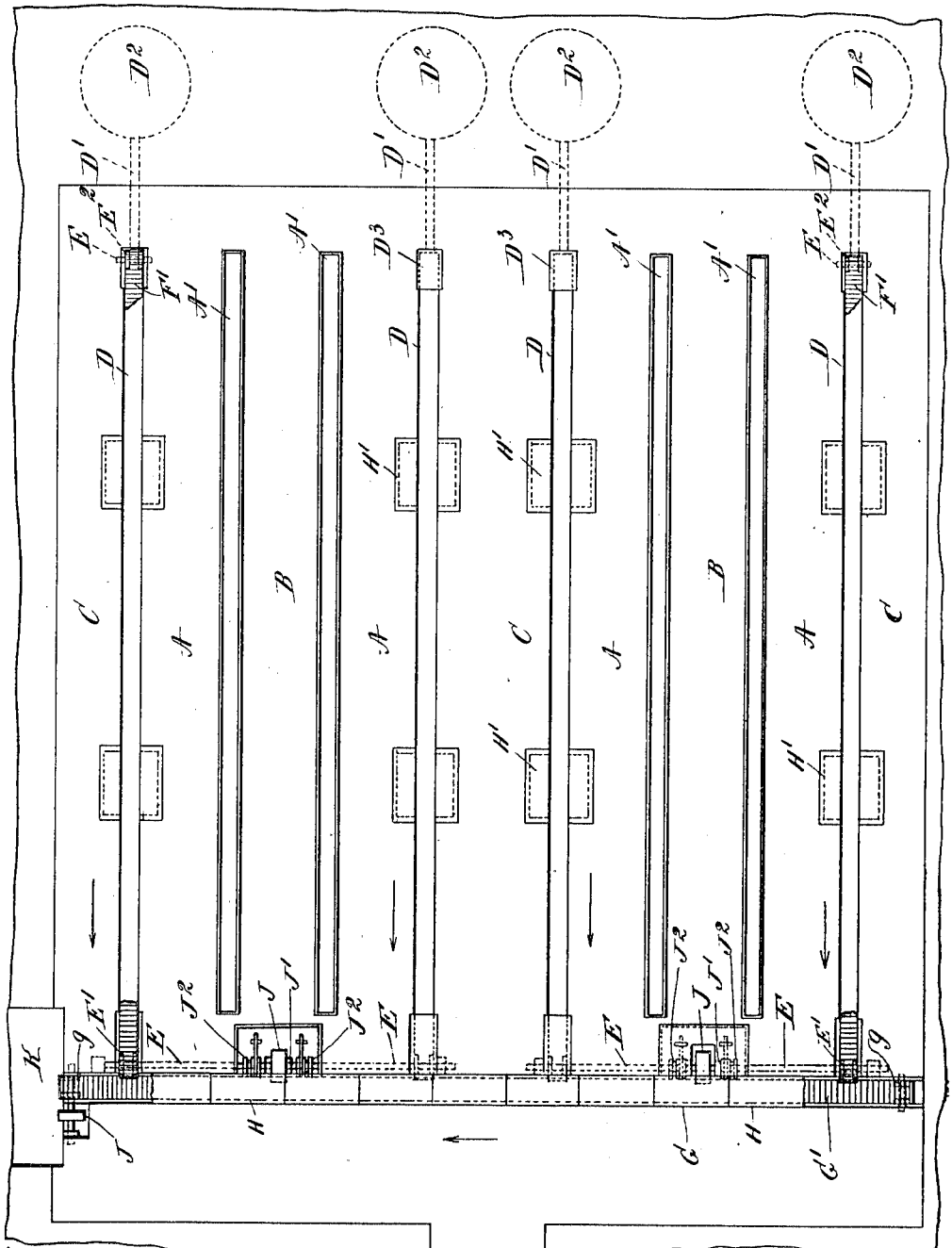
J. P. BOWDITCH.

COW BARN.

APPLICATION FILED JUNE 24, 1912.

1,090,131. Patented Mar. 17, 1914.

2 SHEETS—SHEET 1.



WITNESSES:

M. E. Blakely

A. B. O'Brien.

Fig. 1.

INVENTOR:

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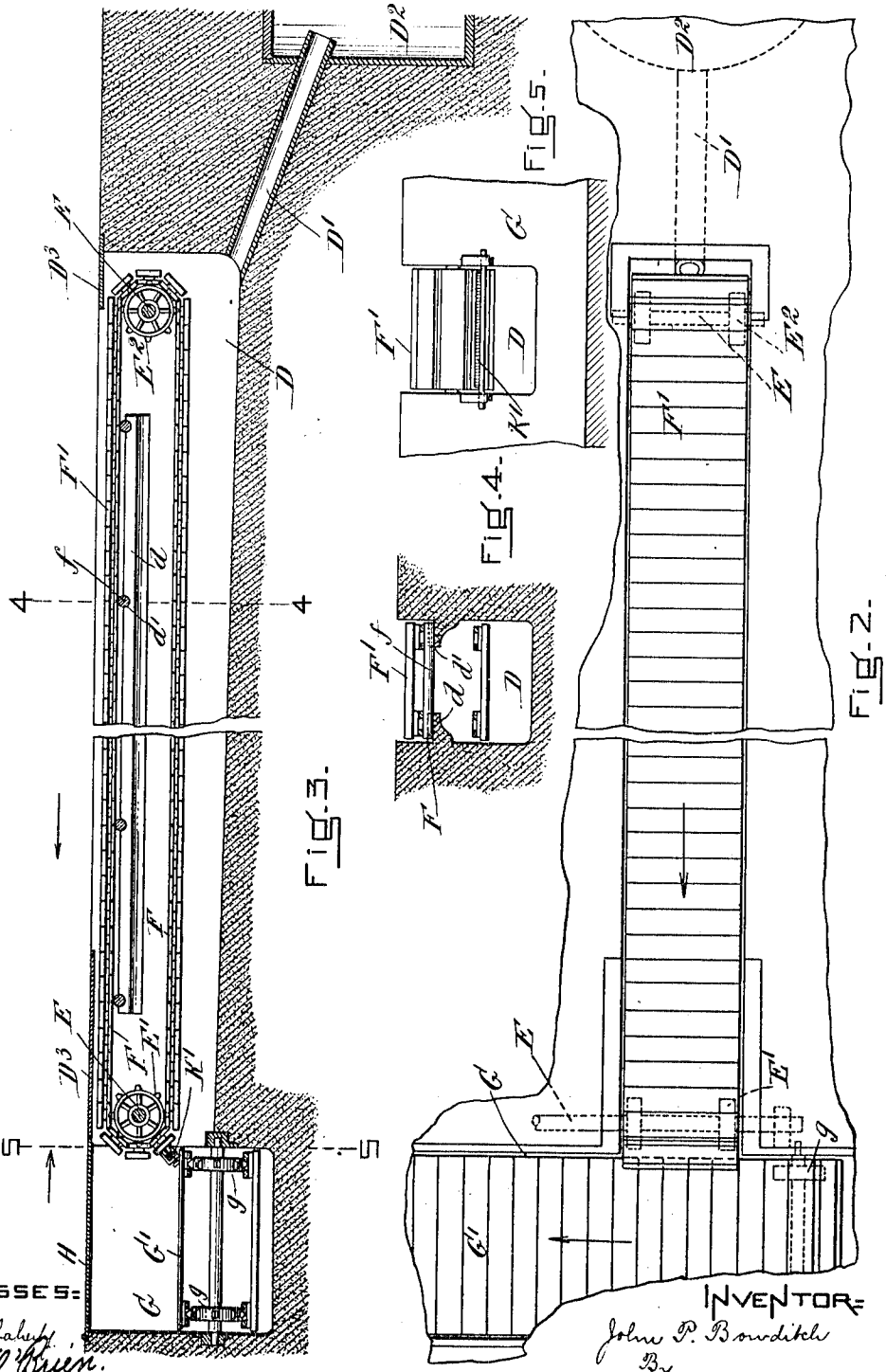
COW BARN.

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WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN P. BOWDITCH, OF FRAMINGHAM, MASSACHUSETTS.

COW-BARN.

1,090,131. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed June 24, 1912. Serial No. 705,357.

To all whom it may concern:

Be it known that I, JOHN P. BOWDITCH, of Framingham, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Cow-Barns, of which the following is a specification.

This invention relates to improvements in a barn or stable whereby it is rendered more sanitary than barns usually are without any additional help. In fact by the use of my invention the force of men required to keep the barn clean may be materially reduced.

My invention will be understood by reference to the drawings which show it applied to a barn planned for a considerable number, say one hundred or more head of cattle.

Figure 1 is a floor plan of such a barn shown diagrammatically. Fig. 2 is an enlarged plan of a portion of the moving elements. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a section on line 4—4 of Fig. 3, and Fig. 5 is a section on line 5—5 of Fig. 3.

A, A is the portion of the floor given up to the stalls, A^1, A^1 being the mangers. The stalls are arranged head to head in the usual way with the usual feeding walk B, B between each pair of mangers.

C, C are the usual walks behind the stalls A. Between each walk C and the adjacent row of stalls A is the gutter D which slants as shown in Fig. 3 so that the liquid manure will flow to the drain D^1 and through it to a suitable cess-pool D^2. These parts should all be of cement or other waterproof material and in practice should be constantly flushed out with water. At each end of the gutter is a flooring D^3 which covers the end of the gutter D.

The sides of the gutter D are preferably provided with shoulders *d* having recesses d^1 at convenient points along them to receive friction rolls *f* and at each end of each gutter is mounted a sprocket wheel E^1, E^2.

F, F, are sprocket chains which are supported on the rolls *f* and which run over said sprocket wheels E^1, E^2. On these chains are mounted a series of crosswise slats F^1 which are of sufficient length to close the top of the gutter D, are sufficiently close together to prevent any considerable amount of solid matter from dropping into the gutter D and are of such width as to pass easily around the sprocket wheels at each end of the guttter.

The slats F^1, chain F, rolls *f* and shoulders *d* should preferably be so arranged with relation to each other that the upper surface of the slats shall be a little below (say six inches) the level of the barn floor and they should be sufficiently strong to support the weight of the animals in passing into and out of the stalls. They should be so located with relation to the stalls as to receive the droppings from the animals.

In order to move the chains F and the floors formed by the slats F^1 each pair of sprocket wheels E^1 is mounted on a shaft E, these shafts being normally disconnected from each other.

J is a pulley mounted on an axle J^1 and connectible by belt or otherwise with a source of power.

Clutches J^2 of any ordinary construction are located one on each side of each pulley J so that it may be connected at will with one or both of the adjoining shafts E. Thus power applied to one of the pulleys J may be transmitted to move one or both of the moving floors located on each side of the pulley, each of the floors being thus movable independently of the others. The sprockets E^2 serve as idlers to support the farther end of the chains and each pair of sprockets E^2 is mounted on its own shaft suitably supported.

G is a gutter similar in character to the gutter D though somewhat wider and provided with a collecting movable floor G^1 made up of slats supported on sprocket chains running on sprocket wheels *g*, g^1 and friction rolls in all respects like the parts F, E^1, *f* which carry the floorings running in the gutters D. The floor G is located, however, at a lower level than the slats F^1 and the gutter G lies at right angles to the gutters D in the form of my invention shown in the drawings so as to receive the material from the slats F as they turn around the sprockets E^1.

H, H are hinged trap doors on a level with the main floor by which the gutters G are covered and H^1, H^1 are trap doors alongside the gutters D which will expose the gutters sufficiently to allow them to be flushed from time to time by water applied by means of a hose.

In practice once or twice a day (whenever

needed) the moving floors formed by the slats F^1 are moved in the direction of the arrows toward the moving floor G^1 and deposit their loads thereon, the floor G^1 being moved at the same time if thought desirable or later to carry these deposits to a manure pit K just outside the barn or to any other convenient place, the moving floor G^1 being sufficiently long for the purpose.

Power is applied to sprocket wheels *g* by means of a pulley J^3 mounted on the shaft carrying the sprockets *g*, and suitable connections with a source of power.

In order to clean the several slats I provide a brush K^1 mounted at the forward end of each floor and of a width equal to the width of the slats. These brushes are hung in brackets supported in the sides of the gutters D and overhanging the flooring G^1 so as to sweep each slat at its turns under the sprocket wheel E^1, any brushings falling into the gutter being flushed out when the gutter is flushed. The brushes are adjustable with relation to the slats to take up the wear, their frames being mounted in slideways in these brackets and held therein by adjusting screws. They may be made of heavy willow bristles or of india rubber or the like or of metal as thought best.

I do not mean to limit my invention in any way to the precise construction and arrangement shown, my purpose being to provide a movable floor which shall support the cattle as they walk into and out from the stalls, and shall be always exposed to receive the droppings from the cattle and which shall be movable from time to time when necessary to deposit the droppings upon another moving floor which may carry them to a place of deposit, this latter moving floor being movable from time to time as seems best.

The trap doors H which cover the moving floor G are not intended to receive any of the droppings nor are the trap doors H^1. These trap doors form part of the permanent floor of the barn or stable, but they are desirable as they may be lifted for purposes of inspection or flushing when such is deemed necessary.

What I claim as my invention is:—

1. In a stable, a series of stalls, a gutter located behind said stalls, a movable floor located in said gutter and forming a top therefor, and means for moving said floor, the bottom of said gutter slanting in a direction opposite the direction in which the floor moves, whereby liquid will flow off through it.

2. In a stable, a series of stalls, a gutter located in the rear thereof, a movable floor supported in said gutter to form the top thereof, means for moving said floor in one direction, the bottom of said gutter slanting in the opposite direction to the direction of movement of said floor, and a collecting floor located at an angle to said movable floor and in close proximity to it and adapted to receive its contents when said first-named floor is in motion, and means for moving said second moving floor.

3. In a stable, a plurality of series of stalls, a gutter located behind each series of stalls, a movable floor located in each gutter and forming the top thereof, said movable floors being at substantially the same level, and a collecting floor located at an angle to all of said first-mentioned moving floors and located to receive the contents thereof and convey them away, and means for moving said movable floors operable independently.

4. In a stable, a series of movable floors arranged on substantially the same level and parallel to each other and comprising slats, a collecting floor located at right angles to said series of floors and at a lower level thereto and adapted to receive the contents thereof, and a series of brushes located one at the end of each of said series of movable floors and adapted to sweep matter attached to the slats thereof onto the collecting floor and means for operating each of said floors operable independently of each other.

5. In a stable, a plurality of series of stalls, a series of gutters one located in rear of each series of stalls, a series of movable floors each located in one of said gutters and forming a top therefor, a collecting floor located at an angle to said moving floors, means adapted to move each floor independently of the others in a direction toward the collecting floor, said gutters slanting in a direction away from said collecting floor, and one or more cess pools connected to the discharge ends of said gutters.

JOHN P. BOWDITCH.

Witnesses:
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