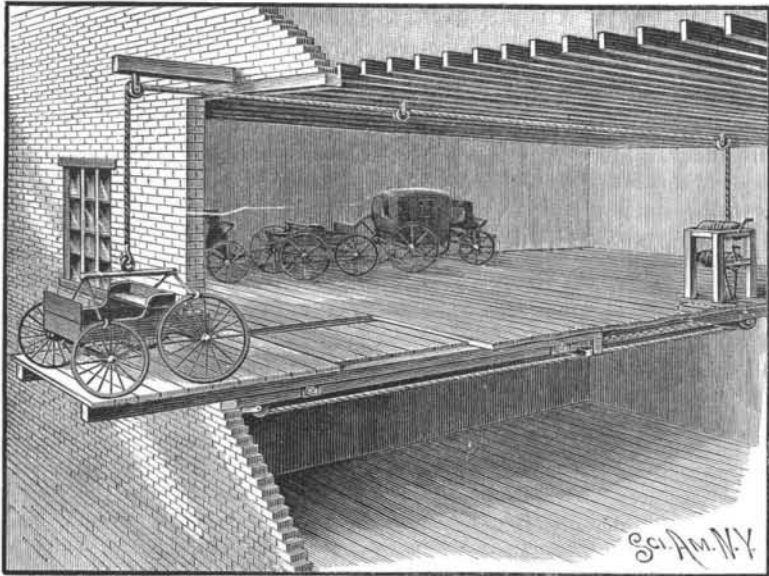


**AN ELEVATOR FOR HOISTING CARRIAGES.**

A mechanism for hoisting vehicles, etc., outside of buildings, to land them upon an upper floor with facility, while saving the space that would be required within the building for a hatch or inclined way, is illustrated herewith and has been patented by Mr. George L. Loomis, of Northampton, Mass. A platform hav-



LOOMIS' CARRIAGE ELEVATOR.

ing a surface large enough to hold a carriage is adapted to be projected between the jambs of a door and beyond the wall of a building on the second or a higher floor, the platform being secured upon a frame consisting of two beams extending from the outer end of the platform inward between the joists. These beams have their inner ends united by a cross piece extending beneath two or more joists, and rest upon friction rolls journaled in the joists, whereby the beams can be moved over the door sill, or in grooves cut in it, to move the platform out and in. In a line centrally with the frame, and to the rear thereof, is a windlass frame in which is journaled two drums, a cord from the lower drum passing over a pulley secured beneath the door sill, and being made fast to the frame, whereby the latter may be moved in and out, as the drum is rotated in one direction or the other by means of its crank-handle. From the upper drum on the windlass frame, which is provided with the usual pawl and ratchet and crank handle, a cord passes through a hoisting block upon a beam projecting from the building, the outer end of the cord being provided with a sling upon which the vehicle to be raised or lowered can be readily secured. The platform when retracted is adapted to pass over the floor proper, leaving, when extended, a surface over which things may be easily and safely moved.

**THE BUTTING VIPER.**

Although Africa contains no *Crotalus* nor *Bothrops* nor *Trigonocephalus*, she is, in return, the country of vipers, for, with the exception of a few species that inhabit Europe and Asia, all the rest are peculiar to that country. The butting viper (*Vipera arietans*), which forms the subject of this article, is found throughout entire Africa, with the exception of the Mediterranean region, and is met with especially along the coasts of the southwest as far as to the Cape. Two huge specimens of this species have just reached the reptile menagerie of the Paris Museum from Senegal. The body of this serpent, which is short, thick, and squat, rarely exceeds four feet in total length. It tapers considerably in the cervical region and terminates in front in a triangular head with rounded angles, somewhat cordiform, much wider than the neck, and very much depressed. The tail is conical and very short. Its thickset form gives the animal a hideous aspect. The nostrils, which are widely open, and their circumference destitute of scales, are very close to each other, and situated directly above the snout, and not at the sides, as in other species of the same genus. This is what led the German naturalist Merrem to group the vipers that present this peculiarity under the generic name of *Echidna*, reserving that of *Vipera* for those in which the nostrils open laterally. Behind, and externally to the nostrils, are

the eyes, which are set very close on account of the shortness of the snout.

As in all vipers, the upper jaw is provided on each side and in front with a series of from three to five highly developed, channeled, venomous fangs, which are of unequal size, movable, conical, and bent backward, and which straighten up when the animal opens its mouth. The duct that they contain gives passage to the poison, and opens upon their front edge, near the extremity, in an elongated slit. These fangs are very sharp, and their conical shape permits them to enter tissues in such a way as to gradually separate them without tearing them. When the fang is withdrawn from the wound—a simple puncture—the skin, by virtue of its elasticity, resumes its place and imprisons the inoculated venom, which is almost instantaneously carried by the circulation throughout the entire organism. The entire top of the body, including the head, is covered with carinate scales arranged with great regularity.

The coloration of this viper is very variable. In the museum specimens the dominant color is a light and somewhat tawny brown. This, upon the back, is relieved by a series of darker stripes, open in front, and, for the most part, exhibiting a yellowish border behind. At the lower part of the sides there is likewise a longitudinal row of dark spots, and the top of the head is, at the level of the eyes, traversed by a brown band, which descends on each side to the edge of the upper lip.

Indolent and sluggish to the highest degree, the butting viper usually remains entirely immovable, its body coiled, and the head resting upon one of the coils. The lower figure in the engraving represents it in this state of repose. Its repugnance to motion is such that it allows itself to be approached almost to contact without stirring. It scarcely moves, except to seek food, or to make an attack, or to escape. Then it makes rapid motions, which form a marked contrast with its natural slowness. If it is disturbed, it at once puts itself on guard by drawing back its head, and twisting its neck into the shape of the letter S, ready to untwist it and straighten it like a spring, so as to throw the head forward in order to bite. At the same time, its body is seen to inflate and alternately return upon itself, thus showing its irritation. Sometimes, too, it hisses long and loudly. It has the singular habit (whence is derived its name) of beginning an attack by butting with its head like a ram.

In a state of liberty, small mammals, such as rats, mice, and squirrels, form the habitual food of the butting viper, but it catches birds also. In captivity, it is fed upon rats, and sometimes upon young rabbits, and the very variable intervals that separate two meals is, on an average, twenty-five days.

Exclusively of the slowness with which it decides to attack its victims, its mode of doing so is the same as that of other vipers. Put in the presence of an animal which it is about to make its prey, it immediately twists its neck, as has been described, ready for the attack. Its respiration quickens and becomes deeper, while at the same time it darts out its forked tongue, and at times strikes the animal with its head. Its anger keeps increasing until finally it springs with the

quickness of a flash upon its prey, which it pierces with its long, venomous fangs, and which in most cases utters a cry of distress. Then it springs back with the same abruptness and waits, motionless, until the venom has accomplished its work of death. The victim, which at first seems filled with astonishment, soon falls upon its side, as if paralyzed, and, after a few convulsive motions, expires in the space of one or two minutes. The viper then returns to it with a slow, gliding motion, noses the entire body, and finally seizes the latter by the head and swallows it.

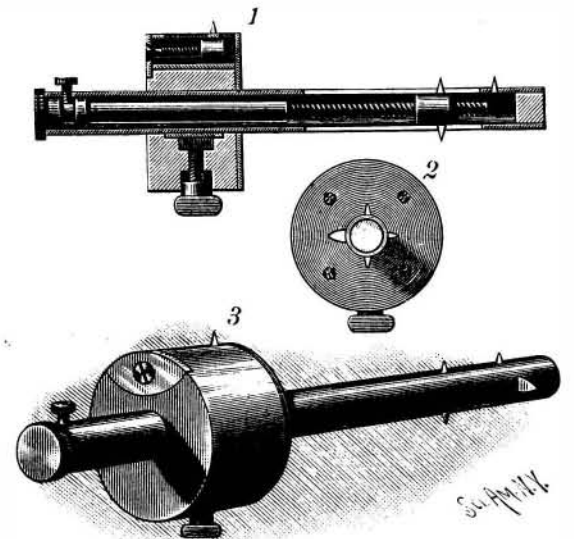
From the manner in which these animals attack their victims, one would be tempted to believe that they are conscious of the terrible effects that the inoculation of their venom immediately produces. But such is not the case, for they behave in the same manner when recently killed animals are offered to them, and boas, too, coil around such animals, in order to strangle them, just as if they were living. These acts, which seem due to reason, are instinctive.

The venom of the butting viper cedes in no respect to that of the rattlesnake. Dogs of large size rapidly succumb after being bitten, and cases are cited in which man has been unable to resist its action. It is even asserted that the Hottentots, whose country is infested with these reptiles, use the venom to poison their arrows by mixing it with the juice of certain plants.

The reptile endures captivity well, provided that the temperature of its cage is sufficiently high. It feeds with considerable regularity, and is easily preserved for several years.—*La Nature*.

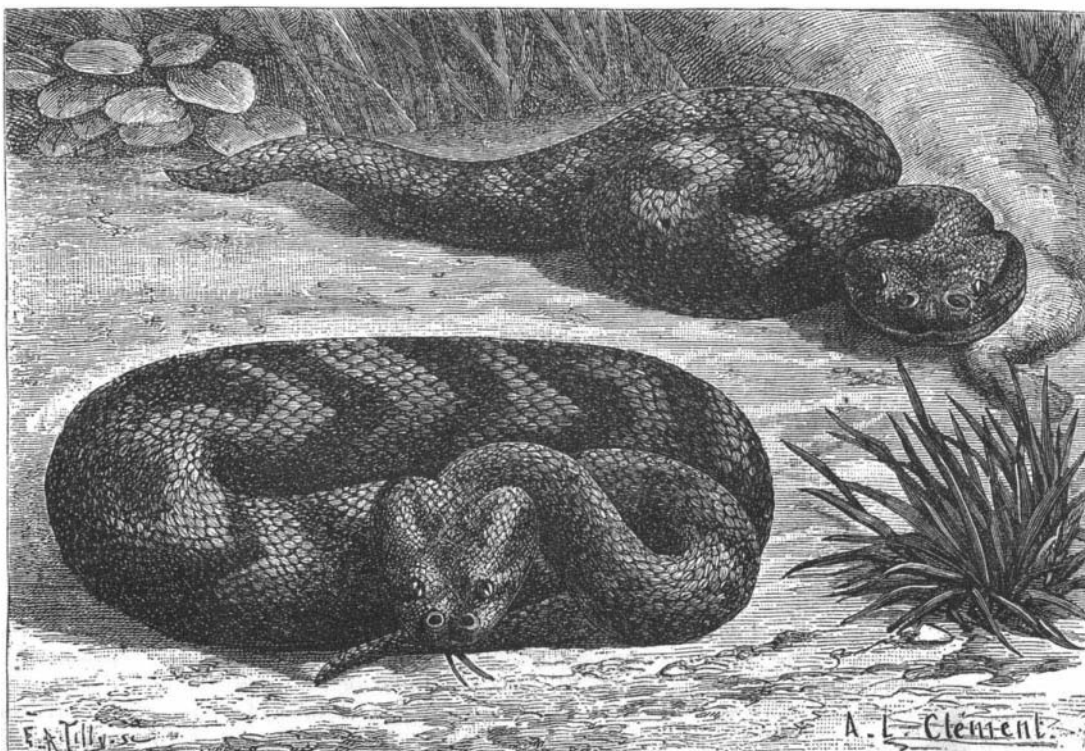
**AN IMPROVED GAUGE FOR WOODWORKERS.**

A gauge which can be readily adjusted for mortising, cutting, or marking, two or three different widths, or marking one or two widths and cutting another, or



LITTLE'S COMBINATION GAUGE.

for marking a width from the shoulder of a rabbeted or otherwise checked piece of wood at will, is illustrated herewith, and has been patented by Mr. Wm. B. Little, of New York City. On its tubular stock is mounted to slide an adjustable cylindrical fence with a set screw for clamping it in the usual way, and near the outer end of the stock, on one side, is fixed a projecting marking point, a cutting point being fixed somewhat nearer the outer end on the opposite side. On the outside of the stock, angularly midway between these points, is fixed a mortise-marking point, inside of which is a longitudinally adjustable mortise-marking point, riding in a slot in the stock, and projecting from a cylindrical nut sliding within the stock, as shown in the sectional view, Fig. 1. The nut is threaded to work on an internal threaded spindle, the outer end of which has a milled head projecting out of the stock. The stock also carries another directly opposite longitudinal slot, in which rides another marking point also carried by the nut, and adjustable therewith. The fence is closed at its outer end by a metallic face plate, shown in Fig. 2, and at its inner end by a detachable metallic bearing plate, mortised in and attached to the back of the fence, as shown in Fig. 3, and in one side of the fence is a longitudinal tubular guide, in which slides a cylindrical nut carrying a marking point which projects through a slot on the outside



THE BUTTING VIPER.