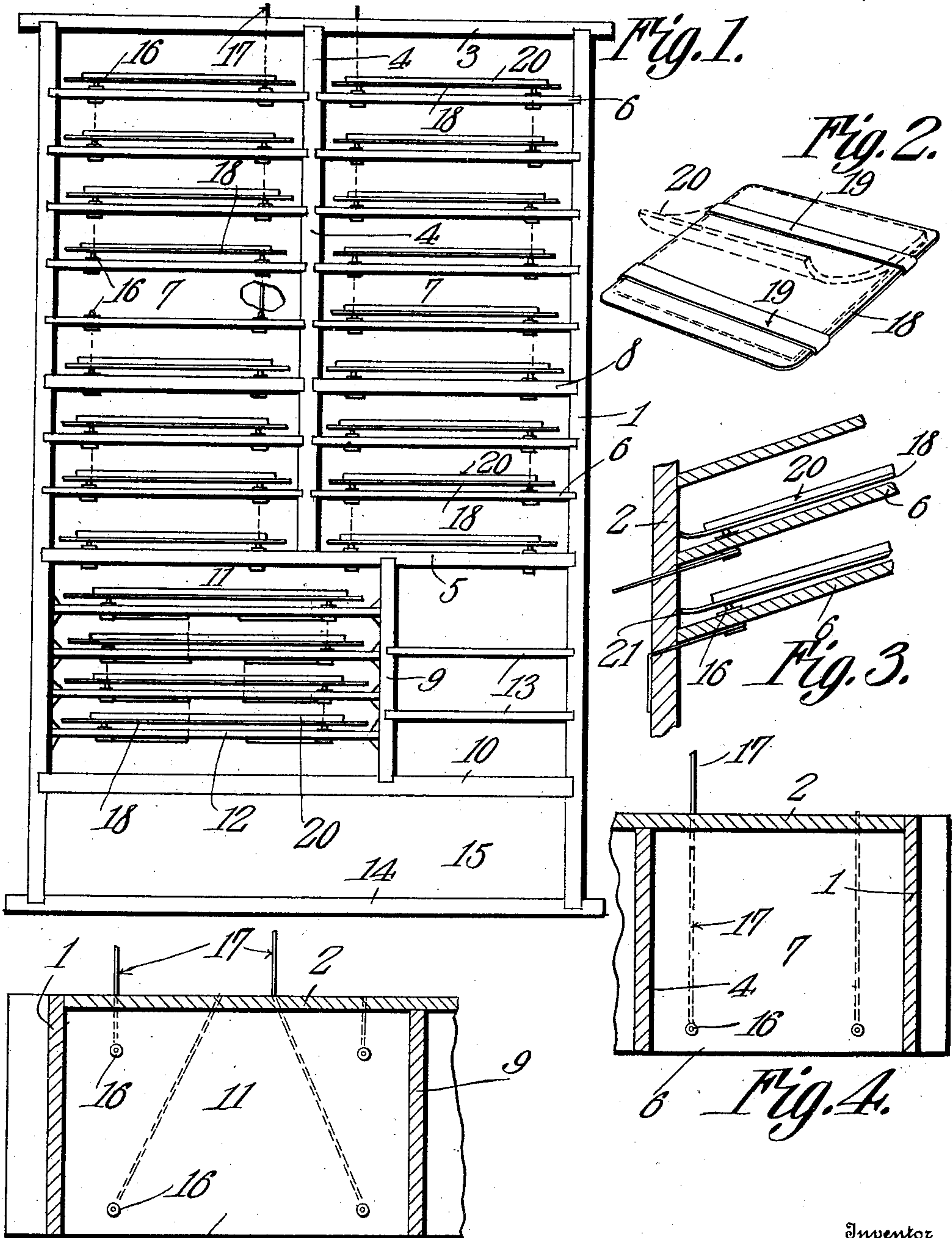


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SAFETY TRAIN ORDER CABINET.  
APPLICATION FILED SEPT. 15, 1908.

924,772.

Patented June 15, 1909.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## SAFETY TRAIN-ORDER CABINET.

No. 924,772.

Specification of Letters Patent.

Patented June 15, 1909.

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*To all whom it may concern:*

Be it known that I, CHARLES B. HANLEY, a citizen of the United States, residing at New Iberia, in the county of Iberia and State of Louisiana, have invented a new and useful Safety Train-Order Cabinet, of which the following is a specification.

This invention has reference to improvements in safety train order cabinets and its object is to provide a means whereby an operator at a block station or a train order station will when making out train orders automatically set the target or targets at stop.

In block systems it is customary to run the trains from block to block on orders and at points to stop the trains and give copies of the orders both to the engine man and conductor and for the conductor to sign his name to the order retained by the operator. Sometimes the operator may forget to set the target against the train and so permit the train to pass without orders, and again the failure of the operator from any cause to set a target against the train at a point where orders are given will indicate to the engine man that from carelessness or other cause the target has not been set against him and he must therefore stop to investigate. It happens sometimes that an operator will set a target to safety to release the train after orders have been given and then being occupied by other work will fail to again properly set the target when the next train approaches so that the engine man seeing the target at safety will pass the station without orders.

By the present invention there is provided a cabinet for the reception of the order blanks or forms assembled together as tablets and these tablets are mounted upon a holder which when inserted in the cabinet bridges the terminals of an electric circuit within the portion of the cabinet designed to receive the particular tablet of orders and the cabinet is so constructed that when all the order tablets are in place therein, and then only is the circuit completed and this completed circuit, which is a normally charged circuit is made to energize suitable mechanism which will operate the target and carry it to the proper position.

When the operator desires to write out an order it is necessary that a proper one of the tablets and its holder be removed from the cabinet in order that the operator may write thereon the proper message. As soon as any one of the order tablets is removed from the

cabinet then the circuit is ruptured by the removal of the bridge between the respective terminals belonging to the particular tablet under consideration. Therefore as soon as an order tablet is removed from the cabinet the target controlled by the particular order tablet, is moved to the stop or danger position. Now the operator can only again set the target to safety or clear by returning the tablet into the cabinet.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings, Figure 1 is an elevation of the cabinet for receiving the train order tablets. Fig. 2 is a perspective view of one of the tablet holders with the tablet of orders or order blanks shown in dotted lines thereon. Fig. 3 is a vertical section through a portion of the cabinet showing a form where the tablet holders are arranged to gravitate to the circuit closing position. Fig. 4 is a plan view partly in section of a single compartment in the cabinet where the circuit terminals are arranged near the front of the cabinet. Fig. 5 is a plan view partly in section of a single compartment where the tablet controls trains running in opposite directions.

Referring to the drawings there is shown a cabinet having sides 1, back 2, and top 3. The cabinet is also provided with a central partition 4 reaching from an intermediate shelf 5 to the top 3. Extending from the partition 4 to the respective sides 1 are a number of spaced shelves 6 dividing the cabinet into two vertical series of compartments 7 and each vertical series may be further differentiated by an intermediate distinctive shelf 8. Below the shelf 5 and to one side of the partition 4 is another vertical partition 9 extending between the shelf 5 and a still lower shelf 10. The distance between the partition 9 and one side 1 is less than the distance between the partition 4 and the corresponding side 1, and the distance between the partition 9 and the other side 1 is greater than the distance between the partition 4 and the corresponding side 1. The wider space is divided into compartments 11 by suitable shelves 12 and on the other side of the partition 9 the space may be divided into a suitable number of compartments by shelves 13. The space between the lowermost shelf 10 and the bottom 14 of the cabi-



net may be occupied by a drawer 15, or the drawer space may be omitted as desired.

Each shelf 6 carries two laterally spaced conducting plugs or studs 16 extending a short distance above the upper surface of the shelf and also extending through the shelf to the under surface thereof where it is connected to a conductor 17 leading to and through the back 2 of the cabinet. All the terminal plugs or studs 16 of a coacting group of compartments 7 are connected together in series with the leading in conductors one of which is shown at 17 in Fig. 4. The arrangement is such that a leading in conductor will be connected to one stud 16 of say the uppermost compartment 7 of a group, and then the other stud of the same compartment is connected to the corresponding stud of the next lower compartment, and the second stud of the said next lower compartment is connected to the corresponding stud of the third compartment and so through all the compartments until the last stud of the last of the vertical series of compartments is connected to the other conductor leading away from the cabinet.

The conductors 17 are assumed to lead to a target operating mechanism wherein a breaking of the electric circuit will cause the target to move to the danger or train order position while the completion of the circuit will hold the target in the safety position or train release position if that be the desirable position.

One series of compartments 7 is designed to carry the several order tablets used to control the trains moving in one direction, while the other vertical series of compartments 7 is designed to carry order tablets for orders controlling trains moving in the other direction, and the electric circuits from these two series of compartments are correspondingly arranged. The compartments 11 are so arranged as to control trains moving in both directions at once and consequently there are two sets of terminals 16 in each compartment 11 so that targets controlling trains running in each direction will be simultaneously actuated or controlled.

In order to bridge the contacts 16 of each compartment there is provided a conducting tablet holder 18, best shown in Fig. 2. Since for constructive reasons it is preferable to make the terminals or studs 16 of metal and preferably copper or brass, the tablet holder 18 is also made of metal of similar nature and is made large enough not only to support a tablet of orders or blanks but also to bridge the distance between two terminals 16 in a compartment 7. Since it is customary to form tablets of blanks with a cardboard back, the support 18 is made with clips 19 for receiving the cardboard back and so causing the attachment of the tablet to the holder or plate 18. In Fig. 2 the tablet is indicated

in dotted lines at 20 and in the other figures the tablet 20 is indicated in full lines where shown.

Considering the tablet in the position in which it is placed for writing out the orders thereon, it is customary to insert the upper end of the tablet holder into the compartment so that the bottom end of the tablet holder is the accessible end when it is desirable to remove the same from the cabinet.

By tilting the shelves 6 so that their inner ends are lower than their outer ends and locating the terminal studs 16 near the rear end of the shelves, and also by slightly rounding the top edge of the tablet holder 18, the operation of the device is facilitated because as soon as the tablets and their holders are inserted into the cabinet they will gravitate to the lower end of the shelves and close the circuit, the slight rounding of the top edge of the tablet holder facilitating this movement since it will prevent the tablet holder from engaging the studs at its extreme edge and so making for contact therewith, or possibly with one only. The curved edge causes the end of the tablet holder to ride up on the plugs and so make good contact therewith. Furthermore any attempt to write a message upon a tablet without removing it from the cabinet is not possible with the structure shown in Fig. 3, without opening the circuit.

Let it be supposed that the operator is about to receive a train order, he removes the proper tablet from the cabinet in order that he may use the tablet in the usual manner. The removal of the tablet from the cabinet has caused the rupturing of the circuit and the corresponding target immediately assumes the danger or stop position. When the train arrives at the station and there stops because of the position of the target the orders are given in the usual manner and the conductor's signature is obtained. Then in order to release the train it is necessary that the tablet holder be replaced in the cabinet to again close the circuit since otherwise the target will remain at the stop position.

What is claimed is:—

1. A train order cabinet comprising a series of compartments having spaced circuit terminals arranged in series with each other and with an external circuit, and train order tablet holders of conducting material for bridging the circuit terminals when in the cabinet, said holders having the edge first engaging the circuit terminals upturned.

2. A train order cabinet having compartments for train orders for trains bound in one direction, other compartments for train orders for trains bound in the other direction, spaced circuit terminals in each compartment, train order tablet carriers of conducting material adapted to bridge the circuit



terminals when said carriers are inserted in the cabinet, other compartments for train orders for trains bound in both directions and each having two sets of circuit terminals, and train order tablet carriers adapted to bridge both sets of circuit terminals, in the last named compartments, at the same time, when the said tablet carriers are inserted therein.

10 3. A train order cabinet comprising a series of compartments having inclined bottoms and spaced circuit terminals arranged in series with each other and with an external circuit, said circuit terminals being  
15 to the rear end of the compartment, and train order tablet holders of conducting material for bridging the circuit terminals when the said carriers are in the cabinet, the carriers having the edge first engaging  
20 the circuit terminals upturned.

4. A train order cabinet having a series

of tablet receptacles electrically connected with spaced circuit terminals in each receptacle and a bridging tablet carrier for the circuit terminals of each receptacle, there  
25 being a series of receptacles and bridging tablet carriers for each direction of travel of the trains, and another series of receptacles and bridging tablet carriers, the last named receptacles having distinct sets of  
30 interconnected spaced circuit terminals, the said last named receptacles and tablet carriers being provided for the control at one time of trains bound in both directions.

In testimony that I claim the foregoing as  
35 my own, I have hereto affixed my signature in the presence of two witnesses.

CHAS. B. HANLEY.

Witnesses:

J. J. CLARK,  
LAWRENCE T. HANLEY.