This invention pertains more particularly to an automatic flushing mechanism of the same general type as that illustrated and described in my U. S. patent entitled "Automatic sewer flushing device", bearing No. 1,437,000, issued to me on November 9, 1922.

A main object of this invention is to provide a flushing mechanism of the float type that will automatically shut off the flow of water to a sewer well when a predetermined volume has been admitted thereto, and to direct the flow thereafter to a fluid receptacle for tripping the well valve to release the volume of water in the well to flush the sewer.

Another object is to provide a mechanism in which the valve tilting pan or receptacle is attached directly to one end of a walking beam, whereby the flushing water is admitted directly to the well from a tilting receptacle, and to provide means for closing the fluid outlet therefrom when a predetermined volume has been admitted to the well.

Broadly the invention comprises a standard suitably mounted in a sewer well provided on its upper end with a walking beam. To one end of the beam is pivotally connected a vertically disposed valve for controlling the fluid outlet from the well to the sewer lateral, and to its other end is rigidly secured a fluid receptacle whose inlet is connected by a flexible hose to a source of fluid supply, and having a flexible fluid outlet pipe leading therefrom. A float operated mechanism is provided on the beam standard for closing the receptacle fluid outlet mechanism when a predetermined volume of fluid has been delivered to the well to fill the receptacle and actuate the beam for unseating the well outlet valve to permit the fluid in the well to flush the sewer.

In the accompanying drawings wherein a single embodiment has been disclosed by way of example:

Fig. 1, is a vertical section through a flushing well with the flushing mechanism mounted therein, showing the mechanism in flushing position in dotted lines.

Fig. 2, is a plan view of the flushing mechanism.

In the drawings, 5 designates a brick or concrete sewer flushing well located at the head of a sewer lateral 6. The floor of the well is inclined at 7 towards the head of the sewer lateral in order to insure perfect drainage and the well top has a manhole closed with the usual cover (not shown). Leading into the well is a fluid supply pipe 8 provided with a valve 9, which may be readily reached through the well manhole when desired.

Adjacent the valved opening of the sewer lateral in the bottom of the well, a false bottom 10 is provided preferably formed of wood treated with asphalt or similar material to prevent rotting action of the water. This bottom is provided with a circular opening in which is mounted a metal valve seat 11 having a spider 12 on its under side through which passes the guide stem 13 of a cylindrical valve 14 that is normally disposed on the valve seat.

Bolted or otherwise secured to the false bottom 10 is a vertically disposed supporting standard 15 carrying on its upper end a walking beam 16 pivotally secured thereto. One end of said beam is pivotally connected by a link 17 to the upper end of a valve 18, and its other end is bent upwardly as at 19 and then horizontally as at 20 in order that the valve trip receptor 20 which is bolted or otherwise secured to the portion 19 may be disposed substantially above the pivotal point of the walking beam and out of contact with the fluid in the well.

The inlet 21 to the tripping receptacle 20 is connected by a flexible hose 22 to the valve of the fluid inlet pipe, the hose being of sufficient length to accommodate itself to the movement of the tank on a flushing operation.

The water from the fluid inlet pipe discharges through the tank outlet 23 which also has a flexible hose 24 which leads directly into the well, as will be described more particularly hereinafter.

Bolted or otherwise secured to the standard 15 and projecting horizontally therefrom is a bracket 25 on which is mounted a mechanism for operating the apparatus. This mechanism preferably consists of a guide rod...
25 affixed to the bracket 24 and extends upwardly in alignment with the longitudinal axis of the standard. Slidably mounted on rod 25 is a cylindrical metal float member 26 whose movement is controlled by the rise and fall of the fluid in the well 5. Pivottally mounted in bearings 27 on the upper end of the float member is a brass tube 28, one end being connected by a flexible hose 29 to the discharge outlet 23 of the tripping receptacle, the water from the inlet pipe 8 passing through the receptacle 20 and the tube 28 to the well.

Pivottally mounted on the outer end of the bracket 24 is an upwardly extending guide rod 30 on which is loosely mounted a weighted sleeve 31, its upper end being provided with a latch member 32 adapted to be engaged by a projecting lip 33 secured to the upper end of the float 26 when the same is raised by the water in the well, the lip extending over the edge of the float and in the path of the latch member. This latch mechanism is designed to shut off the water flowing into the well through the tube 28 when a predetermined volume has accumulated therein, and to fill the tripping receptacle in order that the walking beam 16 may be actuated to operate the flushing valve 14.

In the operation of the flushing mechanism as above described, the valve 9 is opened to allow a flow of water through the receptacle 20 and tube 28 into the well, the flow being regulated in order that a certain definite period of time elapses between flushing operations. As the volume of water rises in the well the float 26 will be carried upwardly on its guide rod 25 until the lip 33 contacts with the latch member 32 of the weighted sleeve 31. On a further upward movement of the float 26, (whose movement will now be retarded by the weighted sleeve) the upper bevelled end of the sleeve 31 will be brought into contact with a disengaging arm 35 affixed to the standard.

As the float continues to rise the disengaging arm will rock the pivoted arm 30 and disengage the latch from the lip 33 of the float, and as the rise of the float has been retarded it will be apparent that when released from the latch it will quickly rise and tilt the tube 28 to the position shown in dotted lines and thus shut off the flow of fluid to the well. When in this position the fluid from the inlet pipe will eventually fill the tripping receptacle and overbalance the walking beam 16 to unseat the well outlet valve and permit the water to rush out and into the sewer lateral 6 to efficiently flush the same. As the well is emptied the float will descend and again permit a flow of water to the well, the outlet valve automatically reseating.

I claim:

1. An automatic sewer flushing mechanism comprising a well into which a constant vol-