July 29, 1947. H. G. TOWNE ET AL 2,424,642

SLIDE BOX WITH SLIDABLE LATCH

Filed April 6, 1946

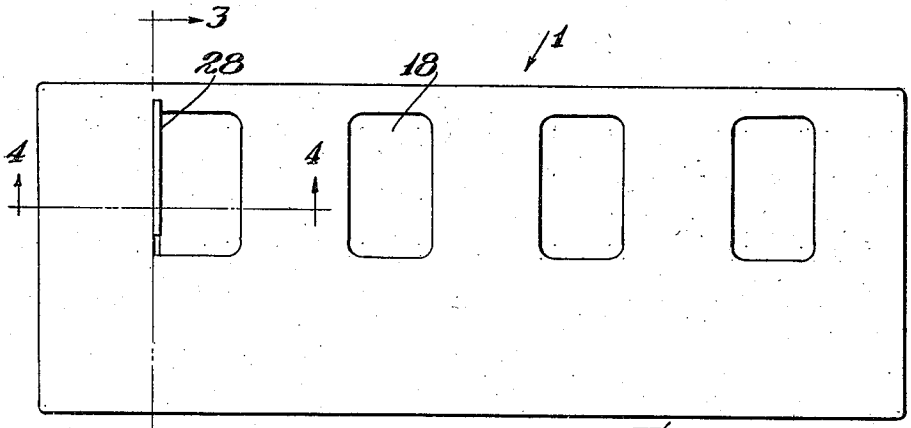


Fig. 1

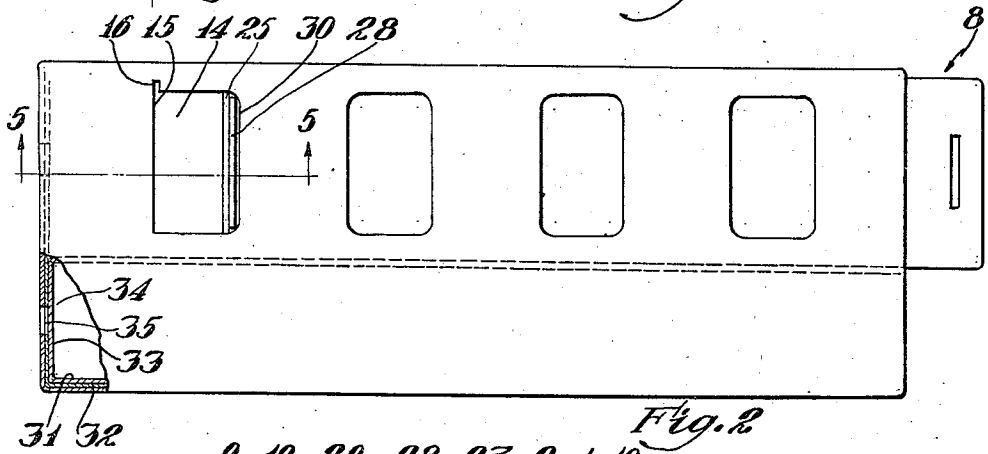


Fig. 2

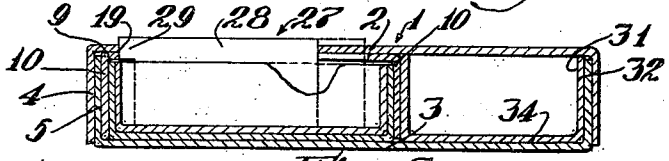


Fig. 3

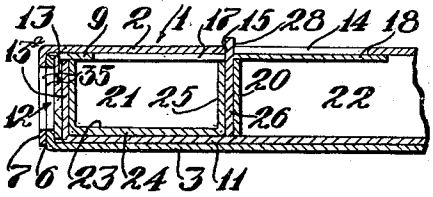


Fig. 4

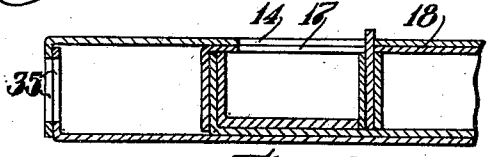


Fig. 5

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Patented July 29, 1947

2,424,642

UNITED STATES PATENT OFFICE

2,424,642

SLIDE BOX WITH SLIDABLE LATCH

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Application April 6, 1946, Serial No. 660,240

13 Claims. (Cl. 206—1.5)

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This invention relates to boxes and in particular to that type of box customarily used, for example, by school children for holding and safekeeping of various articles necessary for their school and associated home work.

One object of my invention is to provide a box of the character described which will provide for ready access to the contents of the box and for ready exposure of the contents to inspection, while at the same time keeping to a minimum the chance of accidental or inadvertent spilling of the contents so often attendant to opening boxes of similar types. Another object of my invention is to provide a box of the above character which may be tightly closed and secured from accidental opening which results from careless and hurried closing of the box, or from rough and indifferent handling. Other objects of my invention are to provide a box which is inexpensive and easy to manufacture, which is durable and light in construction, and which presents a pleasing and attractive appearance.

In one aspect my invention involves a box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening and having a recess extending from the opening at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in extended position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement.

In another aspect the casing opening has an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the lock being also operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray. The tray has a part adapted to close the casing opening when the tray is slid to retracted position. The top wall of the tray may also have a recess in registry with the casing recess when the tray is in retracted position, the lock being movable into the registering recesses of the tray and casing when the tray is in said retracted position for locking the tray against sliding movement.

The lock may comprise an extension through the tray and casing openings and a part movable into said recess when the tray is in said retracted

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position for locking the tray against sliding movement, the lock extension being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

In a more specific aspect of my invention the top wall of the casing has an open window with an edge normal to the line of travel of said tray, and a recess at one corner of the casing window aligned with said edge portion.

In another aspect the top wall of the casing is formed with a plurality of spaced openings, and the tray has a top wall formed with a plurality of spaced openings adapted to underlie the casing openings when the tray is in extended position, and has a plurality of parts adapted to close the casing openings when the tray is in retracted position, and further has partition means disposed between the openings of the tray for dividing the tray into a plurality of compartments, the openings of the tray constituting means of access to said compartments. One of the casing openings has an edge portion extending at an angle to the line of travel of said tray and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, and the top wall of the tray has a recess in registry with the casing recess when the tray is in retracted position. A lock is movably mounted in the tray to move into said registering recesses when the tray is in retracted position for locking the tray against sliding movement, the lock further being operative to engage the opposite edge of the one casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

For the purpose of illustration, a preferred embodiment of the invention is shown in the accompanying drawings in which:

Fig. 1 is a plan view with the tray in retracted position and locked against sliding movement;

Fig. 2 is a plan view with the tray in extended position and stopped against further extension within the casing, one corner being broken away;

Fig. 3 is a cross-section along the lines 3—3 of Fig. 1;

Fig. 4 is a cross-section along the lines 4—4 of Fig. 1; and

Fig. 5 is a cross-section along the line 5—5 of Fig. 2.

Referring to Figs. 2, 3 and 4, the numeral 1 represents a casing having a top wall 2, a bottom 3, overlapping side walls 4 and 5, and at one end, overlapping end walls 6 and 7, the opposite end

of the casing being formed with an opening. A tray 8 is slidably disposed in the casing 1 and has a top wall 9, side walls 10, a bottom 11 and end walls 12 comprising overlapping end members 13 and 13a, as shown in Fig. 4, one of said end walls abutting the end wall of the casing when the tray is in retracted position, as shown in Fig. 4, the other end wall extending through the open end of the casing when the tray is slid to extended position, as shown in Fig. 2.

The top wall 2 of the casing is formed with a plurality of spaced openings 14, as shown in Fig. 2, one of said openings having an edge portion 15 normal to the line of travel of the tray 8, and having a recess 16 at one corner of the opening 14 aligned with said edge portion.

The top wall 9 of the tray is formed with a plurality of spaced openings 17, as shown in Figs. 2, 4 and 5, adapted to underlie the casing openings 14, as shown in Figs. 2 and 5, when the tray is in extended position. The top wall 9 of the tray further has a plurality of parts 18, as shown in Fig. 4, adapted to close the casing openings 14 when the tray is slid to retracted position, as shown in Figs. 1 and 4. A recess 19 is also formed in the top wall 9 of the tray at the edge of one opening 14, and is adapted to register with the recess 16 of the casing opening when the tray is in retracted position, as shown in Fig. 3.

Partition members 20 are disposed within the tray 8 between the openings 17 and in registry with the edges of the tray parts 18 to divide the tray into a plurality of compartments 21 and 22. Referring to Fig. 4, a tray 23 having a bottom 24 and side walls 25 is disposed within compartment 21, one of said side walls being parallel to and spaced from one of said partition members 20 to form a lock-receiving space 26 aligned with the recess 19 and cooperative with said partition member to provide a lock-supporting means.

Referring to Figs. 3 and 4, a lock 27 is disposed within said lock-receiving space 26 and is slidably supported by the side wall 25 and partition 20, the lock comprising a narrow rectangular member having an extension 28 through the openings 17 and 14 of the tray and casing, respectively, and a part 29 adapted to slide into the registering recesses 19 and 16 of the tray and casing when the tray is in retracted position to lock the tray against sliding movement, as shown in Figs. 1, 3 and 4. The extension 28 is also operative to engage the opposite edge 30 of the casing opening 14 when the tray is in extended position to stop the tray from further extended movement, as shown in Figs. 2 and 5.

As illustrated in Figs. 2 and 3, a second tray 31 is slidably disposed within the casing 1 in juxtaposed relation to the tray 8, the tray 31 having side walls 32, end walls 33 and a bottom 34.

To assist sliding the trays 8 and 31 from retracted to extended position, overlapping end walls 6 and 7 of the casing are formed with openings 35 through which a pencil or finger may be inserted to impinge against the end walls 12 and 33 of the trays, after which further inward movement of the pencil or finger will extend the trays from retracted position.

To use the box the lock 27 is slid inwardly toward the center of the casing which withdraws the member 29 from the casing and tray recesses, thereby releasing the tray for slidable movement within the casing. The tray, then in retracted position, is extended, as above described, until the extension 28 engages the edge 30 of the casing opening to stop further extension of the tray.

At this time the spaced openings 17 of the tray underlie the openings 14 of the casing, and the compartments of the tray are readily accessible either for inspection of their contents or for replenishing or depleting said contents. The tray is then slid to retracted position by pressing the extended end of the tray inwardly towards the casing at which time the parts 18 of the tray will close the casing openings and the recesses 19 and 16 of the tray and casing, respectively, will be brought into registry and aligned with the lock. The lock is then slid outwardly away from the center of the casing which slides the lock member 29 into said recesses, thereby locking the tray against sliding movement.

It should be understood that the present disclosure is for the purpose of illustration only, and that the invention includes all modifications and equivalents which fall within the scope of the appended claims.

We claim:

1. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening and having a recess extending from the opening at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in extended position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement.

2. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in extended position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

3. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening and having a recess extending from the opening at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in extended position and having a part adapted to close the casing opening when the tray is slid to retracted position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement.

4. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in ex-

tended position and having a part adapted to close the casing opening when the tray is slid to retracted position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

5. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening and having a recess extending from the opening at an angle to the line of travel of said tray, the tray having a top wall formed with an opening adapted to underlie the casing opening when the tray is in extended position, the top wall of the tray having a recess in registry with the casing recess when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recess when the tray is in said retracted position for locking the tray against sliding movement.

6. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray having a top wall formed with an opening adapted to underlie the casing opening when the tray is in extended position, the top wall of the tray having a recess in registry with the casing recess when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recesses when the tray is in retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

7. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening and having a recess extending from the opening at an angle to the line of travel of said tray, the tray having a top wall formed with an opening adapted to underlie the casing opening when the tray is in extended position and having a part adapted to close the casing opening when the tray is slid to retracted position, the top wall of the tray having a recess in registry with the casing recess when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recess when the tray is in said retracted position for locking the tray against sliding movement.

8. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray having a top wall formed with an opening adapted to underlie the casing opening when the tray is in extended position and having a part adapted to close the casing opening when the tray is slid to retracted position, the top wall of the

tray having a recess in registry with the casing recess when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recesses when the tray is in retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

9. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with an opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray being formed with an opening adapted to underlie the casing opening when the tray is in extended position, and a lock mounted in the tray, the lock comprising an extension through the tray and casing openings and a part movable into said recess when the tray is in said retracted position for locking the tray against sliding movement, the lock extension being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

10. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing having an open window with an edge portion normal to the line of travel of said tray, and a recess at one corner of the casing window aligned with said edge portion, the tray being formed with an opening adapted to underlie the casing window when the tray is in extended position, and having a part adapted to close the casing window when the tray is slid to retracted position, and a lock movably mounted in the tray to move into said recess when the tray is in said retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing window when the tray is in extended position so as to provide a stop against further extension of the tray.

11. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing having an open window with an edge portion normal to the line of travel of said tray, and a recess at one corner of the casing window aligned with said edge portion, the tray having a top wall formed with an opening adapted to underlie the casing window when the tray is in extended position and having a part adapted to close the casing window when the tray is slid to retracted position, the top wall of the tray having a recess in registry with the casing window when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recesses when the tray is in retracted position for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing window when the tray is in extended position so as to provide a stop against further extension of the tray.

12. A box comprising a casing having a top wall formed with a plurality of spaced openings, a tray slidable within said casing from a retracted position inside the casing and having a top wall formed with a plurality of spaced openings adapted to underlie the spaced openings of the top wall of said casing when the tray is in extended position, and having a plurality of parts adapted to

close said spaced openings of the top wall of said casing when the tray is slid to retracted position, partition means disposed between the openings of the tray for dividing the tray into a plurality of compartments, the openings of the tray constituting means of access to said compartments, and a lock movably mounted in the tray and cooperative with the casing to lock the tray against sliding movement when the tray is in retracted position and to provide a stop against further extension when the tray is in extended position.

13. A box comprising a casing having a top wall, a tray slidable within said casing from a retracted position inside the casing, the top wall of said casing being formed with a plurality of spaced openings, one opening including an edge portion extending at an angle to the line of travel of said tray, and a recess communicating with and extending from said edge portion at an angle to the line of travel of said tray, the tray having a top wall formed with a plurality of spaced openings adapted to underlie the casing openings when the tray is in extended position and having a plurality of parts adapted to close the casing openings when the tray is slid to retracted position, partition means disposed between the openings of the tray for dividing the tray into a plurality of compartments, the openings of the tray constituting means of access to said compartments, the top wall of the tray having a recess in registry with the casing recess when the tray is in retracted position, and a lock movably mounted in the tray to move into said registering recesses when the tray is in retracted position, for locking the tray against sliding movement, the lock being operative to engage the opposite edge of the casing opening when the tray is in extended position so as to provide a stop against further extension of the tray.

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