

Nov. 2, 1926.

1,605,196

R. V. LIGON

UNLOADING DEVICE

Filed Dec. 8, 1925

2 Sheets-Sheet 1

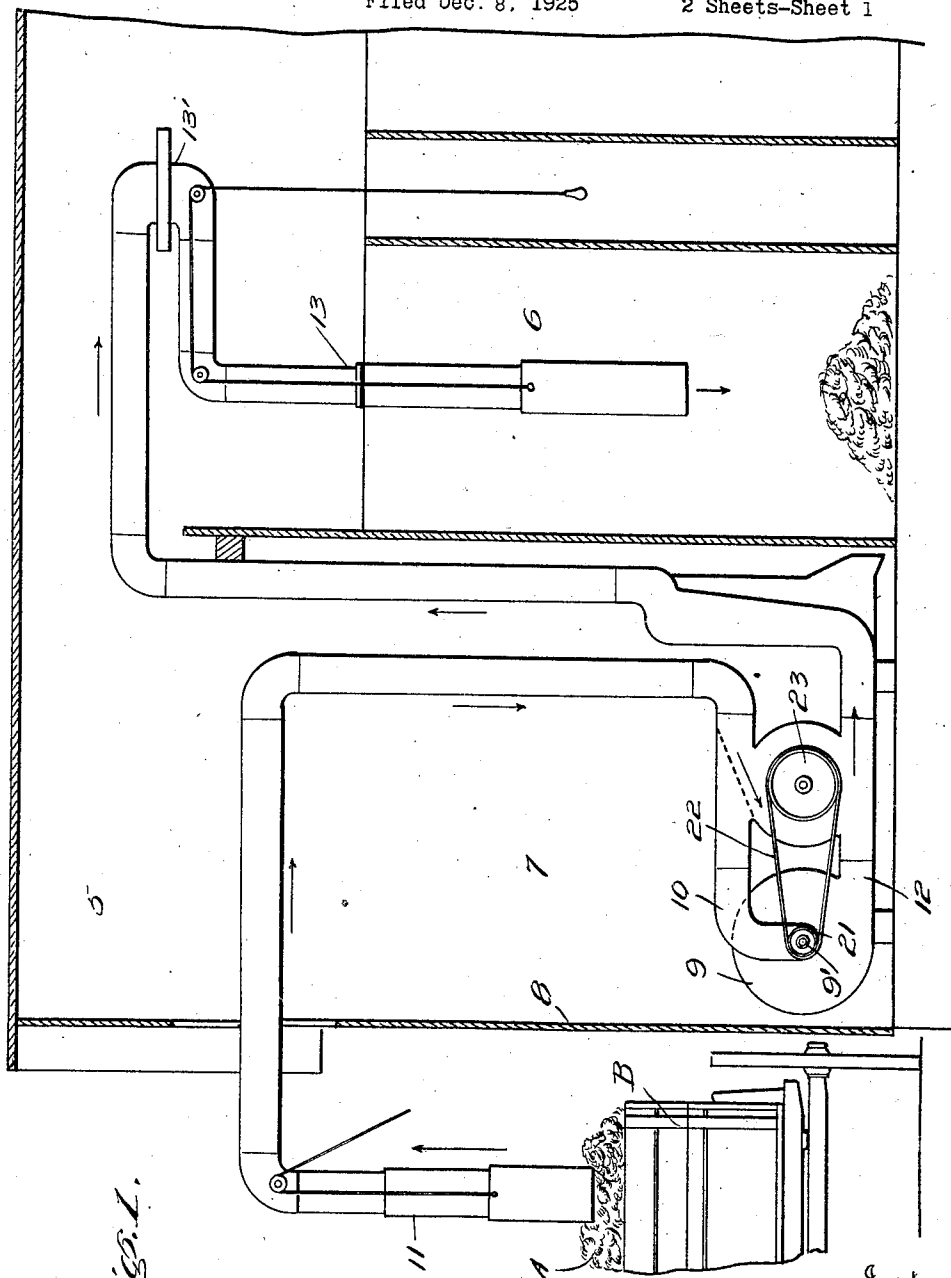


Fig. 1.

Inventor
R. V. Ligon.

By *Charles A. Ligon*
Attorney

Nov. 2, 1926.

1,605,196

R. V. LIGON

UNLOADING DEVICE

Filed Dec. 8, 1925

2 Sheets-Sheet 2

Fig. 2.

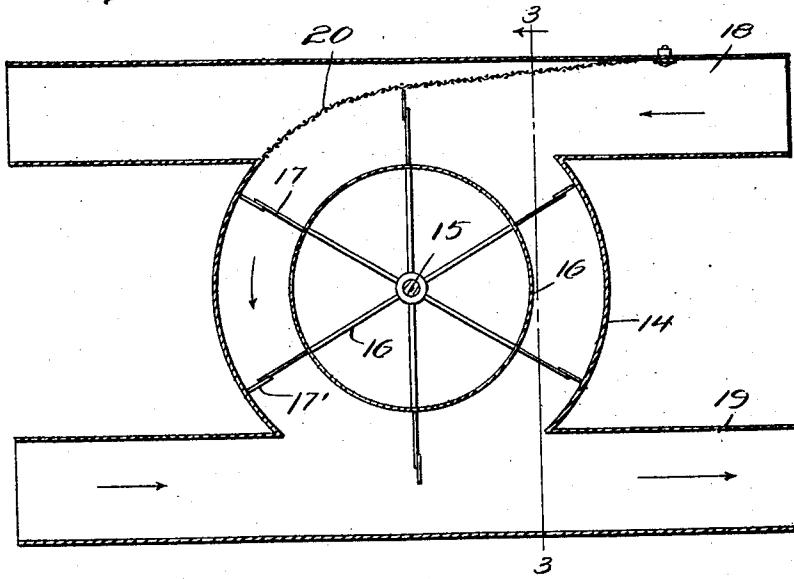


Fig. 3.

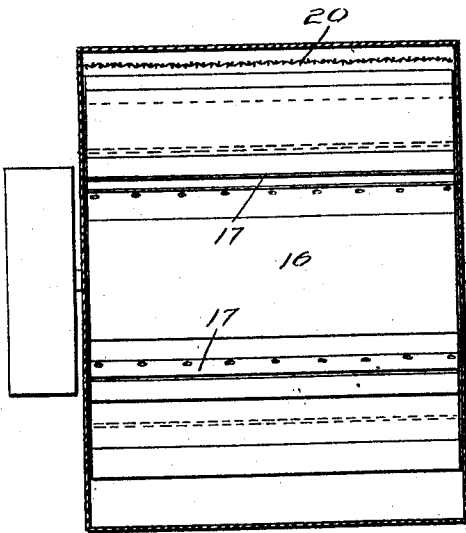
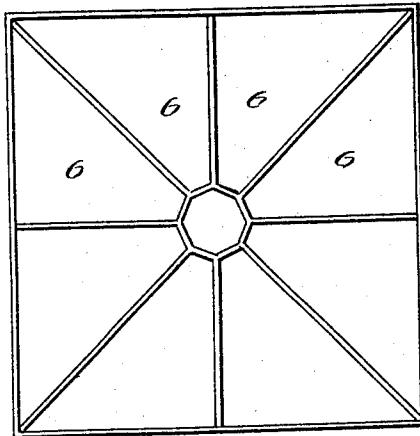


Fig. 4.



Inventor
R. V. Ligon

By *Clarence A. O'Brien*
Attorney

UNITED STATES PATENT OFFICE.

RONALD V. LIGON, OF BYERS, TEXAS.

UNLOADING DEVICE.

Application filed December 8, 1925. Serial No. 74,060.

This invention relates to unloading devices and has more particular reference to a means whereby cotton and the like may be readily and efficiently unloaded from carrying wagons or other containers and delivered into bins of a storage building.

The primary object of this invention resides in the means of an unloading device that is installed within the building and is of such construction that the cotton or other material within the wagons or carrying means may be quickly sucked therefrom and rapidly directed into a predetermined bin or stall within the storage building.

A further and important object is to provide a device of this character wherein the same comprises a system of conveying pipes within which is arranged suitable suction means as well as delivery means the inlet and discharge ends of the pipes being so constructed as to enable the cotton or other material to be unloaded regardless of the size of the wagon or other container carrying the same, the nature of said inlet pipe being such as to permit the same to be engaged within the mass of cotton or other material being unloaded from said wagon or other container.

With the foregoing and other objects in view the nature of the invention will be better understood, the same comprises a novel form, combination and arrangement of parts hereinafter more fully described as shown in the accompanying drawings and claimed.

In the drawings wherein like reference characters indicate corresponding parts throughout the several views:—

Figure 1 is a section through a storage building equipped with my novel unloading device which is shown in side elevation and as in actual operation.

Figure 2 is an enlarged detail longitudinal section of the delivery mechanism of the present invention.

Figure 3 is a detail vertical section taken substantially upon the line 3—3 of Figure 2, and

Figure 4 is a plan view of the preferred type of bin construction within the storage building.

Now having particular reference to the drawings wherein is disclosed the most preferred embodiment of the present invention, 5 designates generally a storage building that is provided with a plurality of storage bins 6 and a room 7, one side of which is

bounded by the outer wall 8 of the building and within which is disposed the major portion of the unloading device in accordance with the present invention.

The invention comprises a suitable suction fan construction 9 properly supported upon the floor of the building that has its inlet at one side of the casing which is in communication with a pipe 10 that is through the medium of a plurality of pipe sections in communication with an inlet nozzle 11 positioned at the outer side of the building as shown in Figure 1, the wall 8 being provided with a suitable opening in order that the piping may extend therethrough.

The discharge 12 is also in communication, through the medium of a plurality of pipe sections, with a discharge nozzle 13 that may, in a manner as hereinafter more fully described, be extended into position within or above a predetermined one of the bins 6 within the storage building.

Disposed within the inlet and discharge pipes of the system is a mechanism for preventing the material being unloaded from passing into the suction fan 9 and for assisting the suction fan in properly forcing the material through the system after being drawn from the source of supply into the predetermined bin in the storage house. This mechanism comprises a fan casing 14 journaled within which is a shaft 15 that carries a spider consisting of radiating arms 16 upon the outer ends of which is a circular drum 16'. Radiating from the periphery of this drum are spaced blades 17 that terminate short of the interior of the casing and carry at the outer edges flexible strips 17' that are adapted to wipe the interior of the casing and a screen hereinafter described in order that the material passing through the casing will be prevented from clogging therein.

The upper and lower sides of said casing 14 are open and on these open sides the casing is provided with longitudinally extending parallel pipes 18 and 19 open at their opposite ends and adapted to be arranged within the inlet and discharge pipings of the system, respectively, as clearly shown in Figure 1.

Extending between one side of the opening in the casing at the upper portion thereof and the top wall of the pipe 18 adjacent its forward end is a strip of screening 20 that is of a curvature substantially equal to

the curvature of the casing in order that the same may be wiped by the strips 17 upon the ends of the blades 16 and also in order that the air will be allowed to pass through the pipe 18 by reason of the suction of the fan 9 and at the same time prevent the passage of the material into the suction fan. It will be obvious that during the operation of the mechanism shown in Figure 2 the material will pass into the casing 14 and be forced therethrough into the pipe 19 and consequently out through the discharge piping of the system.

Any desirable means may be provided for operating the suction fan 9 while preferably the operating shaft 9' thereof is equipped with a belt pulley 21 over which is trained a belt 22 that extends forwardly and is again trained over a relatively larger pulley 23 upon the adjacent end of the shaft 15 of the mechanism shown in Figure 2.

The nozzles 11 and 13 are preferably constructed of telescopic sections in order that through suitable operating means the length of the same may be increased or diminished to suit the requirements.

The discharge nozzle 13 is swivelly supported as at 13' in any manner desirable in order that when this nozzle has been shortened to its fullest extent the same may be swung into position over or within any desired one of the bins 6 within the storage house.

The material being unloaded in the present instance is designated A that has been carried to the building by a wagon or other means of conveyance B and it will be ob-

vious that in the operation of the device by lowering the nozzle 11 into the material the same will be sucked therefrom by the action of the suction fan 9 and in its passage between the conveyance B and bins the same will be drawn downwardly through the fan casing 14 through the action of the blades 16 and thence discharged through the discharge sections and nozzle 13 into the proper bin 6.

I do not desire to be limited to the detail structural elements as shown inasmuch as in the future practice of the invention minor changes may be made therein without departing from the spirit and scope of the appended claim.

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

In a vehicle unloading device of the class described, a suction fan housing, a suction fan in said housing, a material conducting pipe connected with said housing and a fan casing, said conducting pipe being in communication with said casing on one side, a fan in said casing, a material discharge pipe connected with said fan housing and casing, an intake nozzle of adjustable construction connected with the intake end of said conducting pipe, and a swivelly mounted vertically adjustable discharge nozzle connected with the discharge end of said material discharge pipe.

In testimony whereof I affix my signature.

RONALD V. LIGON.