

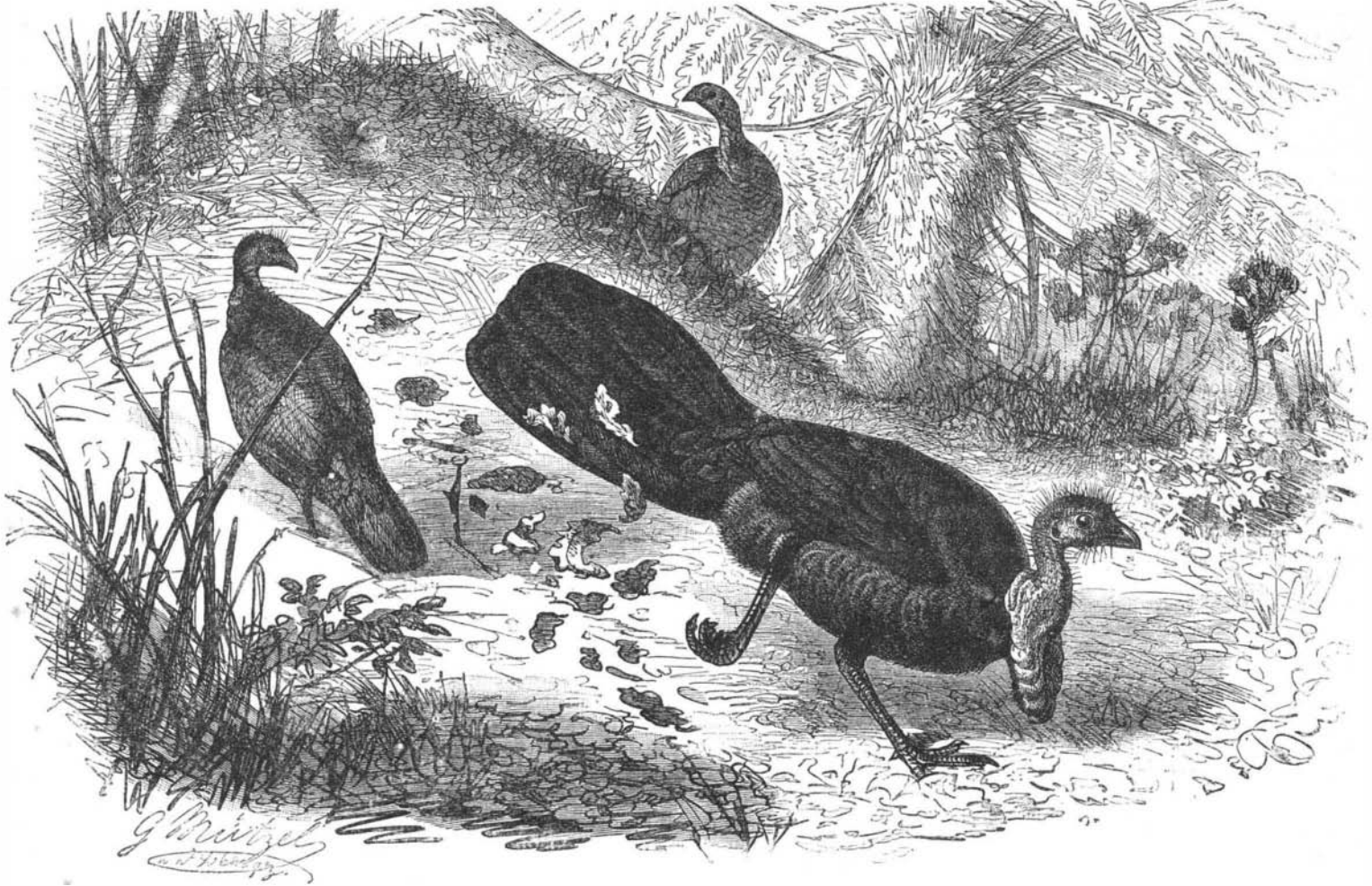
Lunar Eclipse.

The eclipse of the moon on August 3 was visible in England. In London the night was clear, and the middle and subsequent stages of the eclipse were very plainly perceptible. The middle stage occurred at 8 h. 49 m., rather more than one-third of the moon being hidden. The time of last contact with the shadow and

THE BRUSH TURKEY (*Talegallus lathamii*).

"All birds hatch their eggs." Zoology knows very few exceptions to this rule, and although old works on natural history state that the sun relieves the ostrich of this duty, it is now known that she attends to the work most conscientiously. Only the cuckoo succeeds in shirking this business entirely, leaving her little ones

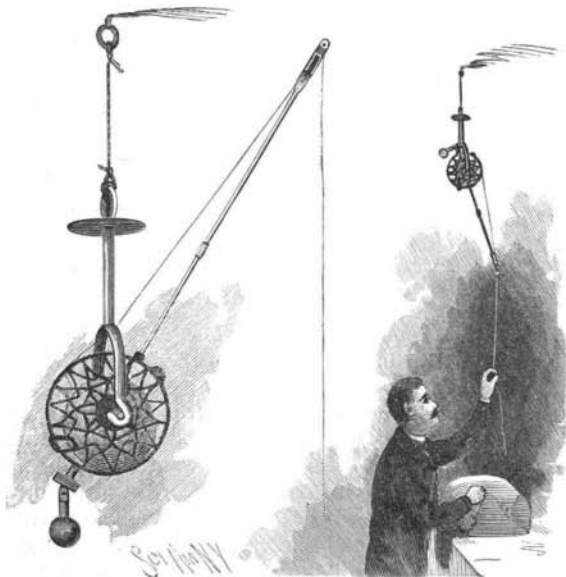
appear merry and active, wandering about with their parents, but in the afternoon they are buried in the nest again by their careful father. On the third day they are able to fly, and after that are perfectly independent. Their process of hatching has been repeatedly carried out by brush turkeys in captivity, as, for instance, in the Berlin Zoological Garden, when they

**THE BRUSH TURKEY (*TALEGALLUS LATHAMI*).**

penumbra were 10 h. 2 m. and 11 h. 26 m., respectively. "Except for brief intervals the sky was clouded in the Berlin district at the time of the partial eclipse of the moon this evening. The eclipse began at 8 h. 29 m., and the maximum stage was reached at 9 h. 42 m., when five-twelfths of the moon's surface was obscured; the eclipse being over at 10 h. 56 m."

AN IMPROVED OVERHEAD TWINE HOLDER.

A revolving twine holder that is adapted to lift the loose hanging end up out of the way is shown in the accompanying illustration, and has been patented by Mr. Thomas Porter, of No. 1229 Cherry Street, Philadelphia, Pa. The cage or holder is hung by gudgeons in a stirrup-like hanger, so that the holder may be readily rotated. A short arm, weighted, projects from one side of the cage, and opposite thereto projects a

**PORTER'S TWINE HOLDER AND LIFTER.**

rod which lifts the slack of the twine, and operates to make some tension thereon as the twine is drawn out. When drawing on the pendent portion of the twine, as for use in tying a parcel, the lifting rod is drawn down and the short, weighted arm carried around to the top of the cage, as shown in one of the views, the other figure showing the normal position of the holder, with the end of the cord drawn up out of the way when not in use. The disk above the holder forms a guard for the lifting arm or rod to strike against when the twine is severed after tying the parcel, to keep the rod at a good working angle to lower when pulled down upon by the free end of the twine.

to the mercy of kind-hearted little singers. Besides this bird, we may mention the brush turkey as one which does not hatch its eggs, but it is more conscientious about the matter than the cuckoo.

The brush turkey (*Talegallus lathamii*) is a powerful bird, attaining a size of about 31 inches, and can be recognized by its powerful build, rather long neck, large head, sharp bent beak, strong feet, and short, rounded wings. The scarlet of the featherless neck and the yellow pouch dependent therefrom stand out in decided contrast to the brown plumage. The home of the brush turkey is in the thick forests of Australia (New South Wales), where they live in flocks. Their flesh is very excellent, and they are hunted to such an extent that their extermination is only a question of time.

Judging from the size of their brains, one would not expect these turkeys to be very intelligent, but the way in which they hatch their eggs is so peculiar as to give a favorable impression of their capacity for thought. At mating time (in the spring) the male develops a surprising amount of activity and industry. He picks out a sheltered spot for a nest, and then goes to work to build a mound. With his strong feet he throws a quantity of leaves, fibers of wood, small twigs, dry grass, etc., into a heap behind him, and this forms the center of a large circle, the periphery of which soon appears perfectly clean; and a mound about a yard and a half high is built. While other birds go at once to their newly prepared homes and begin to lay their eggs, the brush turkey pursues an entirely different course. The wise creature waits several weeks until the fermentation and decomposition of the vegetable matter in the heap has generated a heat of about 104° F., the temperature required for either natural or artificial hatching of eggs.

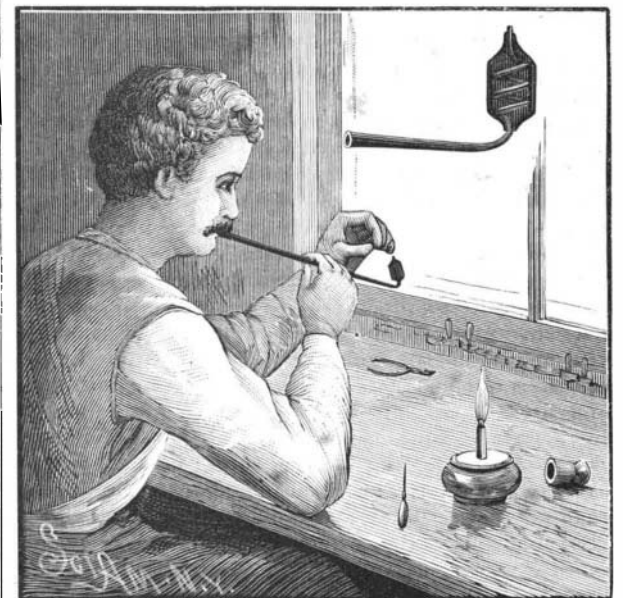
It is wonderful to see with what certainty the birds determine upon the proper time. The male often mounts the nest to examine it, scrapes off a little here and a little there, and then covers the places over again carefully. When he finds that the temperature of the mass is what it should be, he digs numerous holes about the axis of the mound, and in each one of these holes the female drops an egg with the blunt end up. After the male has closed these holes both birds go away, the male only returning from time to time to regulate the heat, covering the eggs more or less, according to the moisture and temperature of the atmosphere. After about three weeks, the young are hatched. They are entirely covered with feathers, their wings are well developed, and they seem as strong as our domestic chickens. The whole process reminds one of the development of the butterfly, which is able to fly soon after leaving the chrysalis.

After about twelve hours the young brush turkeys

formed the center of attraction for friends and students of zoology.—*Deutsche Illustrirte Zeitung*.

A DEVICE FOR HEATING A JET OF AIR.

A tool to be used for the heating of shellac, etc., as employed in the setting of jewels, pallet stones, and similar work, is shown in the accompanying illustration, and has been patented by Mr. Frank Heller, of Oakland City, Ind. It is made by forming twists or coils in the discharge end of a blowpipe, and surrounding these twists or coils by a ball or jacket of metal, the nozzle projecting outward through a proper opening. This ball or jacket of metal having been previously heated, the air forced through a tortuous course within such body of heated metal affords a hot blast, which may be delivered against the shellac without subject-

**HELLER'S HOT AIR BLOWER.**

ing the surrounding parts to the action of the flame by which the heat is produced.

STENCIL INK.—A good basis for stencil ink is made with shellac 2 ounces, borax 2 ounces, water 25 ounces, and gum arabic 2 ounces. Boil the borax, shellac, and some water until they are dissolved, add the gum arabic, and withdraw from the fire. When the solution has become cold, complete 25 ounces with water. For black ink use fine lampblack, for red Venetian red, and for blue ultramarine and chalk. Add these to the basis in sufficient quantity to make the mixture of proper consistency.