No. 679,048. Patented July 23, 1901.

C. D. COLE.

CAR LOADER.

(Application filed Mar. 30, 1901.)

(No Model.)

Fig. 1.

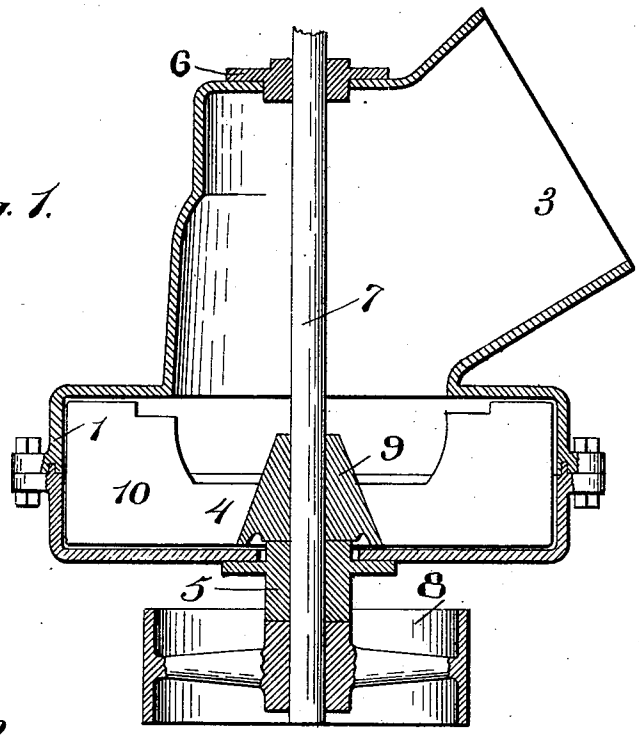
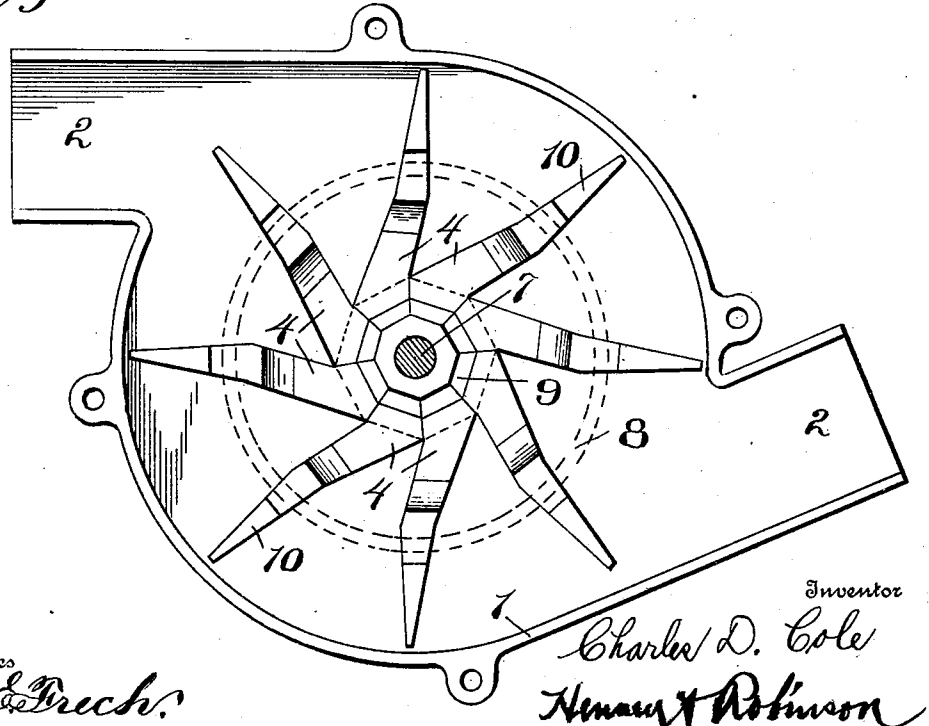


Fig. 2.



Witnesses
Geo. C. Frech.
M. A. Leonard.

Inventor
Charles D. Cole
Henry T. Robinson
By Attorneys

UNITED STATES PATENT OFFICE.

CHARLES D. COLE, OF SULLIVAN, ILLINOIS.

CAR-LOADER.

SPECIFICATION forming part of Letters Patent No. 679,048, dated July 23, 1901.

Application filed March 30, 1901. Serial No. 53,625. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. COLE, a citizen of the United States, residing at Sullivan, in the county of Moultrie and State of Illinois, have invented certain new and useful Improvements in Car-Loaders, of which the following is a specification.

My invention has relation to car-loaders; and it consists of the novel construction and arrangement of its parts as hereinafter described.

The object of my invention is to provide a means for rapidly loading cars with grain, the device being so constructed as not to crack or split the grain during the process of loading. The loader is constructed on substantially the same principles as an ordinary suction air-fan. The grain is introduced at the center of the fan and is thrown off by centrifugal force at the ends of the blades and discharged through suitable openings in the rim into the car.

In the accompanying drawings, Figure 1 is a transverse sectional view of the loader. Fig. 2 is a top plan view of the loader with the upper part removed.

The loader consists of the casing 1 made in two parts and containing the discharge-spouts 2 2. The inlet-port 3 enters the upper part of the casing 1 at the center thereof. The upper and lower parts of the casing 1 are suitably bolted together, and a revolving spider 4 is located within the casing. In the center of the lower half of the casing is provided an aperture in which is fitted a journal-box 5, and the same provision is made at the top of the inlet-spout 3 for the reception of the box 6. These boxes receive in a vertical position the shaft 7, to which is fixed the spider 4. A pulley-wheel 8 is attached to the lower end of said shaft. The spider 4 is provided with a frusto-pyramidal-shaped hub 9, from which extend the flights or blades 10. The spider is constructed in such shape that the action upon the grain is different from a spider having flights of a square or triangular shape and projecting from the hub in a straight line. The spider may be constructed with any number of flights, the number required being determined by the diameter of the spider. The hub 9 extends above the point at which the flights are joined on, and the outer surface of said hub is made up of a series of flat surfaces, one above each flight, as shown in Fig. 2. This form of hub acts as a force-feed, having a tendency to force the grain from the center of the loader to the ends of the flights.

As shown in Fig. 1, the flights are as wide at their outer ends as the casing will permit to prevent the grain from riding over, and insures the delivery of a full load for each flight. As shown in Fig. 2, the faces of the flights present two angles to the grain. This construction is such that as the grain flows into the loader it is immediately forced to the ends of the flights. As an illustration, should the spider be removed and a flat circular disk be substituted, if the disk be revolved rapidly the grain when falling upon it would by force of the centrifugal action seek the outer edge of the disk, but sufficient force would not be secured to throw the grain in a satisfactory manner through the discharge-openings. To secure this force, it is necessary to provide flights or blades to assist in discharging the grain. These flights as usually constructed and when revolving rapidly act as a damper and to a certain extent confine the grain in the center of the loader, thereby reducing the capacity of the loader. The inner ends of the flights are cut away, as shown in Fig. 1, for the purpose of facilitating the entry of the grain to the interior of the casing 1.

In operation the loader is supported just within the car-door by brackets, (preferably of the folding type.) A spout leading from the grain-bin to the inlet-port 3 conveys the grain from the bin to the said port. The grain then flows through the opening in the casing into the interior of the loader. The spider having a rotary motion, the grain is carried around by the flights until the first discharge-opening is reached, through which it passes into the car. If desired, short metal spouts (not shown) may be placed over the discharge-openings and may be so adjusted, up or down, to discharge the grain high or low, as desired; also, sliding gates may be provided at the inlet-port, if desired. The boxes which carry the shaft may be detachable and may allow of a vertical adjustment of the shaft. Power may be secured by the

use of a pulley, as shown, or rope-transmission sprocket-wheel and chain or electric motor attached to the bottom of the casing may be employed for revolving the spider without departing from the spirit of the invention.

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

1. A loader comprising a casing having in the center of its top an inlet-port and in its sides discharge-openings, a revolving spider located within the casing, the outer ends of the flights of said spider being as wide as the casing will permit, the inner and upper edges of the spider being cut away, said spider having a frusto-pyramidal hub.

2. A loader comprising a casing having in the center of its top an inlet-port and in its sides discharge-openings, a revolving spider located within the casing, the outer ends of the flights of said spider being as wide as the casing will permit, the inner and upper edges of the spider being cut away, said spider having a frusto-pyramidal hub, the upper end of which extends above the inner ends of the flights.

3. A loader comprising a casing having in the center of its top an inlet-port and in its sides discharge-openings, a revolving spider located within the casing, said spider having flights, the inner portions of the said flights being tangential with relation to an outer circumference of the hub, and the outer portions of the said flights being tangential with relation to an inner circumference of the hub, the front faces of the flights forming two planes at an obtuse angle to each other.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES D. COLE.

Witnesses:
ELVAN D. HUTCHINSON,
S. W. WRIGHT.