Aug. 30, 1927. 1,640,482

H. M. CRUMBAUGH ET AL.

ATTACHMENT FOR FILLING MACHINES

Filed Dec. 11, 1925 3 Sheets-Sheet 1

Fig. 1.

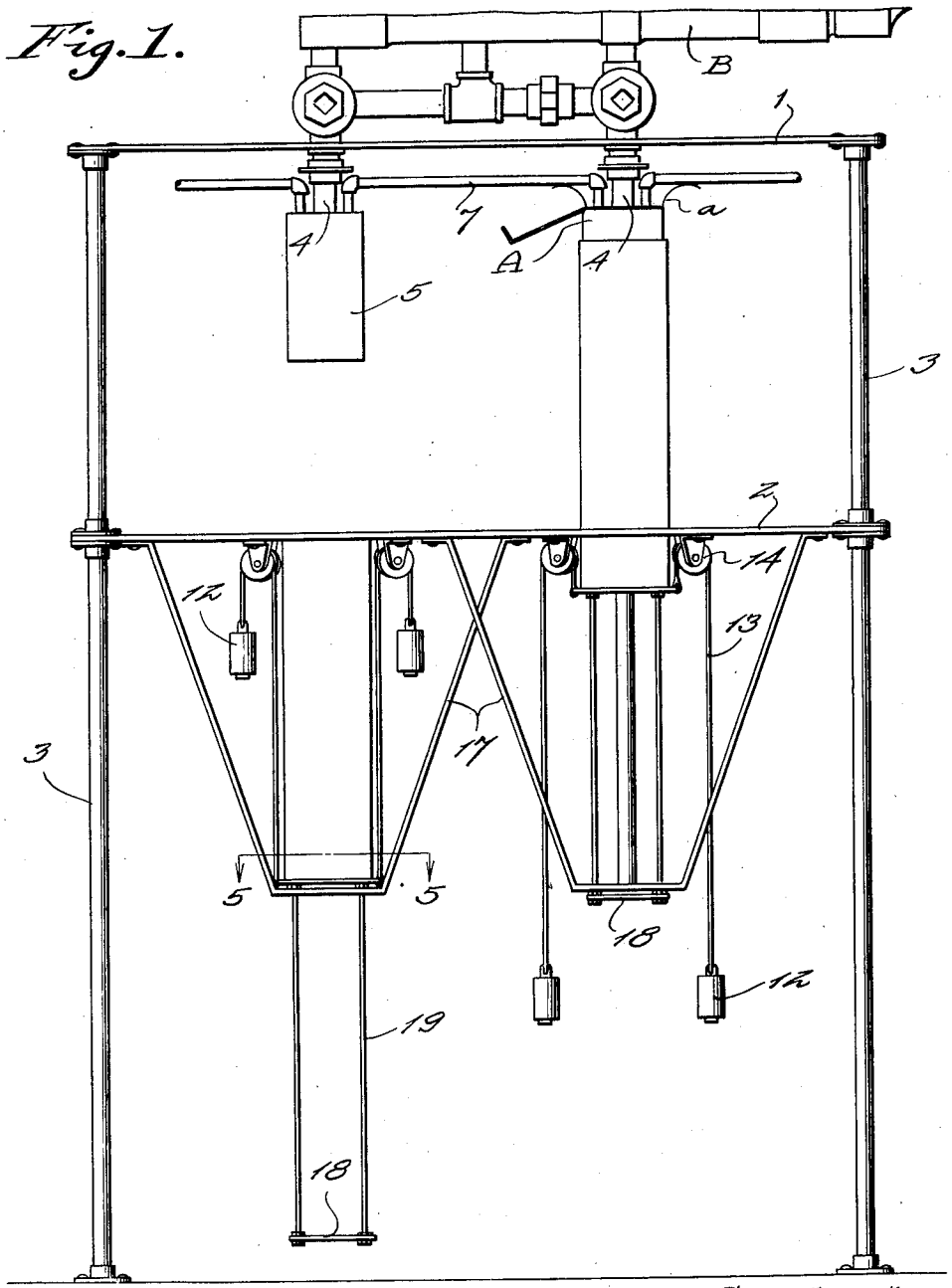

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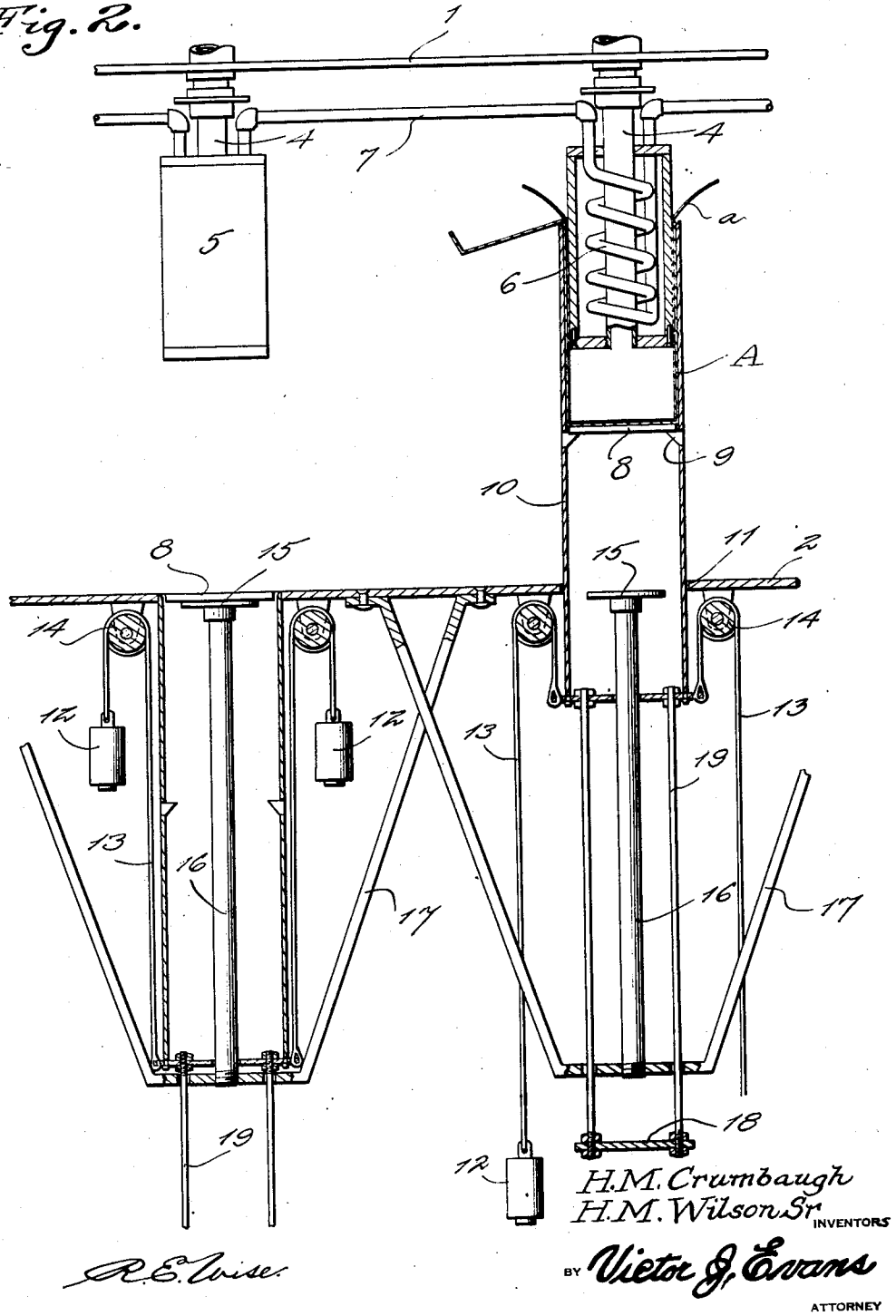
Fig. 2.



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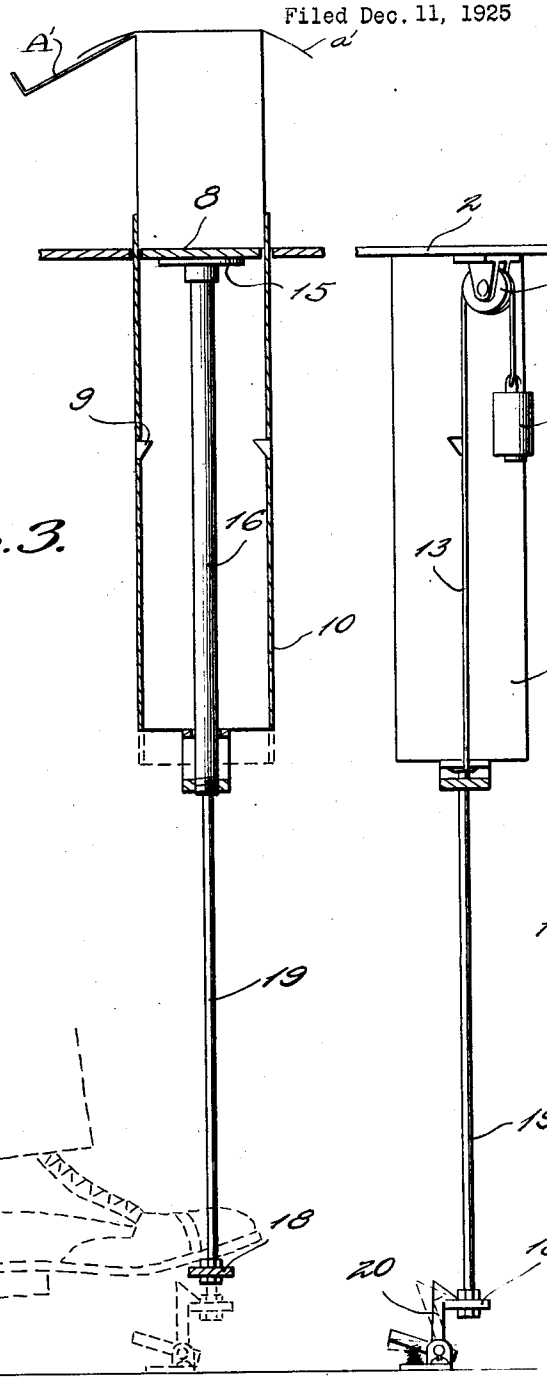
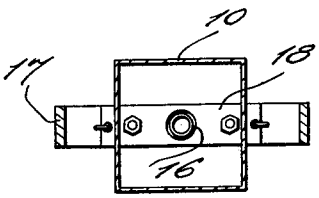


Fig. 4.

Fig. 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY M. CRUMBAUGH AND HOWARD M. WILSON, SR., OF COLUMBUS, OHIO.

ATTACHMENT FOR FILLING MACHINES.

Application filed December 11, 1925. Serial No. 74,811.

This invention relates to an attachment for a pressure filling and measuring apparatus the general object of the invention being to provide means for enabling the apparatus to be used in filling cartons and the like with semi-solid material, such as butter, which do not seek their levels and which must be placed in the packages under pressure in order to prevent spaces from occurring in the package.

Another object of the invention is to provide a form for holding a package and through which the supply pipe for the material passes and which is so arranged that the pressure at which the material enters the package from the pipe will move the package off the form, with means for resisting this movement of the package by yieldable means, so that considerable force or pressure is necessary in order to cause the inflowing material to move the package off the form to make a space in the package for itself.

A further object of the invention is to provide means for heating the form so that the material will not stick to the same as the carton or package moves on the same.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing our invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of the invention.

Figure 2 is a sectional view, with parts in elevation.

Figure 3 is an elevation, with parts in section, showing a filled package ready to be lifted from the device.

Figure 4 is an elevation showing the parts in fully lowered position.

Figure 5 is a section on line 5—5 of Figure 1.

In these views, 1 indicates an upper support and 2 a lower support which are fastened to the posts 3. The delivery pipes 4 of the filling and measuring device B depend from the upper support 1 and a form 5 is carried by the lower part of each pipe, the pipe passing through the center of the form and having its lower end opening out through the bottom of the form. Each form is of the shape of the interior of the package or carton which is to be filled by the apparatus so that the package, shown at A, can be placed thereon, the usual lining *a* being placed in the package. The package and its lining will be held on the form by friction, with the bottom of the package against the bottom of the form so that when the material starts to flow from the pipe, it will encounter said bottom and thus cause the package to move downwardly on the form under the pressure of the material. Each form is heated through means of a coil 6 placed therein and connected with a steam supply or the like by means of the pipes 7. This will prevent the material from sticking to the bottom of the form. The downward movement of the package is resisted by means of a base plate 8 supported on the projections 9 on the interior walls of a casing 10 which is formed to receive the package or carton when said casing is in its raised position. Each casing is arranged to pass through an opening 11 formed in the lower support 2 and said casing is moved to its upper position by means of the weights 12 on the cables 13 which are connected with the bottom of the casing and pass over the guiding pulleys 14 supported by hangers from the bottom of the support 2. Thus the pressure of the material entering the carton or package must overcome the weight of the parts and of the weights 12 so that the cartons or packages are filled under pressure which will prevent spaces from occurring in the packages. As the parts move downwardly, the base plate 8 will finally come to rest upon the supporting plate 15 carried by the post 16 which has its lower end supported by the bracket 17 which depends from the support 2. The post passes through the bottom of the casing 10, and when the base plate 8 is resting on the plate 15, said plate 8 will be in substantially the same plane as the support 2. Just before this occurs, the package will have been completely filled and then the casing 10 is moved farther by means of the foot piece 18 fastened to the lower ends of the rods 19 which have their upper ends fastened to the bottom of the casing 10, the operator placing his foot on said piece 18 and depressing the same until it is engaged by the latch 20 which will then hold the casing in its lowest position with it upper end flush with the support 2 and the

plate 8 resting on the plate 15 will support the package free of the casing so that the package can be easily lifted off. Then a new package is placed on the form and the latch 20 released by the foot so that the weights will carry the casing upwardly again. As the casing moves up, the projections 9 will engage the plate 8 and cause it to move up with the casing until it strikes the bottom of the package on the form. The discharge valve of the apparatus B which is associated with the delivery pipe 4 of the package in question then comes into operation so that the new package is filled, as before described.

The apparatus B is of well-known construction and has two discharge pipes and the attachment is provided with a pair of arrangements, one for each pipe, said apparatus B operating to discharge its contents first through one pipe 4 and then through the other pipe 4.

After the package has been filled, the flaps a' of the lining are folded over the top and then the cover A′ of the package is closed.

It is thought from the foregoing description that the advantages and novel features of our invention will be readily apparent.

We desire it to be understood that we may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What we claim is:—

1. In combination with the discharge pipe of a pressure filling apparatus, a package receiving form on the pipe, yieldable means for holding the package on the form, and means for heating the form.

2. In combination with the discharge pipe of a pressure filling apparatus, a package receiving form on the pipe, a casing fitting over the package for holding the same on the form and yieldable means for holding the casing with the package on the form.

3. In combination with the discharge pipe of a pressure filling apparatus, a package receiving form on the pipe, a casing fitting over the package for holding the same on the form, and weighted means for holding the casing with the package on the form.

4. In combination with the discharge pipe of a pressure filling appartus, a package receiving form connected with the pipe, a vertically movable casing adapted to enclose the package for holding the same on the form, cables connected with the casing, guiding pulleys for the cables and weights connected with the cables.

5. In combination with the discharge pipe of a pressure filling apparatus, a package receiving form connected with the pipe, a vertically movable casing adapted to enclose the package for holding the same on the form, cables connected with the casing, guiding pulleys for the cables, weights connected with the cables, the casing having a movable bottom, means for holding the bottom stationary after the casing has been moved downwardly to a certain extent and projections on the casing for engaging the bottom to cause the same to move upwardly with the casing.

6. In combination with the discharge pipe of a pressure filling apparatus, a package receiving form on said pipe, a vertically movable casing for enclosing the package, projections in the casing, a bottom resting on the projections, a post passing through the bottom of the casing, a support thereon for the bottom, weighted means for holding the casing in its raised position, a pedal connected with the bottom of the casing for enabling it to be lowered, a latch for holding the casing in its lowered position and means for heating the form.

In testimony whereof we affix our signatures.

HENRY M. CRUMBAUGH.
HOWARD M. WILSON, Sr.