(No Model.)

3 Sheets—Sheet 1.

H. TORCHIANI.

PITCHING MACHINE.

No. 514,172. Patented Feb. 6, 1894.

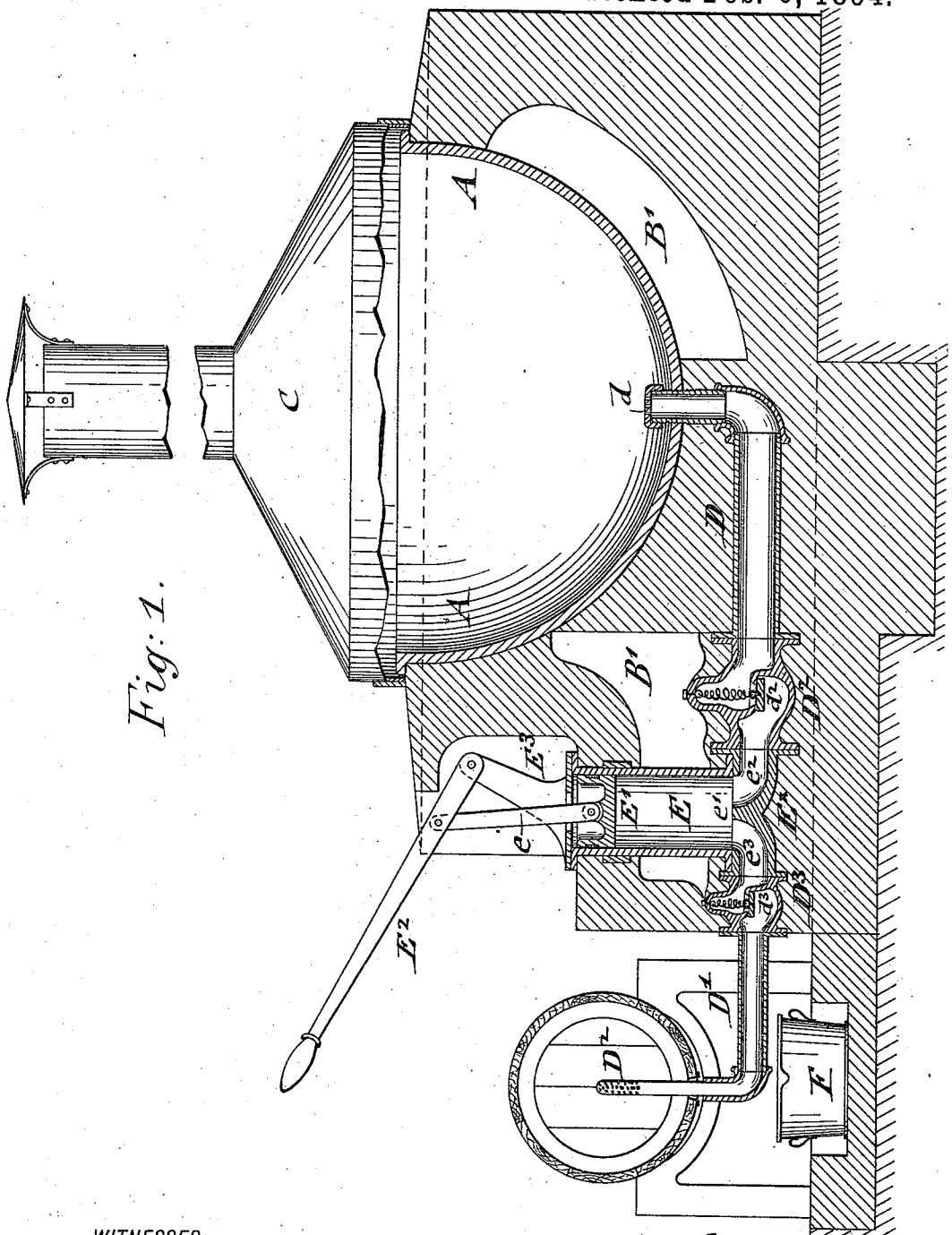

Fig. 1.

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(No Model.)

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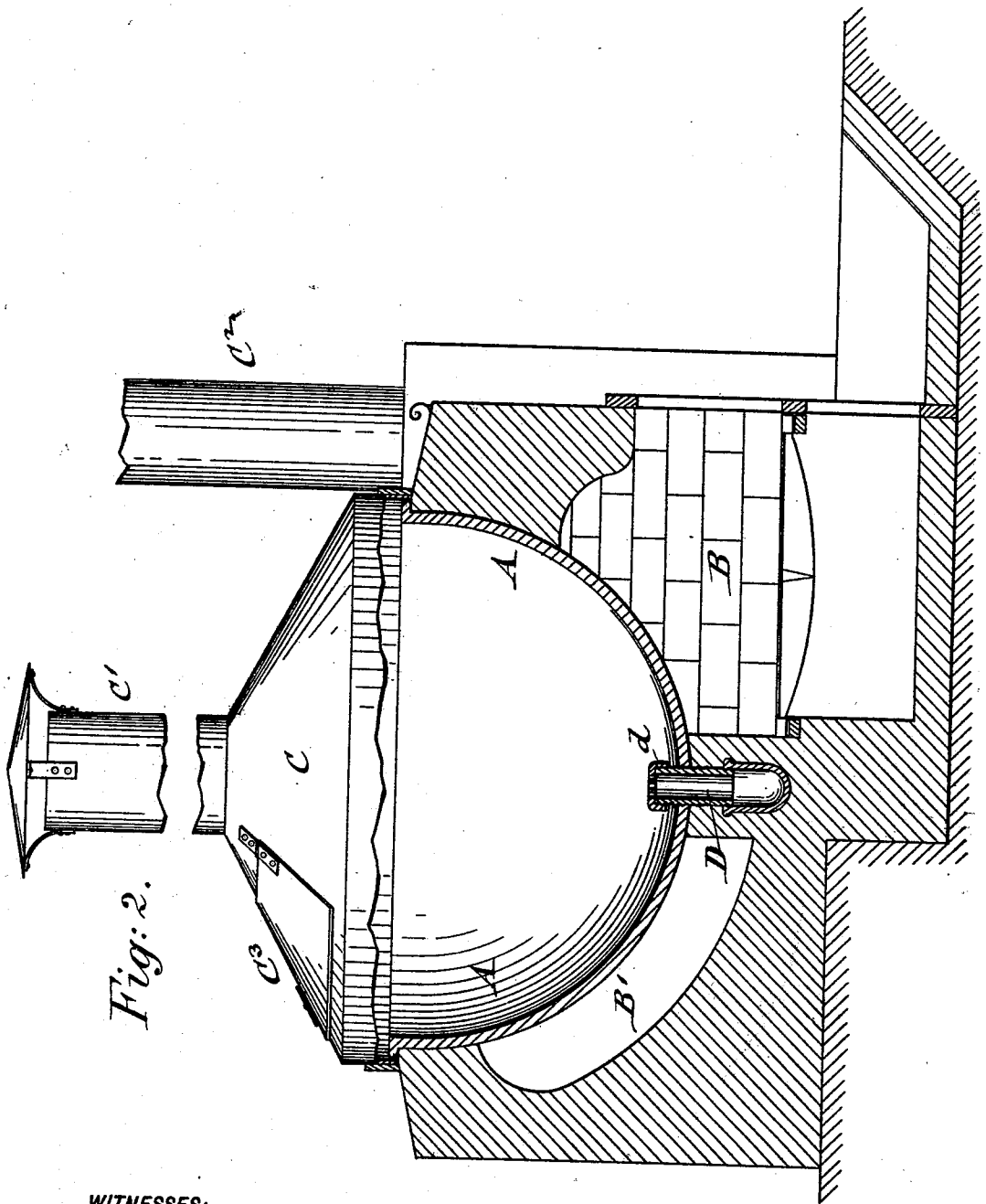

Fig. 2.

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(No Model.)

3 Sheets—Sheet 3.

H. TORCHIANI.

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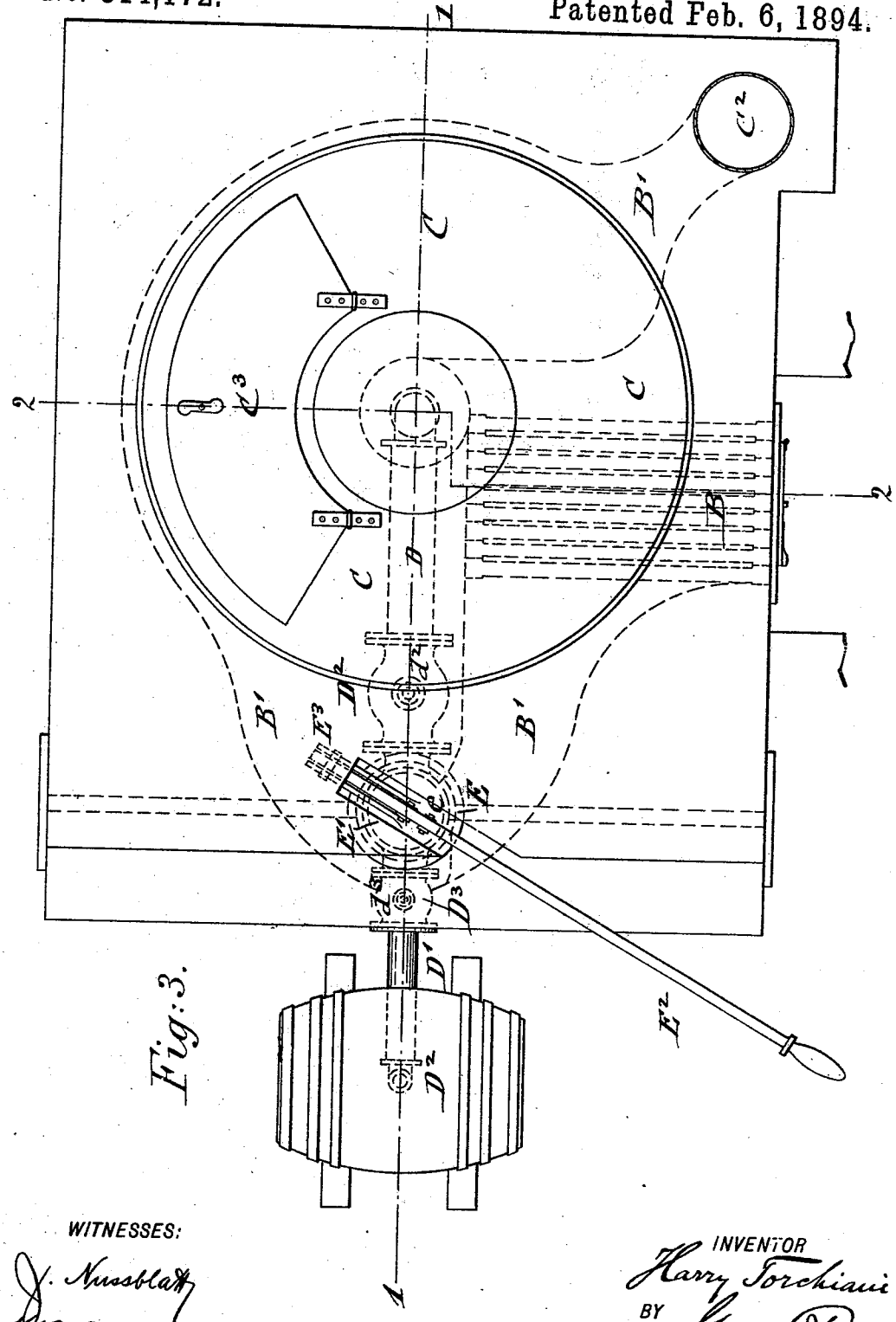

Fig. 3.

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UNITED STATES PATENT OFFICE.

HARRY TORCHIANI, OF NEW YORK, N. Y.

PITCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 514,172, dated February 6, 1894.

Application filed November 22, 1893. Serial No. 491,634. (No model.)

To all whom it may concern:

Be it known that I, HARRY TORCHIANI, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in a Combined Pitch-Kettle and Pitching-Machine, of which the following is a specification.

This invention has reference to a combination pitch-kettle and pitching-machine of that class by which the pitch is introduced into the keg and uniformly distributed in the same, the pitch being taken in hot and liquid state from the kettle and transferred directly to the keg without the use of a ladle or other transmitting device by which the temperature of the pitch is reduced; and the invention consists of a combined pitch-kettle and pitching-machine which comprises a pitch-kettle, a furnace for heating the same, a cylinder and piston located in the flue for the products of combustion, valved couplings connecting the lower head of said cylinder with the bottom of the pitch-kettle and with a pipe leading to a pitch-distributing nozzle, which is located outside of the walls of the furnace, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a vertical longitudinal section on line 1—1, Fig. 3. Fig. 2 is a vertical transverse section on line 2—2, Fig. 3, and Fig. 3 is a plan view of my improved combination pitch-kettle and pitching-machine.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a pitch-kettle which is made of the ordinary size and construction, and which is set in suitable brick-work and heated by the fire of a furnace B, which is arranged below the kettle. The kettle A is closed by a stationary hood C, which is provided at its upper end with a flue C′ that is conducted to the outside of the building in which the pitching-kettle is located.

The furnace B is connected by a smoke-pipe C^2 with a suitable smoke-stack, as shown in Fig. 2, said smoke-stack being arranged at the end of a flue B′, that is arranged in the brick-work of the kettle and conducted around the kettle to the smoke-pipe C^2, as shown in dotted lines in Fig. 3.

The hood C is provided with an opening and a hinged door C^3 at one side of the same through which the pitch is charged into the kettle.

In the bottom of the pitch-kettle A an opening is arranged which is connected with an outlet-pipe D, said outlet-pipe being provided with a strainer *d*, so that the pitch is taken off at the lowest and hottest part of the kettle and transferred from the same through the outlet-pipe D to a discharge-pipe D′, provided with a perforated distributing nozzle D^2. The nozzle D^2 is arranged in a vertical position outside of the brick-work of the kettle, so that the kegs to be pitched can be readily placed with the bung-hole in a downward position over the nozzle, as shown in Fig. 1. Intermediately between the outlet-pipe of the kettle and the nozzle is arranged a stationary cylinder E which is located in an extension of the flue B′ that extends around the kettle in the brick-work of the furnace B, said cylinder being provided at its lower end with a head $E^\times$, having a center partition *e′* and channels e^2 and e^3 one at each side of the partition *e′*. In the cylinder E is located a piston E′ which is connected by a pivot-rod *e* with a lever E^2, that is fulcrumed to a supporting-arm E^3 arranged on the head of the cylinder. The lower end of the cylinder E is connected with the outlet-pipe D and the discharge-pipe D^2, by means of valved couplings D^2 D^3, said couplings being located like the cylinder E in the flue B′ so as to be subjected to the same temperature as the cylinder, so that the liquid pitch which is conducted through the outlet-pipe D′ to the cylinder is kept at the same degree of heat and liquidity.

The valves d^2 d^3 located in the couplings D^2 D^3 are acted upon by means of spiral-springs which are attached at one end to the valves and at the other end to stationary points of the couplings, the valve d^2 opening in downward direction when the piston is moved by the lever E^2 in upward direction, so as to draw the liquid pitch through the coupling E^2 and channel e^2, while the valve d^3 is kept closed during the suction-motion of the piston.

By the downward motion of the piston E′,

the pitch in the cylinder E is forced through the channel e^3 and the valve d^3 of the coupling E^3 into the discharge-pipe D′, the pressure of the pitch closing the valve d^2 and preventing its return into the kettle. The pitch is forced through the discharge-pipe D′ and discharged through the perforations of the nozzle D^2 into the keg, so as to cover the interior surface of the keg by a uniform cover of pitch. The surplus pitch passes through the bung-hole along the discharge-pipe into a suitable receptacle F which is located below the nozzle. From time to time the pitch in the receptacle is returned to the kettle A.

The quantity of pitch required for pitching a keg, depends on the size of the keg, the largest sizes requiring a full stroke, the medium sizes a half stroke of the piston and the smallest size keg a quarter stroke of the piston. In other words, if a half barrel requires the full stroke of the piston, a quarter keg would require a half stroke which strokes however, may be slightly varied according to the practical experience of the attendant.

The advantages of my improved combination of pitch-kettle and pitching-machine are, first, that the pitch is transferred into the keg at the same or even at a slightly higher temperature than the pitch has in the kettle, as the transmitting cylinder and the connecting-pipes are located in the flue through which the hot products of combustion are passed; second, the pitching is accomplished in a uniform, quick and reliable manner; and the keg being supplied in the same manner with the same quantity of pitch; third, a considerable saving in pitch is obtained as none is lost by dripping when transferring the pitch by the ladle from the kettle to the keg; fourth, a considerable saving in time and labor, as one man can attend to the kettle and to the pitching, and fifth, the kegs after receiving the required charge of pitch are directly ready for the rolling-machine without requiring the swinging of the kegs to and fro by hand, so as to produce the even distribution of pitch in the same.

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

1. The combination of a pitch-kettle, a furnace for heating the same, a flue of the furnace, a pump having its cylinder located in the flue, a valved outlet-pipe connecting the pump with the kettle, a valved discharge-pipe, and a distributing nozzle at the outer end of the discharge-pipe, substantially as set forth.

2. The combination, of a pitch-kettle, a furnace in which the same is set, a flue extending around the pitch-kettle, an outlet-pipe connected with the bottom of the pitch-kettle, a cylinder and piston located in the flue of the furnace, a discharge-pipe extending to the outside of the brick-work, a perforated nozzle on the discharge-pipe, and valved couplings connecting the lower end of the cylinder with the outlet and the discharge-pipes, substantially as set forth.

3. The combination, of a pitch-kettle, a furnace for heating the same, a flue extending from the furnace around the kettle, an outlet-pipe connected with the bottom of the kettle and provided with a strainer, a discharge-pipe outside of the brick-work of the kettle provided with a perforated nozzle, a cylinder located in the flue extending around the kettle, a piston in said cylinder, means for operating said piston, a centrally divided head at the lower end of the cylinder having channels and valved couplings connecting the channels of the head respectively, with the outlet and discharge-pipe, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HARRY TORCHIANI.

Witnesses:
PAUL GOEPEL,
K. BRENNAN.