Dec. 25, 1928. 1,696,439

H. A. KNOX

FIGHTING TANK

Filed Feb. 3, 1926 2 Sheets-Sheet 1

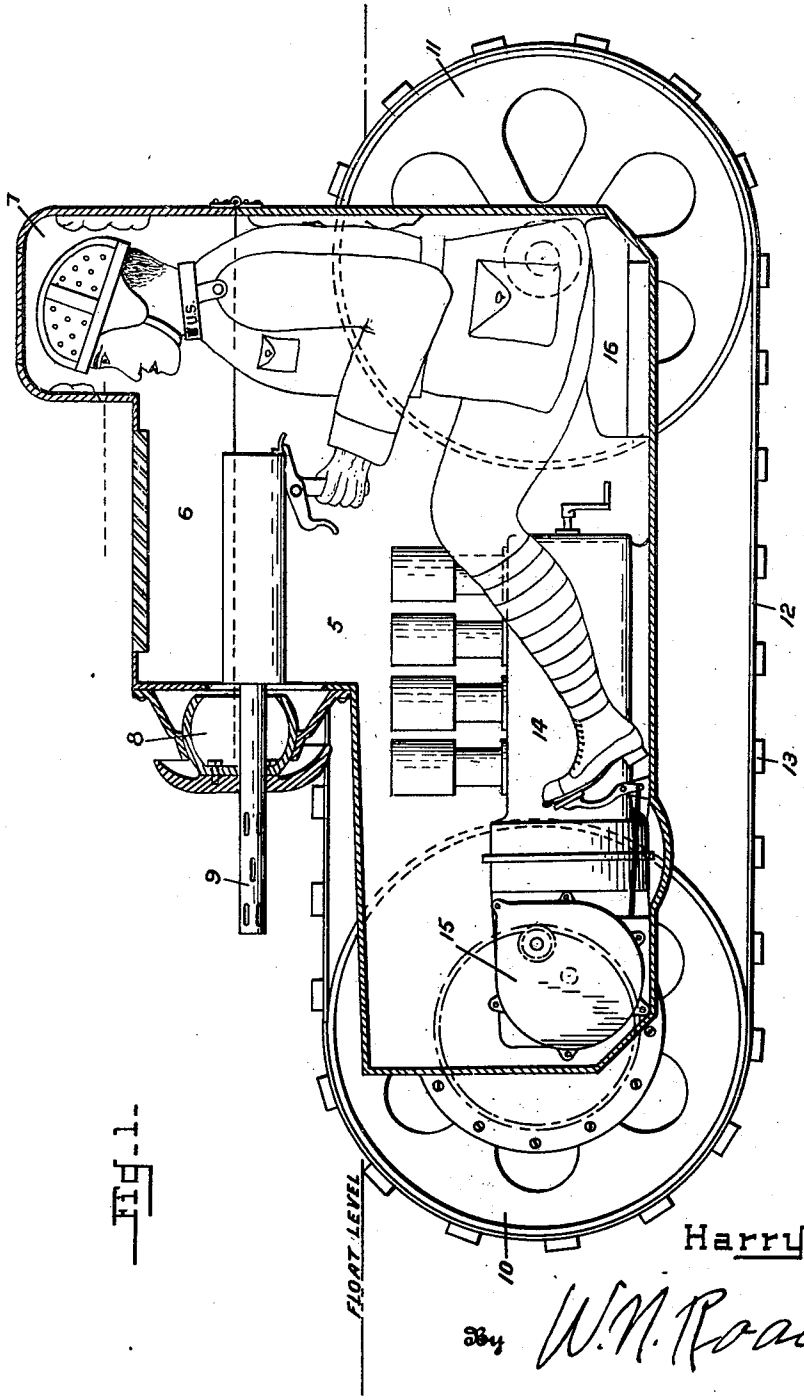


Fig. 1.

Inventor
Harry A. Knox
By W. N. Roach.
Attorney

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H. A. KNOX

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Filed Feb. 3, 1926 2 Sheets-Sheet 2

Fig. 2.

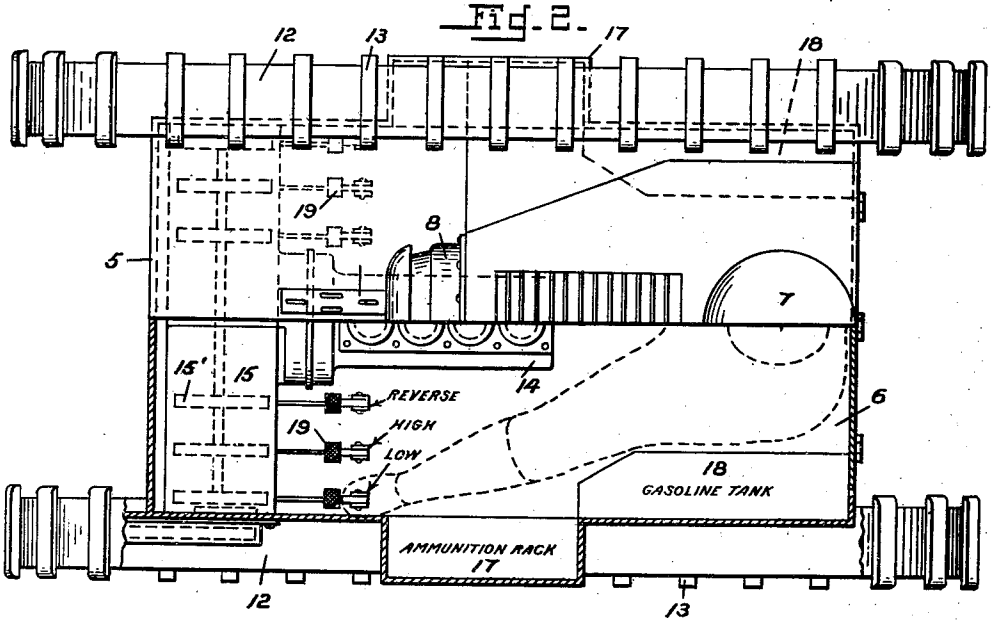
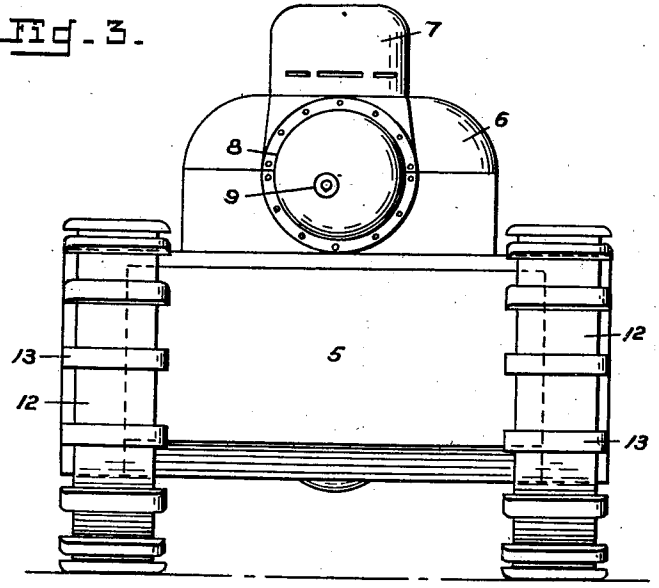


Fig. 3.



Inventor

Harry A. Knox

By W. N. Roach

Attorney

Patented Dec. 25, 1928. 1,696,439

UNITED STATES PATENT OFFICE.

HARRY A. KNOX, OF DAVENPORT, IOWA.

FIGHTING TANK.

Application filed February 3, 1926. Serial No. 85,783.

(GRANTED UNDER THE ACT OF MARCH 3, 1883, AS AMENDED APRIL 30, 1928; 370 O. G. 757.)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes without the payment to me of any royalty thereon.

The subject of this invention is a fighting tank.

In the present development of fighting tanks the smallest unit that has been attempted has been the three-ton tank, manning two operators and two guns. This vehicle is, in practically every respect, a miniature of the larger ones.

A tactical study of the employment of tanks in warfare with a consideration of the defenses evolved to combat them reveals the possibilities and importance of a smaller, more mobile machine, capable of being manned by a single operator and carrying sufficient armament to deliver an effective fire. To provide such a one-man tank and restrict its weight to one ton or less it is necessary to completely depart from the general design and arrangement of the larger tanks.

The present invention contemplates an amphibious, multiple speed tank possessing the foregoing characteristics and arranged to provide for maneuvering while the armament is kept in action.

To these and other ends, my invention consists in the construction, arrangement, and combination of elements, described hereinafter and pointed out in the claims forming a part of this specification.

A practical embodiment of the invention is illustrated in the accompanying drawings. wherein:

Fig. 1 is a longitudinal sectional view through a tank constructed in accordance with the invention;

Fig. 2 is a plan view thereof, partly in section; and

Fig. 3 is a front view.

Referring to the drawings by numerals of reference:

The tank consists of a body 5 having a cover 6 hinged to its rear wall, and provided with a conning tower 7. The body and the forward end of the cover jointly carry a ball mount 8 for a machine gun 9 and by thus dividing the mount, the cover may be raised without disturbing the gun. The upper portion of the tank constituting the gun compartment is streamline to decrease vulnerability from enemy shell fire and to permit traversing of the gun.

The body is mounted on front wheels 10 and rear wheels 11 and traction is obtained through an endless metallic belt 12 encircling the wheels and provided with spaced grousers 13.

The motor 14 is placed approximately in the longitudinal center within the body and in order to simplify the power unit the drive is taken to the front wheels 10 through a two-speed and reverse planetary transmission 15 whose forward location results in an even distribution of the weight of the tank by counterbalancing the weight of the operator whose seat 16 is placed on the floor directly in rear of the motor. To the same end the ammunition racks 17, one on each side, are placed in the center so as to be conveniently accessible and the gas tanks 18, likewise one one each side, are placed at the rear.

In order to conserve space and to enable the operator to manipulate the armament while maneuvering the tank, the controls for the brake drums 15′ of the transmission are contained in foot pedals 19—19—19, placed on each side of the engine in line with the front thereof and are conveniently reached by the operator who, when seated, straddles the motor. By this arrangement, the center of gravity is favorably positioned to provide a buoyant unit, propulsion, when in the water, being obtained by the rotation of the tracks, which can produce a speed of six miles per hour due to the lightness of the tank. Steering is effected in the same manner as on land by moving one track faster than the other.

It has been found after considerable experimentation that a link track does not function with a front drive because of the area under tension and this is especially true when the link track bears a proper relation to the tank. The rigidity of the metallic track shown renders it particularly suited to the requirements of the tank of the present application.

In order to convey an accurate idea of the size of the tank, it may be stated that it is four feet high, three and one-half feet wide, and has a road clearance of eight inches. The gun which is but three feet above the ground is therefore in position to deliver a sweeping fire.

While in the foregoing there has been il-

lustrated and described such combination and arrangement of elements, as constitute the preferred embodiment of the invention, it is nevertheless desired to emphasize the fact that interpretation of the invention should only be conclusive when made in the light of the subjoined claims.

I claim:

1. A tank including a body, front and rear supporting wheels, endless tracks encircling the wheels, a motor within the body and positioned at its approximate longitudinal center, a planetary transmission directly in front of the motor for communicating power to the front wheels, a seat for the operator directly in rear of the motor and on the floor of the body, a plurality of foot controls on both sides of the motor, a cover hinged to the rear wall of the body, said cover and body formed to provide a streamline gun compartment, and an element of a gun-mount carried by the body and cover.

2. A tank including a body, front and rear supporting wheels, endless tracks encircling the wheels, a motor within the body and positioned at its approximate longitudinal center, a planetary transmission directly in front of the motor for communicating power to the front wheels, a seat for the operator directly in rear of the motor and on the floor of the body, a plurality of foot controls on both sides of the motor, a cover hinged to the rear wall of the body, and elements of a gun-mount carried by the body and cover.

3. A tank including a body, front and rear supporting wheels, endless tracks encircling the wheels, a motor within the body and positioned at its approximate longitudinal center, a planetary transmission directly in front of the motor for communicating power to the front wheels, a seat for the operator directly in rear of the motor and on the floor of the body, and elements of a gun-mount carried by the body and cover.

4. A tank including a body, front and rear supporting wheels, endless tracks encircling the wheels, a motor within the body, a transmission for communicating power to the front wheels, a seat for the operator in rear of the motor, and a complete set of foot controls on each side of the motor.

5. A tank including a body, a motor in the approximate center of the body and spaced from the rear wall to make room for an operator, and an epicyclic transmission placed in front of the motor to counterbalance the weight of the operator.

6. A track laying tank including a body, a motor therein, a transmission in front of the motor, a complete set of foot controls on each side of and at the front of the motor and an operator's seat in rear of the motor.

7. A track laying tank including a body, a motor therein, complete set of foot controls on each side of and at the front of the motor and an operator's seat in rear of the motor.

8. A track laying tank including a body, a motor therein, and a set of foot controls on each side of the motor.

9. A tank including a body, a cover hinged to the rear wall thereof, said body and cover formed to provide a streamline gun compartment, and elements of a gun mount carried by the body and cover.

10. A track-laying tank including a body, a cover hinged to the rear wall thereof, and elements of a gun-mount carried by the body and cover.

11. A tank including a body, a motor placed in the approximate longitudinal center thereof, a gun mounted over the motor, and ammunition compartments formed by extending the body laterally at its approximate longitudinal center.

12. An amphibious tank including a body, a centrally placed motor, a transmission and housing in front of the motor, and an operator's compartment and gas tanks in rear of the motor.

13. A tank including a body, a motor on the floor of the body, and a seat on the floor of the body arranged with respect to the motor so that the operator must straddle the motor.

HARRY A. KNOX.