

No. 620,011.

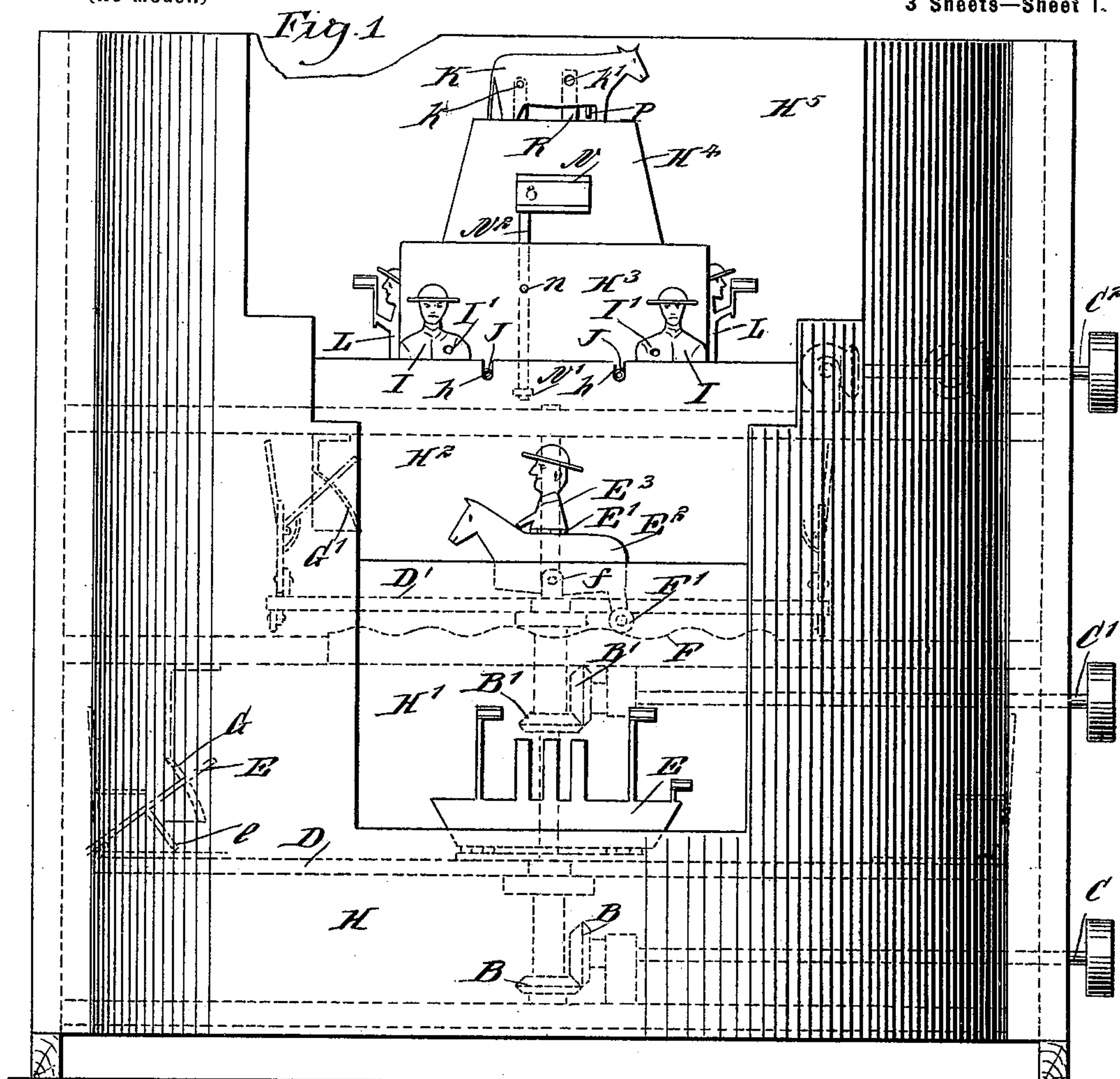
Patented Feb. 21, 1899.

J. M. BAIER.  
SHOOTING GALLERY.

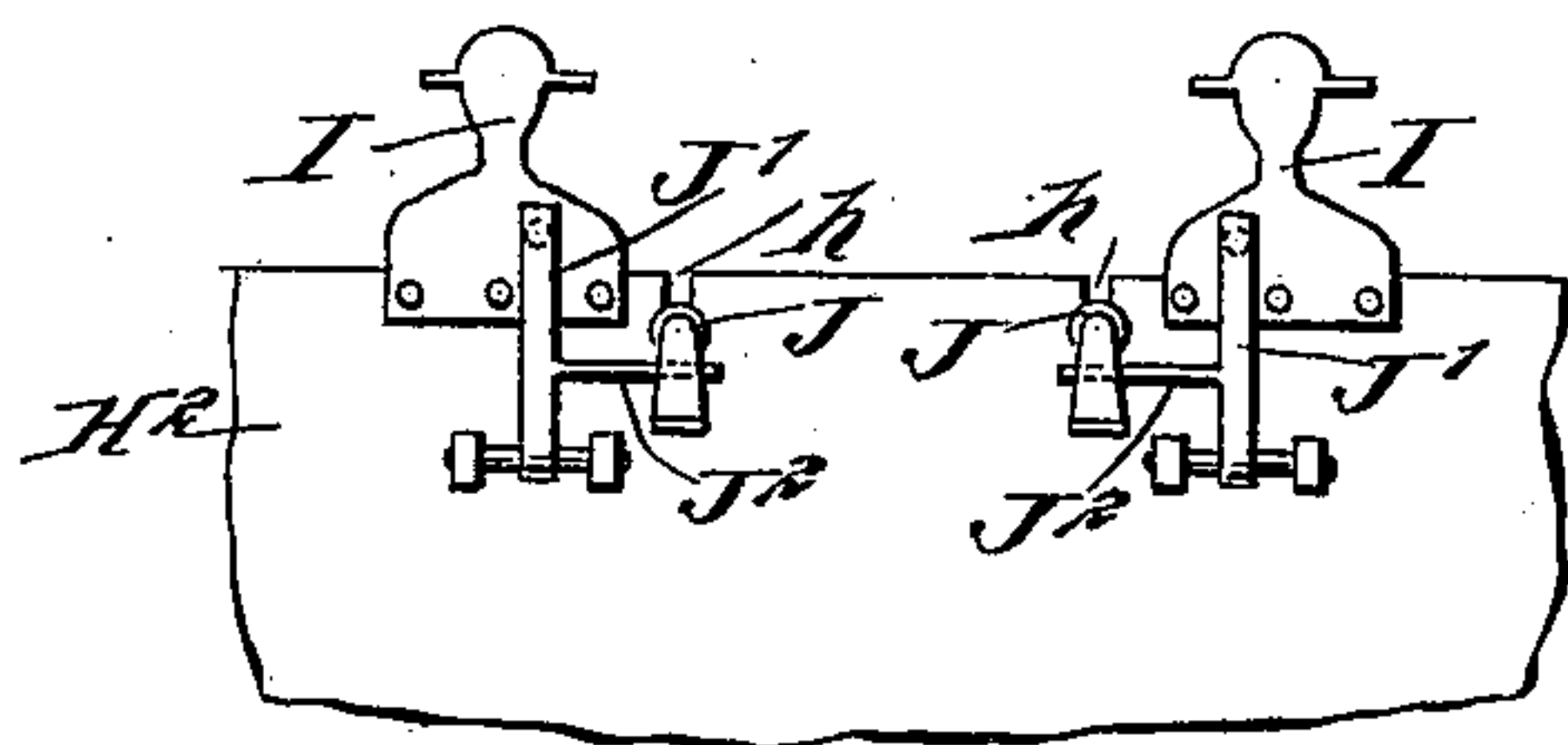
(Application filed Sept. 30, 1898.)

(No Model.)

3 Sheets—Sheet 1.



*Fig. 2.*



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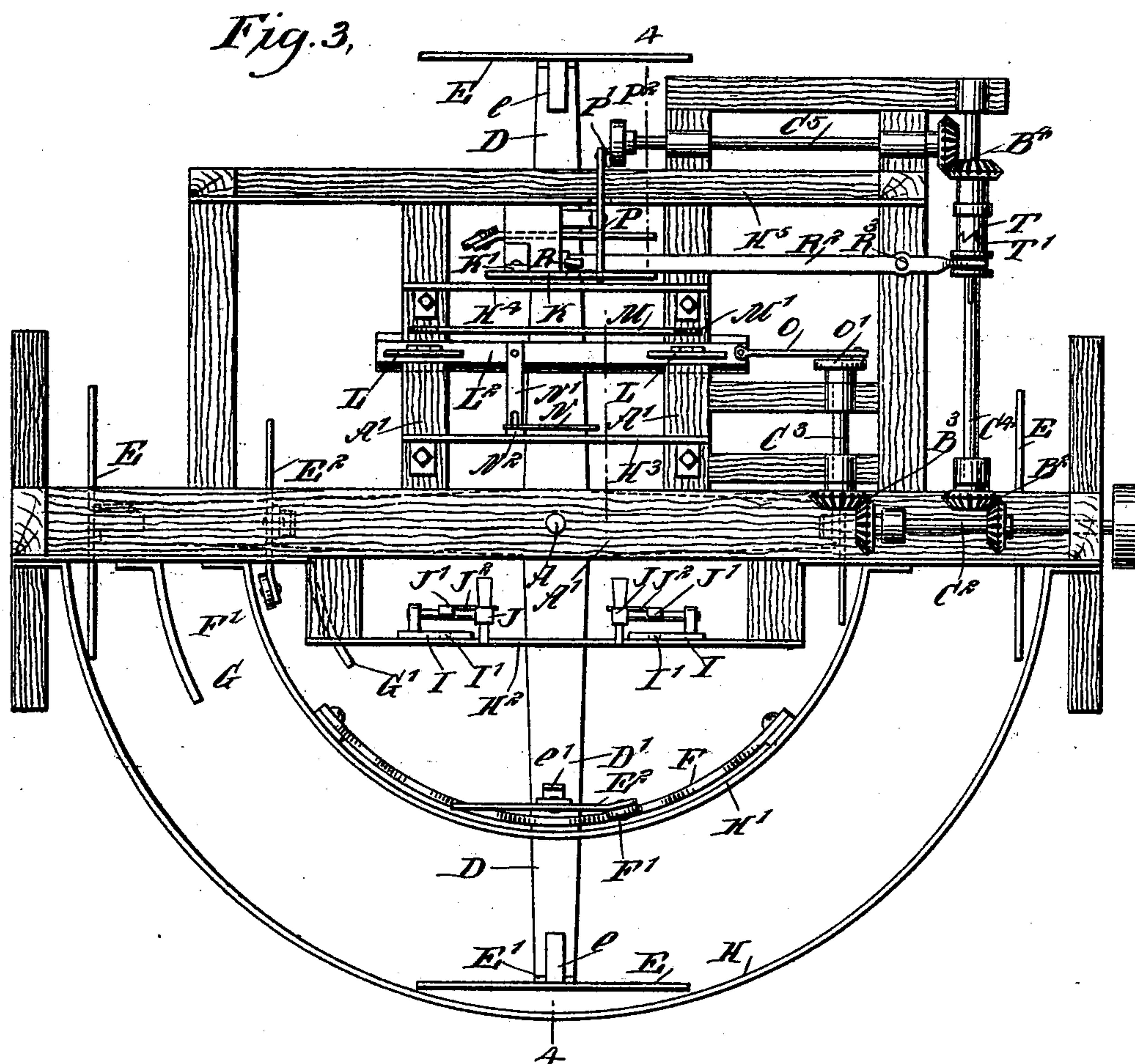
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**3 Sheets—Sheet 2**



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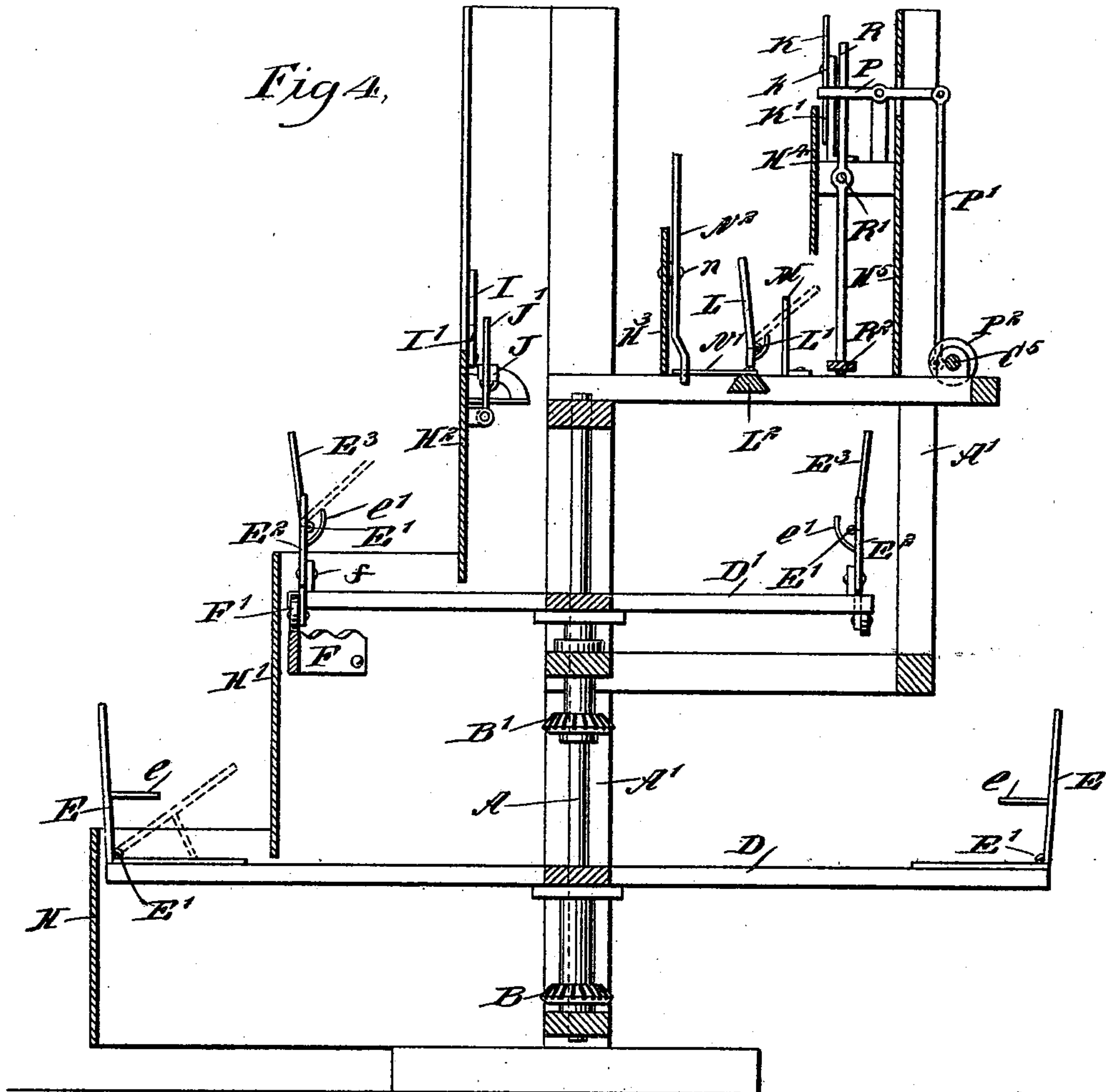
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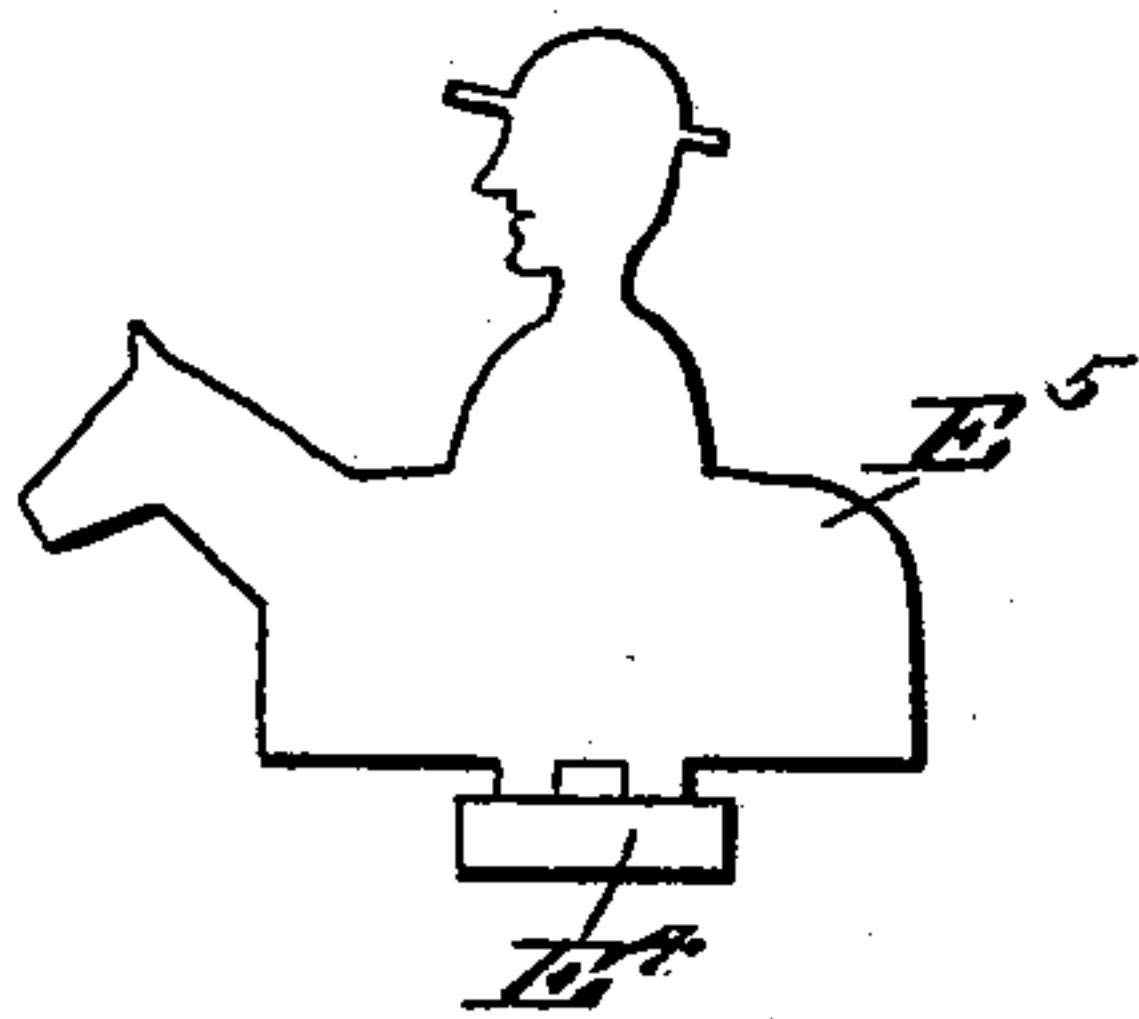
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(No Model.)

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*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JOSEPH MATHIAS BAIER, OF DAYTON, KANSAS.

## SHOOTING-GALLERY.

SPECIFICATION forming part of Letters Patent No. 620,011, dated February 21, 1899.

Application filed September 30, 1898. Serial No. 692,301. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH MATHIAS BAIER, of Dayton, in the county of Dickinson and State of Kansas, have invented a new and Improved Shooting-Gallery, of which the following is a full, clear, and exact description.

My invention relates to an improvement in shooting-galleries, and to a novel construction of targets employed in such galleries, and comprises the novel features hereinafter described and claimed.

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

Figure 1 is a front elevation of my device. Fig. 2 is a detail rear elevation of the figures which operate in connection with the cannon and hereinafter more fully described. Fig. 3 is a plan view of my device. Fig. 4 is a vertical section taken on the line 4 4 of Fig. 3, and Fig. 5 is a detail view showing a modified construction of details hereinafter more fully described.

Within a suitable supporting-frame A' is journaled a vertical shaft A, which is the pivot upon which the movable parts turn, and to this shaft are secured two or more sets of radial arms D and D', the arms D being below the arms D' and longer than the latter. Upon the outer ends of the arms D are secured objects E as targets, and which, as shown, are made to represent ships and are secured to the arms by means of hinges E', located at their lower edges. Normally said objects E stand erect or lean slightly outward, as indicated in Fig. 4. The hinge E' is of such character that when the objects E are thrown into the vertical position, as hereinafter explained, they will not drop down toward the other ends of the arms D, but will be held erect. Upon the rear surface of the objects E are secured arms e, which engage the arms D and prevent the objects E from falling flat, such position being indicated in dotted lines at the lower left-hand side in Fig. 4.

At one side of the frame (as shown the left side) is placed a raising device G, consisting of a bar so located as to pass beneath the objects E when they are down and raise them into vertical position as they are carried past

it. By this means the objects E are automatically raised to a vertical position after they have been lowered. The objects E will remain in a vertical position until hit by a bullet, when they will fall down to an inclined position and will remain in such position until they are again engaged and raised by the elevating device G.

The set of arms D' carry a set of objects, which, as shown, are made to represent horses E<sup>2</sup>, having riders E<sup>3</sup> thereon. The horses E<sup>2</sup> may be secured to the arms D' in the manner shown in Figs. 1 and 4, in which the body of the horse is shown as pivoted on a pivot f, so that the horse may rock in imitation of galloping. Upon the body of the horse is secured a small roller or wheel F', adapted to engage a bar F, having its upper surface corrugated or undulated, so that as the roller or wheel engages said corrugated or undulated surface the horse will be caused to move on its pivot in imitation of galloping. The bar F extends only over that part of the circle described by the movement of the outer ends of the arms D', where the objects E<sup>2</sup> E<sup>3</sup> are exposed to view at the front of the gallery.

As shown in Figs. 1 and 4, the rider E<sup>3</sup> is so jointed to the back of the horse E<sup>2</sup> that when hit by a bullet the rider will fall over sidewise. The rider, however, is prevented from falling too far by means of an arm e', fixed upon the back of the horse.

The joint E' between the rider and the horse is similar to the hinge E', described in respect to the objects E—that is, it will prevent the rider E<sup>3</sup> from being swung outward farther than to a vertical position—said joint being similar to that used in pocket-rules. The rider E<sup>3</sup> is engaged and raised to a vertical position by an elevating device G', similar to the device G. (See Figs. 1 and 3.)

The objects E on the lower arms D are partially hidden by a plate H, which prevents the working mechanism of the objects E being seen, and back of said plate is a second plate H', which conceals the working mechanism of the objects E<sup>2</sup> and E<sup>3</sup>. Back of the plate H' is a third plate H<sup>2</sup>, which represents a fort and has two notches or port-holes h formed in the upper part thereof, and behind the plate H<sup>2</sup> are located cannon J, the muzzles of which project from the port-holes h. The



cannon J may be of any preferred form, such as either single-firing or double-action revolvers, and they will of course be loaded with blank cartridges.

5 Alongside of each cannon is an object I, representing the bust and head of a soldier showing above the upper edge of the plate H<sup>2</sup>. The objects I each have an aperture I' through the body thereof, and back of said objects is  
10 pivoted a lever J', so located that a bullet passing through the aperture I' will strike the lever and swing it backward. The lever has an arm J<sup>2</sup> projecting laterally therefrom and engaging the trigger of the cannon J, so  
15 that when the lever is struck by a bullet the cannon will be discharged.

Back of the objects I is a plate H<sup>3</sup>, and mounted in the framework back of the plate H<sup>3</sup> is a bar L<sup>2</sup>, said bar being so mounted that  
20 it may reciprocate transversely of the shooting-gallery. Upon the ends of the bar L<sup>2</sup> are mounted objects L, representing soldiers having flags in their hands, and these objects are hinged at their lower edge, so that they may  
25 be knocked backward when struck by a bullet, and they are each provided with an arm L', which prevents their dropping backward farther than a certain distance. Located upon the framework just back of the objects  
30 L is a bar M, the ends M' of which are sharply inclined, so that when the objects L are caused to engage said incline as the bar L<sup>2</sup> is reciprocated said objects will be forced forward into a vertical position.

35 Pivoted to the rear surface of the plate H<sup>3</sup> by a pivot n is a bar N<sup>2</sup>, which serves as a flag-pole and carries a flag N at its upper end, and said flag-pole is given a vibratory movement by means of an arm N', carried by the  
40 bar L<sup>2</sup> and engaging the lower ends of said flag-pole.

Above and back of the plate A<sup>3</sup> is a plate H<sup>4</sup>, and upon a standard K', located back of the plate H, is mounted an object K, representing a bull. The object K is pivoted at k  
45 to the standard R in such manner that said object may rock, and thus imitate galloping. Movement is given to the object K by a lever P, pivoted to a standard upon the frame and  
50 operated by means of a rod P', connected at one end to the lever and journaled at its other end upon a crank-pin on a disk P<sup>2</sup>, mounted upon one end of a shaft C<sup>5</sup>, motion being given to said shaft by means hereinafter described.  
55

The arms D, carrying the objects E, are rotated by connection with a sleeve which turns on the shaft A and carries at its lower end one of a pair of bevel-gears B, the other bevel-  
60 gear of the pair being mounted on a horizontal shaft C, which projects beyond one side of the shooting-gallery and has secured upon its outer end a pulley or other suitable means for rotating the shaft. The arms D' are similarly rotated from a horizontal shaft C'  
65 through bevel-gears B'. A third shaft C<sup>2</sup> is mounted above the shaft C' and carries one

of a pair of bevel-gears B<sup>3</sup>, the other one of said gears being mounted upon a transverse shaft C<sup>3</sup>, and this latter shaft also carries a  
70 disk O', connected by a rod O with one end of the reciprocating bar L<sup>2</sup>. The shaft C<sup>2</sup> also has mounted thereon one of a pair of bevel-gears B<sup>2</sup>, the other of said gears being mounted upon a transverse shaft C<sup>4</sup>, upon  
75 which shaft is loosely mounted one of a pair of bevel-gears B<sup>4</sup>. To this latter gear is secured one half T of a clutch, the other half T' of said clutch being secured to the shaft C<sup>4</sup>, the two halves of the clutch being normally held separated by any suitable means.  
80 The object K, therefore, is normally quiet and will gallop only when struck by a bullet, as hereinafter explained.

The part T' of the clutch is mounted to slide  
85 on and turn with the shaft C<sup>4</sup>, being splined on said shaft, and is engaged by a yoke formed on one end of a lever R<sup>2</sup>, pivoted at R<sup>3</sup> on the frame A'. At its other end the lever R<sup>2</sup> engages the lower end of a lever R, piv-  
90 oted at R' in rear of the plate H<sup>4</sup> and having its upper end immediately back of an aperture k' in the object K. The aperture k' is located at or near where the heart of the animal, of which the object K is a representa-  
95 tion, would be located, so that when a bullet passes through said aperture the bullet will strike the lever R, and thus throw the parts T T' of the clutch into gear and cause the object K to gallop. The parts of the clutch are  
100 thrown out of gear by any suitable mechanism controlled from any desired point by a cord.

In the modification shown in Fig. 5 the horse and rider E<sup>5</sup> are made integral and are piv-  
105 oted at E<sup>4</sup> to the arms D', so that the horse and rider both fall backward when struck by a bullet.

Either or both of the forms of the horse and rider shown in the drawings may be employed  
110 as desired, and for the various objects herein shown and described any other preferred figures or objects may be substituted.

Power may be applied to the various shafts by any suitable and desired means.  
115

The various objects or figures constituting the targets are, as the arms are rotated on the shaft A, exposed at the front of the gallery, where they may be struck by bullets.

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

1. A target, consisting of a rotatable carrier, a figure or object hinged to the carrier, a stop mounted on the figure-base and limiting  
125 the extent of the fall of said figure or object, and a device adapted to engage and raise the figure or object after it has been knocked down, substantially as described.

2. A target, consisting of the figure of an  
130 animal having a transverse aperture therein, mechanism for moving said figure in imitation of galloping, a clutch in said mechanism, a lever in the rear of the aperture in the tar-



get and adapted to intercept a bullet passing through said aperture, and connections between the lever and the clutch, whereby the clutch is operated by the impact of the bullet on the lever, substantially as described.

3. The combination, with a hinged target, having a transverse aperture therein, of a lever pivoted in rear of said aperture, and a firearm having its firing mechanism connected with said lever, whereby a bullet passing through said aperture and striking said lever will discharge said firearm, substantially as described.

4. A target constructed in two parts hinged upon each other, a stop mounted upon the target-base and limiting the downward drop of the movable part of the target, and an elevating incline engaging the upper part of the target to raise it after it has been lowered, one of said engaging members being movable relative to the other.

JOSEPH MATHIAS BAIER.

Witnesses:

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CHARLEY BAIER.