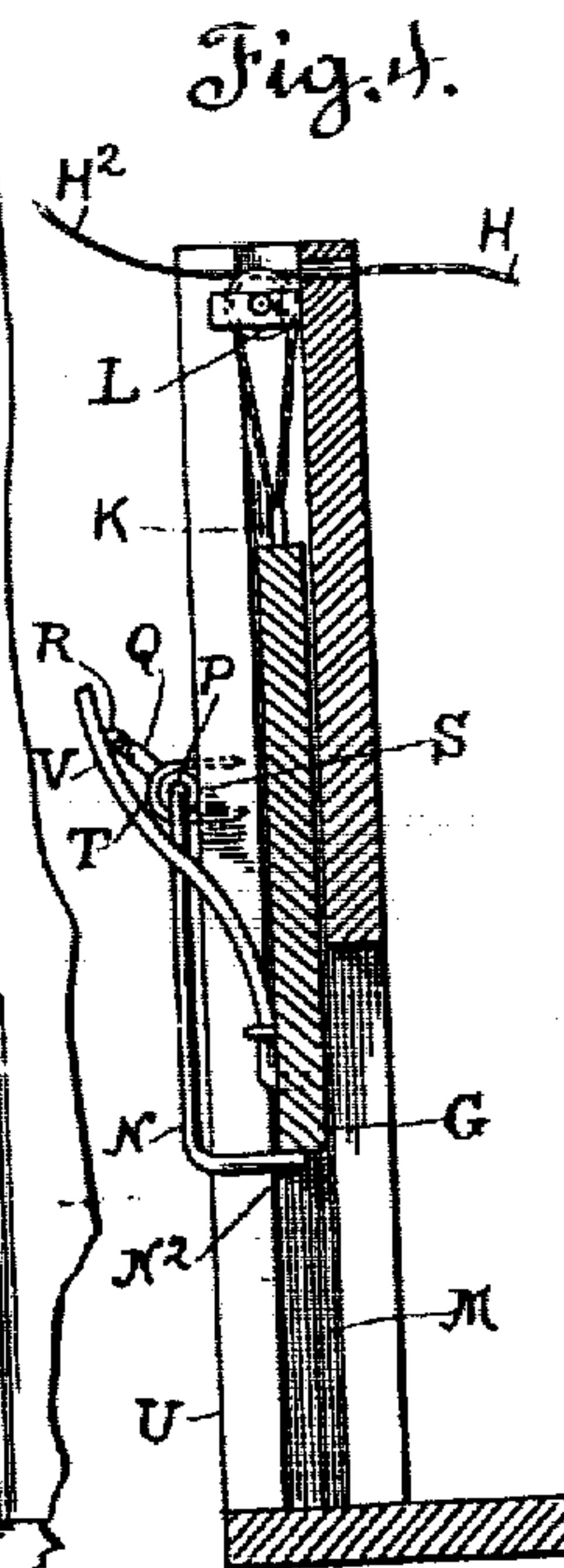
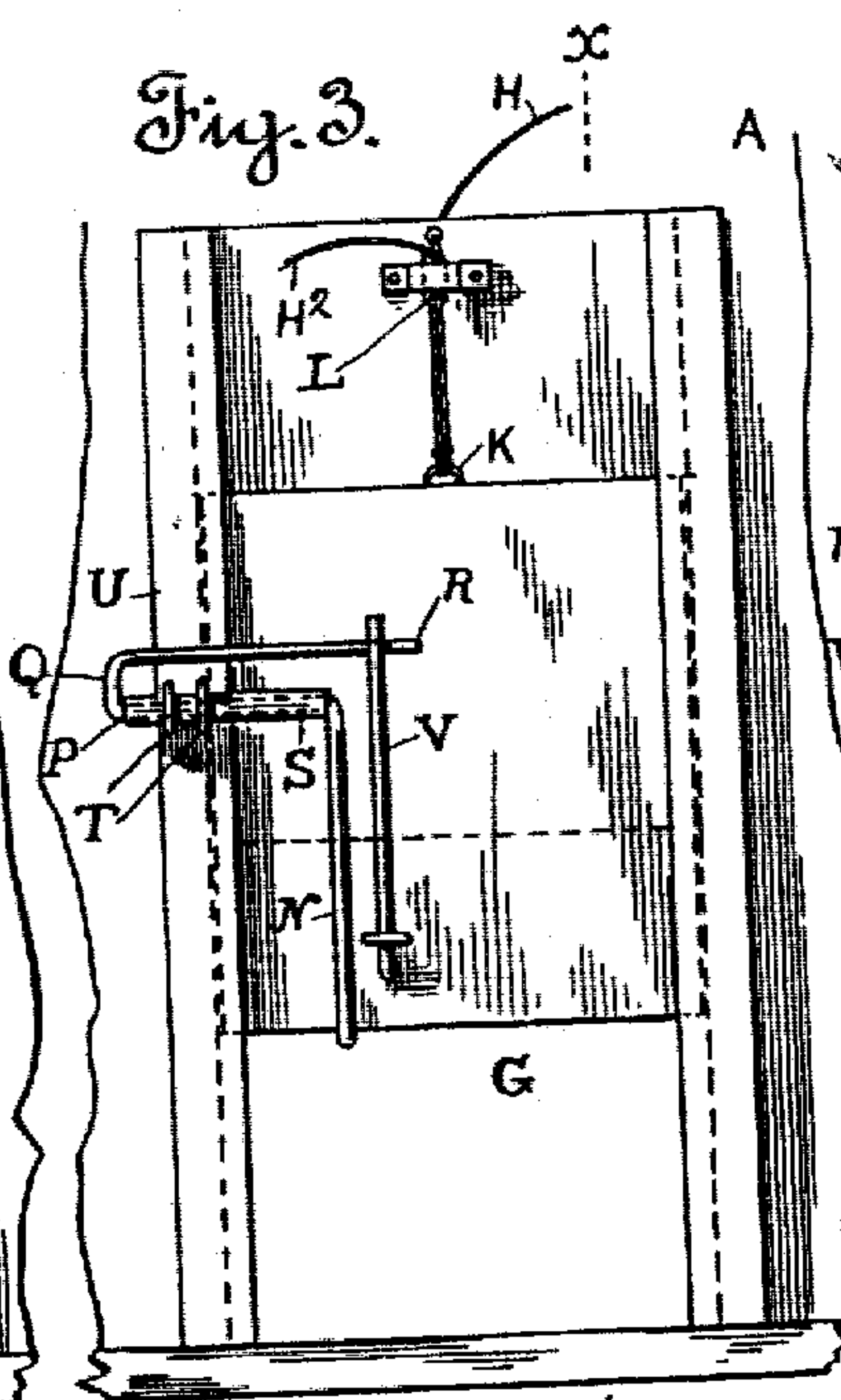
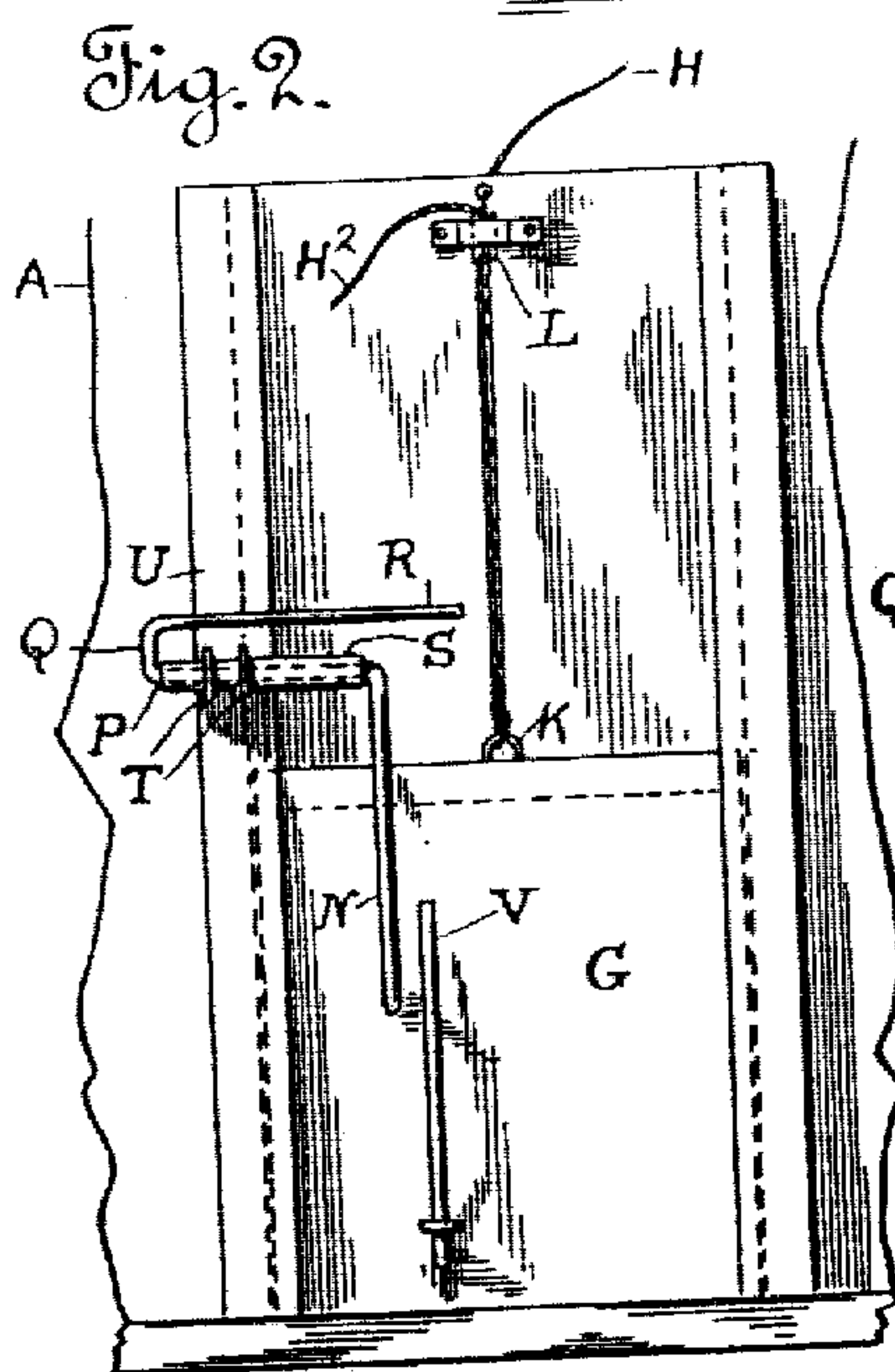
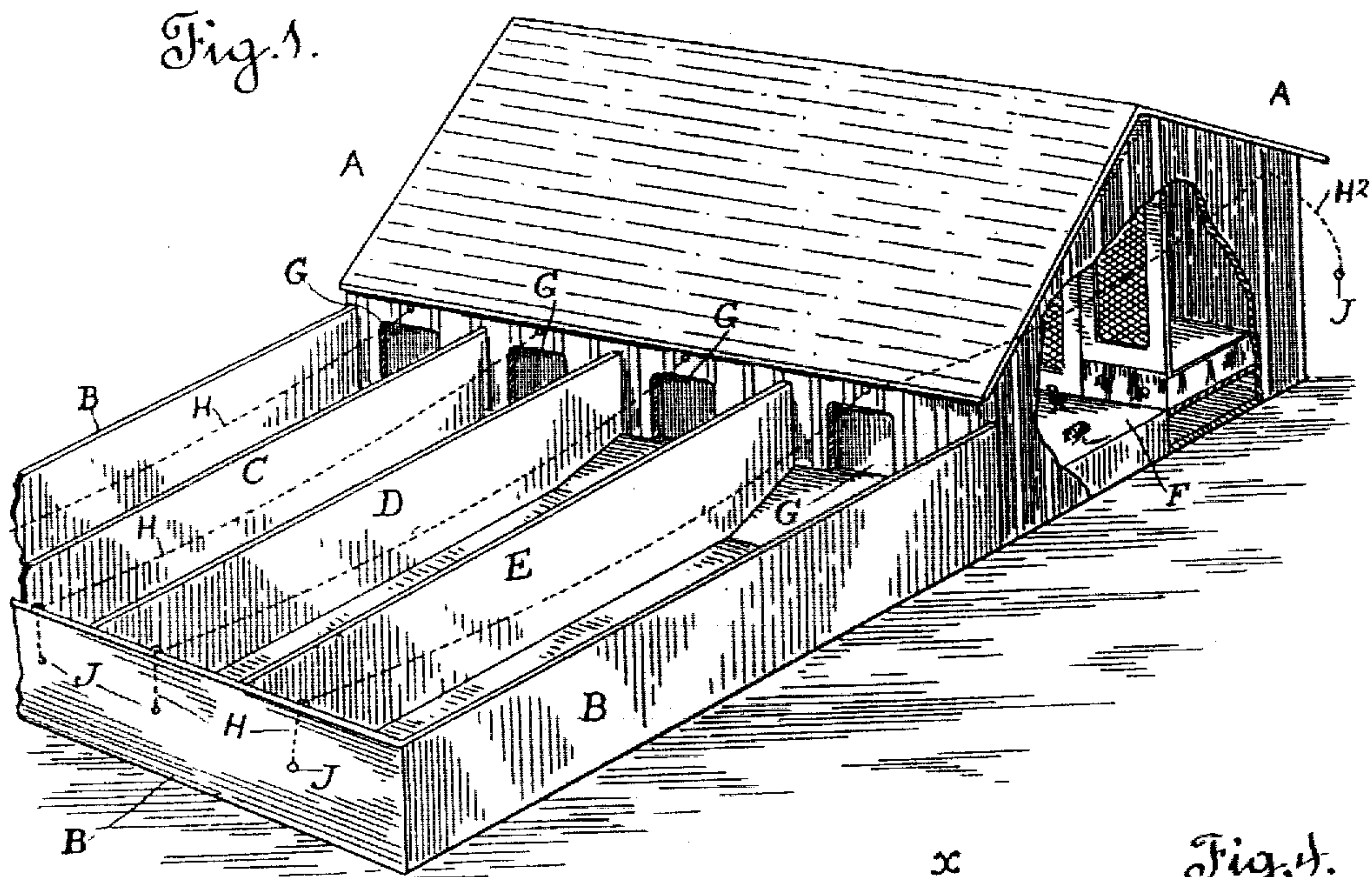


No. 816,551.

PATENTED MAR. 27, 1906.

A. M. EASTON.
CONTROLLER FOR SLIDING DOORS.
APPLICATION FILED JULY 21, 1902.



Witnesses.

Fallout verde.
F. B. Woolley.

Inventor.

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UNITED STATES PATENT OFFICE.

ANSEL MILLS EASTON, OF MILLBRAE, CALIFORNIA.

CONTROLLER FOR SLIDING DOORS.

No. 816,551.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed July 21, 1902. Serial No. 116,433.

To all whom it may concern:

Be it known that I, ANSEL MILLS EASTON, a citizen of the United States of America, and a resident of Millbrae, in the county of San Mateo and State of California, have invented a new and useful Controller for Sliding Doors, of which the following is a specification.

My invention relates to brooders having both covered and exposed inclosures, and aims to provide a safe and convenient means of controlling the passage from one inclosure to another in such structures without entering the same.

Wherever I use the word "brooder" or "brooders" in this specification I refer, unless otherwise specifically stated, to a structure or structures devised for the rearing of young domestic fowls or intended to supplement artificial incubators for the proper care, protection, and safe-keeping of their output.

The accompanying drawings, in which like reference characters designate like parts throughout the several figures, are integral herewith as a medium of illustration.

Figure 1 is a perspective view showing one form of my said invention applied to a brooder. Fig. 2 is a rear or inside elevation of a vertically-sliding door and its opening, showing the door in its lowered or closed position, and of the device for raising and lowering the door, part of the adjacent wall being shown broken away on both sides of the opening. Fig. 3 is a similar view illustrating the door in its raised or open position; and Fig. 4 is a vertical cross-section through the wall, door, and opening, taken on the line *xx* of Fig. 3 looking to the left, this figure giving an edgewise view of the opening and closing mechanism of the door and of its disposition when the door is raised or open.

I provide doors to open and close the entrances or exits leading from the retreat to the runways, one door to each runway. These runway-doors, which are herein marked G, I prefer to operate severally from without the brooder by means of lines or flexible connections, as $H H^2$, conveyed one from each door to and without any or each convenient side of the retreat A or yard B, or both. I have shown lines H running to one side of the yard-inclosure B and other lines H^2 to an opposite side of the retreat A, one line H and one line H^2 to each door G. Each line H and H^2 at its outer end is provided with a ring J or, if preferred, with an operating lever or

handle by which the respective line H or H^2 is drawn forward or slackened and the corresponding door opened or closed. By referring to Figs. 2, 3, and 4 it will be observed that the actuating-lines $H H^2$ in any one door are secured to the top of the door by a staple, loop, or eye K. They then pass upward over a pulley L and thence each to its destination. There may be as many such lines and corresponding pulleys as there are sides of the brooder from which it may be convenient to operate the door or doors, or there may be a single line to and above a swiveled pulley when the door is down or closed, and from a point above this pulley it may branch off in various directions, as desired. I have, however, shown but a single pulley L and the two lines $H H^2$ running up against opposite sides of the said pulley L and passing each other at the top thereof, one line H leading to the left toward the runway and the other line H^2 toward the opposite side of the retreat. This pulley device may be the ordinary double sheave-block with a separate sheave for each line $H H^2$; but I have deemed it preferable to show the simpler and cheaper pulley. Each door of course slides within grooves, as M, formed by suitable stops at the sides or jambs of the opening, which is a well-known expedient. (See Fig. 4.) As illustrated in the said Figs. 2, 3, and 4, I provide each door G with an automatic clutching device or door-stopping means for the purpose of holding it up when it is raised and is to remain open. This clutch consists of a pendent hook N, integral with, preferably, and adapted to be swung by one end of a horizontal rock-shaft P, which rock-shaft has an upwardly and rearwardly inclined crank Q at its other end with a reflexed pin or operating-arm R. All these parts N, P, Q, and R are conveniently made of a single wire or rod, bent to the required form and hung up or journaled by its rock-shaft portion P in a sleeve-like or tubular bearing S, secured by staples T to a jamb of the doorway, as at U, on the inside. The crank-pin R is somewhat longer than the rock-shaft P and so weighs on the crank Q, owing to the fact that the crank-pin is located to one side of the vertical axis or dead-center of the shaft P and opposite or apart from the door and through the crank so acts upon the said rock-shaft that the hook N will normally contact and lightly press its angularly-extending point N^2 against the closed or par-

tially-raised door, and when the door has been sufficiently elevated to pass this point N² of the hook the latter is automatically thrust beneath the lower edge of the door by gravitation. The hook N is thereby made to prevent the door from further descending when released by its actuating - line H or H² and holds it sufficiently open, as seen in Figs. 3 and 4, to allow the chicks or other fowls or animals sequestered in the brooder to leave their retreat A or any compartment thereof and pass out from the connected hallway or inside run F into the outside runway reserved for them in the yard B, or, vice versa, to pass in and return from this runway to the hall and retreat. In order to release the hook N from its hold upon the lower edge of the door when it is required to lower or close the door, I employ an upwardly curved or inclined arm V, suitably secured at one end to the door, its upper end being flared outwardly from the door and adapted to impinge against the outer side of the aforementioned crank-pin R. As shown, I so secure the arm V to the inner face of the door that when the door is raised above its said hook-held position the said arm V forces the crank-pin Q toward the door, and consequently rocks the shaft P in such a way as to retract the hook N, thus freeing the door therefrom and allowing it to descend. Now it is manifest that if the actuating-line H or H² (as the case may be) is slackened slowly and the door allowed to descend gradually the hook N will gravitate outward into its functional or stopping position at the bottom of the door and prevent further descent of the latter; but by suddenly relaxing the actuating-line the door descends rapidly, so as to pass the hook N before gravitation has overcome the inertia of said hook. Having passed below the point N² of the hook N, the door may be allowed to continue its descent to its closed position by still further slacking the actuating-line. It is then understood that the hook N tends to gravitate under the door G when the latter is at a certain elevation, that when the former is withdrawn by the arm V and the door is suddenly dropped to a position to and below the point N² of the hook the inertia of the hook, temporarily suspending its gravitation, allows the door to pass, and that the point of the hook contacts with the face of the door in its further descent, but does not impede it.

It will be observed that the use of the above-described clutch enables an attendant to open or close any or all of the doors from a suitable distance whether inside or outside the brooder. Thus the invention not only saves time and labor, but, what is particularly desirable, it avoids the necessity of going among the fowls and taking the risk of trampling upon or frightening them simply to reach the doors either through the inside

or the outside runs. These doors, it may be noted, are usually about one foot high and ten inches wide; but sizes vary. My improved latch is applicable to any size.

Having now described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A controlling mechanism, applicable to a door of the kind described, consisting of door-raising means operable from a conveniently-remote point, an automatic clutch located by the door and operating to hold it at a suitable elevation, and releasing means carried by the door and acting to remove the clutch far enough therefrom to allow the door if raised above a certain level to pass it upon being suddenly dropped; substantially as set forth.

2. An automatic clutch, applicable to a vertically-sliding door of the kind described, consisting of a pendent hook adapted to swing into engagement with the bottom of the door as it is being raised, a rock-shaft suitably journaled on the doorway, from which said hook is suspended, an upwardly and rearwardly inclined crank secured to said rock-shaft, and a reflexed pin on said crank, combined with an upwardly and rearwardly bent arm secured to the door and capable of moving said pin and crank toward the door to swing back the pendent hook, and one or more lines secured to the door and operable at a distance whereby the door can be raised and allowed to descend more or less rapidly and accordingly be missed or caught by said clutch, as required; substantially as set forth.

3. In a controlling mechanism for a vertically-movable door of the kind described, a gravity-actuated latch having one part adapted to engage with the door and means secured to the door in position out of alinement with the door-engaging part of the latch to engage with another part of the latch to permit or prevent the engagement of the first - mentioned part.

4. The combination, in a controlling mechanism for a vertically-movable door of the kind described, of a rock-shaft located on the framework beside the door carrying an inwardly-directed pendent hook, and provided with an oppositely-extending releasing portion, an arm inclined away from and secured to the door in position for engaging with the said releasing portion when the door is raised and automatically controlling the reengagement of the hook when the door is lowered, and means for controlling the rate of descent of the door.

5. The combination with a perforated wall of a pulley at each perforation in the wall, a vertically-movable door below each pulley, an automatic gravity-controlled lock for each door and two oppositely-extending cords secured to each door and passed over its re-

spective pulley, one of the cords passing through the perforation to the opposite side of the wall.

5 6. The combination with a sliding door and means for opening and closing the door, of a latch comprising a suitably-journaled shaft, a hook carried by the shaft and resting against the door when closed, and means, offset from the journaled portion of the shaft to
10 cause the hook to normally engage the door,

and tripping means carried by the door for engaging the latch to release the door.

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

ANSEL MILLS EASTON. [L. s.]

Witnesses:

EDWIN T. COOPER,
GEO. C. SARGENT.