNESSES:

Chas. F. Schmitz
Leonard Scholfield

INVENTOR:

William Arnold
per S. Scholfield
attorney

UNITED STATES PATENT OFFICE.

WILLIAM ARNOLD, OF PAWTUCKET, ASSIGNOR TO RAYMOND N. COLVIN,
OF PROVIDENCE, RHODE ISLAND.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 333,050, dated December 22, 1885.

Application filed April 4, 1885. Serial No. 161,237. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ARNOLD, of Pawtucket, in the county of Providence and State of Rhode Island, have invented an Improvement in Washing-Machines, of which the following is a specification.

My invention relates to an improvement upon the invention described in my Letters Patent No. 120,809, dated November 14, 1871; and it consists in the combination therewith of a safety-pipe, as hereinafter fully set forth.

Figure 1 is a vertical section of the washing-machine and boiler provided with my improvement. Fig. 2 is a side elevation of the same.

In the accompanying drawings, A is the square box of an ordinary washing-machine, resting upon the legs *a*.

B is a dasher which is rotated by means of the crank C and bevel-gears D D, or by other suitable means, the dasher, crank, and gears being operatively attached to the hinged cover E of the box.

F is a cylindrical boiler or heater attached to the cross-girts *b b* by means of the straps *c c*. The boiler F has an outer shell, *d*, and an inner shell, *e*, forming between them the annular water-space *f*, which is connected to the chamber J of the box A by means of the pipes G, H, and I. The pipe G, being made shorter than either of the pipes H or I, extends direct from the higher portion of the boiler to the perforated bottom of the box A, whereas the pipe H is made to extend downward from the bottom of the box and to connect with the boiler at a point lower than the lower end of the pipe G, in order that the cooler water from the chamber J of the machine may flow downward through the pipe H into the boiler, the heated water and steam from the boiler at the same time passing into the chamber J through the comparatively short pipe G.

The cylindrical space *g* is the fire-chamber. *h* is the door of the same, and *i* is the smoke-pipe through which the products of combustion escape to the chimney or to the open air.

In washing-machines constructed under my former patent, in which the boiler F is connected to the bottom of the box by means of the pipes G and H alone, it has been found that there is great liability of having the clothes that are being washed in the chamber J drawn by the downward current over the upper end of the pipe H, so as to prevent the water from flowing into the boiler, and upon such stoppage the heat of the fire will cause the gradual expulsion of the water from the boiler, in which case the comparatively thin material of the boiler will be quickly destroyed by the heat; and heretofore it has required constant care and supervision to avoid this liability; and the object of my present invention is to provide a practically sure means for preventing the burning out of the boiler when the machine is left unattended, and to this end I provide a safety-pipe, I, of smaller diameter than the pipe H, which is connected at the side of the box A, instead of its bottom, and enters the chamber J near the water-line, and also connect the said safety-pipe with the boiler at a point as low or lower than that of the pipe H, so that in case the pipe H is at any time obstructed the safety-pipe at the side of the box and near the water-line will be free from obstruction, and still continue to supply water to the boiler, thus preventing injury to the same from lack of attention, as heretofore.

The operation of the machine is as follows: Water should be poured into the chamber J in sufficient quantity to fill the boiler F and the chamber J to a line above the orifice *j* of the pipe I. A wood fire may then be built within the chamber *g*, and when the water commences to boil it will rise through the pipe G into the washing-chamber J, and the cooler water will pass from the chamber J down the pipe H to keep up a perfect circulation. While the hot water is thus circulating through the clothes in the machine they are also to be acted upon by the revolving dasher B, which will operate to clean the clothes very expeditiously; and when the operator is called away from the machine, so that the clothes will be allowed to settle

down over the orifice of the pipe H, the smaller safety-pipe I will operate to convey water in proper quantity to the boiler.

I claim as my invention—

- 5 In a washing-machine, the combination of the box A, revolving dasher B, boiler F, steam and water pipe G, boiler-supply pipe H, and

safety-pipe I, all arranged and operating substantially as described.

WILLIAM ARNOLD.

Witnesses:

SOCRATES SCHOLFIELD,
RAYMOND N. COLVIN.

Correction in Letters Patent No. 333,050.

It is hereby certified that Letters Patent No. 333,050, granted December 22, 1885, upon the application of William Arnold, of Pawtucket, Rhode Island, for an improvement in "Washing Machines," was erroneously issued to "Raymond N. Colvin, of Providence, Rhode Island," as assignee of the the entire interest in said invention; that said Letters Patent should have been issued to *William Arnold, of Pawtucket, and Raymond N. Colvin, of Providence, Rhode Island*, said Colvin being assignee of one-half interest only; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 15th day of June, A. D. 1886.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.