G. E. RICHMOND.

AUTOMATIC COUNTING APPARATUS.

APPLICATION FILED DEC. 19, 1908.

940,066. Patented Nov. 16, 1909.

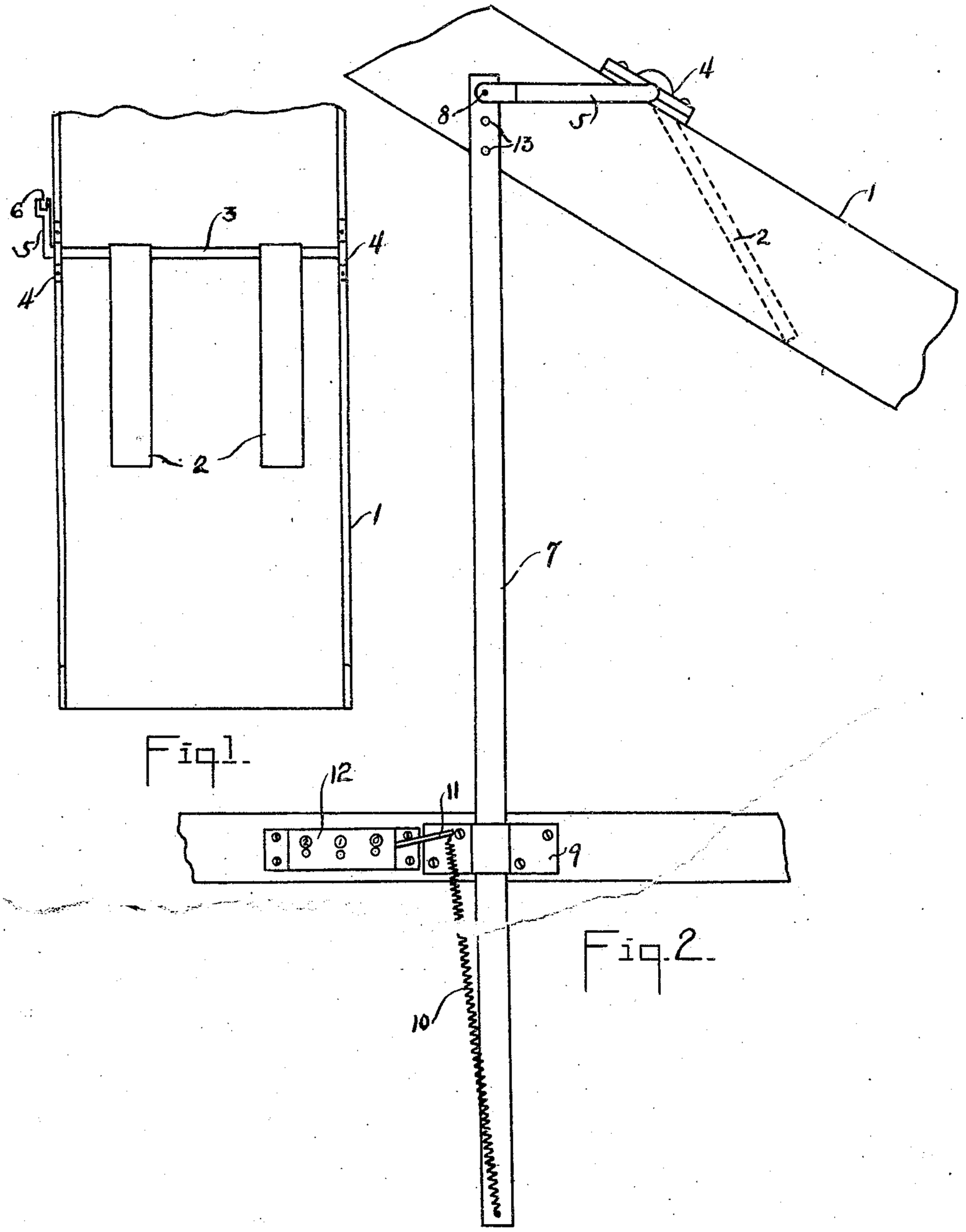

Fig. 1.

Fig. 2.

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AUTOMATIC COUNTING APPARATUS.

940,066. Specification of Letters Patent. Patented Nov. 16, 1909.

Application filed December 19, 1908. Serial No. 468,293.

To all whom it may concern:

Be it known that I, GEORGE E. RICHMOND, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in an Automatic Counting Apparatus, of which the following is a specification.

My invention relates to new and useful improvements in automatic counting apparatus and more particularly to that class of such devices designed to be used in connection with chutes for loading cars and wagons from a storehouse.

The object of the invention is to automatically register the bags, packages, etc., that pass along the chute.

Another object is to produce a device of this character that will be thoroughly reliable and one that will save time and labor.

Finally the object of my invention is to produce a device of the character described that will be strong, durable, efficient, simple to operate and at the same time be comparatively inexpensive to construct.

With the above and other objects in view, which will appear as the nature of the invention is more fully explained, the invention has relation to certain novel features of construction and operation, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

Figure 1 is a plan view of the chute, trips, and crank arm of the invention. Fig. 2 is a side elevation of the chute and counting device showing the relation of the different parts.

Referring now more particularly to the drawings, the numeral 1 refers to the chute, 2 to the trips which operate within the said chute and which are secured to the shaft 3 which in turn operates in bearings 4. This shaft is provided with a crank arm 5 which carries a bearing 6, for receiving rod 7. The said rod is adjustably secured within the bearing by a pin or bolt 8. This rod is capable of operating through the guide collar 9 which is attached to any suitable support, preferably beneath said chute in any desirable manner. At the lower extremity of this rod, one end of a helical spring 10, is attached and the other end of this spring is attached to a lever 11 which, when raised or lowered, operates the mechanism in the automatic register 12. This register may be of any approved type such as are used in registering street car fares etc. The rod 7 is provided with a number of holes 13 in vertical alinement. These holes are provided for the purpose of permitting a vertical adjustment of rod 7 in the bearing 6 of crank arm 5. This adjustment is provided for in order to secure the proper tension of helical spring 10.

The operation of my device is as follows:—When a bag of grain, package or barrel is placed within the chute at its upper end and allowed to pass down the chute it will raise the trips and partially revolve the axle 3. This will cause the crank arm 5 to be lowered and this in turn transmits downward motion to the rod which motion causes a pull on the spring 10. This pull will be transmitted to the operating lever 11, gradually on account of the elasticity of the spring and thus prevent the liability of the lever being broken, thus being an improvement over the direct connection of rod 7 with lever 11. When lever 11 is pulled down the disks inside the automatic register revolve so as to add one unit for each pull of the said lever, or for each time the trip is raised and lowered.

Particular attention is called to the elastic connection used in lowering the operative lever as this is of special value.

When the bag or other article passes entirely beyond the end of the trips, the trips being heavier than rod 7 raise it to its normal position and they fall back to a position indicated by the dotted line in Fig. 2. These trips should be long enough to reach from the axle 3 to the floor of the chute so that even a small article will cause the register to operate and record the passage of the article. The spring 10 should be strong enough to insure positive action upon the register and yet elastic enough not to cause lever 11 to be broken or bent when acted upon by said spring.

What I claim is:—

1. An automatic registering device comprising a chute, an axle revolubly mounted thereon and carrying trips which extend to the bottom of said chute, a crank arm carried on one end of said axle and being provided with a slot in the free end thereof, a rod having an adjustable hinge connection with the free end of said crank arm, a collar for limiting the said rod to vertical movement, a mechanical register, an elas-

tic connection between the said rod and the said mechanical register.

2. An automatic registering device comprising a chute, an axle revolubly mounted thereupon by means of suitable boxings, a trip integral with said axle operating within said chute, a crank arm mounted upon one end of said axle and carrying a bearing at its free end, a rod having an adjustable hinge connection with said crank arm, a collar for limiting the rod to vertical movement; all in combination with a mechanical register and a helical spring for connecting the said rod with the operative means of said mechanical register, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE E. RICHMOND.

Witnesses:
E. N. Mills,
W. E. Mills.