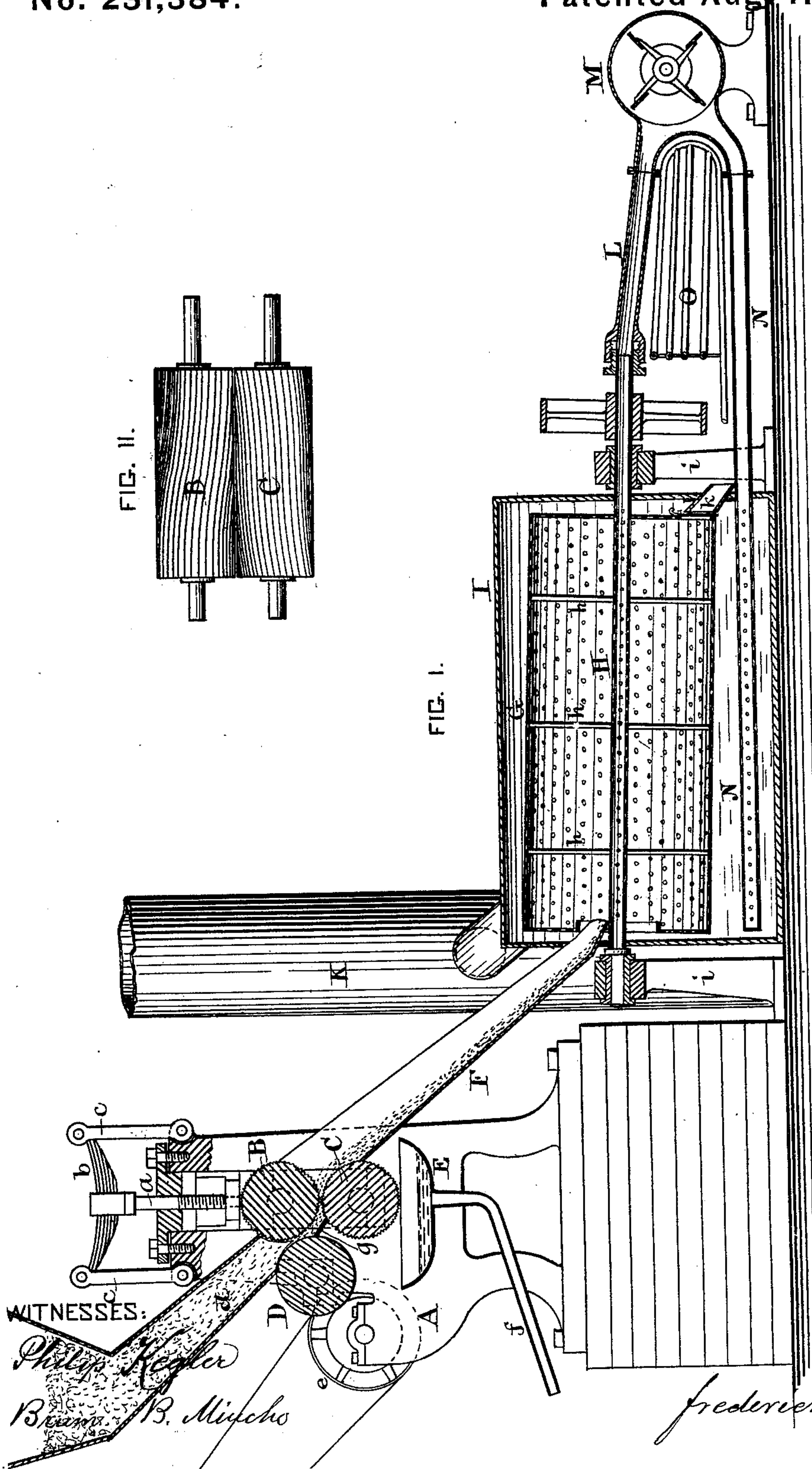
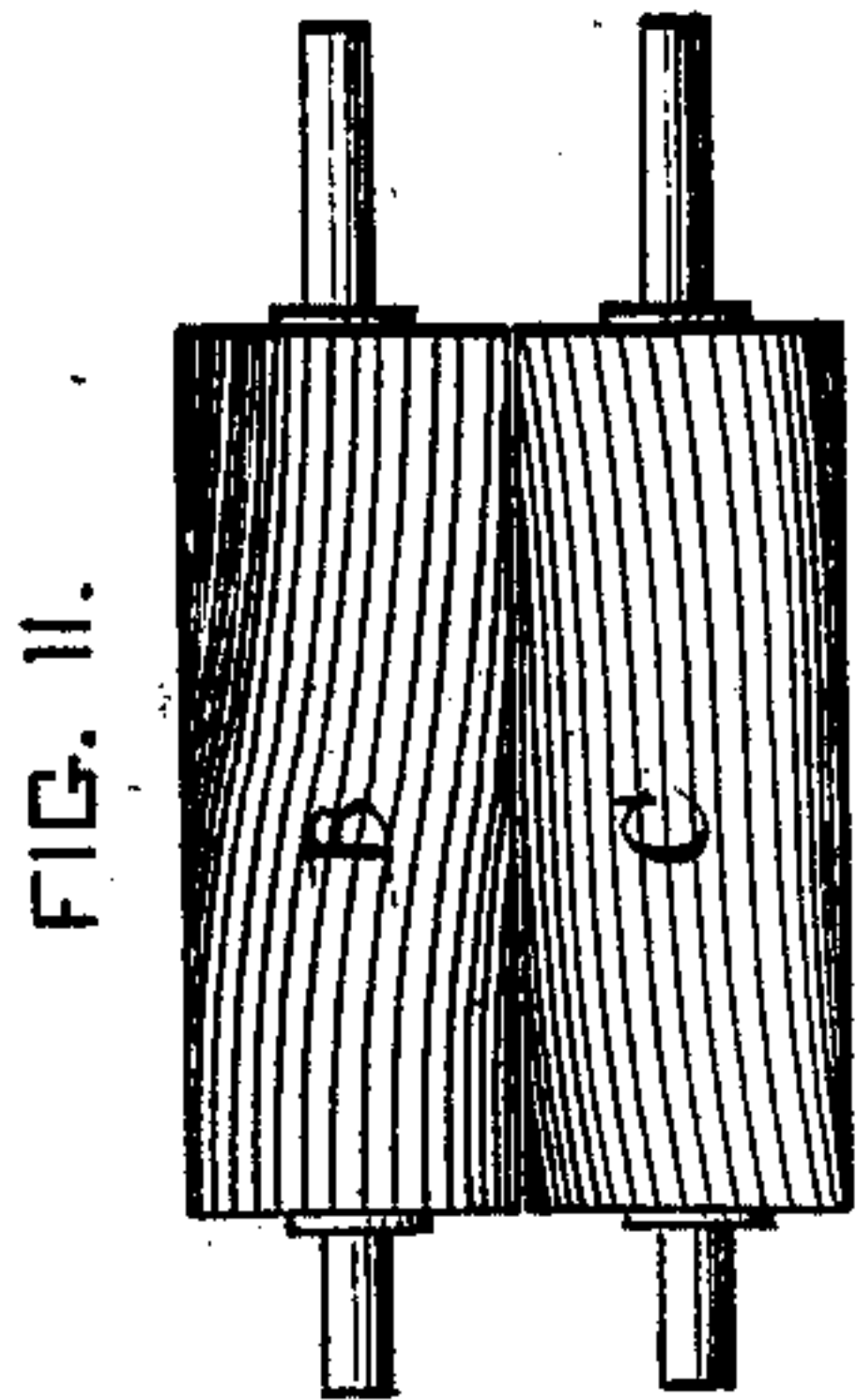


(No Model.)

F. W. WIESEBROCK.
Drier for Brewers' Grains.

No. 231,384.

Patented Aug. 17, 1880.



WITNESSES:

Philip Segler
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INVENTOR:

Frederick W. Wiesbrock

UNITED STATES PATENT OFFICE.

FREDERICK W. WIESEBROCK, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD
OF HIS RIGHT TO ADAM E. SCHATZ, OF SAME PLACE.

DRIER FOR BREWERS' GRAINS.

SPECIFICATION forming part of Letters Patent No. 231,384, dated August 17, 1880.

Application filed June 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. WIESEBROCK, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Driers for Brewers' Grains; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for drying grains, (which is the residue of malt after mashing;) and the object of my invention is to quickly and thoroughly dry such grains, so that it may be easier packed in suitable vessels to be used for cattle-feed and other purposes.

The invention consists in the construction and arrangement of the various parts, as will be hereinafter more fully described, reference being had to the accompanying drawings and the letters of reference marked thereon.

In the accompanying drawings, Figure I represents a longitudinal section of my apparatus. Fig. II is a side view of a pair of the rolls.

In the drawings, A is a suitable supporting frame or housing, in which are journaled the rollers B C D, the former of which are fluted with spiral channels, so as to better take hold of the grains when being fed to them, as best seen in Fig. II.

To regulate the pressure exerted by the upper roller, B, against the lower roller, C, I arrange a screw, *a*, which is attached at its upper end to a spring, *b*, supported in suitable bearings, *c*, attached to the frame A.

On one side of the rollers B C is arranged the feeding-roller D, by which the grains are fed to the pressing-rollers as it comes down the chute *d*.

Motion is imparted to the different rollers by any suitable gearing, a pulley, *e*, being shown upon a shaft having gear-wheels which

mesh with one or more on the roller D, and this with the rollers B and C. Immediately below the roller C is arranged a suitable pan or receptacle, E, with a spout, *f*, by which the water pressed out of the grains is conveyed to any desired place.

Between the rollers C and D is placed a scraper, *g*, which also guides the grains C, and after having been pressed out between the rollers B C it is conveyed through a chute, F, (closely fitting against the roller C,) into the drying-cylinder G. This cylinder consists of a perforated metal or wire-screen shell, supported on spiders or arms *h* on the hollow shaft H, which is also perforated with numerous holes. The lower head is provided with a spout, *k*, through which the grains are discharged.

A casing, I, incloses the entire drying-cylinder, and connects with a stack, K, by which the moist air is carried into the atmosphere.

The cylinder G is supported in suitable stands *i* with journal-boxes, and the hollow shaft H extends through the casing and is connected to a pipe, L, through the stuffing-box, and this pipe connects to a fan-blower, M.

A branch pipe, N, passes from the cylinder G, and is provided with numerous perforations.

To heat the air from the blower, I arrange between the two pipes L and N a coil of pipes, O, for steam or other heating medium.

The operation is as follows: The grains are first introduced in the hopper and conveyed by chute *d* and the feeding-roller D between the rollers B C, by which all the water is pressed out, and are conveyed away through the spout *f*. The grains are then carried by means of the chute F into the drying-cylinder G, which is inclined, so that the material is slowly conveyed to the lower end, being subjected in its travel to the heated air-blast from the blower which passes through the perforations, and by this means it is thoroughly dried.

Motion is imparted to the rollers as well as the drying-cylinder by any suitable gearing.

After the grain has been thoroughly dried and has arrived at the outlet of the cylinder

it is packed in any suitable manner, and is ready for shipment and use.

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

1. In an apparatus for drying grains, the combination of the pressure-rollers, as shown, and suitable receiving and discharging chutes, with a drying-cylinder inclosed in a casing, and the hot-air-blast pipes provided with perforations, arranged substantially as shown, and for the purpose specified.

2. In an apparatus for drying grains, the combination of the pressure-rollers B C D, chutes *d* and F, the perforated shaft H, with the blower M, pipes L N, and heating-coil O, all constructed and arranged substantially as shown, and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK W. WIESEBROCK.

Witnesses:

PHILIP KEGLER,
BRUNO B. MINCHO.