W. F. CERVENKA.

BANK PROTECTION SYSTEM.

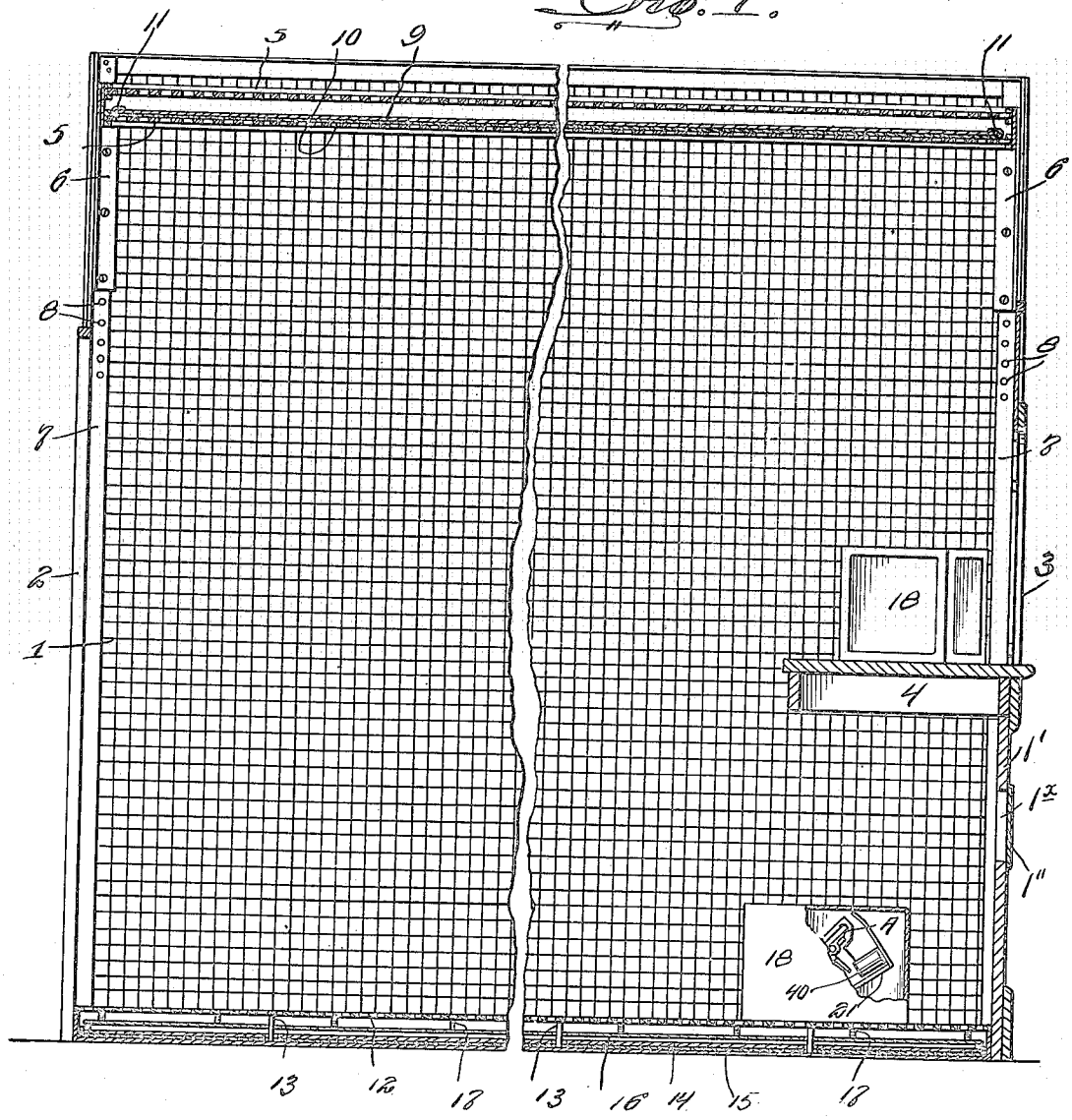
APPLICATION FILED JUNE 27, 1921.

1,420,520.

Patented June 20, 1922.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

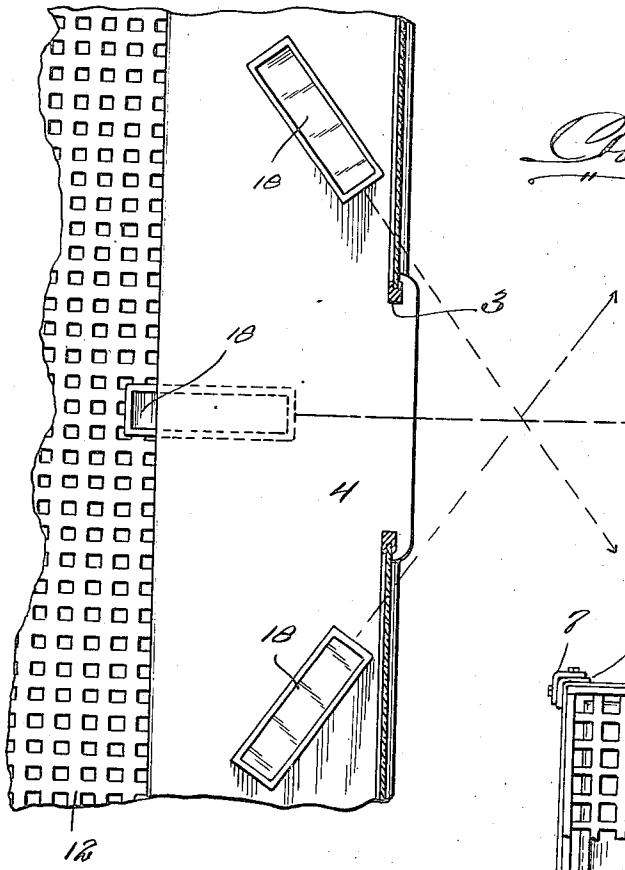


Fig. 2.

Fig. 7.

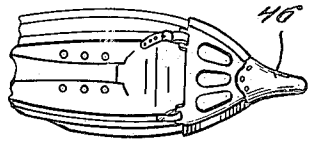
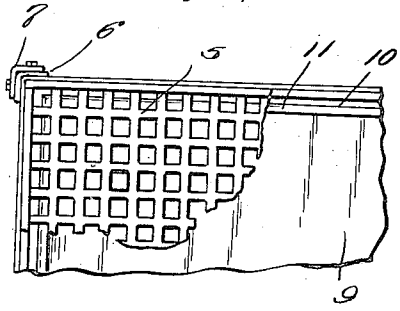


Fig. 5.



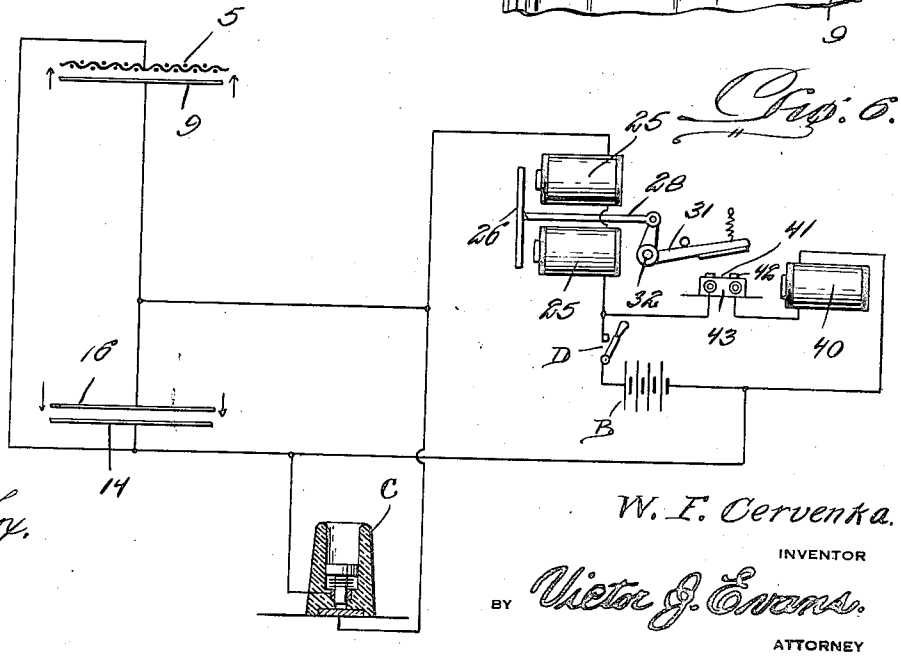


Fig. 6.

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3 SHEETS—SHEET 3.

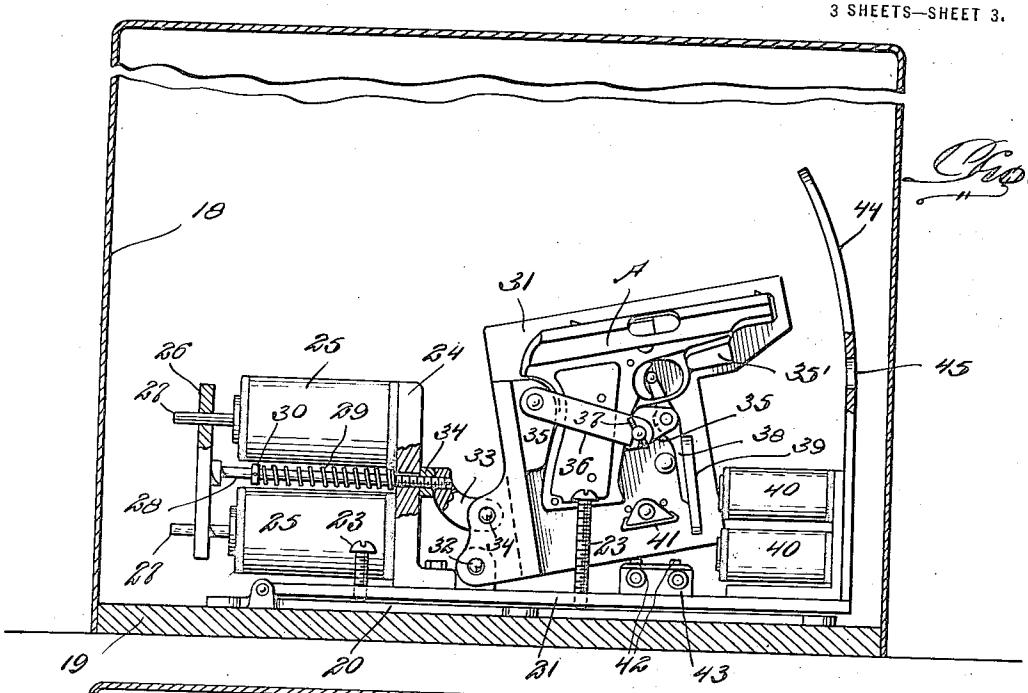


Fig. 3.

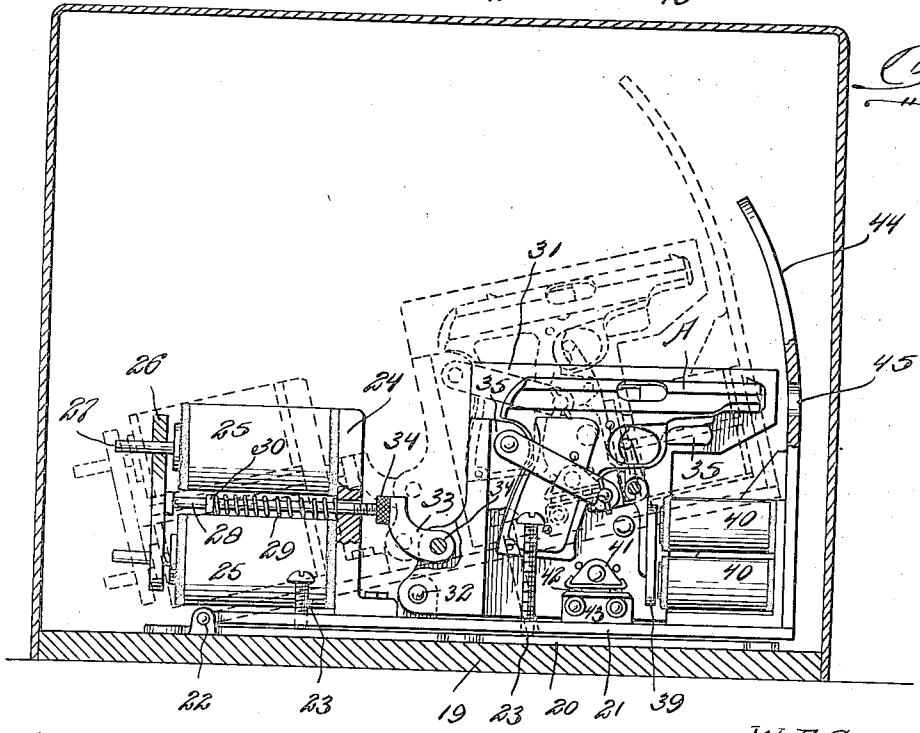


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM F. CERVENKA, OF TRAVERSE CITY, MICHIGAN.

BANK-PROTECTION SYSTEM.

1,420,520. Specification of Letters Patent. Patented June 20, 1922.

Application filed June 27, 1921. Serial No. 480,394.

To all whom it may concern:

Be it known that I, WILLIAM F. CERVENKA, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented new and useful Improvements in Bank-Protection Systems, of which the following is a specification.

This invention relates to an arrangement of parts for protecting banks, post offices and the like, from "hold-ups" by robbers, the general object of the invention being to provide hidden guns which are trained upon a point occupied by a person standing in front of the teller's window and which are actuated by electrical means, the circuit of which can be closed by touching movable parts on the ceiling and floor of the teller's cage and a push button located at any desired point. Thus when a burglar appears at the window and commands the teller to throw up his hands the teller can close the contact in the ceiling in the act of carrying out the commands of the robber and thus fire the guns, or the teller can drop to the floor and actuate the contact in the floor to fire the guns. Or the push button may be arranged so that a person outside the cage may fire the guns thereby.

Another object of the invention is to place a steel shield in front of each gun with a hole in each shield through which the bullets pass when the gun is fired, with means for normally holding the gun out of alignment with the hole so that if the gun should be fired by accident the bullet will strike the shield and do no harm.

A further object of the invention is to provide means actuated by the closing of the circuit for bringing the gun into alignment with the hole, this movement of the parts closing the circuit to the trigger actuating mechanism for firing the gun as soon as its muzzle is brought opposite the hole.

Another object of the invention is to provide means for adjusting the position of the gun holding means and the shield so that the gun can be properly aimed no matter in what position it is placed.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a transverse sectional view through a teller's cage showing my invention in use.

Figure 2 is a fragmentary horizontal section through Figure 1;

Figure 3 is an enlarged sectional view showing the gun actuating means in the enclosing casing for the same.

Figure 4 is a similar view showing the parts in firing position in full lines and in the inclined position by dotted lines.

Figure 5 is a fragmentary view, partly broken away, of a part of the top of the cage.

Figure 6 is a diagrammatic view of the circuits.

Figure 7 is a fragmentary view showing a shoe provided with a pointed member for actuating the floor contact.

In these views 1 indicates the side walls of a teller's cage, 2 the entrance door thereof, 3 the window in the front 1′ of the cage and 4 the shelf or counter adjacent the window.

In carrying out my invention I form the top or ceiling of the cage of a pair of spaced grid plates 5 which are secured to the upper ends of angle corner plates 6, these corner plates being bolted to the uprights 7 of the cage and I make the ceiling adjustable by providing a plurality of holes 8 in the uprights to receive the bolts in plates 6 so that by placing these bolts in different sets of the openings the two grid plates may be raised or lowered in order to place the ceiling within easy reach of the person occupying the cage. A contact plate 9 is placed between the two grid plates and the lower face of this plate 9 is covered with a sheet 10 of insulating material, the edges of which are folded over the edges of the plate, as shown at 11. This plate 9 is slightly flexible so that when it is pushed upwardly by the fingers or the like being passed through the openings in the lower grid plate it will contact with the upper grid plate so as to close the electric circuit as hereinafter described. The floor of the cage is formed of

a grid plate 12 which is spaced from the main floor by the posts 13. A contact plate 14 having its lower face covered with a sheet 15 of insulating material rests upon the main floor and a contact plate 16 is suspended from the grid plate 12 by the springs 17, said springs holding the plate 16 out of engagement with the plate 14. By passing the fingers or a pointed member through the openings in the grid plate 12 the contact plate 16 can be pressed against the plate 14 to close an electric circuit as hereinafter described.

The guns are placed in cases 18 which are made to resemble letter cases or the like so that a person will not suspect that they contain guns. These cases may be arranged in any desired manner within the cage so that the guns therein will cover the point or points a burglar is likely to occupy in holding up the bank. The drawings show two cases arranged on the counter, one at each side of the window, and a third case located on the floor with the gun held in inclined position so that all three guns, when brought into shooting position, as hereinafter described, will aim at a person standing in front of the room. The guns on the counter may shoot through the glass walls of the front of the case and the gun on the floor may shoot through an opening $1^{\times}$ made in the front 1′, below the window, and which is covered by a thin strip 1″ which is preferably made of the same material from which the lower part of the front 1′ is made.

Each case is placed over a base 19 and a base plate 20 is screwed to this base. An auxiliary base plate 21 is pivotally secured at its rear end to the plate 20, as shown at 22, so that plate 21 can be tilted on plate 20. This plate 21 is held in tilted position by the screws 23 which pass through screw threaded holes in said plate and engage plate 20, as shown in dotted lines in Figure 4. This arrangement of parts permits a case to be arranged on the floor with the gun, when in shooting position, aiming at the body of a person standing in front of a window, as shown in Figures 1 and 2. A supporting bracket 24 is secured to plate 21 and this bracket supports the magnets 25, the armature 26 of which is slidably mounted on the pins 27 carried by the magnets. A rod 28 is connected with the central part of the armature and said rod passes through an opening in the bracket 24 and it receives a spring 29 which has one end bearing against the bracket 24 and its other end against a collar 30 on the rod so that said spring tends to hold the armature away from the magnets.

The gun A is carried by a member 31 which is pivotally connected with plate 21, as at 32 and a curved arm 33 has one end pivotally secured to said member, as at 34, and the other end of said arm is provided with a screw threaded socket to receive the screw threaded end of rod 28. Thus the member 31 is held in tilted position, as shown in Figure 3, by the action of the spring 29 on the rod 28. The degree of movement of the member 31 and the armature may be adjusted by means of the nut 34 on rod 28 which is located between the arm 33 and bracket 24. Member 31 is provided with the blocks or projections 35 for engaging the hand grip of the gun and a block 35′ for engaging that part of the gun immediately in front of the trigger guard. The gun is held in position by means of a bar 36 which is pivoted at one end to the rear block 35 and detachably connected with the front block 35 by the thumb bolt 37. By removing this bolt 37 the bar 36 can be swung downwardly to permit the gun to be removed from the supporting blocks. A trigger actuating arm 38 is pivoted to the front block 35 and has its upper end formed to engage the trigger of the gun and supports an armature 39 on its lower end. The magnets 40 for this armature are supported at the front end of plate 21 and are so arranged that when the member 31 has been moved downwardly by the magnets 25 the armature 39 will be in a position to be acted upon by the magnets so that the arm will be rocked upon its pivot to cause its upper end to depress the trigger and fire the gun. The magnets 40 are energized as soon as the member 31 finishes its downward movement by a contact 41 on member 31 engaging the contacts 42 on block 43 which is connected with plate 21.

A shield 44 of armor plate is connected with the front end of plate 21 and this shield has a hole 45 therein with which the muzzle of the gun will register when member 31 is in its lowered position so that the bullet from the gun will pass through this hole when the gun is fired. This shield will protect persons in the bank from the bullet of the gun if the gun should be accidentally fired as the gun is normally pointed at the solid part of the shield.

As shown in Figure 6 a battery B is connected by suitable conductors with the magnets 25 and 40 and with the contact plates in the floor and ceiling of the cage and with a push button C which may be located at any desired point in such a manner that if either of the floor or ceiling contacts are closed or the push button depressed the circuit to magnets 25 will be completed so as to cause said magnets to actuate the armature 26 to swing the member 31 downwardly to place the gun in firing position and this movement of member 31 will close the circuit to magnets 40 to press the trigger and thus fire the gun. I may place a switch

D in the circuits, which when open, will break the circuit and thus prevent the guns from being fired.

From the above it will be seen that it is simply necessary for the teller within the cage to reach up to close the ceiling contact in order to fire the three guns or to reach down and close the floor contact to fire the gun. He may also fire the guns by pushing the push button C. I may also provide a projection 46 for engaging the toe of one shoe and which is adapted to be strapped upon the shoe so that the teller can operate the floor circuit closer with his foot when necessary. This projection is shown in Figure 7.

Attention is called to the fact that the teller may be at any point in the cage and yet be able to operate either the floor or ceiling circuit closer as these extend over the entire floor and ceiling. The ceiling closer can be actuated when the teller is commanded to raise his arms by the robber as he can press upon the contact plate in the act of raising his arms. If he has a chance to throw himself upon the floor to get out of range of the robber's gun he can actuate the floor closer by his fingers or he can operate this closer while standing in front of the window facing the robber with his foot when he has the projection 46 thereon. By holding the circuit closed a stream of bullets will be shot from the gun as each recoil of a gun will force the armature 39 away from the magnets 40 and said magnets will immediately attract the armature again to pull the trigger for the next shot.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. In combination with a room having a window therein, a gun in the room, concealing and supporting means for the gun, magnetic means for firing the gun and means in the floor and ceiling of the room for closing the circuit to the magnetic means.

2. In combination with a room having a window therein, gun supporting means adjacent the window, magnetic means for firing the gun, a circuit closer for said magnetic means extending over the entire width of the ceiling of the room and a second circuit closer extending over the entire width of the floor of the room and grid plates covering said circuit closers.

3. In combination with a room having a window therein, gun supporting means adjacent the window, magnetic means for firing the gun, a circuit closer for said magnetic means extending over the entire width of the ceiling of the room and a second circuit closer extending over the entire width of the floor of the room, grid plates covering said circuit closers and a third circuit closer in the form of a push button.

4. In combination with a cage and its window, gun supporting means arranged in the cage, a gun supported by such means, magnetic means for firing the gun and circuit closers for the magnetic means in the ceiling and floor of the cage, each circuit closer consisting of a movable contact plate and a stationary contact plate and grid plates covering the same and through which the fingers or a projection are adapted to be passed to move the movable plate against the stationary plate.

5. A device of the class described comprising a base plate, a gun supporting member hinged thereto, a gun supported in said member, spring means for holding the supporting member in raised position, magnetic means for lowering the supporting member to place the gun in firing position, circuit closing means for said magnetic means, magnetic means for firing the gun and means for closing the circuit thereof when the supporting member reaches the end of its downward movement.

6. A device of the class described comprising a base, a base plate hinged thereto, means for adjusting the base plate in relation to the base, a gun holding member pivotally connected with the base plate, spring means for holding the same in tilted position on the base plate, magnetic means for lowering the supporting member to place the gun in firing position, a gun on the supporting member, magnetic means for firing the gun, means for closing the circuit of said magnetic means when the supporting member reaches the limit of its downward movement and means for closing the circuit of the first mentioned magnetic means.

7. A device of the class described comprising a support, a shield connected with the support having an opening therein, a gun supporting member pivotally secured to this support, a gun on said member, spring means for normally holding the supporting member with the gun aimed at a solid part of the shield, magnetic means for moving the supporting member to place the gun in register with the opening, circuit closing means for said magnetic means, magnetic means for firing the gun and means for completing the circuit to said magnetic means when the gun supporting member reaches the limit of its downward position.

In testimony whereof I affix my signature.

WILLIAM F. CERVENKA.