No. 756,681. PATENTED APR. 5, 1904.

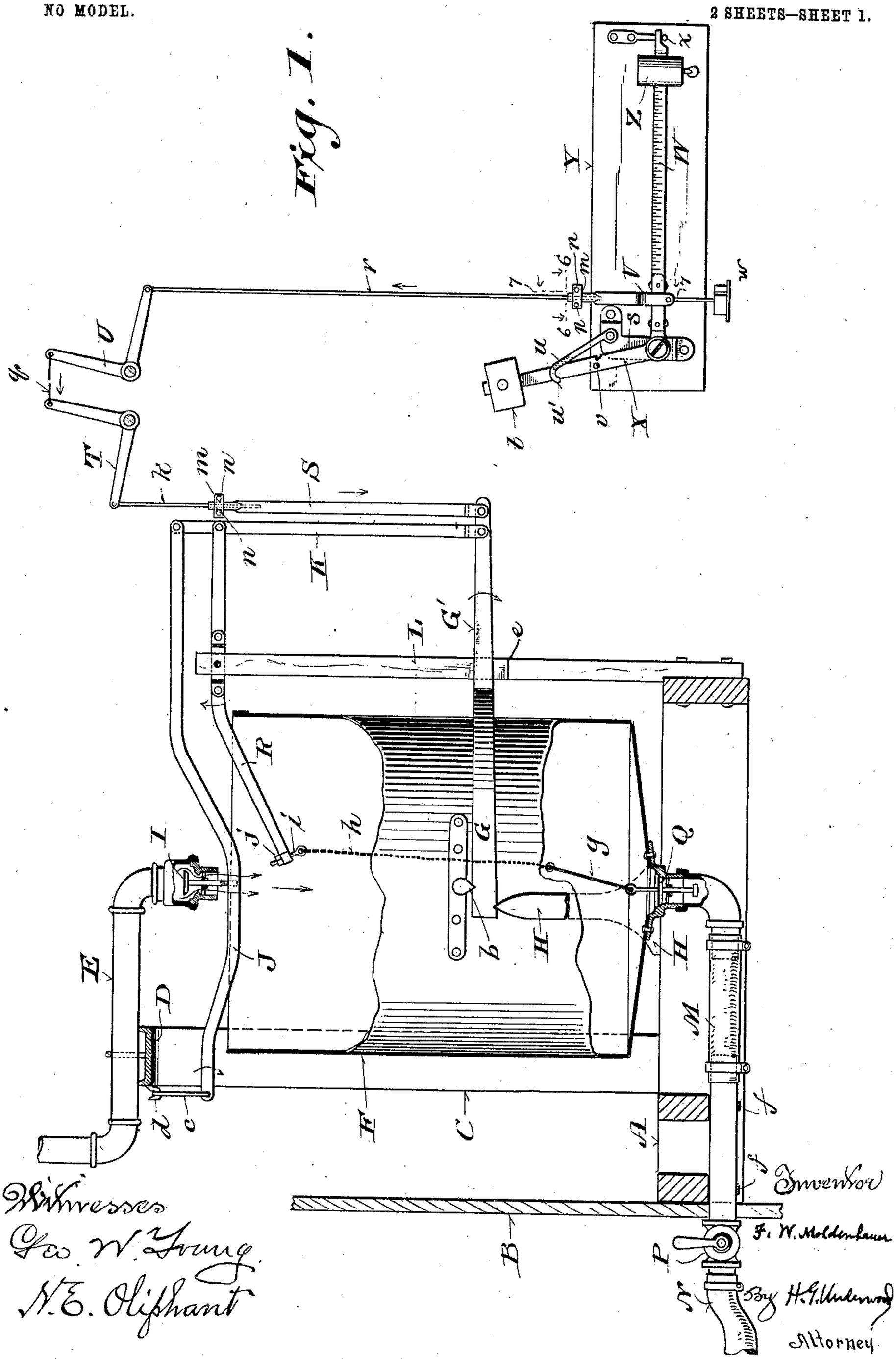
F. W. MOLDENHAUER.

WEIGHING APPARATUS.

APPLICATION FILED FEB. 8, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

Fig. 3.

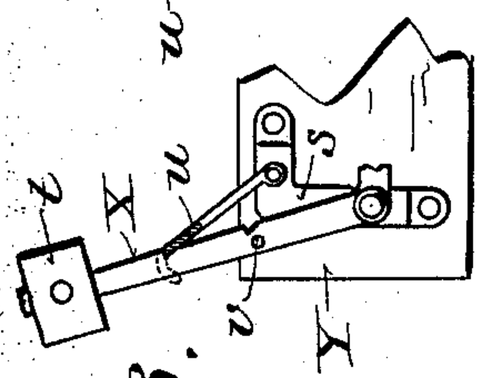


Fig. 5.

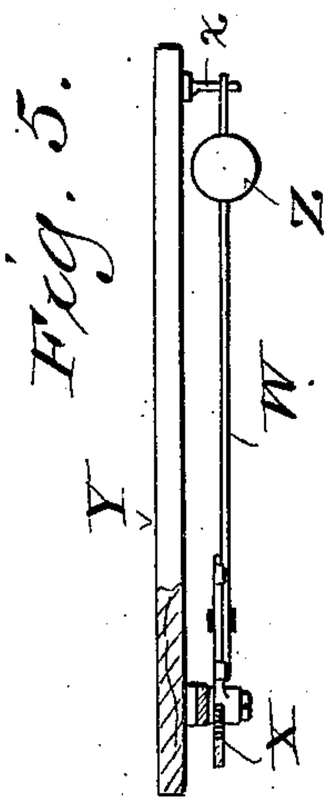


Fig. 6.

Fig. 7.

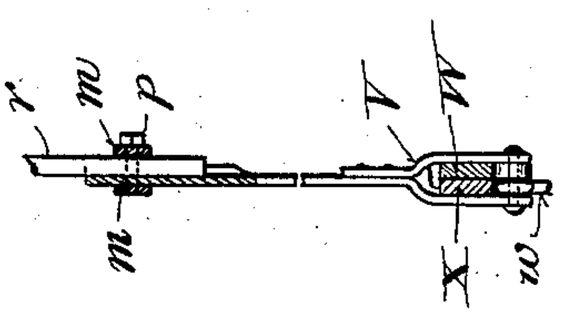
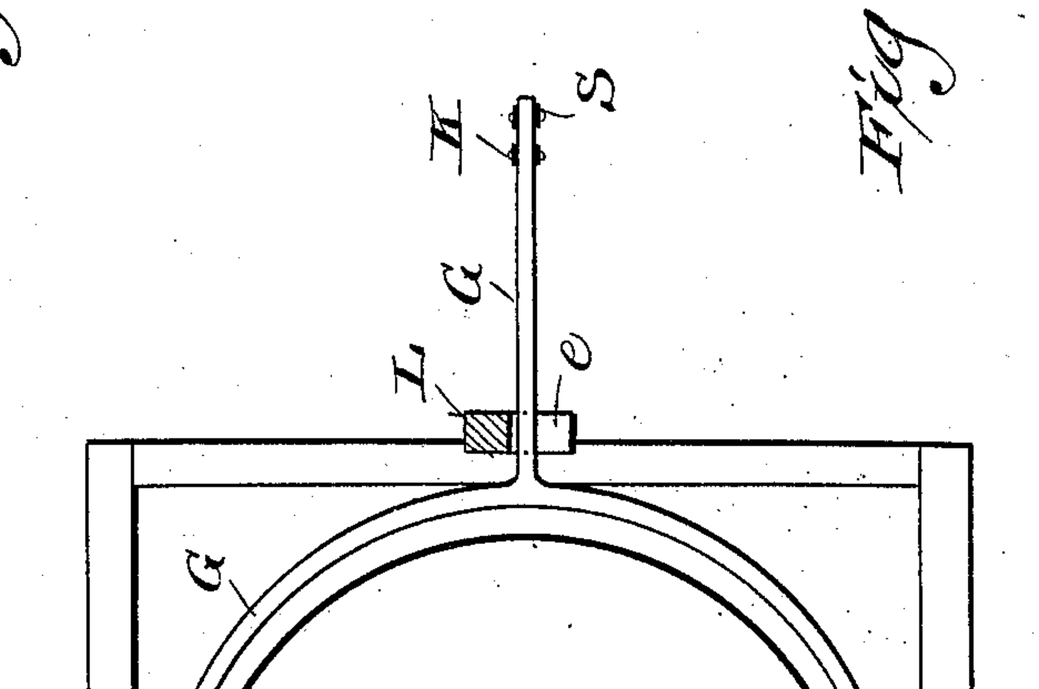


Fig. 2.



Witnesses
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No. 756,681. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

FREDERICH W. MOLDENHAUER, OF OCONOMOWOC, WISCONSIN.

WEIGHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 756,681, dated April 5, 1904.

Application filed February 8, 1904. Serial No. 192,631. (No model.)

To all whom it may concern:

Be it known that I, FREDERICH W. MOLDENHAUER, a citizen of the United States, and a resident of Oconomowoc, in the county of Waukesha and State of Wisconsin, have invented certain new and useful Improvements in Weighing Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to facilitate fair distribution of skim-milk or whey at a creamery or cheese-factory; and it consists in certain peculiarities of construction and combination of parts constituting weighing apparatus hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 represents a partly-sectional elevation of weighing apparatus in accordance with my invention; Fig. 2, a plan view of a portion of the same, partly in horizontal section; Fig. 3, an elevation of a fragment of the apparatus, partly in section; Fig. 4, a partly-sectional elevation of a scale-beam latch embodied in said apparatus; Fig. 5, a plan view of a fragment of the aforesaid apparatus, partly in horizontal section; and Figs. 6 and 7 partly-sectional views respectively indicated by lines 6 6 and 7 7 in the first figure of the series.

Referring by letter to the drawings, A indicates a horizontal frame attached to the inner side of a creamery or cheese-factory wall B, and a pair of opposite standards C, in connection with the frame, are joined at their upper ends to a beam D, this beam serving as a support for a horizontal stretch of a pipe E, leading from a waste-tank (not shown) in which skim-milk or whey is accumulated. The pipe discharges vertically into a receptacle F, having outer diametrically opposite knife-edge lugs *b*, poised on a spanner G, that is in turn poised on knife-edge upper ends of vertical brackets H, secured on the frame aforesaid. The outlet of the pipe E is controlled by a self-seating valve I, having the stem thereof forked on a lever J, suspended at one end by a link *c*, hung on a hook *d*, in connection with the beam D, and the other end of this lever is connected by a link K with a central shank G′ of the spanner G, this shank having its play above a stop-shoulder *e* of a standard L, fastened to the frame A, above specified.

Connected to the bottom of the receptacle F, in communication with a central outlet of same, is a partly-flexible pipe M, an inflexible portion of this pipe being suspended from the frame A in hangers *f* and coupled to a delivery-spout N, it being preferable to employ a cock-controlled union P between said pipe and spout. A self-seating valve Q is employed to control the outlet of a receptacle F, and the stem of this valve is connected by a link *g* to a chain *h*, having adjustable connection by a bolt *i* and nut *j* with an end of a lever R, that is connected at its other end to the link K, an intermediate shackle portion of said lever being in pivotal connection with the standard L aforesaid. Another link S is shown in connection with the spanner-shank G′, and the upper end of this lever is made to form a half-round longitudinal recess for the reception of an adjustable rod *k*, that is held in place by a clamp consisting of a pair of plates *m*, bolts *n* extending through the plates and nuts *p* run on the bolts. The rod *k* is coupled to one arm of a bell-crank lever T, and the other arm of this lever is connected by a wire *q* or other suitable means with an arm of a similar lever U more or less distant therefrom. The other arm of the bell-crank lever U is connected by a rod *r* with the shank of a yoke V, and engaging this yoke is a scale-beam W and an arm of another bell-crank lever X, rigidly connected by any suitable means to said beam. The bell-crank lever X is fulcrumed to a bracket *s*, fast on a suitable support Y, and its other arm has a weight *t*, adjustable thereon. A latch *u* is pivotally connected to the bracket *s* to engage with notches in an edge of the weighted arm of the bell-crank lever X, and a stop-lug *v* on said lever-arm is in the path of an end hook *u′* of the latch. The coupling of the yoke V and rod *r* is preferably similar to that of the link S and rod *k*, as is herein shown, and the connection of the scale-beam with the bell-crank lever X constitutes what is virtually a scale-beam having a counterweighted angle-arm and which is hereinafter so termed. A weight-

hanger *w* is suspended from the yoke V, and a sliding weight Z is adjustable on the scale-beam W, downward play of this beam being limited by a stop *x* on the support Y aforesaid.

As shown in Fig. 1, the yoke V and scale-beam W have been weighted for a known quantity of skim-milk or whey. Due to this operation the spanner G has been lifted on the brackets H to elevate the receptacle F and lift the valve I from its seat. When this is done, the scale-beam is temporarily locked in horizontal position by an engagement of the latch *u* with the upper notch in an edge of the bell-crank lever X, and there is flow of skim-milk or whey into the receptacle F until the latter and its contents overbalance the predetermined weight, the result being a descent of said receptacle, lift of said scale-beam, automatic release of said bell-crank lever from said latch, reseating of valve I, and unseating of valve Q, so as to permit flow of said skim-milk or whey through the partly-flexible pipe M and delivery-spout N, if the cock-controlled union P of the two be open. Incidental to this operation the upward swing of the scale-beam is arrested by engagement of the latch-hook *u'* by the lug *v* of the bell-crank lever X, and at the same time the latch *u* is caught in the lower notch of an edge of the weighted arm of said lever to prevent automatic descent of said scale-beam.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A spanner poised on suitable supports, a receptacle poised on the spanner, a tank discharge-pipe having outlet into the receptacle, a self-seating valve controlling the pipe outlet, a similar valve controlling an outlet of said receptacle, a weighing-scale, means in conjunction with the spanner, valves and scale for automatic unseating of the respective valves according as there is preponderance of weight on said scale or in the receptacle; and means for automatically locking the aforesaid scale when the preponderance of weight is in said receptacle.

2. A spanner poised on suitable supports, a receptacle poised on the spanner, a tank discharge-pipe having outlet into the receptacle, a self-seating valve controlling the pipe outlet, an unseating-lever for the valve, a similar valve controlling an outlet of said receptacle, an unseating-lever in connection with the latter valve, a link connecting the valve-levers and a shank of said spanner, one valve being seated when the other is unseated; a weighing-scale having connection with the spanner-shank, and means for automatically locking the scale when there is preponderance of weight in the aforesaid receptacle.

3. A spanner poised on suitable supports, a receptacle poised on the spanner, a tank discharge-pipe having outlet into the receptacle, a self-seating valve controlling the pipe outlet, an unseating-lever for the valve, a similar valve controlling an outlet of said receptacle, an unseating-lever in connection with the latter valve, a link connecting the valve-levers and a shank of said spanner, one valve being seated when the other is unseated; a tilting scale-beam having a counterweighted angle-arm, a yoke with which the scale-beam is engaged, link-and-lever mechanism connecting the yoke and spanner-shank, a pivotal latch engageable with a notched edge of the scale-beam arm, a lug on said arm engageable with an end hook of the latch, and a weight adjustable on said scale-beam.

4. A spanner poised on suitable supports, a receptacle poised on the spanner, a tank discharge-pipe having outlet into the receptacle, a self-seating valve controlling the pipe outlet, an unseating-lever for the valve, a similar valve controlling an outlet of said receptacle, an unseating-lever in connection with the latter valve, a link connecting the valve-levers and a shank of said spanner, one valve being seated when the other is unseated; a tilting scale-beam having a counterweighted angle-arm, a yoke with which the scale-beam is engaged, a weight-hanger suspended from the yoke, a sliding weight on said scale-beam, link-and-lever mechanism connecting said yoke and spanner-shank, means for limiting tilt of the aforesaid scale-beam in either direction, and means for automatically locking the aforesaid scale-beam in one direction of its tilt.

5. A spanner poised on suitable supports, a receptacle poised on the spanner, a partly-flexible pipe in connection with a bottom outlet of the receptacle and coupled to a delivery-spout, a tank discharge-pipe having outlet into said receptacle, a self-seating valve controlling the pipe outlet, a similar valve controlling the receptacle-outlet, a weighing-scale, means in conjunction with the spanner, valves and scale for automatically unseating the respective valves accordingly as there is preponderance of weight on said scale or in the receptacle; and means for automatically locking the aforesaid scale when the preponderance of weight is in said receptacle.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

FREDERICH W. MOLDENHAUER.

Witnesses:
N. E. OLIPHANT,
GEO. W. YOUNG.