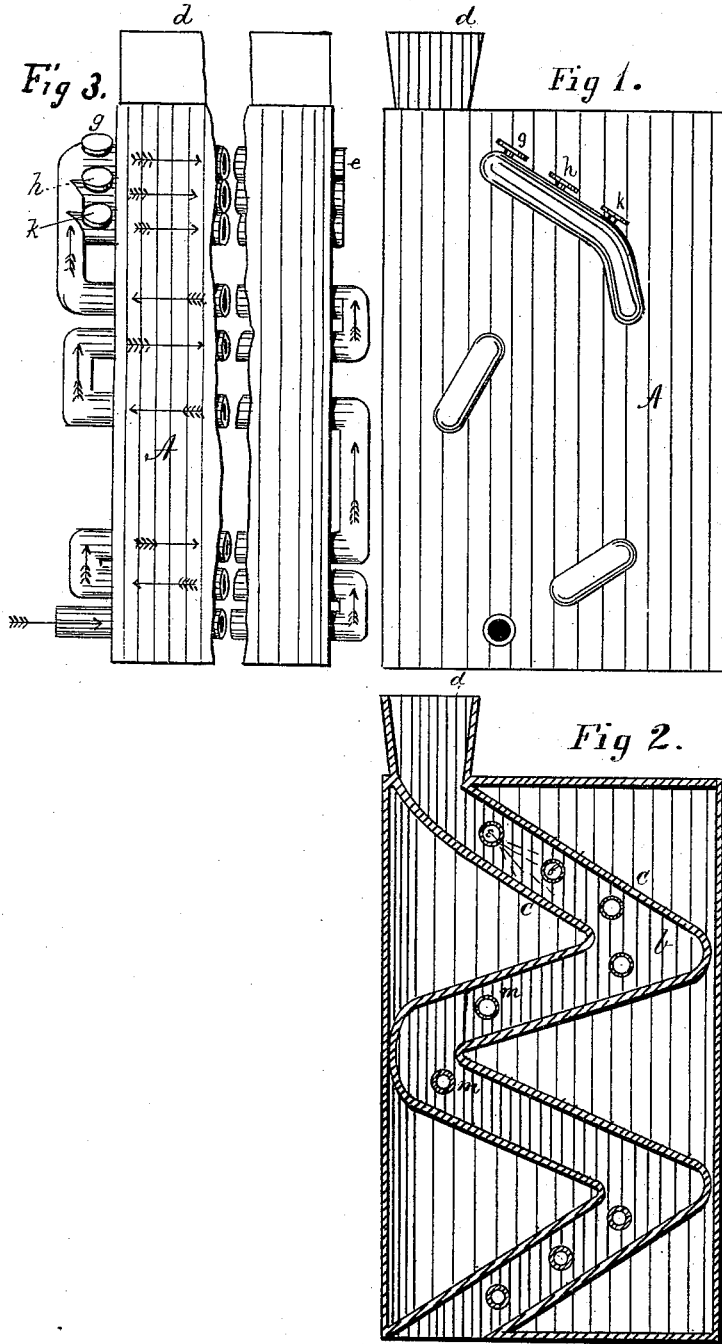


J. W. YOUNG & E. V. WHITE.

GRAIN DRIER.

No. 181,760.

Patented Aug. 29, 1876.



WITNESSES:
B. C. Pole
Jno. D. Patten.

INVENTOR.
J. W. Young
and E. V. White
per *C. S. Whitman* ATTORNEY.

UNITED STATES PATENT OFFICE.

JOHN W. YOUNG AND EBENEZER V. WHITE, OF LA CROSSE, WISCONSIN.

IMPROVEMENT IN GRAIN-DRIERS.

Specification forming part of Letters Patent No. **181,760**, dated August 29, 1876; application filed May 4, 1876.

To all whom it may concern:

Be it known that we, JOHN WILSON YOUNG and EBENEZER VINCENT WHITE, of La Crosse, county of La Crosse, and State of Wisconsin, have invented an Improvement in Grain-Driers.

The following description, taken in connection with the accompanying plate of drawings, hereinafter referred to, forms a full and exact specification, wherein are set forth the nature and principles of the invention, by which the same may be distinguished from others of a similar class, together with such parts thereof as are claimed as new, and are desired to be secured by Letters Patent of the United States.

Our invention relates to that class of devices which are made use of for drying grain; and the nature thereof consists in certain improvements in the construction of the same, hereinafter shown and described.

In the accompanying plate of drawings, in which corresponding parts are designated by the same letters, Figure 1 is a side elevation of the exterior of the apparatus. Fig. 2 is a vertical section. Fig. 3 is an elevation, partially in section, illustrating the arrangement of the pipes.

In said drawings, *a* designates a case of rectangular form, having in the interior thereof a zigzag spout, *b*, arranged between, and by means of, the zigzag plates of metal *c*.

The grain is admitted to the said spout through the hopper *d*, and passes out through the lower end thereof.

Between the casings of said spout are arranged a series of pipes or tubes, passing across the inclined sides of said spout, into which steam or superheated air is admitted. In the upper series of tubes are made perforations, for the purpose of allowing the steam to pass out among the grain when required. When steam is not required it is shut off from the pipes *e* by means of the valve *g*, and, by opening valve *k*, the steam or hot air passes through the pipes *m*, and the apparatus becomes simply a grain or middlings drier.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

The apparatus for heating grain described, consisting of the case *A*, zigzag spout *b*, pipes *e* and *m*, and valves *g*, *h*, and *k*, as and for the purpose described.

In testimony that we claim the foregoing we have hereunto set our hands this 14th day of February, 1876.

J. W. YOUNG.
E. V. WHITE.

Witnesses:

M. P. WING,
G. C. PRENTISS.