Dec. 30, 1924. 1,521,137

C. H. VEEDER

DUPLEX COUNTING MACHINE

Filed Dec. 29, 1923

Fig. 1.

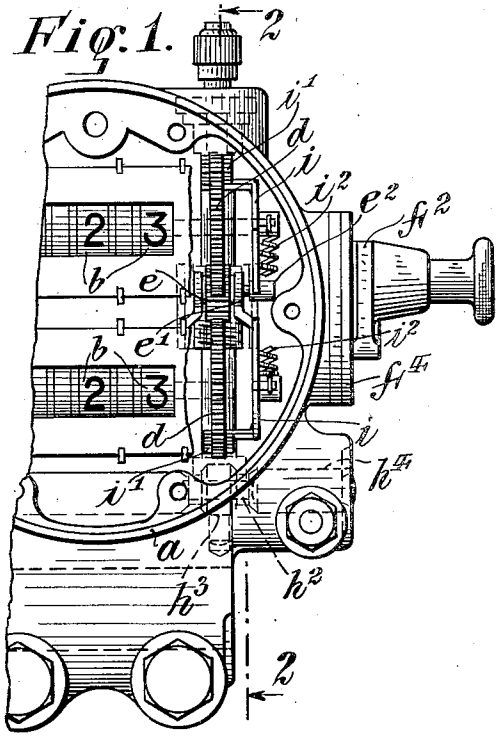


Fig. 2.

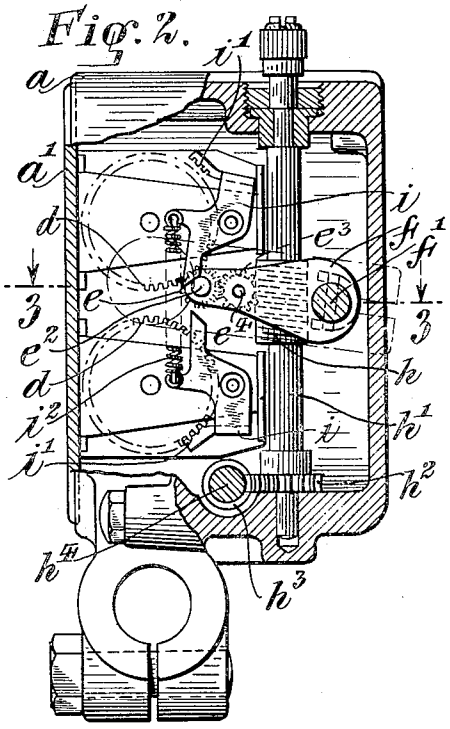


Fig. 3.

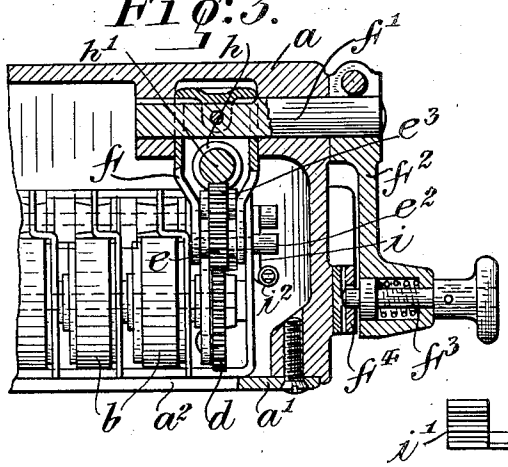


Fig. 4.

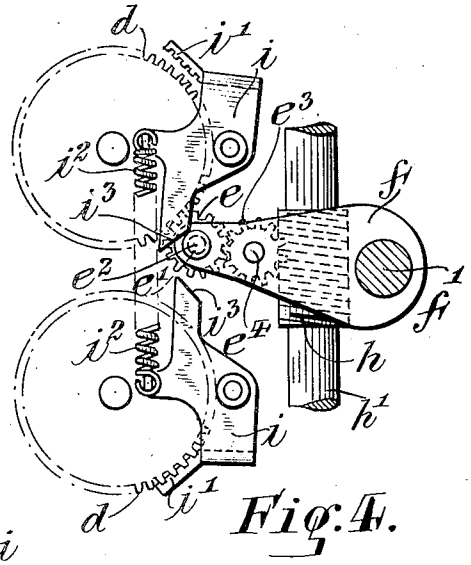
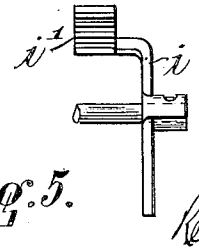


Fig. 5.



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UNITED STATES PATENT OFFICE.

CURTIS HUSSEY VEEDER, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE VEEDER MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

DUPLEX COUNTING MACHINE.

Application filed December 29, 1923. Serial No. 683,268.

To all whom it may concern:

Be it known that I, CURTIS HUSSEY VEEDER, a citizen of the United States, residing at Hartford, in the State of Connecticut, have invented certain new and useful Improvements in Duplex Counting Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

In another application of the present applicant, Serial No. 620,878, filed February 24, 1923, there is shown a duplex counting machine which has two counting mechanisms either one of which can be put into operative relation with the moving part of the machine, the number of operations of which are to be registered, so that the number of operations during a given period of time can be registered independently of the number of operations during another period of time. In the machine shown in that application two counting machines mounted on parallel axes and each having a driving gear are actuated through a common shiftable driving pinion which is in continuous engagement with a driving worm. In the practical operation of the machine shown in that application it has been found that the shifting of the single, common driving pinion from one counting machine to the other, has a tendency to cause a slight forward movement of the counting machine into operative relation with which it is shifted. One object of the present invention is to overcome such tendency and this is accomplished by mounting on the shifting frame two pinions which are in engagement with each other, one being in engagement with the driving worm and the other adapted for engagement with one counting machine or the other. Another object of the present invention is to provide means whereby a brake is applied to each counting machine as the driving pinion is shifted into engagement with the corresponding counting machine. By these improvements the accuracy of registration of the two counting machines is assured. The invention will be more fully explained hereinafter with reference to the accompanying drawing in which it is illustrated and in which—

Figure 1 is a view in front elevation of a duplex counting machine which embodies the invention with front plate removed, this view being partly broken away to save space.

Figure 2 is a view of the same in section on the plane indicated by the broken line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a partial view in section on the plane indicated by the broken line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a detail view on a larger scale, showing particularly the means for shiftably supporting the transmitting pinions and the brake mechanism.

Figure 5 is a detail view in edge elevation of one of the brake arms.

The working parts of the improved duplex counter are received within and supported by a suitable casing a, the front plate a' of which is provided with two sight openings, one of which is shown at a^2 in Figure 3, through which the two sets of number wheels b may be read. The two numbering machines may be constructed and arranged to operate in any usual or suitable manner, as shown for example in the application above mentioned. Each of the counting machines is provided as usual with a gear d by which the machine is driven, the two gears d being adapted to be engaged, the one or the other, by a common driving pinion e which is shiftable into operative relation with one or the other of the gears d as may be required. As shown, the common driving pinion e is mounted on a spindle e', the hub of which is extended at one side as at e^2 for a purpose to be explained. The pinion e is in mesh with a pinion e^3 which is mounted on a spindle e^4. Both of the spindles e^2 and e^4 are mounted in a swinging yoke f which is fixed on a spindle f' which has, outside the casing a, an operating arm f^2 which may be provided with a locking detent f^3 for co-operation with a locking plate f^4. The pinion e^2 is in constant engagement with the driving worm h on a shaft h' which carries a worm wheel h^2 in engagement with a worm h^3 on the operating shaft h^4.

Pivoted in proximity to each gear d is a brake arm i, which may be provided with teeth, as at i', for engagement with the teeth of the gear d. Two brake arms are acted upon by a common spring i^2 by which both

brake arms are drawn into engagement with the gears *d*. Each brake arm is also provided with a cam i^3 for co-operation with the extended portion e^2 of the spindle *e'* above mentioned. As the yoke *f* is swung to face the pinion *e* in engagement with one gear *d* or the other, the hub e^2 of the spindle *e'* co-acts with the cam surface i^3 of the corresponding brake arm *i* to move the brake shoe *i'* out of engagement with the gear *d* and thereby release the same for operation. At the same time the other brake arm is caused by the action of the spring i^2 to remain with its shoe *i'* in operative engagement with the other gear *d*. It will be noted that when the yoke *f* is in an intermediate position, with the pinion *e* not in engagement with either gear *d*, both brake arms *i* will be caused by the spring i^2 to move their brake shoes *i'* into engagement with the gears *d* and thereby prevent movement of either of the counting machines. It will be found that such backlash as exists between the teeth of the two pinions *e* and e^3 is sufficient to prevent the transmission of movement to either gear *d*, by reason of the rolling of the pinion e^3 upon the worm *h*, when the pinion *e* is moved into or our of engagement with the one gear *d* or the other.

I claim as my invention:

1. A duplex counter comprising two parallel counting machines, each having a driving gear, a driving worm, a shiftable yoke and two transmitting pinions carried by the yoke in engagement with each other, one of said pinions being in engagement with the driving worm and the other being in operative relation with the driving gear.

2. A duplex counter comprising two parallel counting machines each having a driving gear, a common, shiftable driving pinion for operative relation with one gear or the other, means to drive the driving pinion continuously, a shiftable yoke supporting the driving pinion, and brake devices actuated by the movement of the shiftable yoke to relieve the driving gear of one counting machine and to permit a braking action upon the driving gear of the other counting machine.

3. A duplex counter comprising two parallel counting machines each having a driving gear, a common, shiftable driving pinion for operative relation with one gear or the other, means to drive the driving pinion continuously, a shiftable yoke supporting the driving pinion, brake arms adapted for engagement with the driving gears of the two counting machines, and a common spring acting upon the brake arms, the brake arms and the shiftable yoke being in operative relation whereby the movement of the yoke causes one of the brake arms to release the corresponding driving gear and permits the other of the brake arms to apply a braking action to the other driving gear.

This specification signed this 26th day of December A. D. 1923.

CURTIS HUSSEY VEEDER.