

J. MORRISON.
Cook Stove.

No. 38,174.

Patented April 14, 1863.

Fig. 2.

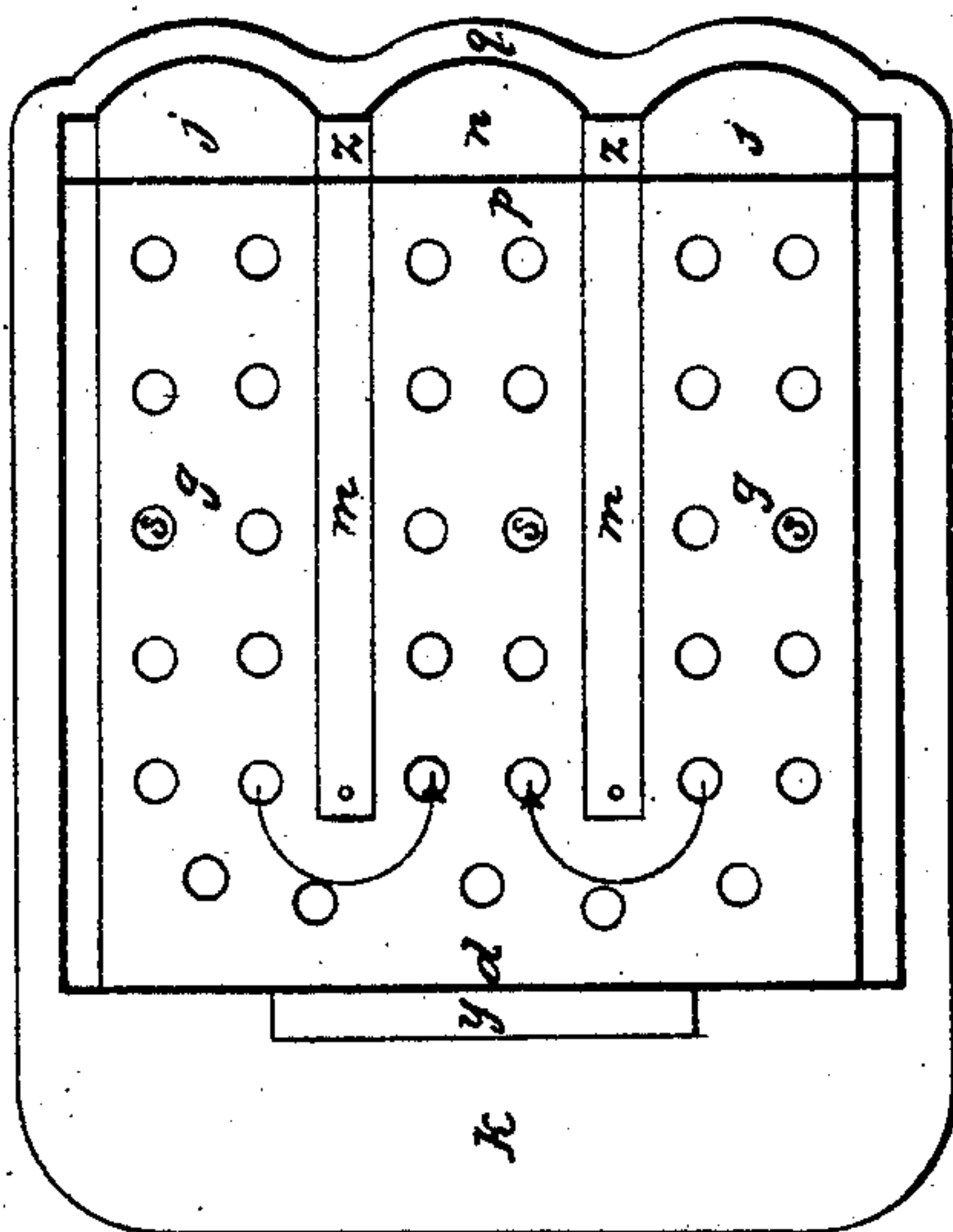
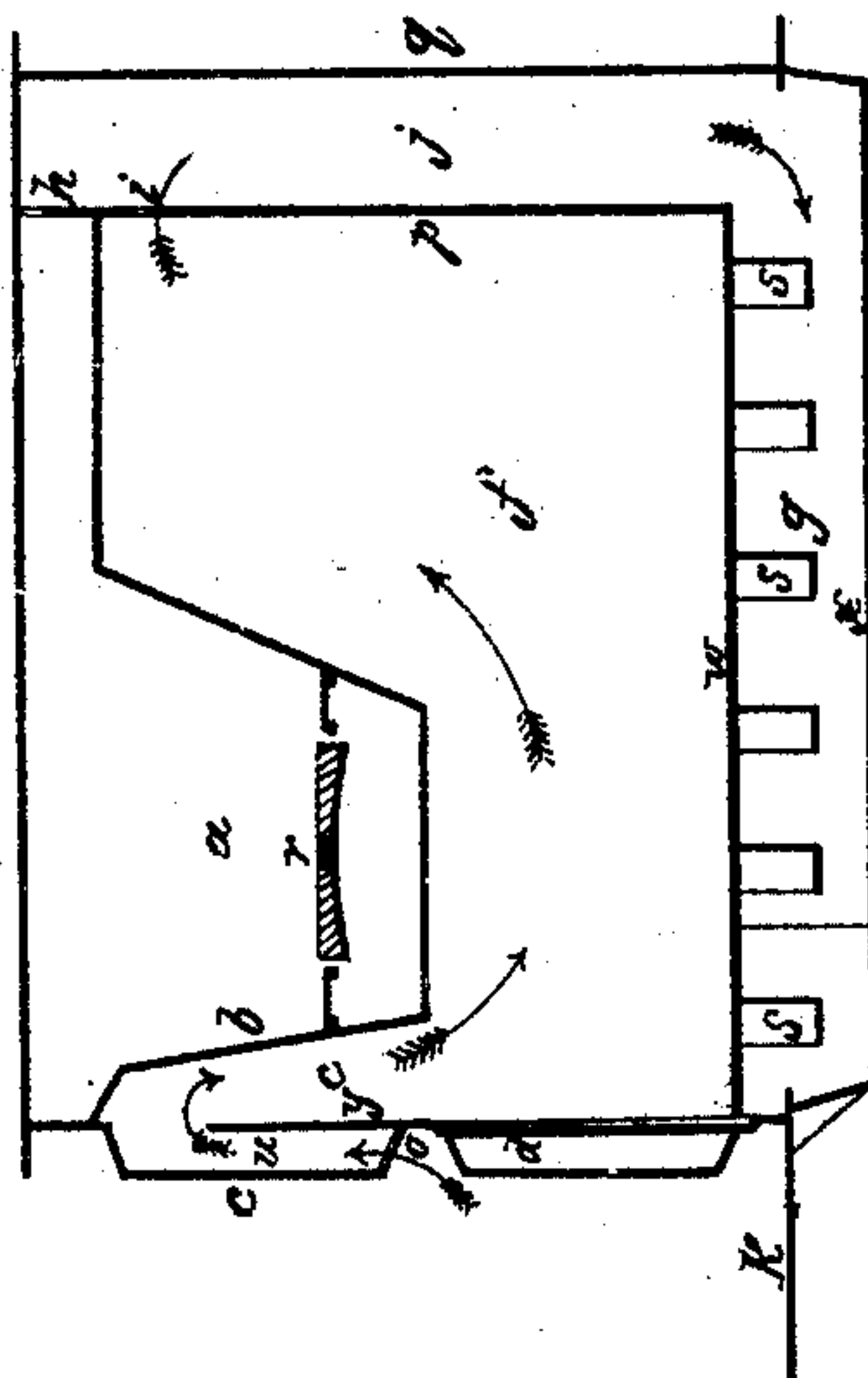


Fig. 1.



Witnesses:

Franklin Scott
Marcus P. Norton

Inventor:

James Morrison Jr.

UNITED STATES PATENT OFFICE.

JAMES MORRISON, JR., OF TROY, NEW YORK.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 38,174, dated April 14, 1863.

To all whom it may concern:

Be it known that I, JAMES MORRISON JR., of the city of Troy, county of Rensselaer, and State of New York, have invented new and useful Improvements in Cooking-Stoves; and I hereby declare the following to be a full, clear, and exact description of the same, reference being hereby had to the accompanying drawings, and to the letters marked thereon, and making a part of this specification.

Like letters represent and refer to like or corresponding parts.

Figure 1 is a vertical section lengthwise of the stove, showing the improvements herein-after described and set forth. Fig. 2 shows the bottom plate of the oven with the downward projections attached thereto, hereinafter described.

The nature of my invention consists in the construction of a cold-air chamber outside of the stove and a hot-air chamber between the same and the fire chamber, so that the oven of the stove may be supplied with a continued current of hot-air, substantially as hereinafter described.

It also consists in the construction of the bottom plate of the oven of a cooking-stove with downward projections upon the under side of the same, for the purposes hereinafter described.

It also consists in the arrangement and combination of hollow walls or tubes, for the purposes hereinafter described, which tubes or walls are horizontal and vertical in relation to the oven of any cooking-stove.

To enable others to manufacture and use my invention and improvements in cooking-stoves aforesaid, I will here proceed to describe the construction and operation thereof, which is as follows, to wit:

a is the fire-chamber. *r* is the fire-grate, of common construction. *b* is the front plate of the said fire-chamber. *c* is a plate constructed so as to form the outside parts of the cold-air chamber *u*, and is connected to or cast with the division-plate *y*. The lower portion of the plate projecting outward from said plate *y* is perforated or contains apertures *o*, for the purpose of admitting cold air to the chamber *u*, which chamber is separated from the hot-air chamber *e* by the said division-

plate *y*. The cold air enters the said chamber *u* through the said apertures *o*, passes upward in said chamber over the top of said partition *y* into the chamber *e*, when and where it becomes highly heated by coming into contact with the fire-plate *b* of the fire-chamber *a*. In this condition it passes downward in said chamber *e* into the oven *f*, thence forward and upward through the apertures *i i* at or near the back oven-plate, *p*, into the flues *j*, Figs. 1 and 2; thence along the flues *g g* under the bottom of the said oven *f*, around the end of the hollow partitions *m*, Fig. 2, where the two currents of hot air unite and pass along and through the center flue, *a'*, Fig. 2, thence up the center back flue, *n*, Fig. 2, into the draft-pipe.

The arrows indicate the line of circulation of the hot air into, through, and under the said oven *f*.

m m, Fig. 2, are hollow walls or tubes, which extend partially across the bottom of the stove in a lengthwise direction, and are closed at the front end, while the rear end unites with hollow walls or tubes of the same size at the back end of the stove, which said rear tubes extend in a perpendicular direction to the top of the oven, and are then closed up. These tubes or walls are for the purpose of preserving the heat to any given temperature in and during the circulation thereof after the same shall have passed through the oven, by means of which the process of baking is much facilitated. The downward projections *s* are cast upon the under side of the bottom plate of said oven, and are for the purpose of retaining in said bottom plate, *w*, the heat which they receive from the said hot air in its passage as aforesaid, by means of which the process of baking is also much aided.

d, Fig. 1, is one of the two doors in front, which open into the oven *f*, directly under the cold-air chamber *u*.

h, Fig. 1, is an opening for the direct draft to the fire-chamber *a*, into which chamber air is admitted for the purposes of combustion through a damper in the door at the end of said fire chamber. There is only a direct draft from the said fire-chamber for the purpose of aiding combustion therein.

There is a circuitous draft through the oven,

as hereinbefore described, which is for the purpose of supplying the oven with continued fresh hot air, as aforesaid.

Having thus described my invention and improvements, what I claim, and desire to secure by Letters Patent, is—

1. Supplying the oven *f* with a continued current of hot air by means of the cold-air chamber *u* outside of the front plate, *y*, with openings *o* in the bottom thereof, and the hot-air chamber *e* between the said cold-air chamber and the fire-chamber *a*, substantially as herein described and set forth.

2. The downward projections *s*, in combina-

tion with the bottom oven-plate, *w*, substantially as and for the purpose herein described and set forth.

3. The combination of the hollow walls or tubes *m m* and the vertical hollow walls or tubes *z z* with the oven *f*, substantially as and for the purpose herein described and set forth.

In testimony whereof I have, on this 21st day of May, 1862, hereunto set my hand.

JAMES MORRISON, JR.

Witnesses:

THOMAS COLWELL,

FRANKLIN SCOTT.