June 10, 1930. W. C. WHEELER 1,762,253

SPOUT SAMPLER

Filed Sept. 4, 1929

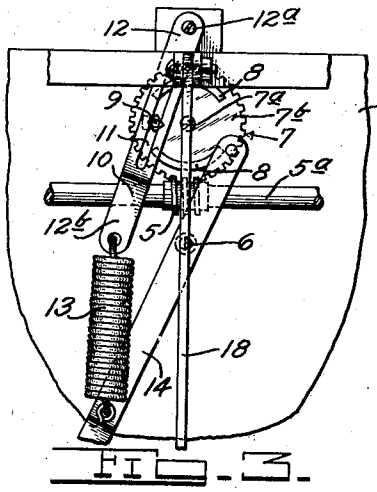


FIG. 3.

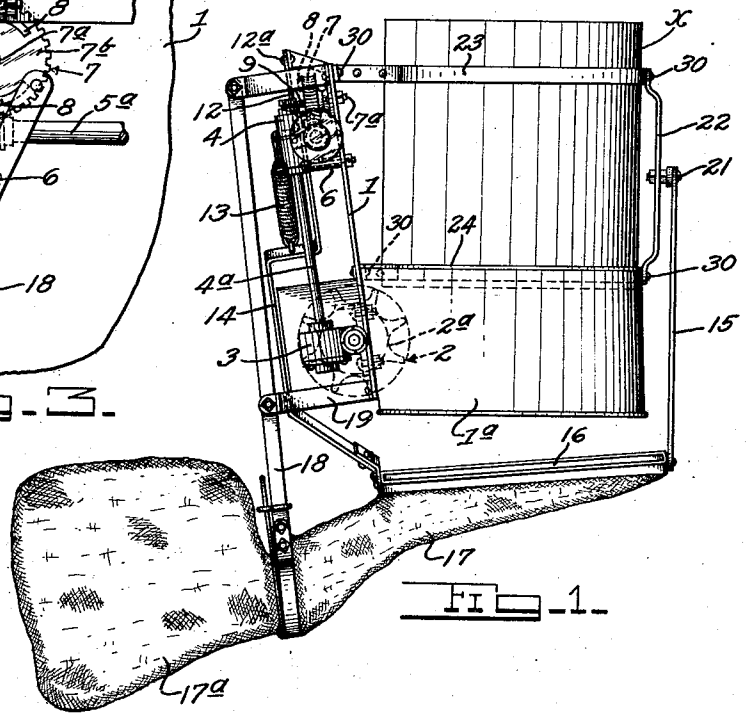


FIG. 1.

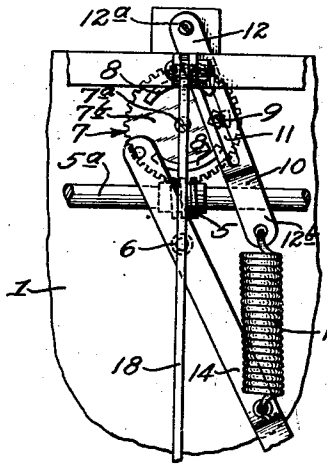


FIG. 5.

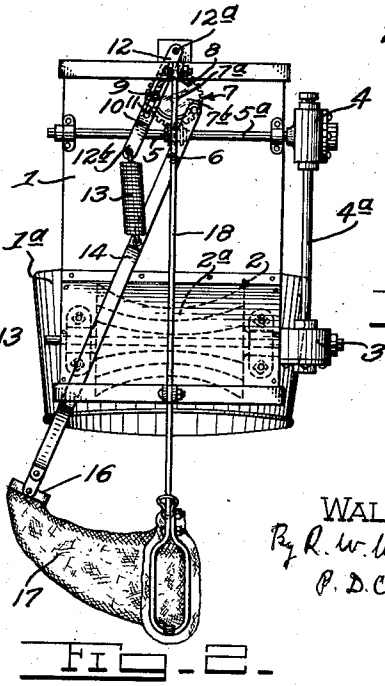


FIG. 2.

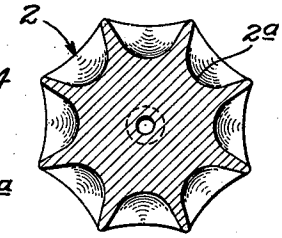


FIG. 4.

WITNESSES

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UNITED STATES PATENT OFFICE

WALTER C. WHEELER, OF ST. LOUIS, MISSOURI

SPOUT SAMPLER

Application filed September 4, 1929. Serial No. 390,365.

(GRANTED UNDER THE ACT OF MARCH 3, 1883, AS AMENDED APRIL 30, 1928; 370 O. G. 757)

This application is made under the act approved April 30, 1928, and the invention herein described, if patented, may be manufactured and used by or for the Government for governmental purposes without payment to me of any royalty thereon.

I hereby dedicate the invention herein described to the free use of the public, to take effect upon the granting of a patent to me.

The invention is shown in the accompanying drawing, in which Fig. 1 represents a side elevation partly in section of the spout sampler attached to an elevator spout; Fig. 2 is a rear elevation of the same, with bag omitted; Fig. 3 is a detail view of the mechanism which operates the pocket arm; Fig. 4 is a detail view of the roller, and Fig. 5 is the same as Fig. 3 with the pocket arm in a different position.

The spout sampler is a portable device adapted to be attached to the grain spout x of a grain elevator, and comprises a base 1, a body 1^a and operative parts of the sampling device which are supported thereby. Grain that falls through spout x passes through body 1^a over a spool-shaped roller 2, provided with a grooved face 2^a, and the rotation of this roller actuates a spring mechanism, to be hereinafter described, thereby causing a rectangular-shaped pocket 16 to be swung across the flowing stream of grain, and to collect periodically small portions or sections of the grain stream, which combine to form the sample of grain. The power gained by the roller 2 is carried by means of two sets of worm gears 3 and 4 connected by a shaft 4^a to worm 5 on a cross shaft 5^a, which drives the flat faced gear 7, which revolves on a shaft 7^a which is perpendicular to the base 1. On the face 7^b of gear 7 is arranged a cam 8 and a pin 9. The pin 9 is fitted so that it works through a slot in spring arm 10. One end 12 of this spring arm is pivoted as at 12^a, and the revolving gear 7 by means of the pin 9 working in the slot 11 causes the free end 12^b of the spring arm to rotate from one side of the machine to the other. To the rotating end 12^b of the spring arm is attached a spring 13 which stretches to a point on the pocket arm 14, and when the arm shifts to the opposite side of the machine it draws out the spring 13 causing a tension. As the spring arm 10 reaches its limit of motion, the pocket arm 14 is released and the spring tension shifts the arm 14 to the opposite side. The pocket arm 14 is mounted on a pivot 6 and is held in position by the cam 8 while the spring tension is being drawn. The cam 8 holds the end of the pocket arm 14 until the proper time and then releases it, allowing the end to travel across the face of the gear to the opposite side where it is caught again by the cam and held in place again while the spring action is repeated.

The pocket arm 14 extends to the lower end of the machine to the pocket 16 in such a way as not to interfere with the action of roller 2 and passes through a guide 19 which controls the extent of the arm's swing. As the pocket 16 is swung, the grain is forced into the pocket opening and passes through a flexible tube 17 into a receptacle 17^a which is detachable from bag support 18. The upper end of the pocket 16 is connected to the bracket 22 by a supporting arm 15. This arm has a pivot connection 21 to bracket 22 which is directly on the opposite side of the spout from pivot 6 and the whole machine is fastened to the spout by means of two sets of straps 23 and 24 which are secured to both bracket 22 and base 1 as at 30.

I claim:

A spout sampler for obtaining representative samples of grain from an elevator spout, comprising a base, a body conforming to the shape of the elevator spout and supported by said base, means for attaching said base and body to an elevator spout, a pocket adapted to receive grain passing through said body, a pocket arm swingably attached to said base for supporting said pocket, and means for alternately swinging said pocket to positions beneath said body and at the side thereof.

WALTER C. WHEELER.