

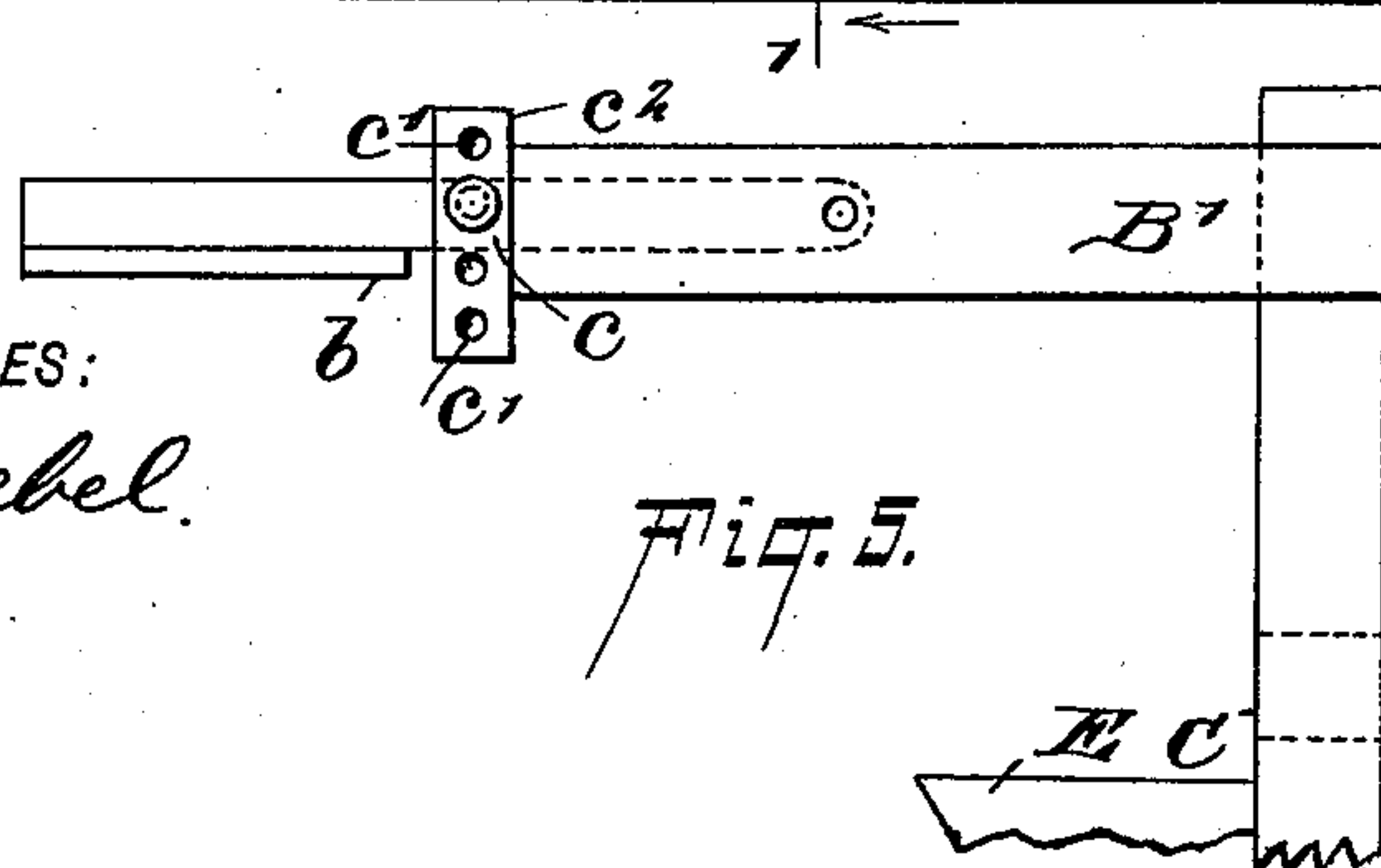
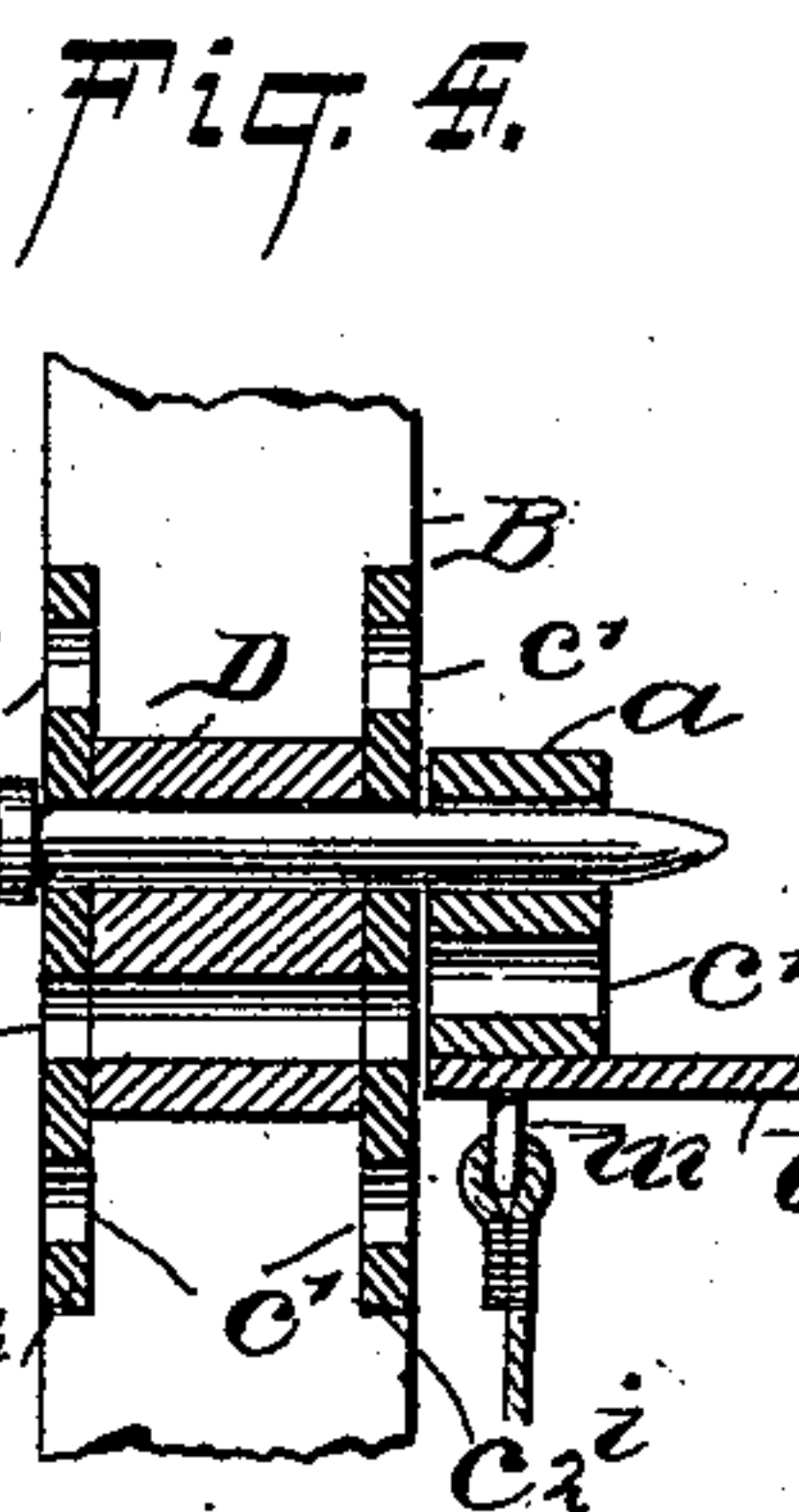
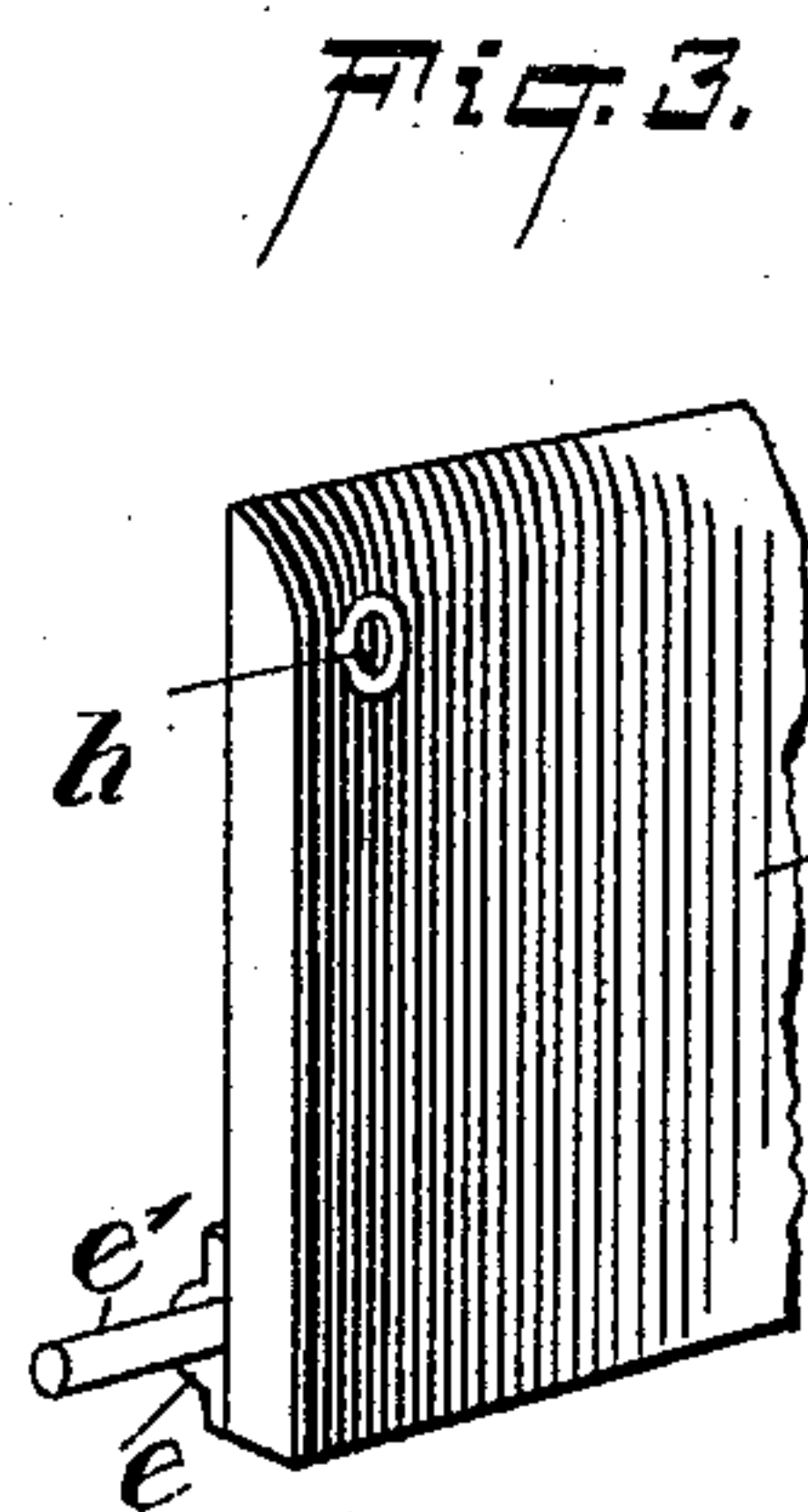
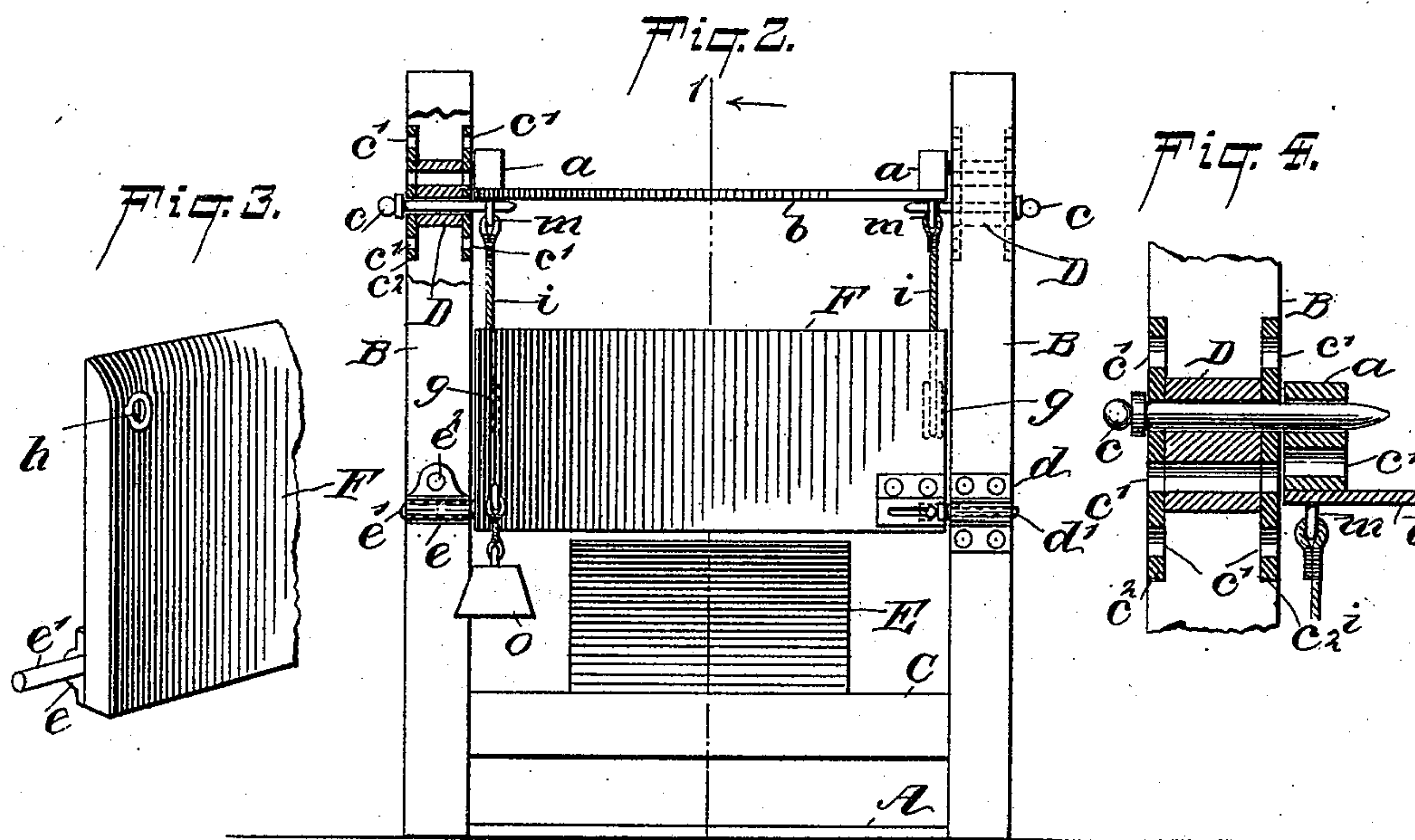
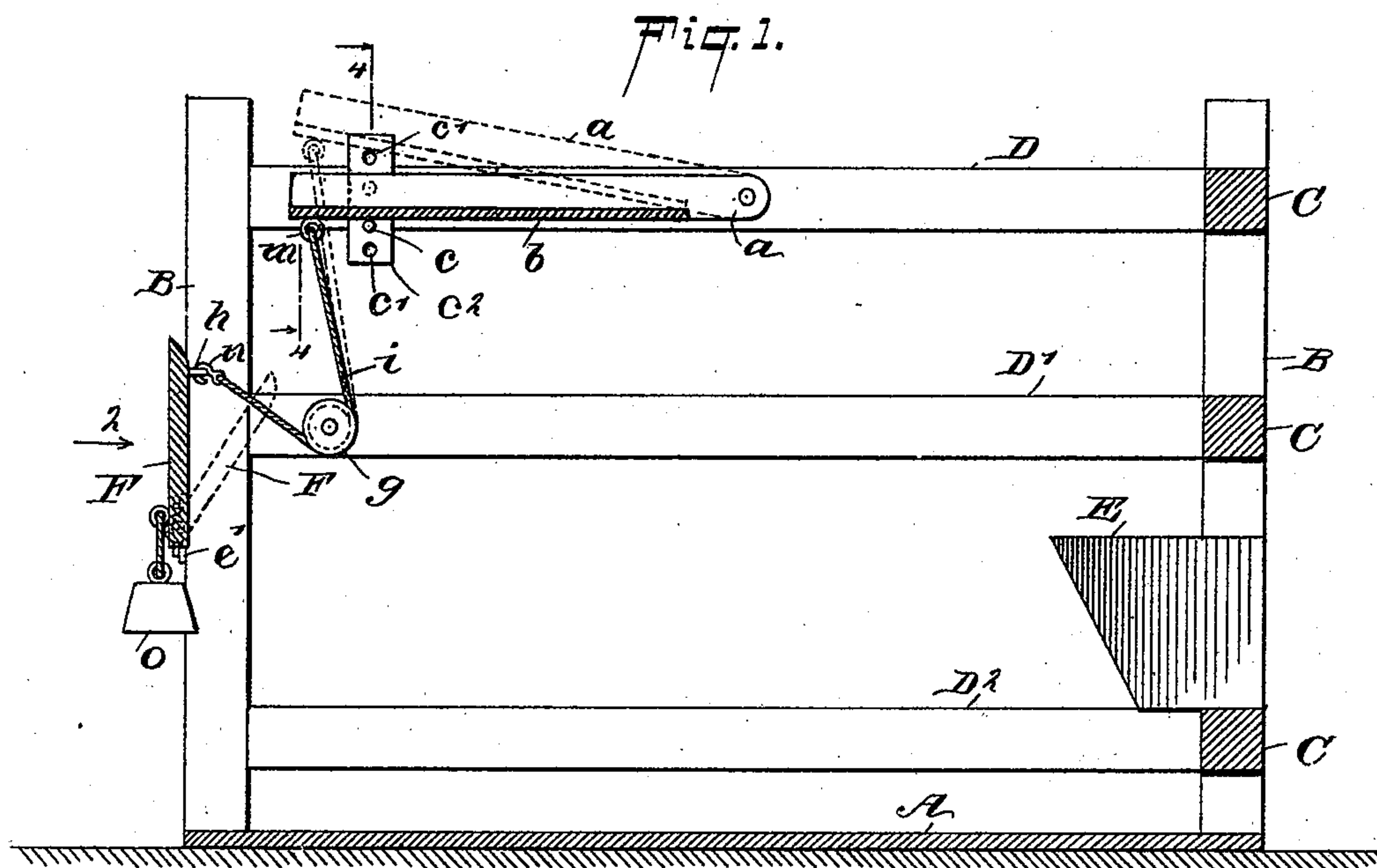
(No Model.)

J. ARDRON.

COW STALL.

No. 516,905.

Patented Mar. 20, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOSEPH ARDRON, OF MANDAN, NORTH DAKOTA.

## COW-STALL.

SPECIFICATION forming part of Letters Patent No. 516,905, dated March 20, 1894.

Application filed July 17, 1893. Serial No. 480,737. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH ARDRON, of Mandan, in the county of Morton and State of North Dakota, have invented a new and useful Improved Cow-Stall, of which the following is a full, clear, and exact description.

The object of my invention is to provide simple and efficient means to prevent the fouling of the bedding in cow stalls, and to this end, consists in the peculiar construction and combination of parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side view of the improvement, on the line 1—1 in Fig. 2. Fig. 2 is a rear end view of the device, opposite the arrow 2 in Fig. 1. Fig. 3 is a perspective view in part, of a detail of the improvement. Fig. 4 is an enlarged broken sectional view of parts, on the line 4—4 in Fig. 1; and Fig. 5 is a side view, in part, of a modified form of stall having a feature of the improvement.

When the stall is to be constructed having all the improved features, a rectangular frame is provided, which is preferably erected over a horizontal flooring A, that may be formed of planks, or other suitable material.

The stall frame comprises four upright posts B, two of which are located at the head and two at the rear end of the frame, the head posts being joined together by the transverse pieces C, that are of a length to properly space apart the posts mentioned. The front and rear posts on each side of the frame are joined together in pairs by the side beams D, D', D<sup>2</sup>, which are secured thereto by their ends, a sufficient number of these beams being provided to render the stall frame substantial.

A manger E, of the usual form, is secured in place between the head posts of the stall frame at a convenient height for the supply of food to the stalled animal, and a sufficient length is provided for the flooring A, to enable the cow which has been secured in the stall, to stand or lie thereon in a comfortable position. Between the upper side beams D, a rocking frame is pivotally secured, comprising two side bars *a*, having a proper length for effective service, their rear portions being

held spaced apart by a transverse piece *b*, that is secured thereto on their lower sides. The front ends of the bars *a*, are pivoted to the beams D, at opposite points which are such a distance from the rear posts of the stall frame as will locate the piece *b*, that is preferably designated a presser piece, at a suitable distance from said rear posts B. The rear portion of the rocking frame is limited in its downward movement by the adjustable pins *c*, which are made to engage any of a series of perforations *c'* that are formed in the beams D, or plates *c<sup>2</sup>* affixed to the beams, and when it is desired to retain the frame in a stationary condition, the pins are inserted through the side beams D, and thence into aligning holes in the side bars *a*, as indicated in Fig. 4. Upon the rear posts B, a chute plate F is pivotally supported by its ends, which plate consists of a flat rectangular edged piece of material having a proper thickness for its use, and made of smoothly surfaced wood or metal. The means preferably employed to sustain the chute plate on the posts, comprises two bracket boxes *d*, *e*, that are placed on the posts B, so that their transverse bores will lie in the same plane when both boxes are in a normal condition. The box *d* is rigidly secured to the post it engages, the other box *e*, being pivoted to vibrate on its connecting bolt *e<sup>2</sup>*. The chute plate F, is proportioned in length to loosely fit between the rear posts of the stall frame, and on the lower edge and rear side of the plate a cylindrical slide bolt *d'* is attached by its frame so that the bolt proper may be slid into the stationary box *d*, as represented in Fig. 2. A fixed pintle *e'* is projected from the edge of the chute plate F, in axial alignment with the slide bolt *d'*, and adapted to loosely engage the box *e*.

At each side of the stall frame a grooved pulley *g* is pivotally secured on the frame beam D', which is below the upper beam D, and also lower than the upper edge of the chute plate F, said pulleys being located a short distance from the rear posts B. On the inner surface of the chute plate, and near its upper edge that is rounded on the inner corner, a screw-eye *h* is affixed near each end of the plate, or staples may be used in place of the screw-eyes. Two ropes or chains *i*, of



equal length are attached by one end of each to the screw-eyes *m*, or like projections on the lower side of the presser piece *b*, said projections being located nearly over the grooved pulleys *g*, so that the ropes may be downwardly projected therefrom and pass from the front side of the pulleys around them toward the rear, engaging their grooved peripheries, and thence be extended toward the screw-eyes *h*, a hook *n*, on the loose end of each rope being made to engage with one of said screw-eyes or staples, as shown in Fig. 1. The length of the ropes *i*, should be so proportioned, that when the presser piece *b* is about in a horizontal plane, resting on its supporting pins *c*, the chute plate will be permitted to assume a nearly vertical plane, which it is caused to do by the attached weight *o*, that hangs pendent from its outer side below the lower edge, as shown in Figs. 1 and 2. It will be seen that the chute plate may be readily removed from its position across the rear end of the stall frame, by releasing the hooks of the ropes *i*, and then moving the slide bolt *d'*, from the box *d*, which will permit the upward and lateral movement of the chute plate to be effected by the rotatable movement of the pendent box *e*, on its pivot bolt *e'*. This movement will transfer the plate *F*, from its normal position to a vertical plane at the side of the stall frame, thereby opening a clear passage for the entrance or exit of the animal that occupies the stall, and if desired, the chute plate may be detached completely from the box *e*, by sliding the bolt *e'* therefrom.

The presser piece *b*, should be so adjusted for height, that it will nearly touch the stalled beast when the latter is in an upright posture, and for the effective operation of the improved device, the space between the manger and chute plate should not be greatly in excess of the length of the body of the cow that is placed in the stall.

It is well known to those familiar with the habits of kine, that to effect the voiding of excremental matter either liquid or solid, a cow will draw her rear limbs forwardly and considerably arch the spine. Advantage has been taken of this peculiarity in such animals, to carry into effect the features of this improvement; as when the animal arches her backbone, it will impinge the presser piece *b*, and by means of the ropes *i*, transmit motion to the chute plate *F*, that will be inclined inwardly, as shown by dotted lines in Fig. 1, which position will adapt it to receive and transfer excremental matter toward the rear and prevent it from being deposited on the flooring *A*, thereby preserving the bedding of the animal, and the beast also, in a cleanly condition.

When it is desired to utilize the ordinary upright stanchions *B*, one being shown in Fig. 5, for the stalling of a cow, two flat timbers or planks *B'*, are firmly secured by one end of each, respectively to one of the pairs of stanchions, so as to project therefrom rear-

wardly and in the same horizontal plane at a proper height from the ground or flooring of the stall. There is a rocking frame having a presser piece *b*, provided for this modified form for the stall frame, said rocking frame being made vertically adjustable in the same manner as has been already explained.

For the prevention of a deposit of solid or liquid excrement on the bedding when the stall is constructed with a rocking frame alone, dispensing with the chute plate *F*, as is the case in this modified form of the improvement, the rocking frame is adjusted and secured from vibration by the pins *c*, as shown in Figs. 4 and 5 so that it will just escape contact with the backbone of the cow that has been stalled and haltered in place in the usual manner. If the animal attempts to arch her backbone, the presser piece *b* will obstruct such an effort, and instinctively, the beast will step backwardly so as to avoid the impediment to free action, which will cause a deposition of excrement at the rear of the floor or bedding, thereby preventing the animal from becoming fouled, and keeping the udder in a cleanly condition, which is an incidental feature of advantage afforded by the improvement in either its preferred or modified form.

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

1. The combination with an upright frame, of a rocking frame pivoted between top side pieces of the upright frame near one end of said rocking frame, a device arranged to support the free end of the rocking frame at different points of elevation and a chute board at the rear end of the frame, substantially as described.

2. The combination with an upright frame having top side-beams, of an elongated rocking-frame pivoted between said side beams near its front end, and transversely perforated near its rear end to align with opposite holes formed in series in the side beams, supporting pins that will enter opposite holes in the side beams, and also pass through aligned holes in said beams and in the rocking frame, and an adjustable chute plate at the rear end of the frame, substantially as described.

3. In a cow stall, the combination, with a stall frame, a rocking frame pivoted to vibrate therein above on the stall frame, and means to secure the rocking frame from vibration, of a weighted rocking chute plate between rear posts of the stall frame, and connections between the rocking frame and plate adapted to rock said plate when the rocking frame is lifted, substantially as described.

4. In a cow stall, the combination, with a stall frame having four posts, and side beams thereon, of a rocking frame between the side beams near the top of the stall frame, a weighted rocking chute plate between rear posts of the stall-frame, and flexible connections be-



tween the plate and rocking frame adapted to rock the chute plate when the frame is lifted, substantially as described.

5 In a cow stall, the combination, with a stall frame having four posts, and spaced side beams thereon at each side, a rocking frame pivoted between the side beams at the top of the frame, and means to support said frame or secure it from vibration, of a chute  
10 plate located between the stall frame at its rear end, adjustable pivoting devices therefor which permit the plate to rock from its lower edge, and to be removed at will, a weight at the lower edge of the plate, pulleys on the  
15 side beams of the frame, and detachable flexible connections between the rocking frame and chute plate engaging said pulleys, substantially as described.

6. In a cow stall, the combination, with a

stall frame having four posts, and side beams 20 thereon, a rocking frame having a transverse presser piece and pivoted at the top of the frame between two of the side beams, and pins adapted to enter holes in the side beams and rocking frame to support or lock it, of a 25 chute plate, boxes on the rear posts of the frame, pivots engaging said boxes and which are adapted to permit the removal of the plate from across the stall frame, a pendent weight on the plate, pulleys on the side beams, 30 and detachable flexible connections between the chute plate and rocking frame, substantially as described.

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Witnesses:

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ARTHUR E. FLYNN.