

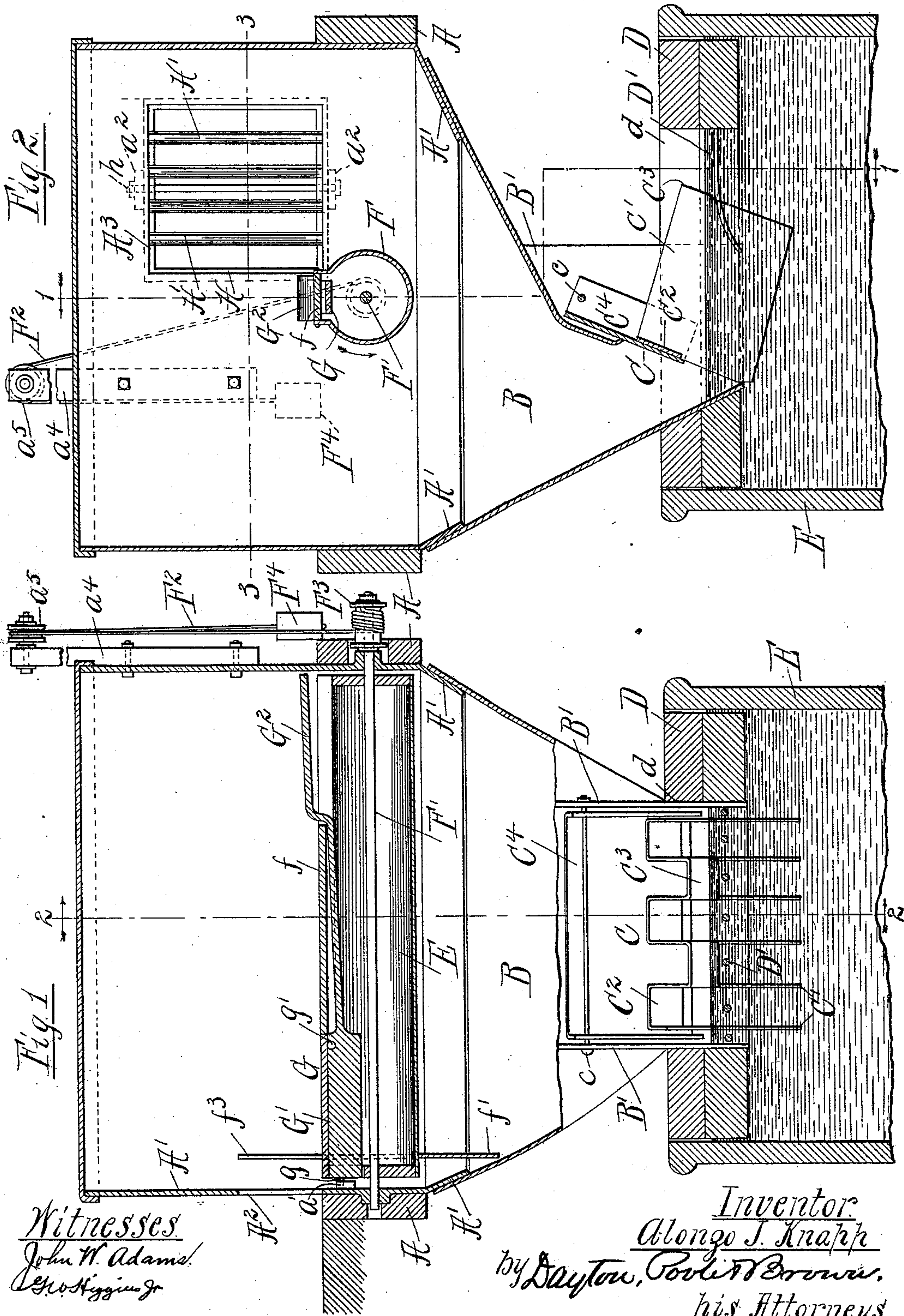
(No Model.)

2 Sheets—Sheet 1.

A. J. KNAPP.
ANIMAL TRAP.

No. 522,602.

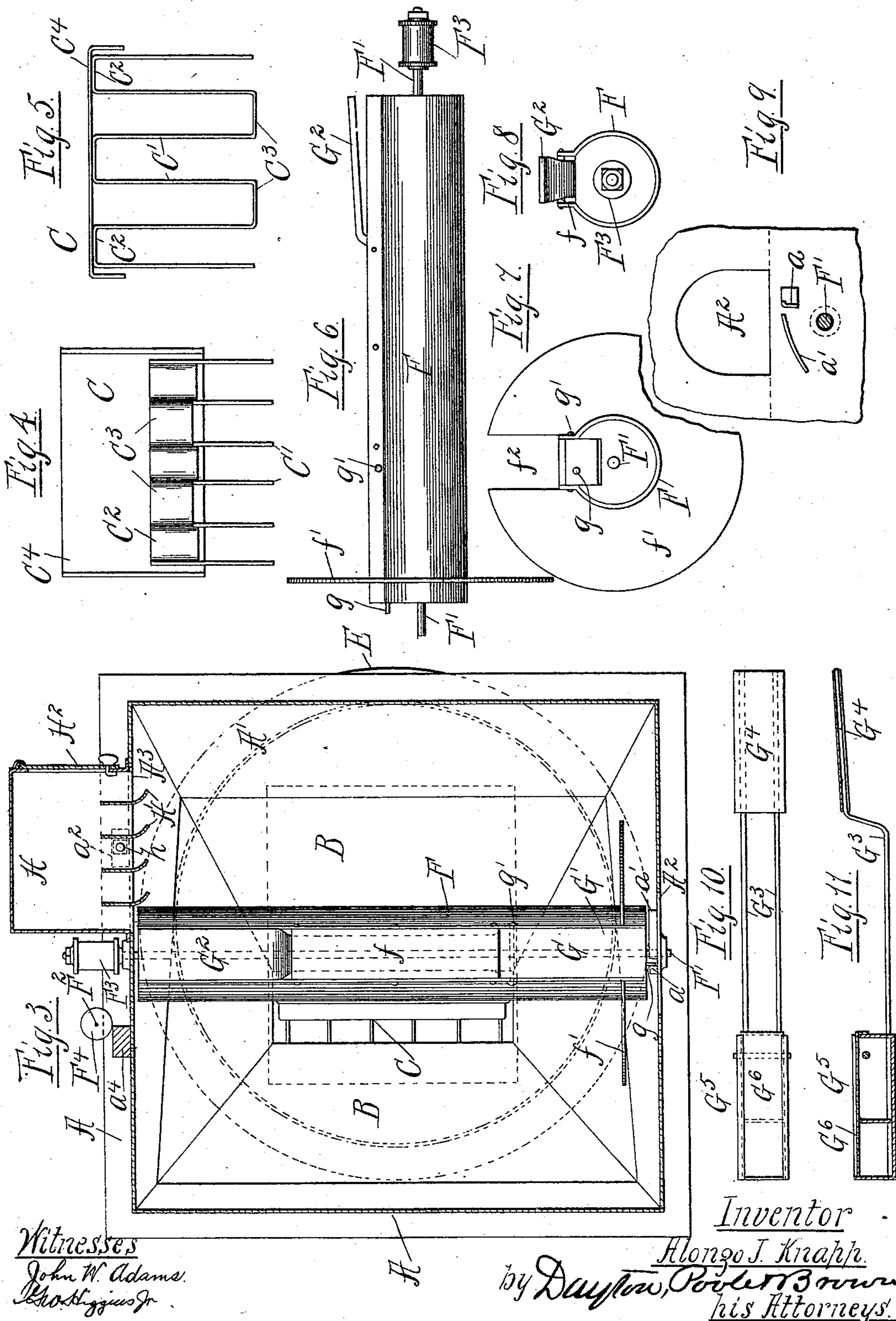
Patented July 10, 1894.



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2 Sheets—Sheet 2.

Patented July 10, 1894.



UNITED STATES PATENT OFFICE.

ALONZO J. KNAPP, OF ALLIANCE, NEBRASKA.

ANIMAL-TRAP.

SPECIFICATION forming part of Letters Patent No. 522,602, dated July 10, 1894.

Application filed March 25, 1893. Serial No. 467,577. (No model.)

To all whom it may concern:

Be it known that I, ALONZO J. KNAPP, of Alliance, in the county of Boxbutte and State of Nebraska, have invented certain new and useful Improvements in Animal-Traps; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in traps of the pitfall order for catching rats, mice, rabbits and other animals.

The object of the invention is to provide an improved construction in devices of the character referred to and it consists in the parts, combinations and improvements hereinafter set forth and particularly pointed out in the appended claims.

My invention will be fully understood from the following description of the accompanying drawings which illustrate one form in which my invention may be practically embodied.

In said drawings: Figure 1 is a sectional elevation of a device embodying my invention, taken on line 1—1 of Fig. 2. Fig. 2 is a similar view taken on line 2 2 of Fig. 1. Fig. 3 is a plain section on line 3—3 of Fig. 2. Fig. 4 is an elevation of the trap door or swinging gate removed. Fig. 5 is a plain view thereof. Fig. 6 is a side elevation of the rotary support, removed. Figs. 7 and 8 are end elevations of the same. Fig. 9 is a detail of a portion of the side wall, showing the catch and cam for engaging the tripping lever. Fig. 10 is a plain view of a form of tripping lever somewhat modified in construction from that previously shown. Fig. 11 is a longitudinal section of the same.

A designates a supporting framework to which are secured downwardly converging walls, A', adapted to engage the upper open end of a hopper, B, located beneath the same. The lower opening or mouth of said hopper is normally closed by a swinging gate, C, adapted to permit the downward passage of objects through the opening but automatically closing against their return. As herein shown the walls of the hopper, B, are so shaped and terminated as to locate said opening in a plane slightly inclined from the ver-

tical and the gate, C, is hung on a horizontal rod, c, located above and adjacent to said opening and which is, in this instance, supported by engaging suitable apertures in vertical walls or flanges, B', secured to the outside of the hopper. Said gate, C, is herein shown as comprising a plurality of parallel plates, C', extending at right angles to the plane of its movement and in this instance bent up from a single sheet of tin or other suitable material, leaving transverse portions, C² and C³, connecting the ends of the plates; the lower ends of said transverse portions being cut away to leave a clear space between said plates, C'. A transverse and upwardly extending plate, C⁴, is soldered or otherwise secured to the front edges of the parallel plates, C', and the ends of said transverse plate are bent parallel to the plates, C', and are perforated at their upper parts to engage the pivot pin, c. The center of gravity of the gate thus formed is sufficiently back of the pivot, c, to maintain the gate normally against the edges of the opening in the hopper, as shown in Fig. 2.

The lower end of the hopper, together with the swinging gate, is herein shown inserted in an aperture, d, formed in a platform, D, adapted to be supported at the surface of a quantity of water provided in a suitable receptacle, E, said gate, C, being partially submerged in the water. In this instance, the platform, D, is provided in the form of a float, adapted to rest upon the water with its lower edge slightly beneath the surface of the same and serving to support also the hopper, B, and gate, C. By this construction the correct relative positions of the parts with relation to each other and to the surface of the water, are maintained even though the depth of the water should vary. Said aperture, d, is sufficiently large to permit the pivoted gate to swing freely and that portion of the aperture normally unoccupied by the gate is herein shown as guarded by a plurality of parallel bars, D', projecting from the rear edge of the aperture, d, and so spaced apart as to permit the plates, C', of the gate to swing freely between them; said bars being far enough below the surface of the water and being placed sufficiently near together to prevent the entrapped animal from reaching the air be-

tween them. In this instance, said bars, D', are shown as inclined downwardly toward their free ends to better prevent the entrapped animal from clinging to the same.

5 The operation of the construction, thus far described, will be obvious. The body of any animal falling into the hopper, B, will be directed against the gate, C, and, by its weight and impact, will force said gate aside and
10 slip beneath the surface of the water contained in the receptacle, E. The gate, C, will thereupon automatically close by its own weight, cutting off the only path of communication with the surface and preventing the
15 entrapped animal from making any outcry, whereby the animals might be warned.

As a means of precipitating an animal into the hopper, B, I have in this instance, provided a rotary support, F, extending across
20 the mouth of the hopper and supported upon a shaft, F', the ends of which are journaled in bearings secured to the opposite sides of the frame, A. As herein shown, said support is rigidly attached to the shaft, F', to rotate
25 therewith and the latter is positively actuated by any suitable spring or weight device consisting, in this instance, of a cord, F², wound upon a spool or drum, F³, secured to one end of the shaft, F', said cord having suspended,
30 from its end an actuating weight, F⁴, by reason of which the shaft and support will constantly tend to rotate until the cord is entirely unwound from the drum. Normally, however, the support is held from rotation
35 by a catch or trip movably connected to the rotary support and normally engaging a fixed stop or detent, *a*, secured to the frame A. In this instance, I have secured the said trip to the end of a lever, G, pivotally mounted at,
40 *g*', upon the normally uppermost side of the rotary support and extending longitudinally thereof. One end, G', of the lever (preferably the end G' upon which the animal must first venture) is weighted to normally maintain the
45 trip in engagement with the detent. Obviously, however, a spring may be substituted for this purpose, if desired. The other end, G², of the lever, stands normally in its raised position but is adapted to yield beneath the
50 weight of the animal to spring the trip and permit the support to rotate. As herein shown, said support, F, is of hollow cylindrical form with its walls cut away on its upper side to receive the lever, G. Obviously the
55 lever might be exposed throughout the entire length of the slot, but, in this instance, its center position is recessed to pass beneath a plate, *f*, rigidly secured across the middle portion of the slot and affording a firm foundation adapted to reassure the animal until
60 fairly upon the support. Such plate, *f*, may obviously be extended to cover the weighted end, G', of the lever also, if so desired. For the purpose of insuring the re-engagement of
65 the trip, *g*, with the detent, *a*, after the support has made one revolution, I have provided a fixed guiding flange or cam, *a'* adjacent to

the detent, *a*, and operating to guide the trip against the detent at each revolution.

For enticing the animals upon the support, 70 bait may be provided in a great variety of ways. In this instance, I have shown the rotary support, F, as inclosed on all sides by the upward continuation of the walls, A', and have provided an entrance opening, A², adjacent to the weighted end, G', of the tripping 75 lever, and a second opening, A³, in the opposite wall adjacent to the other end of the support, said second opening being designed to receive a bait box, H'. As herein shown, the 80 latter is removably secured in said opening by means of a rod *h*, extending vertically through the box and engaging lugs, *a*², above and below the same and its inner side is guarded by a series of parallel plates, H', jutting out into the inclosure with their front 85 edges bent away from the support; said plates, H', preventing the animal from reaching the bait or from getting any supporting foothold when thrown off by the rotation of the support. A guard disk, *f*', secured to the support F, adjacent to the entrance end thereof and provided with an aperture, *f*², at the upper 90 side of the support and standing normally opposite to the entrance opening, A², prevents 95 any possibility of the animal springing back through the entrance opening after the support has once commenced to rotate. A door, H², in the side of the bait box, H, affords a convenient means of access thereto. In this 100 instance, also, I have secured an upwardly extending bar *a*⁴, to the walls A', and to the upper end of said bar *a*⁴, have secured a pulley, *a*⁵, over which the cord, F², may be trained as shown. 105

In Figs. 10 and 11 is shown a form of tripping lever slightly modified from that hereinbefore described, said lever consisting of two parallel wires, G³, bent up at one end to carry a sheet metal covering plate, G⁴, and provided 110 at its other end with a sheet metal receptacle, G⁵, having a sliding cover, G⁶, and adapted to be filled to any desired degree with lead or other ballast.

The operation of the trap so constructed 115 will be plain. Attracted by the odor of the food placed in the bait box, H, the animal will enter the aperture, A², and venturing out on the rotary support, will spring the trip and permit the trip to instantly revolve under the 120 actuating impulse of the weight, F⁴. Obviously, by such sudden revolution, the animal will be thrown from the support and precipitated into the hopper, B, and thence against the gate, C, and beneath the water in the receptacle. After the support has thus thrown 125 off the animal and completed one revolution, the trip, *a*, will again engage the detent, *g*, and be ready for the next victim. It will be clear such rotary support and connecting 130 parts may be made of dimensions suitable to capture any size of animal from mice and rats or rabbits to foxes, wolves or even bears. When used for the capture of the latter and

larger animals the rotary support will usually be mounted above a suitable pit without the devices, hereinbefore described, for instantly drowning the captured animal.

5 I claim as my invention—

1. An animal trap comprising a swinging door guarding the passage to a body of liquid said door being composed of a plurality of separate parallel plates extending in the direction of movement of said gate and with their lower edges extending beneath the surface of the liquid, and a plurality of horizontal stationary bars extending between the plates of the gate beneath the surface of the liquid.

2. An animal trap comprising a hopper, a swinging gate closing the lower open end of the hopper and composed of a plurality of parallel plates extending in the direction of movement of said gate, a receptacle adapted to contain a liquid, a buoyant platform adapted to float upon the surface of said liquid and provided with an aperture for receiving the lower end of the hopper and swinging gate, and a plurality of bars projecting between the plates of the gate from the rear edge of the aperture.

3. An animal trap comprising a frame work, a rotary support mounted in said frame work, means for rotating said support, an exposed lever placed vertically over the axis of the support adapted to be sprung by the weight of an animal venturing upon the same, and a detent secured to the frame work adjacent

to the end of the support and normally engaged directly by the end of the lever, whereby when the lever is sprung engagement between its end and the detent will be released and the support automatically rotated, substantially as described.

4. An animal trap comprising a hollow rotary support, means for rotating said support, a longitudinal slot in said support adjacent to one end thereof, a lever pivoted within the hollow support with its free end extending through said slot and adapted to be sprung by the weight of an animal venturing thereon, and a stationary detent normally engaging the end of the lever to hold the support against rotation, substantially as described.

5. An animal trap comprising a rotary support, a passage leading to the support, a trip normally maintaining the support against rotation, said trip being adapted to be sprung by an animal venturing upon the support through the passage, and a circular flange fixed upon the support adjacent to the entrance passage and provided with an aperture normally opposite said passage, said flange serving to guard the passage when the support is rotated out of position.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

ALONZO J. KNAPP.

Witnesses:

HENRY W. CARTER,
ALBERT H. GRAVES.