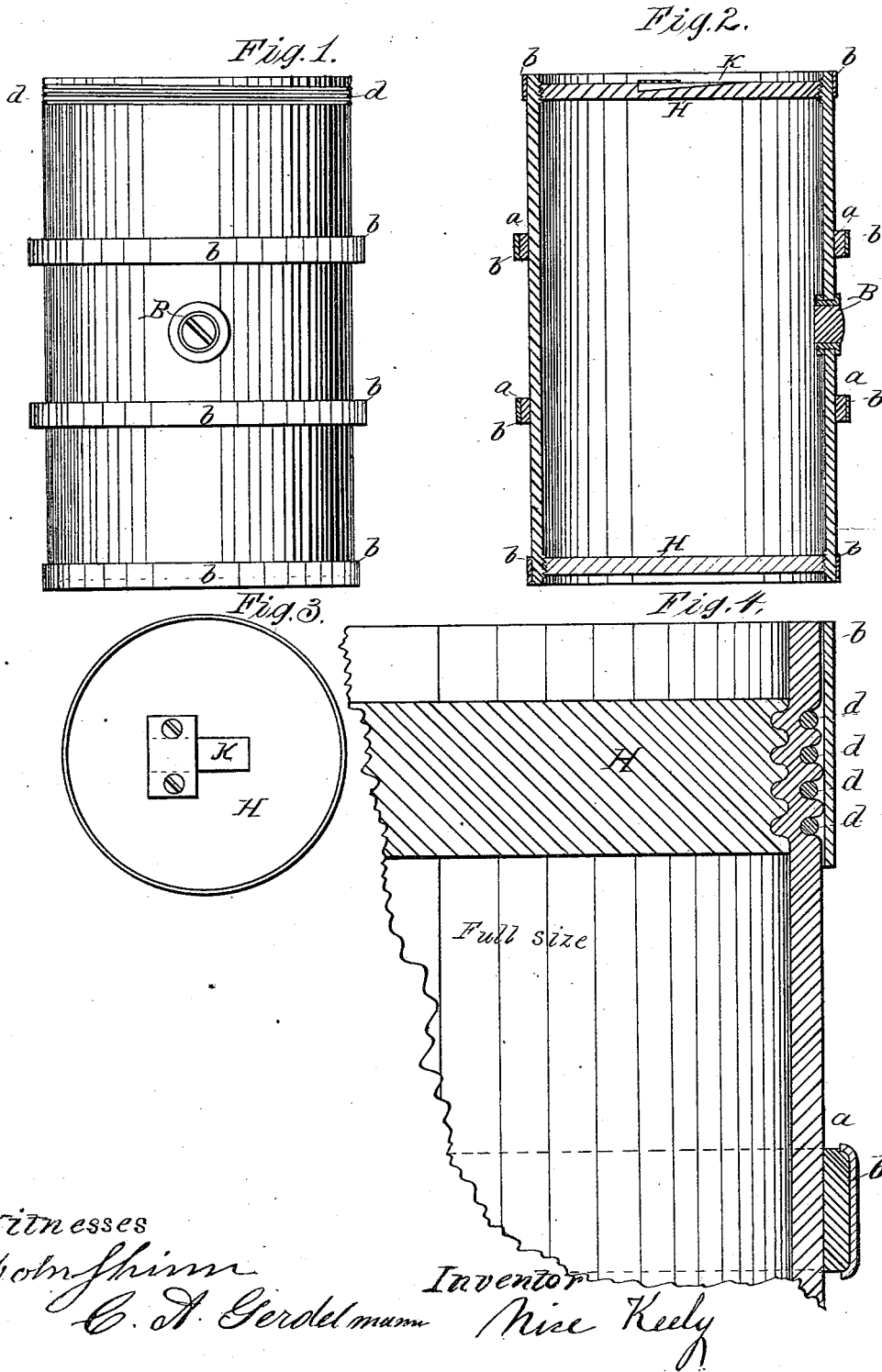


N. KEELY.
Paper-Barrel.

No. 162,237.

Patented April 20, 1875.



Witnesses

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NICE KEELY, OF LEVERINGTON, PENNSYLVANIA.

IMPROVEMENT IN PAPER BARRELS.

Specification forming part of Letters Patent No. 162,237, dated April 20, 1875; application filed August 21, 1874.

To all whom it may concern:

Be known that I, NICE KEELY, of Leverington, county of Philadelphia and State of Pennsylvania, have invented a new Improvement in Paper Barrels; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide a cask, barrel, or other similar vessel, constructed chiefly of layer upon layer of paper, for containing solid or liquid substances, and which shall be economical, manufactured with facility, and secure without the aid of nails, tacks, or screws, and which may be readily opened and closed up.

Figure 1 in the accompanying drawings is a general elevation of my invention, as it appears in the form of a cask. Fig. 2 is a medial vertical section thereof. Fig. 3 is a plan of the heads of the same. Fig. 4 is a full-size section, representing all my various improvements—like letters referring to like parts.

The invention comprises four distinct points: First, the molding by pressure, in the process of making the body of the cask, of a screw-thread or rib, interior and exterior, at and near its extremities, with a view to the insertion of a head or heads of wood or other material suitable for the purpose, which is provided with a male thread or rib corresponding with that in the body of the vessel. Second, a binding-wire, *d*, Figs. 1 and 4, meshing into the exterior threads above mentioned, in connection with a hoop, *b*, which passes over the wire, entirely and neatly concealing the latter from view. Third, re-enforcing bands *a*, or a single band, composed of like material, and made by the same process as the main body of the vessel, as hereinafter referred to. Fourth, thin metallic hoops *b*, covering the paper bands, and held securely in place by bending their edges over the sides of the latter, serving the twofold purpose of adding strength to the vessel, and of protecting the bands from abrasion.

I do not deem it necessary to describe here the process and apparatus for producing my invention, which will form the subject of future application for Letters Patent, further than

to explain that the body, as well as the bands *a*, of the vessel is fabricated from a continuous strip of paper wound around one of two co-acting rollers in any desired number of superimposed conglomerate layers, and receiving its conformation completely from the rollers revolving and co-operating together.

I am cognizant of the fact that plain-bodied paper casks, &c., have been made from laps of paper by the operation of contiguous rolls; and, also, that a screw-thread has been cut in on the inside of an ordinary wooden barrel for the purpose of securing the heads provided with corresponding threads; but as it is impracticable to cut, in a similar way, a screw-thread in a thin shell of paper, that which forms the distinguishing valuable improvement in my invention becomes apparent—to wit, the screw-threads molded by compression simultaneously with the formation of the body of the vessel. This is effected through the use of opposed male and female threads, respectively, on the peripheries, and at and near the verges, of the two rollers referred to.

The paper bands *a* are employed to strengthen and support the shell of the vessel, and to dispense with the necessity of using comparatively heavy hoops. The first of the several layers which make up these bands is pasted or glued to the body already formed, the others being caused to adhere together as the winding around of the paper-strip progresses, by means of especial devices adapted to the purpose.

The parts of my improved cask or other vessel having been formed as described, the manner of putting them together is understood at a glance. The heads being provided with lugs, depressions, or similar device *K*, which may suggest themselves to the judgment, are screwed into the ends of the cylindrical vessel. The wire *d* is then wrapped tightly around into the exterior grooves, the hoops *b* being fixed in position, (the end hoops driven down flush,) and the contents having been previously inserted, the article is complete.

It is not thought necessary or desirable to make use of the tightening-wire, except when the vessel contains a liquid, in which case there will be required, in addition to the usual outside coating, an inside one of some water

or liquid-proof substance or composition. In this case I also use a suitable bung, B, selecting, in preference, a metallic one, which is screwed into a metallic bushing fixed in the side of the cask. Such bungs as will answer the purpose are well known.

A modification of part of my invention may consist in the substitution of one or more ribs or grooves molded on and in the shell in similar manner with the screw-threads described, with corresponding ribs or grooves in the heads, the latter being introduced in place by first splitting down the ends of the shell a short distance at one or more points, then expanding the same in order to allow the heads to be forced into position, when the binding-wires may be wrapped tightly around in the outer grooves and the end hoops driven down over.

The above modification is, however, not recommended when the contents of the vessel are intended to be of a liquid nature.

I claim—

1. A manifold paper-body cask, or similar vessel, provided with molded internal and external screw-threads, as and for the purposes set forth.

2. A cask, barrel, or other vessel constructed of a paper body or shell provided with bands *a*, and the described ribs or threads, corresponding grooved or threaded heads B, and wire *d*, as and for the purposes set forth.

NICE KEELY.

Witnesses:

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