

A. SCHWYZER.
ELEVATOR FOR BETON MIXING MACHINES.
APPLICATION FILED DEC. 12, 1905.

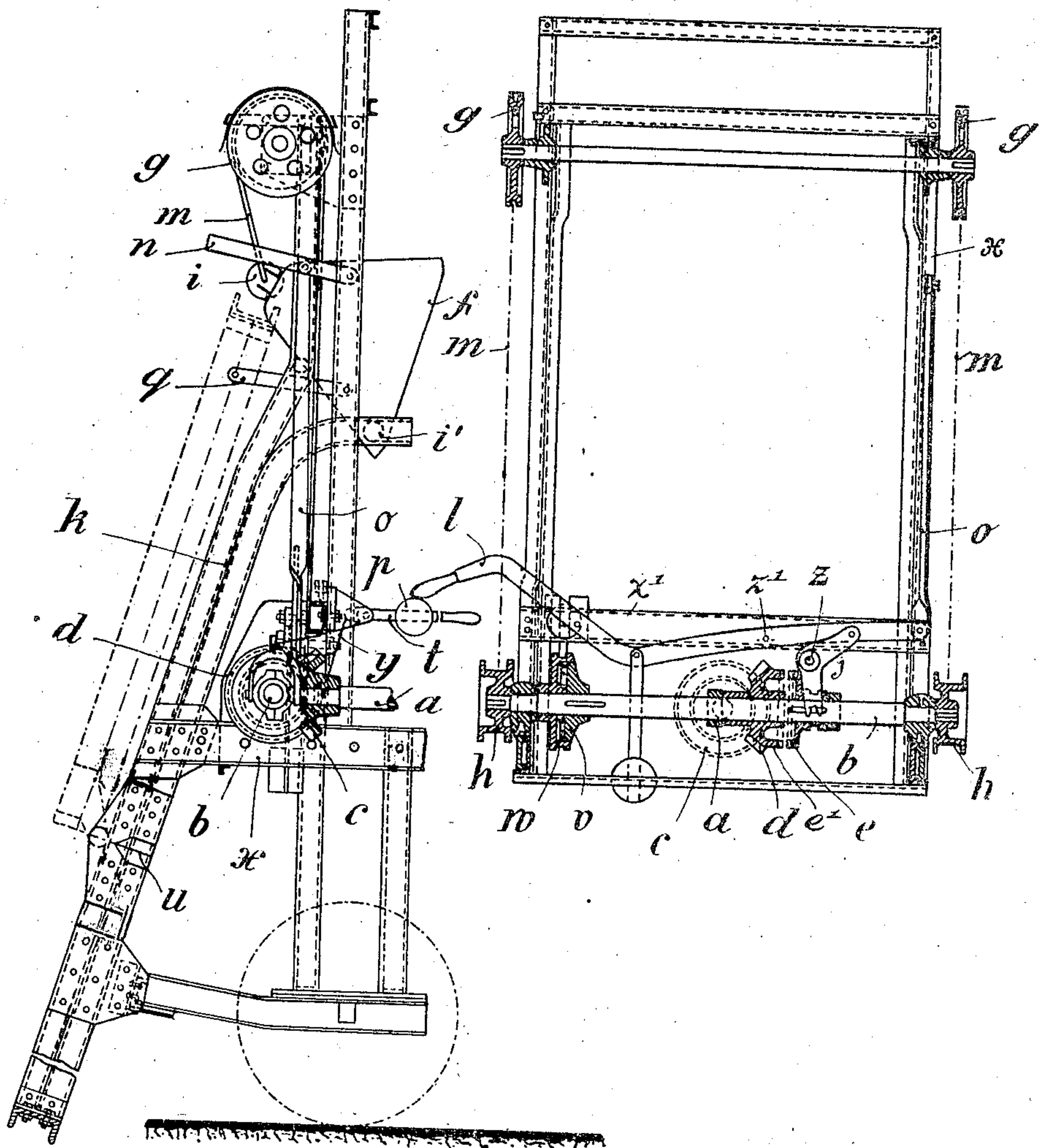
915,703.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

Fig. 2.



Witnesses.
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Stanley Brannall

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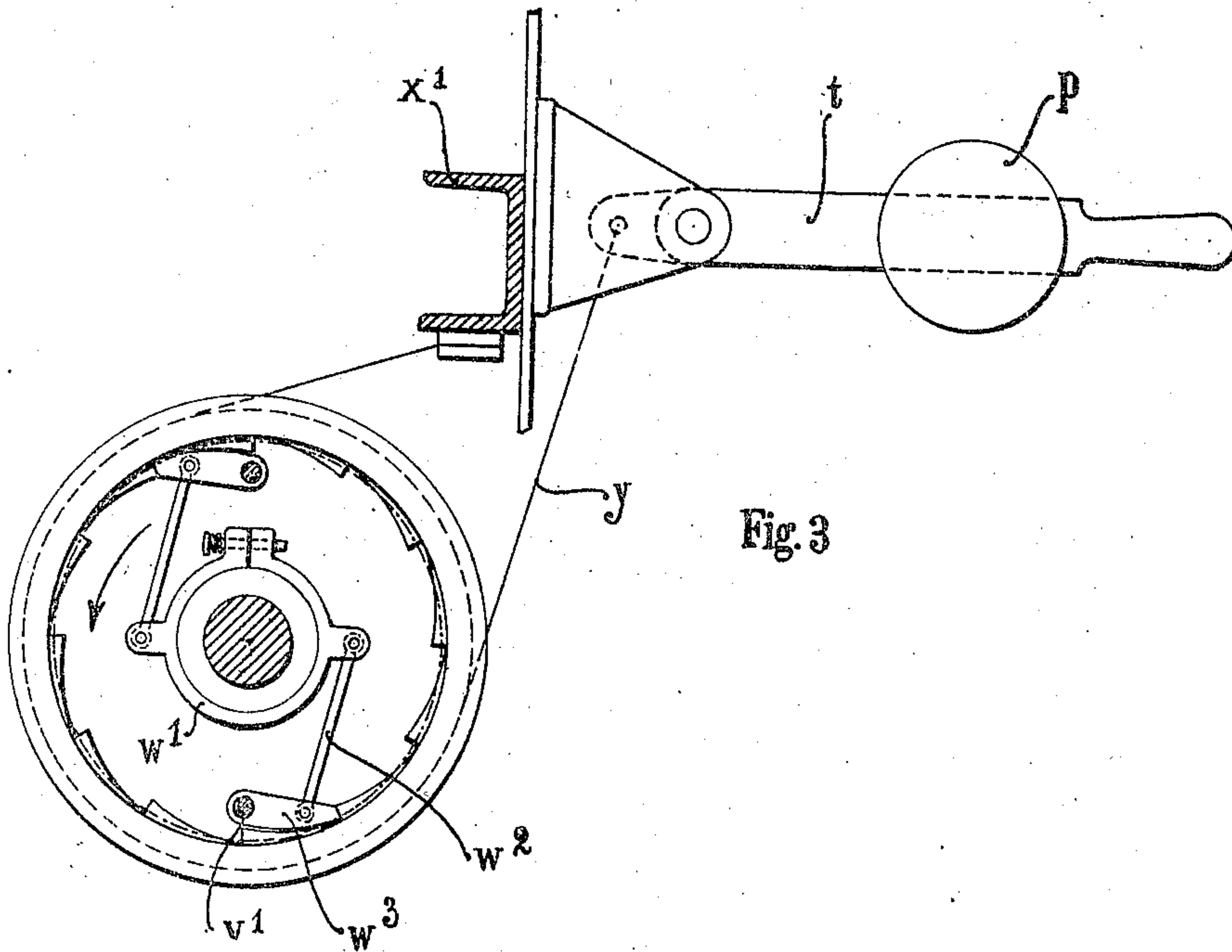
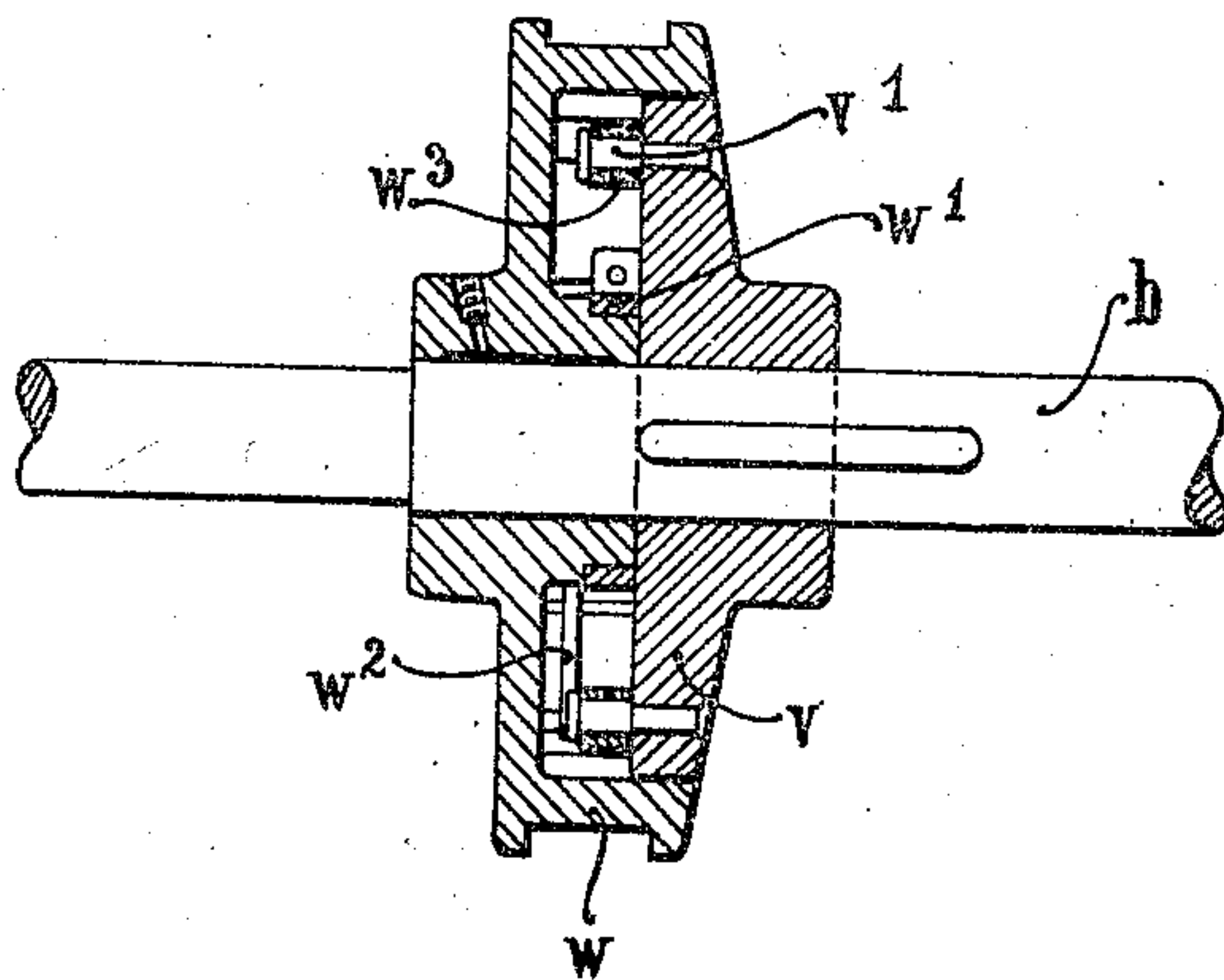


Fig. 3

Fig. 4



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UNITED STATES PATENT OFFICE.

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ELEVATOR FOR BETON-MIXING MACHINES.

No. 915,703.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed December 12, 1905. Serial No. 291,440.

To all whom it may concern:

Be it known that I, ALBERT SCHWYZER, citizen of Switzerland, residing at Balsthal, canton of Solothurn, Switzerland, have invented new and useful Improvements in Elevators for Beton-Mixing Machines, of which the following is a specification.

The elevators hitherto used in portable beton mixing machines have been found defective inasmuch as when adapted to raise the material rather high they required taking down to facilitate the moving about of the machine.

The object of this invention is to overcome said defect. I attain this object by the mechanism illustrated in the accompanying two sheets of drawings which show one embodiment of my invention and in which—

Figure 1 is a side view and Fig. 2 a sectional front view. Fig. 3 is a side view and Fig. 4 a longitudinal section of the clutch of the winding shaft of the machine shown on an enlarged scale.

Similar letters refer to similar parts throughout the several views.

Upon the frame *x* furnished with wheels, is employed the elevator of the beton mixing machine.

a is the main shaft from which by means of a pair of bevel wheels *c*, *d* and clutch box *e*, *e'* rotary motion is transmitted to the shaft *b*. The wheel *d* is mounted loosely upon the shaft *b* and the power is transmitted to the shaft *b* by means of a disengageable clutch box *e*.

By means of the wire ropes *m* passing over the guide pulleys *h*, the elevator box *f* is connected with the pulleys *h* secured upon the shaft *b*, the pulleys *h* rotating in one direction winding the box *f* up and rotating in the other direction lowering the same.

To the top and the bottom of the elevator box *f* are respectively secured the pulleys *i*, *i'*, the former being adapted to run in and the latter upon the guide rails *k*, *k*, the upper ends of which are bent to cause the box *f* when arriving at the top to tilt and empty, the pulley *i* then leaving the rails *k*, *k*, see Fig. 1.

To the cross piece *x'* are fulcrumed at *z* and *z'* respectively the levers *j* and *l*, the former connecting the lever *l* with the clutch member *e*. To one side of the machine frame *x* is

fulcrumed the lever *n*, by a rod *o* connected to the rear end of the lever *l*.

When it is desired to raise the box *f*, the lever *l* is lifted, which causes the lever *j* to bring the clutch member *e* in gear with *e'* on the bevel wheel *d*, the shaft *b* to be rotated and the pulleys *h* to wind on the wire ropes *m*. When the box *f* has been raised to its desired height, the clutch pulley *i* is timed to contact with and raise the lever *n* elevating the rod *o* and respective end of the lever *l* and thereby throwing the clutch member *e* out of gear with *e'* and stopping the travel of the box.

Upon the shaft *b* is mounted loosely turnable a brake disk *w* which together with a disk *v* secured upon the shaft *b* form a silent stopping gear. For this purpose the interior of the rim of the disk *w* has ratchet teeth and to its boss is clamped a ring *w'* loosely turnable and connected by two rods *w²* to two pawls *w³*. These pawls are fulcrumed to the disk *v* by means of the studs *v'*. To the frame *x* of the elevator is suitably fulcrumed a hand lever *t* having a weight *p* and at one end secured a band *y* passing around the brake disk *w* and the other end secured to the beam *x'* of the frame of the elevator, the said weight keeping the said band always at a tension and the brake disk thus having the tendency of remaining at rest.

The stopping gear described operates as follows:—When raising the elevator box *f* the shaft *b* and consequently the disk *v* is rotated in the direction the opposite of the arrow shown in Fig. 3, the ring *w'* having the tendency to stop with the brake disk, the pawls *w³* are drawn inward by the rods *w²* and thus are brought out of gear with the teeth of the disk *v* in order to render the stopping apparatus silent, that is to say, to prevent the noise which for instance might be caused by the pawls entering the said teeth. When bringing the clutch *d*, *e* out of gear, owing to the weight of the box *f*, the disk *v* has a tendency to turn back in the direction of the arrow shown in Fig. 3. The ring *w'* and the disk *w* being braked and thus not able to turn the pawls are moved outwardly to engage in the teeth of the disk *w*, which causes the box to be retained in its tilted position. The box is lowered by releasing the brake lever *t*.

To facilitate the machine being moved

about, the lower parts of the rails *k* are hinged at *u* to permit of being raised into the position shown in dotted lines in Fig. 1, in which they are held secure by means of flat bars *q* and bolts.

What I claim as my invention and desire to secure by Letters Patent, is—

In an elevator for beton mixing machines, guide rails bent at their upper ends, a beton box, pulleys respectively secured to the bottom and the top of and means for raising and lowering the said box on the said rails, the said bottom pulleys running upon and the said top pulleys in the said rails and the said

bent ends causing the box to tilt automatically in its highest position, and means actuated by the said box when in its highest position for stopping the said box raising means, all combined substantially as and for the purpose set forth.

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

ALB. SCHWYZER.

Witnesses:

E. BAUMANN,
ALFRED C. PEVIS.