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LOCK FOR DRAWERS AND CABINETS

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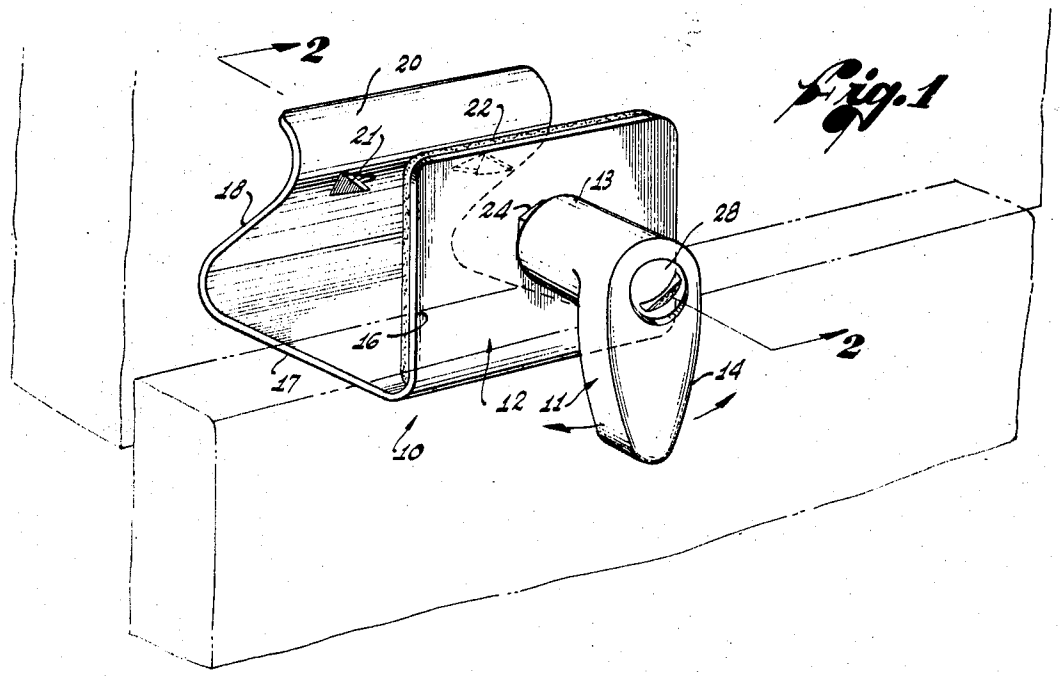


Fig. 1

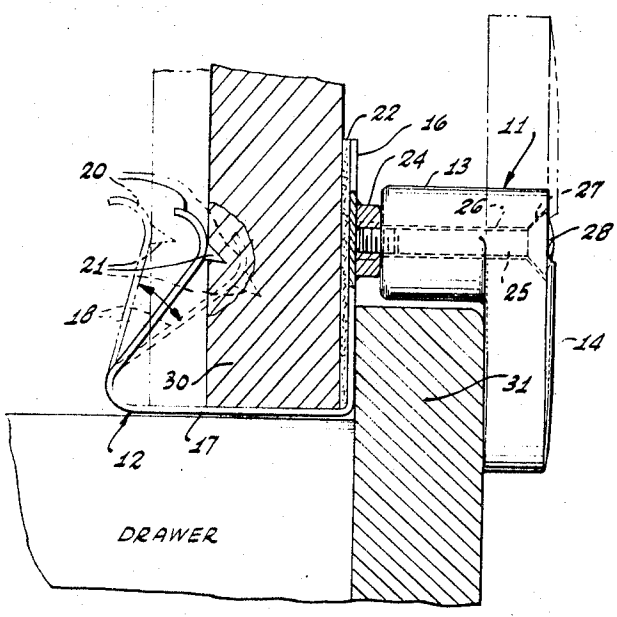


Fig. 2

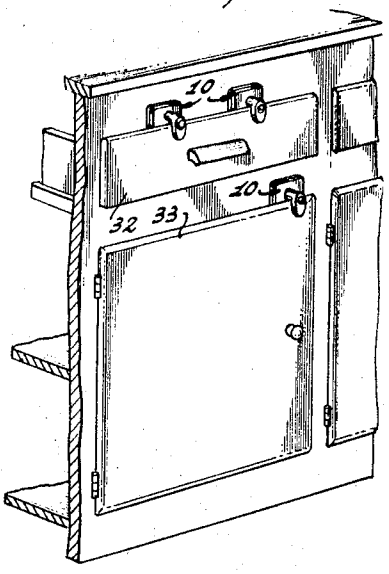


Fig. 3

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LOCK FOR DRAWERS AND CABINETS

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ABSTRACT OF THE DISCLOSURE

A detachable safety lock for preventing children from opening household drawers and cabinets. A removable spring clip, which fits over the cabinet wall adjacent the aperture to be closed is provided with an extending shaft about which a latch member is free to swing down over the drawer or cabinet door to lock them in closed position.

Background of the invention

The present invention relates generally to safety locks, and more particularly to safety locks for preventing small children from opening drawers and cabinets in the home.

Through curiosity, small children are prone to open the drawers and cabinet doors in the kitchen or other rooms of the home. If the child has not reached an age where he fully understands the nature and operation of such drawers and cabinets and their contents, injury may easily result to either the child or the contents of the drawer or cabinet. The child may be injured by a fully pulled-out drawer falling on him, or the contents of the drawer or cabinet may contain articles which would be dangerous to a young child. Conversely, the content of the drawer or cabinet may be such that it would be easily damaged by the child.

While there are numerous drawer and cabinet locks on the market, most of them have been designed for the purpose of preventing adults as well as children from opening the drawer or cabinet. Consequently, many of these locks require keys or other such devices for their operation. Also, these locks usually anticipate a rather permanent problem and are therefore designed for permanent installation in the drawer or cabinet. In contrast to this, most drawers and cabinets in the kitchen and other rooms of a home need only be locked while the children in the home are of such tender years as not to appreciate the dangers in these drawers and cabinets.

Summary of the invention

To solve the particular problems in locking household drawers and cabinets against the inquisitive fingers of the very young without imposing an undue inconvenience upon the adults in the household, the present invention provides a gravity operated safety lock for drawers and cabinets which is simple and easy to operate for the adult members of the household, but which presents a complicated problem to a small child who has not reached the age of solving simple manipulative problems. Also, applicants' safety lock is designed to be removably attached to the cabinet wall for temporary use during the early stages of the child's growth, and may be easily removed from the drawer or cabinet without marring the finished surfaces thereof when the need for the lock has passed.

Description of the drawing

FIGURE 1 is a perspective view of the present invention, a cabinet wall and drawer being shown in phantom;

FIGURE 2 is a sectional view taken along the line 2—2 in FIGURE 1; and

FIGURE 3 is a fragmentary perspective view of a plurality of locks of the present invention installed in a typical cabinet drawer and door.

Description of the preferred embodiment

Referring to the drawing, the locking device, as a whole, is indicated by the numeral **10** and generally comprises a latch member **11** and a spring clip **12** for attaching the lock to the framework of a cabinet having drawers or doors. The latch member **11** is preferably made of some easily moldable but rigid material, such as plastic, glass or metal, and has a generally cylindrically shaped shank **13** which terminates at its outer end in an integrally molded latch bar **14**. The latch bar **14** extends radially from the shank **13** perpendicular to the center line of the shank.

In the embodiment shown in the drawing, one end of the latch bar **14** substantially conforms to the cylindrical shape of the shank **13** and gradually tapers along its length to end in a curved surface which has a radius somewhat less than the radius of the cylindrical surface of the shank **13**. The latch bar **14** thus has a generally oval shape in the plane perpendicular to the center line of the shank **13**. While it has been found that this shape is very effective and pleasing in appearance, the latch bar **14** may be of any decorative or non-decorative shape. The thickness of the latch bar **14** is such that the latch bar itself and the molded junction of the latch bar and shank **13** can withstand moderate shear stresses produced on the inside of the latch bar **14** when a drawer or door is pulled against it.

The spring clip **12** is preferably made of spring steel or other suitable material and is generally U-shaped with a front flat facing section **16**, a perpendicularly extending connection section **17** and a rear gripping section **18** which extends at an angle from the connecting section toward the facing section. The outer end of the gripping section **18** which extends toward the facing section **16** is bent rearwardly and away from the facing side to form a recurve **20**. The spring clip **12** is wide enough to afford a stable engagement with a cabinet wall along the facing and connecting sections **16** and **17**. Small wedge-shaped portions are struck from the spring section **18** in the vicinity of the recurve and bent inward toward the facing section to form teeth **21**. The inside surface of the facing **16** is preferably covered with a thin soft padding **22**, such as felt.

A nut **24** is secured on its flat side near the center of the outside surface of the facing section **16**. A bolt **25** passes through a hole **26** bored through the center of the shank **13** of the latch member **11** and the inner end of the bolt is threaded into the nut **24**. The bolt **25** thus extends forwardly from the outside surface of the facing section **16** and is adapted to carry the latch member **11**. The diameter of the hole **26** is such that the shank **13** of the latch member **11** is free to rotate about the shaft of the bolt **25**. The end of the hole **26** at the outer end of the shank **13** and latch bar **14** has a countersink **27** which rotatably receives the head **28** of the bolt **25**. The head **28** of the bolt **25** and cooperating countersink **27** serve to hold the latch member **11** in position on the shaft of the bolt **25**.

The lock **10** is preferably installed on a cabinet having drawers or doors by slipping the spring clip **12** of the lock over the upper edge **30** of the aperture in the cabinet frame which receives the drawer or door. In order to slip the spring clip **12** over the edge, it is necessary to bend back the normally spring-biased gripping section **18** of the spring clip. Release of the gripping section **18** then allows the teeth **21** to firmly engage the inside surface of the cabinet wall **30** and causes the facing section **16** to be brought up flush with the outside surface of the cabinet edge **30**. Marring of the outside surface

of the cabinet edge **30** by the facing section **16** is prevented by the padding **22**. The lock **10** is then firmly held in position on the cabinet edge **30** by the spring tension produced between the gripping section **18** of the spring clip **12** and the facing section **16**. The engaged teeth **21** prevent the lock **10** from slipping off the cabinet edge **30**.

The drawer is then closed and the latch **11** is freed so that the latch bar **14** is free to rotate downwardly by gravity into locking position over the outside surface of the drawer edge **31**. The drawer cannot be opened until the latch bar **14** is rotated upwardly out of locking position. It is to be noted that the size of the facing section **16** of the spring clip **12** and the position of the nut **24** on the outside surface of the facing section will be dependent upon how far the upper surface of the drawer edge **31** extends above the lower surface of the cabinet edge **30**. It is also to be noted that the length of the shank **13** and of the bolt **25** will depend upon the thickness of the drawer edge **31**. The extent of travel of the gripping section **18** of the spring clip **12** is shown in FIGURE 2 and the gripping section will properly engage a variety of thicknesses of the cabinet edge **30**. However, its dimensions will also depend upon the size of the cabinet edge with which it is to be used.

FIGURE 3 shows a typical cabinet having a drawer **32** and a door **33** with two of the locks **10** in position on the drawer and one lock in position on the door. In order to open the drawer **32** locked in this way, the latch bars of both of the locks **10** must be rotated upwardly until the drawer can be pulled free. Similarly, the door **33** cannot be opened until the latch bar of the lock **10** is rotated upwardly until the edge of the door can be pulled free.

While the principal of operation of the locks **10** is readily evident to an adult who wishes to open the drawer **32** or the door **33**, a child who is unfamiliar with such devices and who is in an early stage of his growth will be presented with the formidable manipulative problem of operating the lock with one hand while pulling on the door with the other, thus effectively preventing his opening the drawer or door.

While a preferred embodiment of the invention has been described in detail, it will be understood that modifications in design and construction can be made without departing from the spirit and scope of the invention. Hence, the invention is not to be limited except as defined in the appended claims.

We claim:

1. A lock for a covering member attached to a wall member having internal and external surfaces, said covering member being adapted to close an aperture defined by said wall member, said lock comprising:

a spring clip having a facing section with inside and outside surfaces and a gripping section connected thereto, said gripping section having an integral recurved spring angular extending toward said inside surface of said facing section, the outer end of said spring being curved outwardly away from said inside surface, said spring clip being adapted to be mounted on said wall member adjacent said aperture with the inside surface of said facing section in surface contact with the external surface of said wall member and said recurved spring being placed in tension against said internal surface of said wall member;

means extending from the outside surface of said facing section; and

a latch member rotatably mounted to said extending means, said latch member having a latch bar for maintaining said covering member in a closed condition.

2. A lock as defined in claim **1** wherein said extending means is a shaft and said latch bar is gravitationally urged to rotate about said shaft into a vertically depending locking position for maintaining said covering member in said closed condition.

3. A lock as defined in claim **2** wherein:

said inside surface of said facing section is padded for contacting said external surface of said wall member; and

the outer end of said recurved spring includes tooth means for engaging said internal surface of said wall member.

4. A lock for a covering member attached to a wall member having internal and external surfaces, said covering member being adapted to close an aperture defined by said wall member, said lock comprising:

a mounting member adapted to be mounted on an edge of said aperture in said wall member, said mounting member having a facing section with inside and outside surfaces for engaging said external surface of said wall member, a resilient gripping section for engaging said internal surface of said wall member, and a connecting section connecting said facing section and said gripping section, said gripping section having an integral recurved spring angular extending toward, and engaging, said internal surface of said wall member from said connecting section, the outer end of said spring being curved outwardly away from said internal surface of said wall member and said outer end having at least one tooth extending toward and engaging said internal surface of said wall member;

a shaft extending outwardly from said outside surface of said facing section;

a latch member having a shank freely rotatably on said shaft; and

a perpendicularly disposed latch bar integral with the external end of said shank, said latch bar being gravitationally urged to rotate into a vertically depending locking position for maintaining said covering member in a closed position.

5. A lock as defined in claim **4** wherein said inside surface of said facing section is padded.

6. A lock for a covering member attached to a wall member having internal and external surfaces, said covering member being adapted to close an aperture defined by said wall member, said lock comprising:

a spring clip having a facing section with inside and outside surfaces and a gripping section connected thereto, said gripping section including an upstanding spring section extending angularly toward the inside surface of said facing section, said spring clip being adapted to be mounted on said wall member adjacent said aperture with the inside surface of said facing section in surface contact with the external surface of said wall member and with said spring section in tension against the internal surface of said wall member;

means on the wall engaging surface of said spring section for positively engaging the inside surface of said wall member;

a boss extending from the outside surface of said facing section;

an eccentric gravitational latch bar; and

shaft means operatively and rotatably connecting said latch bar to said boss so that said latch bar is gravitationally urged to rotate into a depending position to lock said covering member in closed position.

7. A lock as defined in claim **6** wherein the means on said spring section for positively engaging said wall member comprise at least one tooth outstruck from said spring section.

8. A lock as defined in claim **7** wherein the inside surface of said facing section is nonabrasive and said latch bar has an elongated shank portion integral therewith.

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