July 5, 1927. 1,634,585

I. K. KREIDER

ELEVATOR FOR SILOS

Filed May 26, 1926 2 Sheets-Sheet 1

Fig. 1.

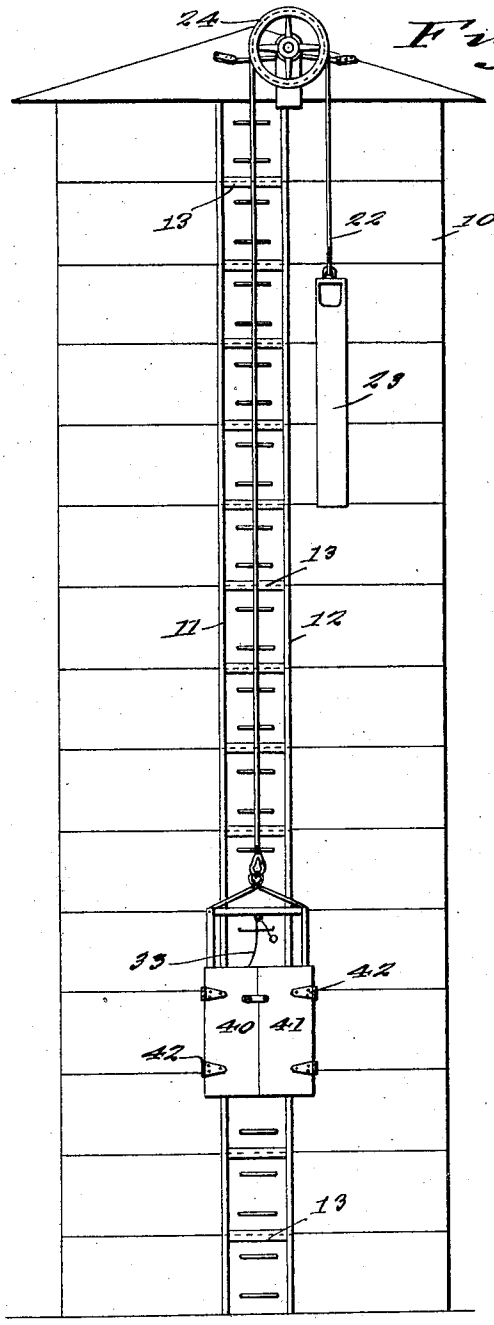
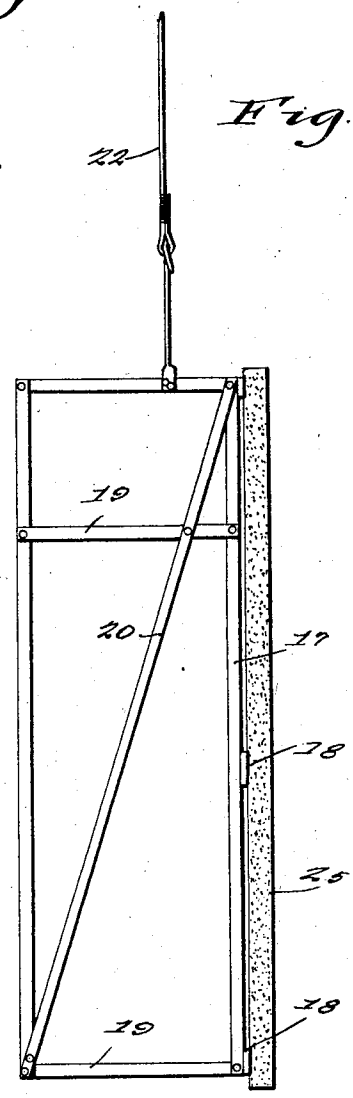


Fig. 2.



Irvin K. Kreider INVENTOR

BY Victor J. Evans ATTORNEY

K. A. Thomas

WITNESS

July 5, 1927. 1,634,585

I. K. KREIDER

ELEVATOR FOR SILOS

Filed May 26 1926 2 Sheets-Sheet 2

Fig. 3.

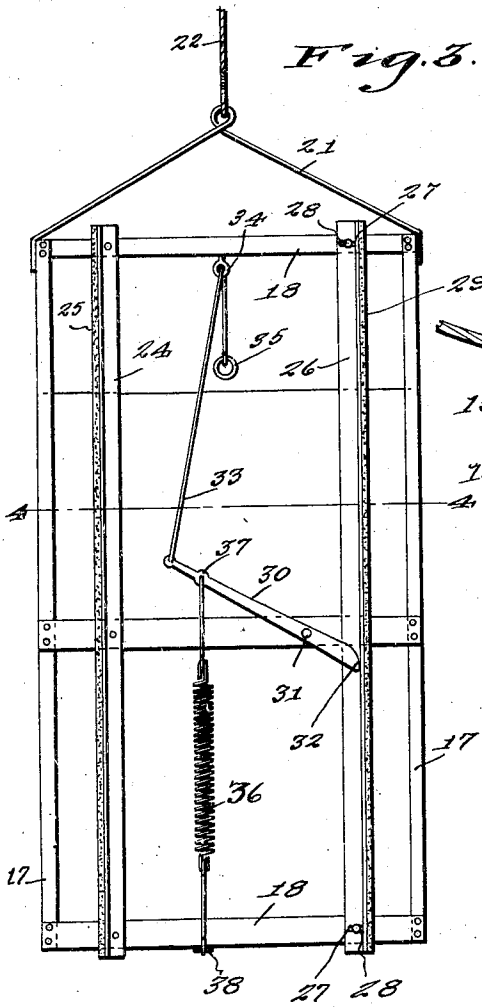


Fig. 4.

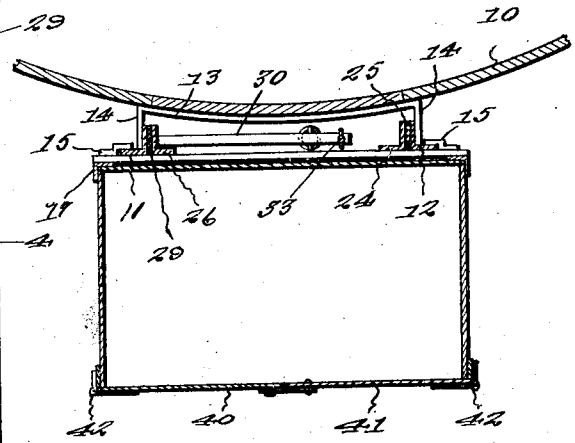
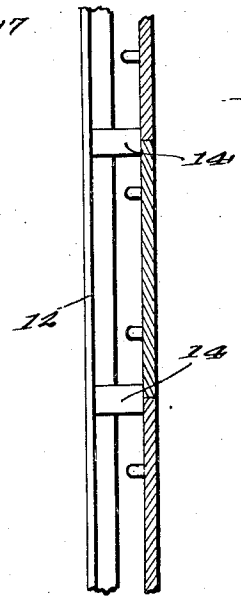


Fig. 5.



Irvin K. Kreider INVENTOR

BY Victor J. Evans

ATTORNEY

R. A. Thomas

WITNESS

Patented July 5, 1927. 1,634,585

UNITED STATES PATENT OFFICE.

IRVIN K. KREIDER, OF LANCASTER, PENNSYLVANIA.

ELEVATOR FOR SILOS.

Application filed May 26, 1926. Serial No. 111,862.

The object of this invention is to provide an elevator especially adapted to be mounted alongside of a silo, in order to easily ascend to the level desired, where the elevator may be loaded with ensilage and the latter conveyed to the base of the structure, for use, the car or carrier being counterbalanced, as described below.

A further object is to provide a car or carrier of the capacity required for one feeding, (with sufficient room for the operator), so that the ensilage will be fresh at each feeding period.

A further object is to provide special braking means, and to provide a counterbalance of such weight that the car will move upwardly without other power, and when loaded will move downwardly at a safe speed, carrying one operator who may make use of the brake if necessary, but who in any event will be enabled to carry out the complete operation more rapidly than he could otherwise do, at the same time avoiding the danger incident to the use of a ladder which is frequently unsafe because of the slight but somewhat dangerous accumulation of wet ensilage.

With the foregoing and other objects in view, the invention consists in the novel construction and arrangement of elements described, illustrated and claimed, it being understood that modifications may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming part of this application,

Figure 1 is a view in elevation, showing a silo, the rails of a track extending vertically of the outer wall, and a car or carrier adapted to move along the track, the car being counterbalanced.

Figure 2 shows the car or carrier in side elevation, one of the elements of the brake mechanism being illustrated at the right.

Figure 3 shows the car or carrier in rear elevation.

Figure 4 is a horizontal section thru the carrier and the mounting means.

Figure 5 is a fragmentary view in section, with parts in elevation.

The silo is designated 10 and extending vertically with reference thereto are rails 11 and 12, these rails being, if desired, of angle bar construction, and being mounted in any suitable manner as by means of transversely extending members 13 having end portions 14 projecting outwardly for attachment to the flanges of the angle bars. The outer flanges of the angle bars are engaged by elements 15 to be carried by the car and provided guiding devices.

The car or carrier includes a framework comprising vertically extending corner members 17, transverse members such as 18, and other elements 19, braces such as 20 also being employed, and extending in the direction shown, so that the weight toward the bottom and toward the front will to a considerable extent be transverse to the rear portion of the structure of the car. A heavy bail member or the like is shown at 21, and a flexible device or cable is designated 22.

A counterbalance 23 is connected with cable 22, and the latter passes over a pulley 24 mounted at the top of the main structure, it being intended that the counterbalance will be substantially equivalent in weight to the weight of the ensilage required for one feeding plus the weight of the operator of the device, or the individual transferring the material from the silo to the carrier.

The car or carrier is provided with a vertically extending brake rail 24, and on the outer flange thereof is a strip 25 of brake lining of a suitable material, a brake rail 26 oppositely located being provided with slots 27, and being retained by headed devices or bolts 28, the connection referred to permitting of slight lateral movement, and of frictional engagement with one of the track rails, to the extent desired. This rail 26 is also provided with a brake lining 29. Movable rail 26 is adapted to engage adjacent stationary rail 12 for approximately the full length of the movable rail, in order to insure extended frictional engagement or contact,—this engagement being relatively slight at first, if desired, and increasing in accordance with the action of the cam now to be referred to.

In order to apply the brake, I provide a lever 30 pivoted at 31 and having a curved or cam end 32, the outer end of the lever having connection with a cord 33 extending thru an eye-member or other suitable device 34 and being connected with a stationary element 35. A coiled spring 36 is connected with the lever at the point 37, and is connected with a stationary element of the car or carrier at 38.

It will be observed that the operator may ascend by merely releasing the brake and

allowing the counterbalance to act, it being assumed that the car has been left at the base of the structure 10. In descending, the load of ensilage, plus the weight of the individual removing the ensilage from the silo, will about balance the weight of the element 23, so that the car will ordinarily descend with safety, but in any event will do so when controlled by the brake.

The car or carrier is provided with doors 40 and 41 hinged as shown at 42. The operator standing near the outer portion of the car or carrier would tend to cause the latter to bind slightly on the tracks, thereby providing a retarding action. If he moves toward the inner portion of the carrier the latter will operate freely, so that additional control is afforded in the manner indicated.

Having described the invention what is claimed is:—

1. In a device of the class described, a plurality of track rails mounted in spaced relation on a stationary structure, a car movable along the rails, means for counterbalancing the car, a stationary brake rail carried by the car, a second brake rail carried by the car and having limited lateral movement, said rails being slidable on the track rails, and a lever for forcing the movable rail into close contact with an adjacent track rail.

2. In a device of the class described, a plurality of track rails mounted in spaced relation on a stationary structure, a car movable along the rails, means for counterbalancing the car, a stationary brake rail carried by the car, a second brake rail carried by the car and having limited lateral movement, said rails being slidable on the track rails, and a spring controlled and manually controlled lever for forcing the movable rail into close contact with an adjacent track rail.

3. In a structure of the class described, a structure comprising track rails and transverse members, a car movable along said track rails, vertically mounted brake rails carried by the car, one of the brake rails being movable laterally, against an adjacent track rail, and a cam lever for effecting said lateral movement.

In testimony whereof I affix my signature.

IRVIN K. KREIDER.