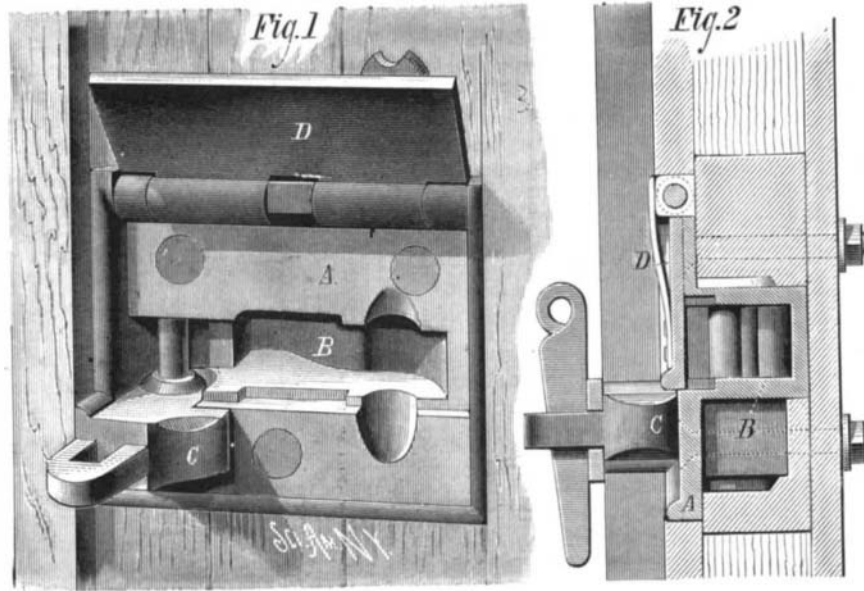


NEW CAR DOOR FASTENER.

We illustrate herewith a novel and effective car door fastener, patented by Messrs. William H. Buser and Burrell L. Shaw, of Denison, Texas. It is designed to afford a positive means of fastening car doors and, at the same time, to dispense with the cleat which is commonly used for stopping the door and which is so damaging to the side of the car.

An iron box, A, secured to the side of the car, has a recess, B, capable of receiving the staple block, C, which is pivoted on a vertical rod extending through the box. The recess, B, has a vertical branch into which the pivoted end of the staple block, C, may drop when the block is swung around at right angles with the face of the box, A, and when in this position it acts as a rigid stop for the door. It has a staple formed on its outer end to receive a hasp attached to the door and a lock or pin for securing the hasp. When the fastener is not in use the staple block, C, is raised up and turned upon its pivot until it is wholly within the recess, B, when the door, D, is closed, making all flush with the side of the car. The door is also closed when the fastener is in use, excluding dirt, snow, or ice, from the recess, B.

This fastening is very strong and well calculated to withstand the rough usage to which it must be submitted.



BUSER & SHAW'S CAR DOOR FASTENER.

An improved rotary engine, patented by Mr. James A. Adams, of Lampasas, Texas, consists, essentially, of a wheel provided with radially sliding pistons, and revolving within a fixed circumferential steam chest, and having fixed on its axle an eccentric and spring that operate to throw the pistons or floats outward to receive the pressure of the steam.

An improved car coupling has been patented by Mr. Horace E. Henwood, of Hamilton, Ontario, Canada. This invention is an improvement upon the automatic car coupling, forming the subject of United States letters patent No. 143,011; and it consists in a novel construction and arrangement of parts which cannot be explained without engravings.

Messrs. James P. Meredith and John S. Lyon, of Augusta, Ga., have patented an improved railway safety switch, in which the continuity of the main line is not broken and the use of frogs is dispensed with. The invention consists in the novel arrangement of jointed leading tongues, a lap rail section for crossing the main track, and movable guard rails, all connected so as to be operated at will, or by the wheels of the locomotive in passing over the track.

IRONING TABLE, CLOTHES DRIER, AND STEP LADDER.

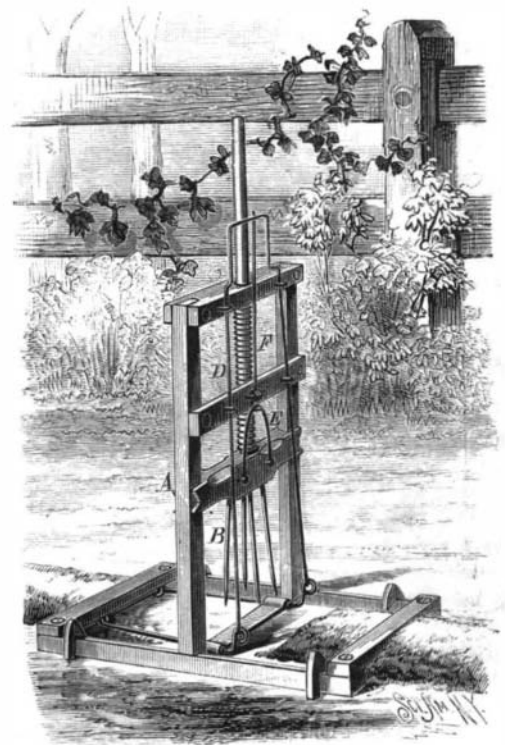
The annexed engraving shows one of those novel combinations that may be used to advantage in any household. It comprises a convenient ironing table or skirt board, a strong step ladder, and a handy clothes drier.

The body of the device consists of a board of the proper form and size for an ironing or a skirt board, divided into three parts, two of them forming, together with the steps and side rails, the ladder, A, while the third part is hinged to the other two, and forms the brace, B, which supports the ladder. Two lateral braces, C, are pivoted to the board, B, and are each divided into three pieces, two of which are pivoted to the main piece, so that they may be turned at an angle with it, forming a radial support for clothes. When

the braces, C, are used for clothes drying, they are supported in a horizontal position by long hooks, which engage eyes in the under surface of the board, B. When they are employed to steady the step ladder they are folded compactly together, and their free ends are allowed to rest upon the floor. The legs, D, are pivoted to the side of the stepladder rails and are used as additional supports for clothes when occasion requires. When the device is used as an ironing table, the braces, C, are folded upon the board, B, and the latter is shut into the part, A. The legs, D, are then folded up, and the larger end of the board is placed upon a common table, where it is held by sharp spikes which engage the under surface of the table. The act of raising the small end of the ironing board forces these spikes into the table; the legs, D, being unfolded, the device is ready for ironing purposes, and appears as shown in Fig. 2. This ingenious combination was recently patented by Mr. J. H. Martin, of Hartford, N. Y.

NEW MOLE AND GOPHER TRAP.

The mole and gopher are great pests to the farmer



ROGERS' MOLE AND GOPHER TRAP.

and gardener, destroying enormous quantities of grain and doing great damage to gardens, lawns, nurseries, small fruit orchards, and young hedges. These animals are found in most parts of the United States, and, although they may not all be vegetarians, they actually destroy millions of dollars' worth of crops every year.

As many of our readers know, it is the habit of the mole to travel just beneath the surface of the ground, in search of worms and insects, upon which it feeds. Its subterranean paths are usually formed so near the surface that a ridge appears, indicating the track of the animal, and where this ridge is the grass withers. If one of these ridges be pressed down with the foot, the mole, on its return, reopens its track, and in so doing, restores the ridge to its original form.

To get rid of moles and similar vermin, a great deal of ingenuity has been experienced and a large number of devices have been patented. Among the latter is the trap represented in the accompanying engraving, which seems to possess advantages not before accomplished. It is set across the mole track after the ridge is pressed down, and is sprung by the animal in its attempt to reopen its track.

The trap has a spring-acted follower guided by the vertical frame, A, and carrying four sharp tines or spikes, B. In the lower portion of the frame is pivoted a lever or trigger, C, which is jointed to the sliding wire frame, D. A bail, E, jointed to the follower is engaged by the catch, F, when the trap is set, and the long arm of the catch is retained by the upper part of the sliding frame, D.

A short section of the ridge of the mole track is pressed down by the foot and the trap is pinned down over the flattened place. When the mole returns it presses the lever, C, upward in the act of opening the path, thus releasing the catch, F, when the tines, B, spring downward and impale the ani-

SPEAKING PICTURE BOOK.

The engraving represents a novel toy recently patented in



BRAND'S SPEAKING PICTURE BOOK.

this country by Mr. Theodor Brand, of Sonneberg, Germany.

The invention consists of a device combining, in book form, pictures of animals and human beings, and mechanism for producing sounds in imitation of the voices of the beings represented.

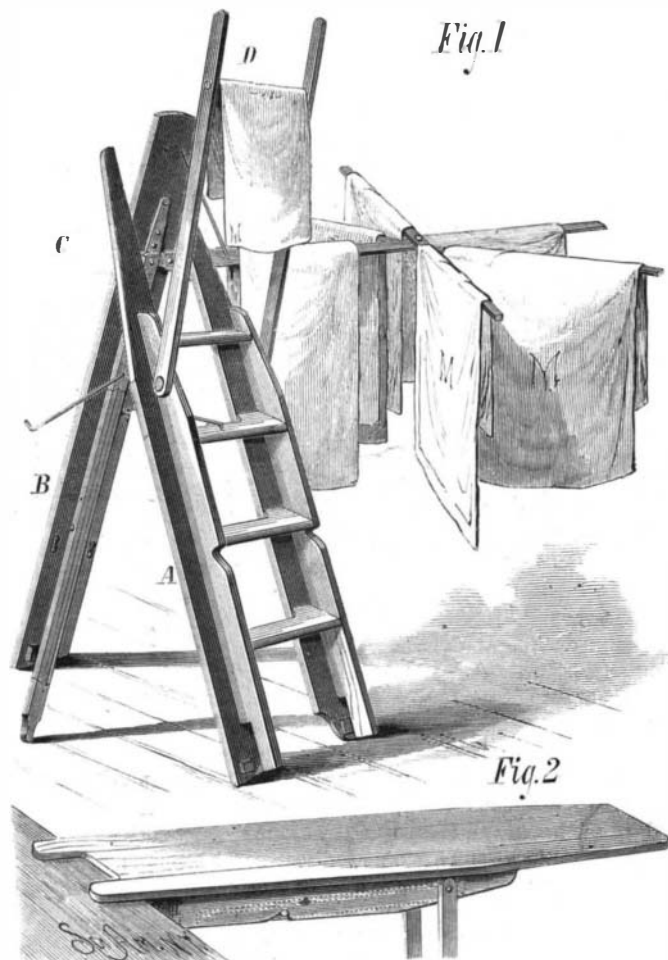
The book contains a number of picture sheets, having on the reverse side the text referring to the picture on the preceding page. A part of the text page is shown in the engraving with the title, The Rooster, referring to the opposite page.

A portion of the book is broken away to show the mechanism beneath, which consists of bellows and whistles of wellknown construction for imitating different voices. The bellows are operated by the strings which project through the edge of the book, and are provided with buttons for convenience in operating the toy. By pulling the particular button belonging to the picture being exhibited, a sound is produced which imitates the voice of the subject represented.

ENGINEERING INVENTIONS.

Messrs. John Boyd, of Baltimore, Md., and Roy O. Crowley, of New York city, have patented an electrical water indicator for steam boilers, by means of which changes in the height of the water in a steam boiler may operate an electro magnetic apparatus to open and close the feed water pipe of a steam boiler, to admit and shut off the feed water automatically, as required, and to sound an alarm.

Mr. Eli Shafer, of Sigourney, Iowa, has patented an improved car coupling, consisting of an open mouthed drawhead, within which is a flat headed drawbar encircled by a strong spiral spring to force it outward. In the face of the head of the drawbar there is a transverse rectangular groove, within which the flattened end of the link is placed and held by a metallic block. The coupling has other novel features which cannot be explained without engravings.



COMBINED IRONING TABLE, CLOTHES DRIER, AND STEP LADDER.