E. G. BOERNER AND E. H. ROPES.

GRAIN SAMPLER.

APPLICATION FILED JAN. 26, 1920.

1,354,016.

Patented Sept. 28, 1920.

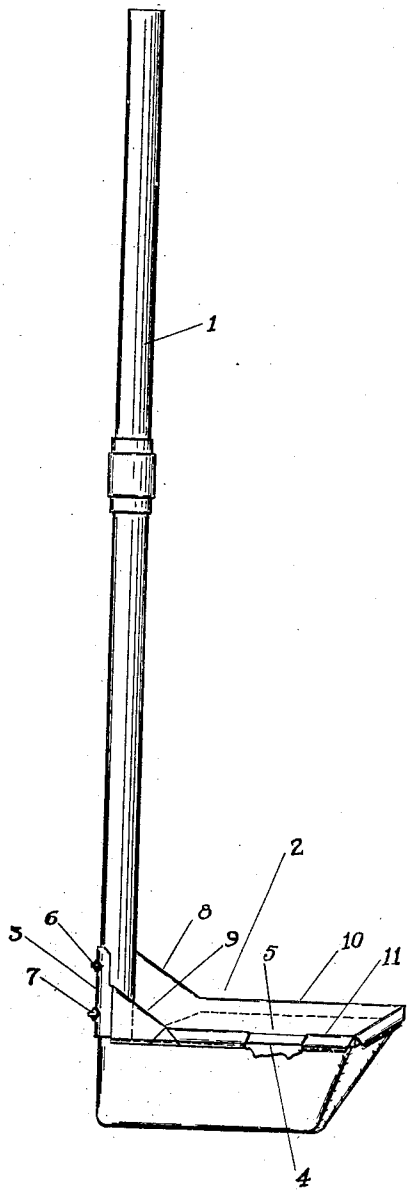


Fig 1.

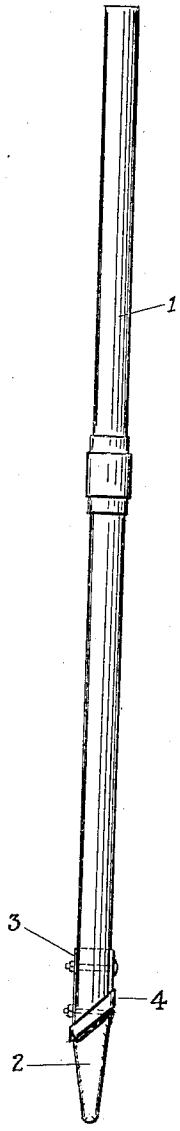


Fig 2.

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UNITED STATES PATENT OFFICE.

EMIL G. BOERNER AND ELIHU H. ROPES, OF WASHINGTON, DISTRICT OF COLUMBIA.

GRAIN-SAMPLER.

1,354,016. Specification of Letters Patent. Patented Sept. 28, 1920.

Application filed January 26, 1920. Serial No. 354,299.

(FILED UNDER THE ACT OF MARCH 3, 1883, 22 STAT. L., 625.)

To all whom it may concern:

Be it known that we, EMIL G. BOERNER and ELIHU H. ROPES, citizens of the United States, and employees of the Department of Agriculture of the United States of America, residing at Washington, District of Columbia, (whose post-office address is Washington, District of Columbia,) have invented certain new and useful Improvements in Grain-Samplers, of which the following is a specification.

This application is made under the Act of March 3, 1883, chapter 143 (22 Stat., 625), and the invention herein described and claimed may be used by the Government of the United States or any of its officers or employees in the prosecution of work for the Government, and by any person in the United States, without payment to us of any royalty thereon.

This invention relates to certain new and useful improvements in grain samplers designed for use in obtaining samples of grain that is being discharged from an elevator spout to water or rail carrier.

The purpose of this invention is to afford means of securing a portion or sample of grain falling clear from a spout or other orifice, as in loading from grain elevator to a ship, where the grain is discharged through a spout into the ship's hold. The hatchway into which the grain is discharged may be 10 feet by 16 feet more or less and the grain spout is in the center of the hatchway. The velocity of the grain, which may fall from a bin 150 feet above the discharging spout, prevents securing a representative sample or true cross section of the falling stream by hand without a device like the one described herein. This device permits securing a sample under the conditions above enumerated.

In the accompanying drawing forming a part of this specification, Figure 1 is a view in side elevation of the device.

Fig. 2 is a view in front elevation of the same.

In a detail description, in which like numerals refer to like parts throughout the two views, the device at bar consists of a jointed handle 1 of wood or metal approximately 1¾ inches in diameter and eight feet long, at one end of which is attached a leather covered metal frame 2 called the container. This metal frame 2 is in two parts, called the back piece 3 and body portion 4 so connected as to provide a recess or chamber 5 with its mouth or opening at right angles to the handle 1, said recess being about 16 inches long and 1¾ inches wide. The back piece 3 is so shaped as to be capable of being secured firmly to the handle 1 by means of bolts 6 and 7 provided therefor. The frame 4 is riveted to the sides 8 and 9 of the back piece 3 and one side 10 of the frame is 1¾ inches higher than the other side 11. This framework 4 and back piece 3 are covered by a bag of leather or other suitable material so shaped as to contain a predetermined amount of grain and to discharge easily this portion of grain at the end away from the handle. It will thus be seen that the device at bar consists of united back and body portions forming a recess and a handle secured to said back portion and extending at a right angle to the upper edges of said body portion, one of the sides of said body portion being of greater height than the opposite side. The advantage of the construction thus described is that there is provided an opening approximately 16 inches long and 1¾ inches wide whether the handle is held horizontally with the container projecting vertically to one side or the handle is dropped to the vertical and the container horizontal.

In operating this device the handle 1 is held so that it is near but not touching the falling stream of grain, with the container 2 projecting to the left horizontally, beyond the stream. When in this position, and the grain is falling, the container 2 is swung rapidly downward and inward, so that it moves through a downward and inward curve entirely through the stream of falling grain. The container 2, should be of such length that a complete cross section of the grain may be caught therein. The grain thus caught in the container may be emptied on to a sample cloth or other suitable device and constitutes a true representative sample of the stream of grain at that point. More or less grain can be obtained as desired by varying the speed with which the container is passed through the grain.

From the foregoing, it is thought that the construction, operation and many advan-

tages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, we claim:

A device for the purpose described, consisting of united back and body portions forming a recess, and a handle secured to said back portion and extending at a right angle to the upper edges of said body portion, one of the sides of said body portion being of greater height than the opposite side.

In testimony whereof, we affix our signatures in the presence of two subscribing witnesses.

EMIL G. BOERNER.
ELIHU H. ROPES.

Witnesses:
H. J. BESLEY,
JNO. F. WILMETH.