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K. RUGE & S. KATZENSTEIN.

AUTOMATIC WATERING TROUGH FOR CATTLE AND HORSES.

APPLICATION FILED OCT. 27, 1905.

Fig. 1.

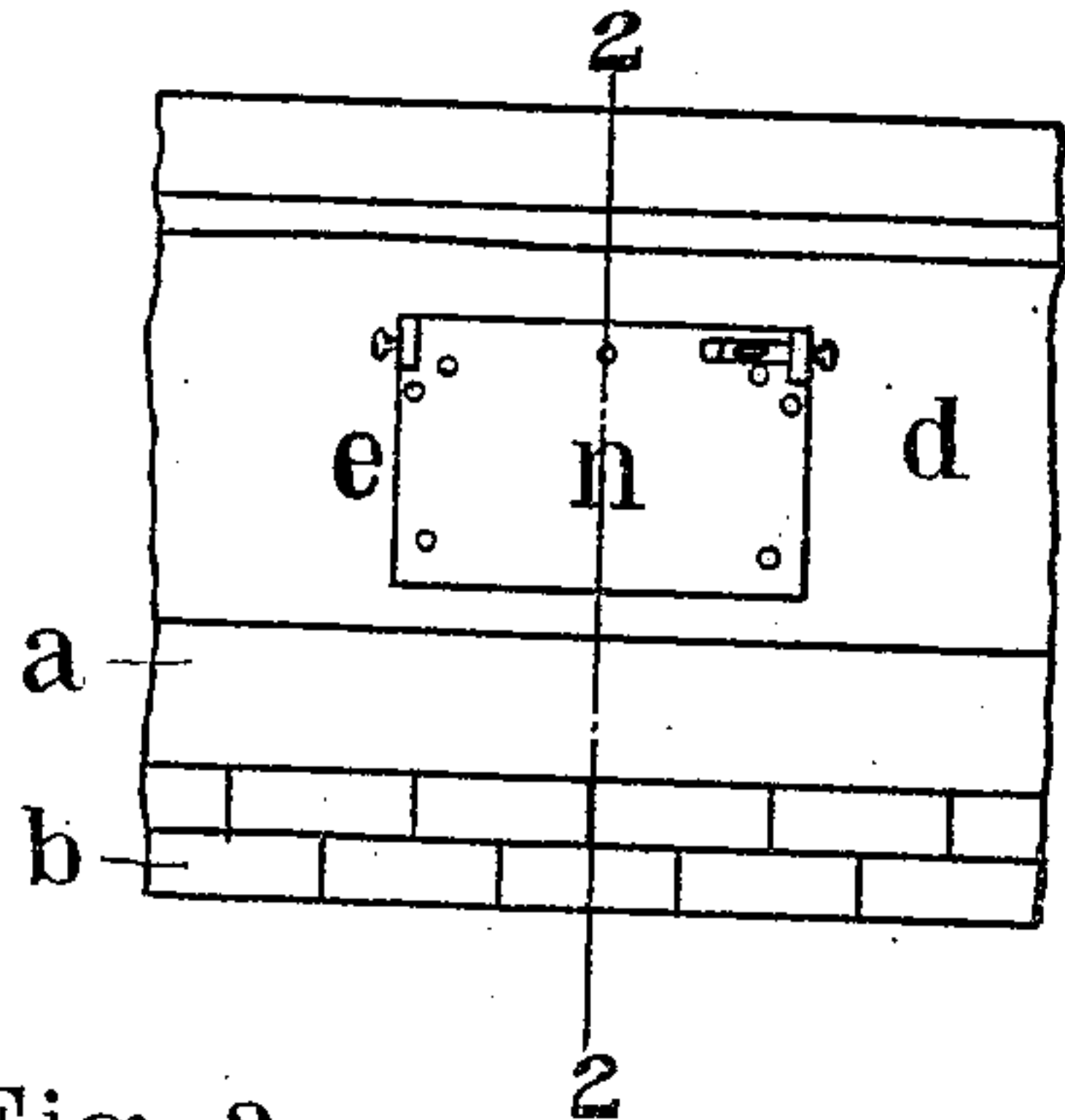


Fig. 2.

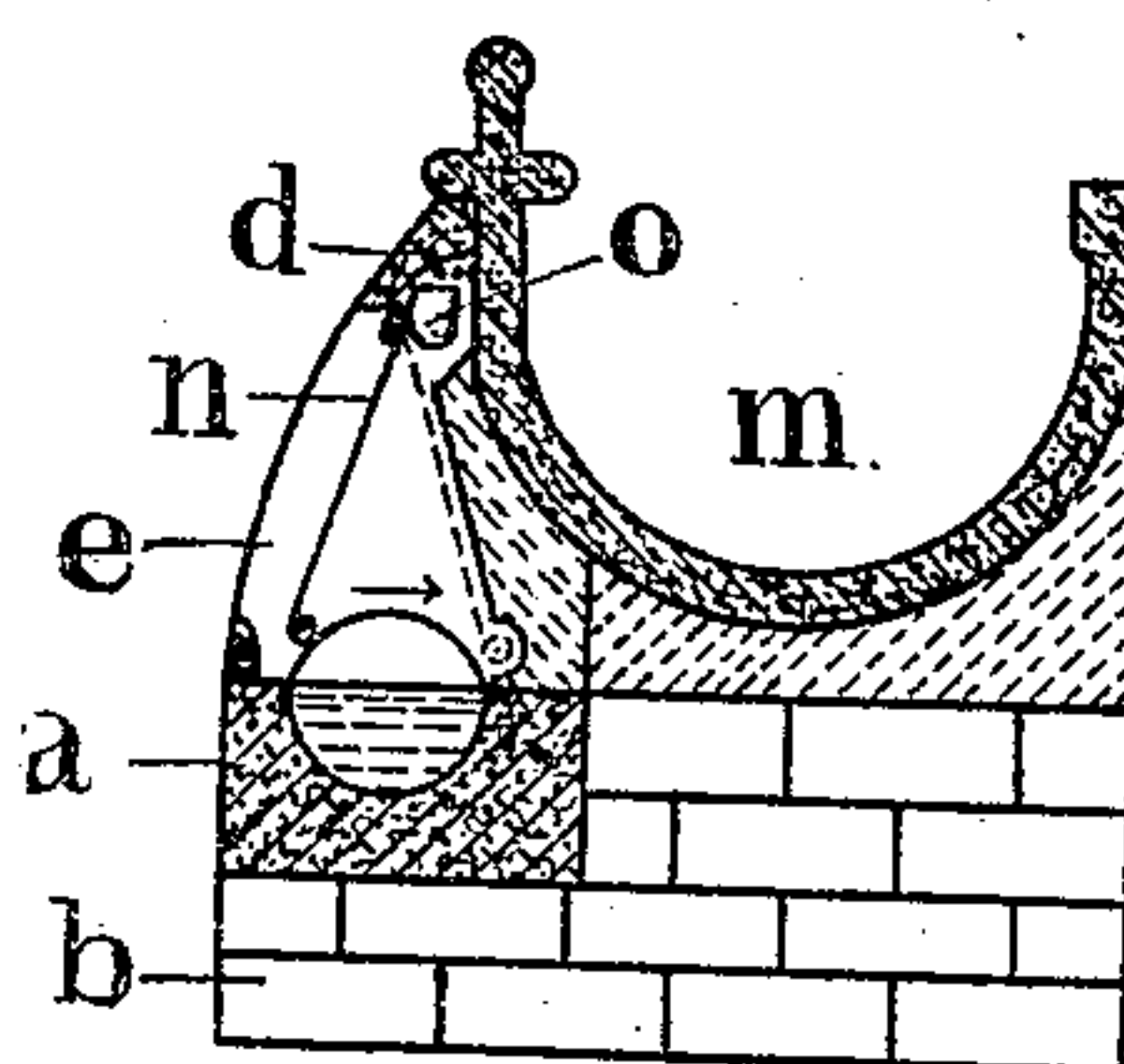


Fig. 3.

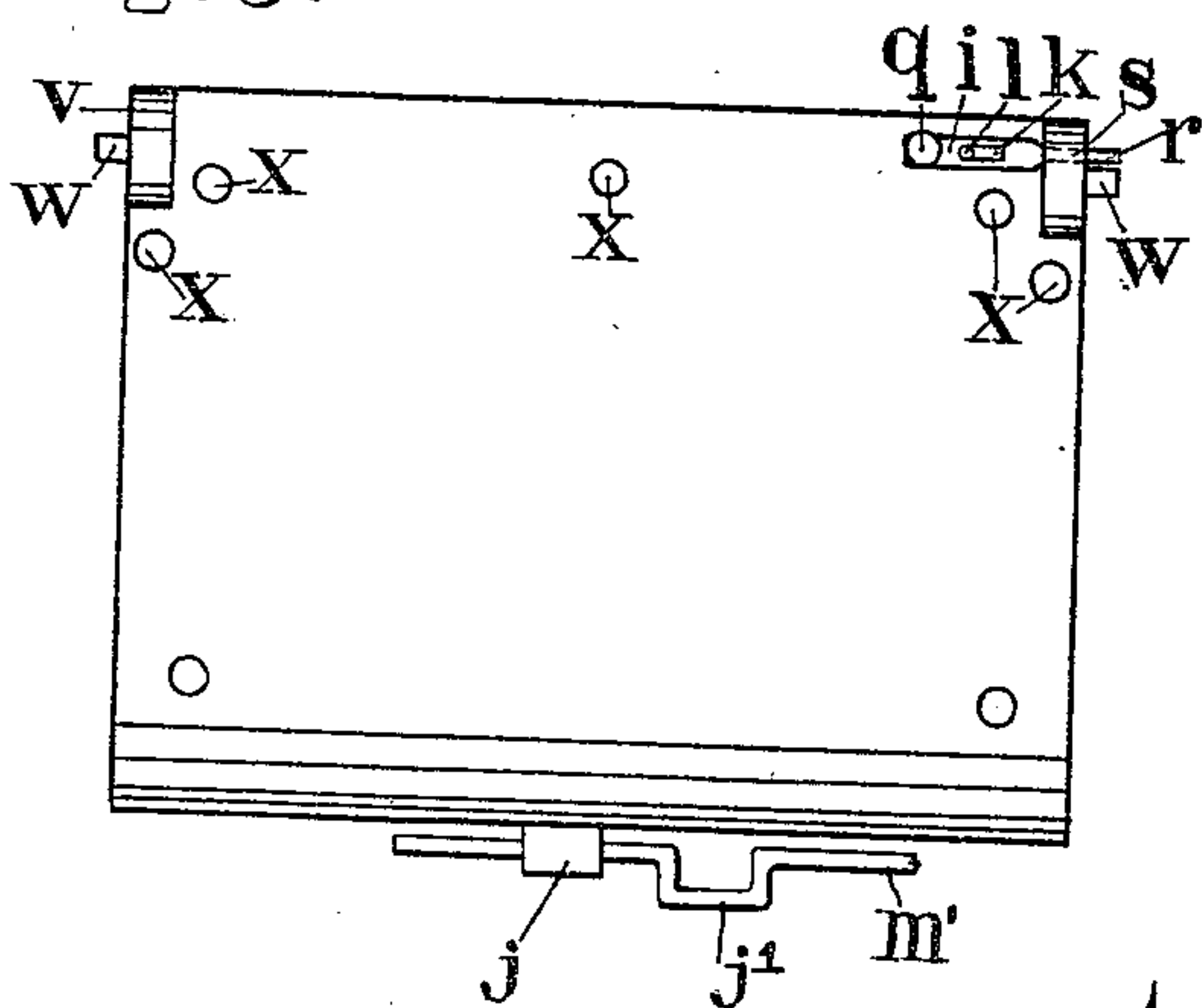


Fig. 4.

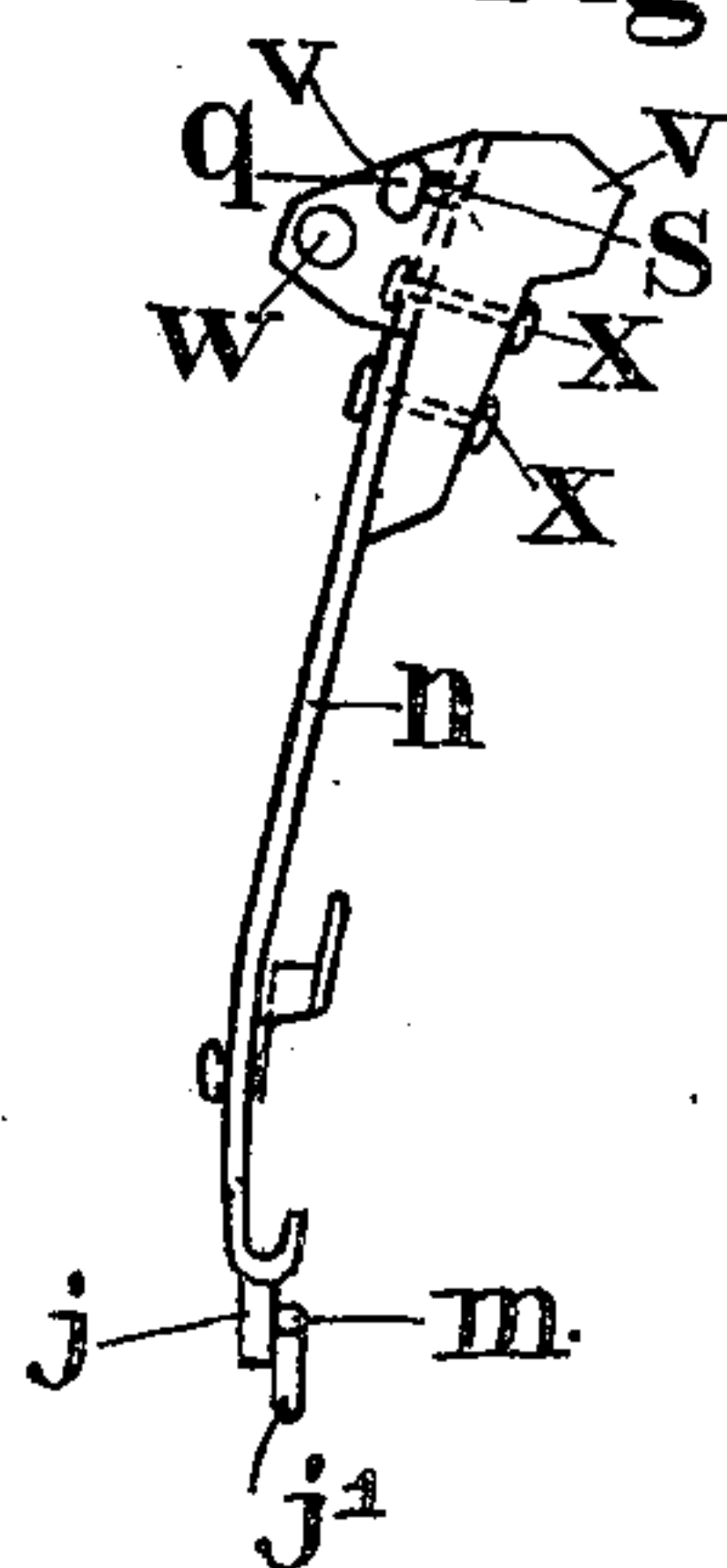


Fig. 5.

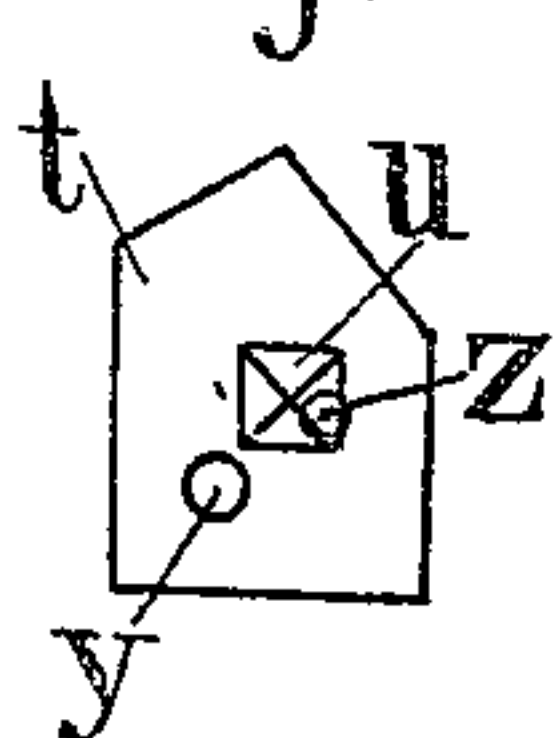


Fig. 6.

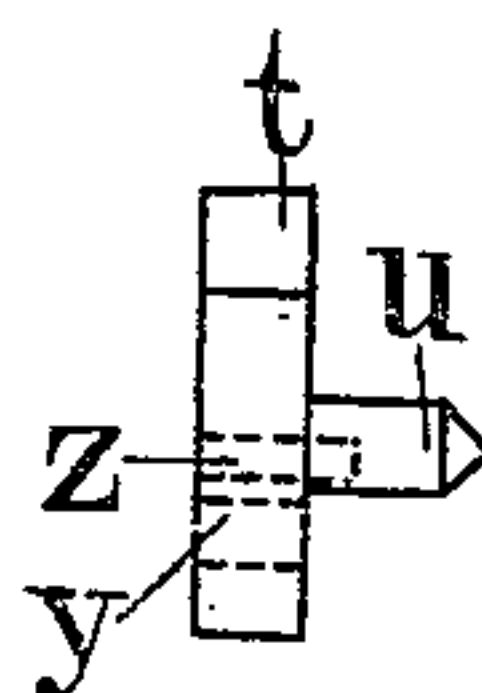


Fig. 7.

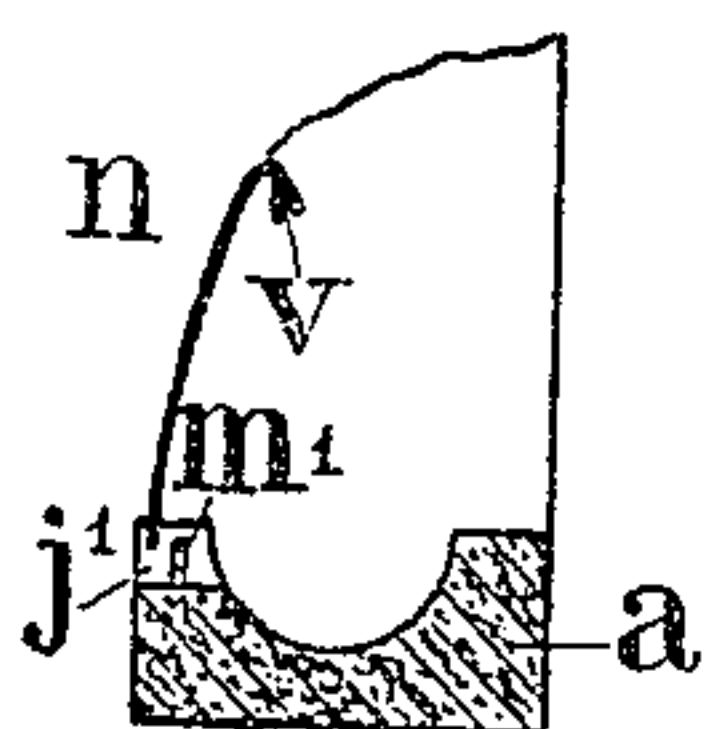
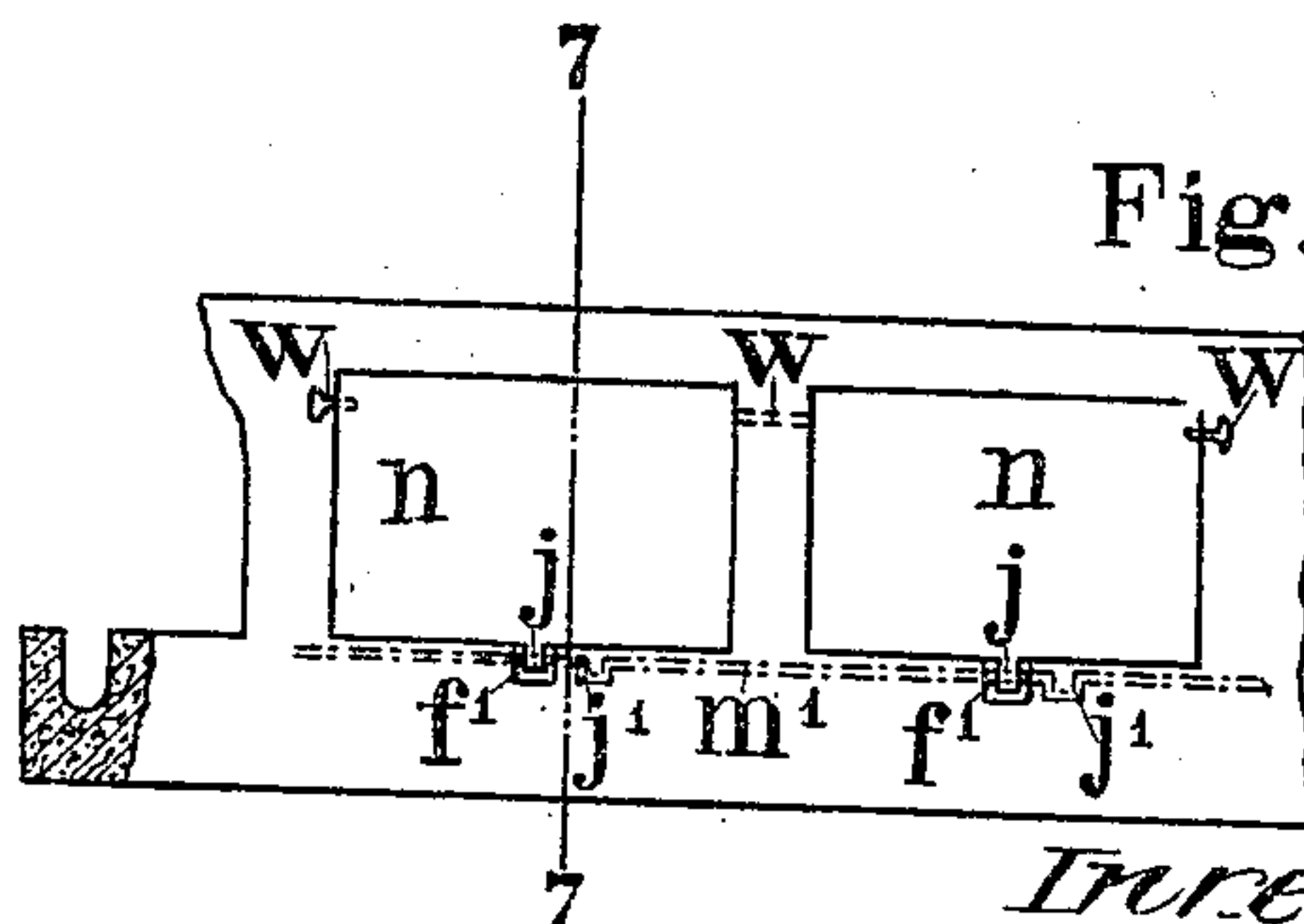


Fig. 8.



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UNITED STATES PATENT OFFICE.

KARL RUGE AND SIGMUND KATZENSTEIN, OF CHARLOTTENBURG,
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AUTOMATIC WATERING-TROUGH FOR CATTLE AND HORSES.

No. 824,588.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed October 27, 1905. Serial No. 284,671.

To all whom it may concern:

Be it known that we, KARL RUGE and SIGMUND KATZENSTEIN, subjects of the German Emperor, residing at Charlottenburg, near Berlin, Germany, have invented a new and useful Automatic Watering-Trough for Cattle and Horses, of which the following is a specification.

The invention relates to an improvement in watering-troughs for animals, especially adapted for use in a stable in connection with the usual feed-trough or for outside purposes, and has for its object the provision of a closure or gate whereby access to the trough of foreign matter is prevented and whereby ready access to the trough may be had by swinging the closure or gate in opposite directions, there being also provided suitable locking means for preventing the gate from being swung inwardly and additional locking means for preventing the gate from being swung in either direction.

The invention will be described in connection with the accompanying drawings, and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawings, Figure 1 illustrates one embodiment of my invention, showing the same applied to a watering-trough located adjacent the usual feed-trough and showing the gate in a normal or closed position. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Fig. 3 is an enlarged face view of the improved gate detached. Fig. 4 is an end view thereof. Figs. 5 and 6 are end and side elevations, respectively, of an improved form of bearings in which said gate may be hung. Fig. 7 is a detail sectional view on line 7 7 of Fig. 8. Fig. 8 is a front elevation of the form shown in Fig. 7.

The device of my invention is shown applied to a watering-trough built into a structure in which is formed a feed-trough, although it will be obvious that the device of my invention operates independently of and may be used independently of such feed-trough.

As shown, the structure *b* supports the water-trough *a* and the feed-trough *m*, the receptacle or trough proper being formed in the recess *e* in the part *d*, said recess extending upwardly some distance above the trough and being adapted to be closed and opened by a swinging gate. Said gate, as designed

by *n*, comprises a sheet-metal structure, provided at its upper and opposite corners with trunnion-blocks *v*, which, as shown, are riveted to the gate *n* at *x*. Said blocks are provided with trunnions *w*, adapted to seat in apertures *y*, formed in bearings *t*. Said trunnion-blocks are so proportioned that the greater weight is thrown on one side of the trunnions, said blocks thereby acting as weights and serving normally to hold the gate *n* in a closed position and also permitting the same to be swung in opposite directions. As shown in Fig. 2, the bearings are disposed in the walls of the recess *e* in such a manner that the gate in its normal or closed position is some distance within the outer face of the structure *d*, thereby enabling the animal to more rapidly locate the trough. Said bearing-blocks *t* are adapted to be sunk in masonry or otherwise secured in place, the form shown being especially designed for a trough constructed of masonry and having inwardly-projecting anchoring extensions *u* to firmly hold the bearings in place. Said gate is provided with locking means consisting, as shown, of a bolt *i*, provided with an extension *r*, adapted to pass through an aperture *s* and to be thrown into locking engagement with the adjacent bearing *t* by means of an aperture *z*, formed thereon. Said bolt *i* is limited in its movements in opposite directions by a pin *l*, secured to the gate *n* and projecting through a slot *k*, formed in said bolt. The bolt *i* is moved in opposite directions by means of a handle *q*. By reference to Fig. 4 it will be seen that the bolt *i* is located some distance from the center of the trunnion *w*, so that when it is thrown into locking engagement with the bearing *t* it will serve to firmly lock the gate *n* in the position shown in Fig. 2, preventing it from being swung in either direction.

In Figs. 7 and 8 an improved form of locking means is shown consisting of a locking-rod *m'*, provided with offset portions *j'*, adapted to be thrown out of and into alignment with lugs *j*, formed on the lower margin of the gate *n*. In the position shown in Fig. 8 the offset portion *j'* is thrown out of alignment with the lugs, and the latter engage the rod *m'* and prevent the gate *n* from being swung inwardly.

In use the gate *n* is normally held by gravity in the position shown in Fig. 2. When

the animal desires to drink, it will project its nose into the recess *e* and against the gate *n* and force the latter rearwardly in the position shown in dotted lines in Fig. 2. When pressure on the gate *n* is released, the weighted trunnion-blocks will swing the gate *n* back in the position shown in full lines in Fig. 2. In this position it will be noted that the trough is protected, so that access of foreign matter, such as hay, straw, and the like, may be prevented. Where it is desirable to prevent the animal from drinking except at certain periods, the locking device shown in Fig. 8 is used, the offset portion *j'* of the rod *m'* being swung out of alinement with the lugs *j*. In this position the animal will be prevented from drinking, although if for any purpose the attendant wishes to fill the trough or inspect the same the gate may be freely opened outwardly. If, on the other hand, it is desired to effectually lock the gate to prevent it from being swung in either direction to open the trough, the locking-bar *i* is used, the same being thrown into a locking position.

We claim—

1. In a device of the class described the combination of a watering-trough, a gravity-acting closure normally closing said trough and adapted to be swung inwardly and outwardly to open the same, means locking said closure from movement in both directions, and means preventing said closure from being swung inwardly.

2. In a device of the class described the combination of a watering-trough, a closure adapted to be swung inwardly and outwardly to open said trough, weights normally maintaining said closure in a closed position, means locking said closure from movement in both directions, and means preventing said closure from being swung inwardly.

3. In a device of the class described the combination of a watering-trough, a gravity-acting closure normally closing said trough and adapted to be swung inwardly and outwardly to open the same, and means locking said closure from movement in both directions.

4. In a device of the class described the combination of a watering-trough, a closure adapted to be swung inwardly and outwardly to open said trough, weights maintaining said closure in a closed position, and means locking said closure from movement in both directions.

5. In a device of the class described the combination of a watering-trough, a closure adapted to be swung inwardly and outwardly to open said trough, weights maintaining said closure in a closed position, and means preventing said closure from being swung inwardly.

6. In a device of the class described the combination of a watering-trough, a closure therefor adapted to be swung inwardly and outwardly to open said trough, weights normally holding said closure in a closed position, trunnions for said closure, bearings for said trunnions, a bolt for one of said trunnions adapted to be thrown into locking engagement with the adjacent bearing thereof, a lug for said closure, and a sliding bolt provided with an offset portion adapted to be thrown out of and into alinement with said lug to lock and permit inward movement of said closure.

7. In a device of the class described the combination of a watering-trough, a closure for closing said trough which is adapted to be swung inwardly and outwardly to open the same, means locking said closure from movement in both directions, and means preventing said closure from being swung inwardly.

8. In a device of the class described the combination of a watering-trough, a closure for closing said trough which is adapted to be swung inwardly and outwardly to open the same, and means locking said closure from movement in both directions.

In testimony whereof we affix our signatures, in presence of two witnesses, this 10th day of October, 1905.

KARL RUGE.

SIGMUND KATZENSTEIN.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.