I. Cook,

Flour Packer.

No. 55,063. Patented May 29, 1866.

Fig 2

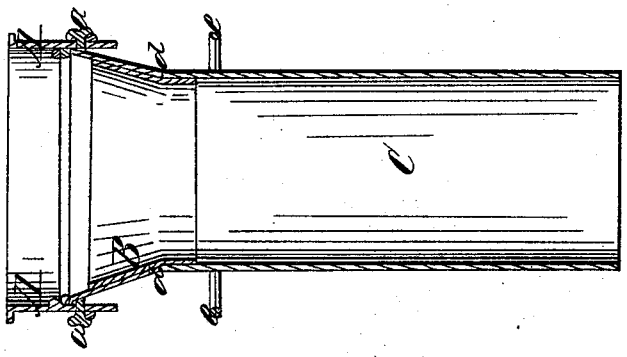
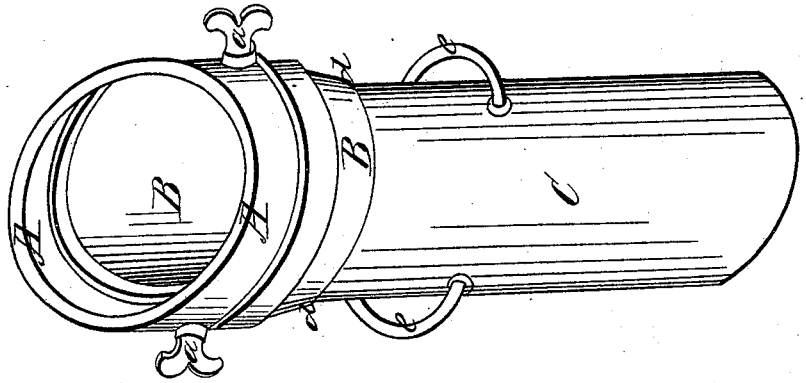


Fig 1



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UNITED STATES PATENT OFFICE.

ISAAC COOK, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FLOUR-PACKERS.

Specification forming part of Letters Patent No. **55,063**, dated May 29, 1866.

To all whom it may concern:

Be it known that I, ISAAC COOK, of the city and county of St. Louis, State of Missouri, have invented a new and improved mode of packing flour or like substances in bags by means and use of a metallic cylinder; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention is in the arrangement of a metallic cylinder or tube within the bag or other receptacle which finally receives the substance to be packed, and which cylinder or tube, after said packing process has been performed, is simply withdrawn from the bag.

In further explanation of the nature of my invention I will state that in packing such substances as flour it is usual to employ compressing devices, such as conical rollers, screw-augers, &c., for the purpose of tightly compressing such substances within their intended receptacle. If such receptacle be a bag of paper or cloth or other easily-torn substance, then it becomes necessary to prevent the contact of such compressing devices with the bag. This I therefore accomplish by inserting in such bag a metallic cylinder. Moreover, as there are in commerce various sizes of bags or sacks in which substances like flour are packed, I use cylinders of various sizes, corresponding to each size of sack, and, that these cylinders of different diameter dimensions shall fit one and the same packing-machine, I use a suitable conical funnel-head the upper rim of which always fits onto a proper receiving-rim of the funnel of said machine, and the lower rim being arranged to receive the upper end of the packing-cylinder, as will hereinafter be more fully set forth.

To enable those skilled in the art to make and use my invention, I will describe its detail construction and operation.

Of the accompanying drawings, Figure 1 is a perspective view of the packing-tube, conical funnel-head, and their connection with the funnel or hopper of the packing-machine. Fig. 2 is a central vertical section of the same.

Similar letters of reference indicate similar parts in both said figures.

The metallic cylinder A is the funnel or hopper of the packing-machine—a permanent fixture to and an integral part of the same. The flour or other substance to be packed is fed down through said hopper A. At its lower rim this hopper has two or more set-screws, *a*, which are used to secure for the time of the packing operations the conical funnel B, also of metal, and fitting at its upper end nicely into said hopper A, and against a projecting annular ridge, *b*, of said hopper A. At its lower end, B is recessed in such manner that the packing-cylinder C fits over B on its outer circumference and snugly against the upper rim of this recess, as shown at *d* in Fig. 2. The object of this peculiar manner of joining said parts B and A and C and B is to secure a comparatively tight joint on the inner surfaces of these parts, thus preventing the waste of the material to be packed, and, furthermore, to produce such a connection that the same may be expeditiously separated and refitted. Now, the size of said packing-cylinder C is dependent on the size of sack or bag used, and corresponding to the so-determined diameter of this packing-cylinder C is the lower end of the funnel-head B, whereas the upper end of all the funnel-heads B used on one packing-machine fit into the unchangeable inner circumference of the hopper A.

The packing tube or cylinder C is metallic, usually sheet-iron, and has for convenience of manipulation the handles *e*.

The mode of operation with the parts so described is as follows: I insert into each sack or bag into which, for instance, flour is to be packed a packing-cylinder, C. This cylinder usually fits the interior of such sack nicely, so that the sack remains drawn up over the cylinder to its full length. Otherwise, by means of small hooks, the upper rim of the bag may be held up, such hooks taking hold of the cylinder at its handles *e*. The bag containing the cylinder is then placed on the platform of the packing-machine, so that the cylinder C fits over the lower rim of the funnel-head B, as above described. By means of suitable adjustments the platform on which the weight of the bag and cylinder is supported may be pressed up so as to resist any opposing pressures in the operation of packing, which might disconnect the parts.

When the operation of packing to the full capacity of the bag has been completed the platform is lowered and the bag, cylinder, and

packed substance are simply removed. Then the cylinder is withdrawn from the bag, to be again used in a similar manner in another bag.

I am aware that there are other somewhat similar methods of packing such substances as flour in bags, and I therefore especially disclaim the intent to use said devices. In order that this may distinctly appear, I will refer to Judson Mattison's Letters Patent, dated March 9, 1858. His first claim is, as distinctly stated, covering a stationary or movable cylinder containing a screw or other packing apparatus arranged to work within said cylinder and force the flour or other substance to be packed out of said cylinder and pack it into the sack or barrel that surrounds it, substantially as described. Here the claim states, and the specification especially confines, the claim to a cylinder out of which the flour or other substance is forced and packed into the surrounding sack or barrel.

I claim that, especially in the use of my lately-patented double-screw flour-packer, where a tube is in nowise needed to pack flour in barrels, my said-described packing-cylinders are an improvement hereupon. The bag or sack, together with the packing-cylinder, are intended by me to be a barrel in effect, to be used like one, moved under the hopper to be packed into, and when filled removed. In my said invention the cylinder neither rises out of the bag, nor does the bag descend from the cylinder, as it is described in said specification of said Mattison; and as I have found that if the bag leaves the cylinder or the cylinder draws out of the bag before the operation of packing is completed there is danger of contusion of the bag or sack, and to prevent this there is necessary a more complicated combination of machinery than is desirable to effect the purpose. I therefore claim that the method here claimed to be my invention is distinctive by merit and originality.

Lastly, I direct especial attention to the fact that I use the said packing-cylinder independently of the packing apparatus. It is removable from the machine and is removed entirely on my said packing-machine, when I use the same for packing in barrels. In said packing process of said Mattison the cylinder subject to his first claim is an integral part of the machine, and changed only when the size of sack or barrel is changed; whereas in my said mode of operation the cylinder is changed for each sack, which has this great advantage, to wit, economy of time, for while the sack under the feed-funnel of the machine is being packed the attendant slips an extra cylinder into the sack to be next filled, and the so-prepared sack is, without delay, placed in proper position upon removal of the first sack. On the other hand, if said cylinder is part and parcel of the machine, as in said invention of said Mattison, the machine is necessarily at rest, and valuable time is lost until the sack or bag can be secured upon the cylinder of the machine, and the amount of time so lost must be considerable, for the bag must be secured in such manner that it will not waste the packed substance when it is withdrawing from the cylinder.

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

The use and combination of the packing-tube C, the connecting-funnel B, and the feed-spout A with such flour-packers as use a packing device which in packing rises out of the tube C, and when otherwise arranged as set forth.

ISAAC COOK.

Witnesses:
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