

IMPROVED UNIVERSAL EMERY GRINDER.

The machine herewith illustrated offers an excellent example of the rapid progress which is constantly being made in this country, in perfecting and refining the capabilities and designs of mechanical inventions. The reader, on turning back to the issue of our journal of last year in which we published engravings of this apparatus, will see the difference between the old and the new form, the first, being excellent in its way but falling considerably below the last, both in point of advantages and in adaptation of design and material to the purposes sought. In the present device the standard is of cast metal instead of wood, and is arranged to receive a collar which supports the adjustable table, D. By means of the rack and pawl mechanism shown, said table may be placed at any desired height.

The machine is especially suited to perform a large class of work, done by machinists, stove fitters, and others, which cannot conveniently be performed on horizontal apparatus.

The wheel shaft is mounted in bearings in the frame, A, which, by means of a set screw passing through a slot, is secured to a shank which enters a socket on the standard, B. The shank, by loosening the set screws which confine it in the socket, can be drawn out to tighten the belt which, acting on a pulley on the wheel mandrel, rotates the wheel; or it can be turned in the socket so as to set the latter at any angle. By means of the slot and set screw in the frame, the wheel can be adjusted nearer to or further from the table, as desired. The mandrel has several inches traverse in the frame, so that the pulley can be pressed down or lifted up from the work by means of the simple lever arrangement at C. The lever may be set and held at any position by means of the nut shown, or the former may be counter-weighted and operated by a treadle beneath the table.

In order to grind flat surfaces, the wheel is lowered down to them. A conical wheel is used for grinding holes in stove plates, etc., an aperture being made in the table or an auxiliary platform thus provided being secured on top of the latter. For edging plates, the table can be made of sufficient size to sustain the whole weight of the plate, so that the attendant can bring a more even pressure on the wheel with little labor and without danger of injuring it. The wheel can be inclined so as to grind bevel edges with readiness; and by suitably formed grinders, moldings can easily be ground.

The wheel may be adjusted to become an ordinary horizontal grinder; while the substitution of a wooden pulley for the emery wheel turns the machine into a handy contrivance for the use of an emery belt.

The machine is manufactured by the Tanite Company, of Stroudsburg, Pa., who may be addressed for further particulars.

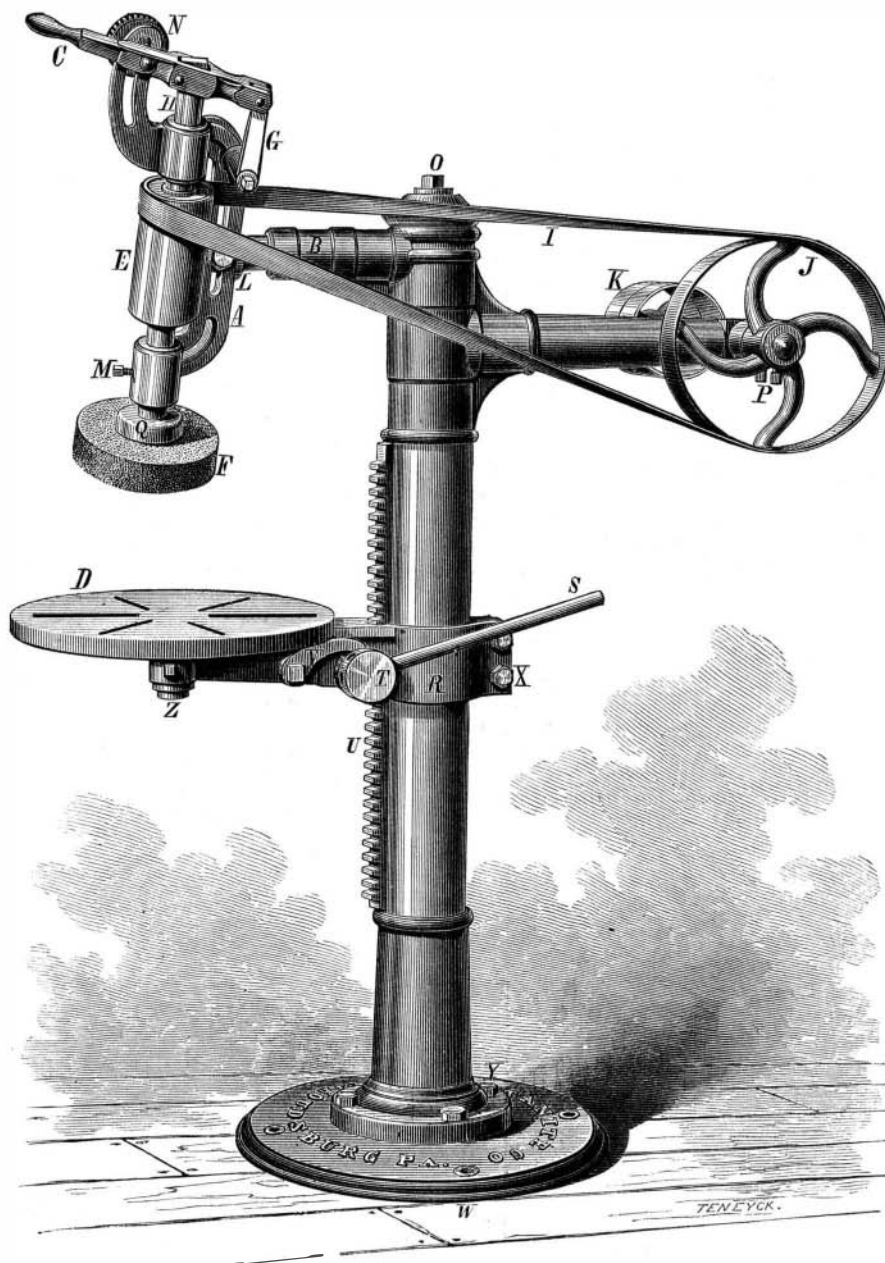
IMPROVED ANIMAL TRAP.

In the annexed engraving we illustrate a novel and ingenious self-setting trap, which may be used for catching any kind of small animal that can be lured by bait. It is entirely automatic in its action, and, it is claimed, will continue its operation until the box is filled with its captures. A is a metallic plate, having flanged edges through which it is pivoted by a central pin. At the front end of the plate is a rod, B, which connects with the vibrating lever, C, to which is suspended the gate, D. The inner end of the plate is inclosed in the box, a portion of which supports the lever, C, as shown. The extremity of the box, E, is open and wired, the object being to allow the animal to clearly see the bait and the light beyond, so as not to arouse suspicion. The bait is attached to a curved rod, F, fastened to the side of the box. This rod is bent around a catch rod, G, which engages with the extremity of the plate, A, and supports the same, as shown.

Attracted by the bait, the animal proceeds to the rear end of the plate. The instant the bait is touched, a very slight movement is sufficient to throw the portion of the catch, G, which sustains the plate, into a notch in the latter, so that the end of the plate is free to descend by the weight of the animal. As this descent occurs, the opposite end of the plate, of course rising, so moves the lever, C, as to cause the gate, D, to be lowered, so that any backward escape of the animal is immediately cut off. The animal then slides down the smooth surface of the plate (the inclination of which is limited by the piece, H), and is launched into the rear compartment of the trap. Hence he is free to emerge under the swinging door, I, but of course

cannot return. The plate, A, meanwhile regains its normal position, the bait and catch rods slip into place, and the trap is ready for a new victim.

The apparatus is very simple, and can be cheaply and profitably manufactured. The inventor assures us that he has used it with remarkable success, "one trap," as he expresses it, "catching nearly a wash basin full of mice" in a night.

**SANFORD'S UNIVERSAL EMERY GRINDER.**

It can be made of any desired size and of any material which will resist gnawing. For further particulars address the inventor, Mr. Wm. D. Wrightson, Queenstown, Queen Anne county, Md.

Lawns---How to Make and Keep Them.

One of the most beautiful features about a country residence is a well cultivated and well kept lawn. It is also the most difficult spot about a place to keep in order, unless one has the facilities for keeping it irrigated; for the very time of the year when it is most desired that it should look the

In preparing ground for lawns, where the expense is not of so much consequence as the good results, a good subsoiling is preferable, because in such soils the roots go down deep, and in this way get moisture when the weather is dry. Very good lawns can, however, be had by ordinary plowing, as for any good crop. It is best, however, to have the ground plowed up and leveled a year before the grass is sown, or it will sink in places, and then the surface becomes uneven. Where the lawn has been made in this way, and inequalities of the surface exist, earth may be brought in the spring, and spread smoothly over the lawn, and rolled down firm. The grass will grow through this, and make a solid, even lawn.

As soon as the frost is gone, and before the ground is hard, the lawn should be rolled. From various causes, there is generally left an inequality of surface after the winter is over, and this the rolling is to remedy. In spite of all the care to keep weeds out of lawns, they will often get in, especially on lawns that are newly made. The best thing is to have the lawn hand-weeded for the first few years. Early in the season the lawn mower should be set going, but experience is against setting the knives too low. Close cutting we have found to be an injury to the grass. It leaves the roots exposed, and the sun is apt to dry and kill the grass.

A lawn requires an occasional top dressing of manure; but there is no necessity of applying it every year, and it should not be used too green. Well rotted stable manure, mixed with soil, makes an excellent dressing, and should be spread over the lawn at least two or three inches in thickness, early in the spring. Some prefer putting it on in the fall, and leaving it to protect the roots through the winter. There is a diversity of opinion as to the use of manure for this purpose, from the fact of its liability to introduce seeds of weeds, which the use of artificial fertilizers obviates; but we have never experienced any ill effect from the use of the former.

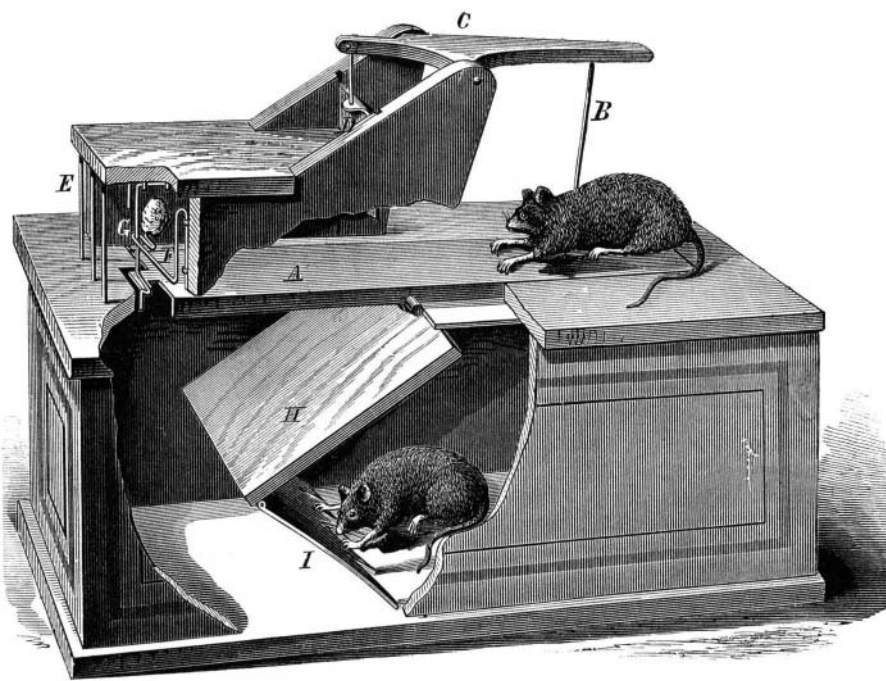
The kind of seed to be sown, to make a lawn, depends upon the climate, condition of the land, and composition of the soil. In the Northern States, the English mixed lawn grass seed, with an excess of white clover and red top, are considerably used; and in the Middle States the Kentucky blue grass does well. Red top does the best in clayey, and the others in lighter, soils. Grasses and clovers are gross feeders, and demand good food, else they will not present a good appearance. The white daisy will often show itself in fields and lawns that are too poor to nourish grasses; and to get rid of this pest, it is needful to make the soil richer. The truly practical man, says an agricultural writer, will dress his worn-out grounds with either superphosphate of lime or Peruvian guano, or some other good fertilizer. They will soon show that the grasses can drive out the daisies or mosses, if they are only properly fed. A surface dressing of superphosphate of lime will also cause an abundant growth of clover, and often it will occur where the clover has not before been seen; and even nitrate of soda will give to the new growth a deep richness of color, and thicken the turf rapidly. The constant cutting and carrying away of the grass produces exhaustion of the soil, until at length it becomes so poor that the grasses die out in a great degree; and the daisies and mosses take their places, until fresh plant food is given, and their growth strengthened. There are some strong, deep soils upon which time seems to make little impression, and no manure is required; but they are only the exceptions.

Boxwood Edgings.

In the spring, move back the soil and gravel, roll the walks nicely, and they look as clean and fresh as if new. Before finishing the walks, clip the edgings so as to have them only six or eight inches high. Treated in this way, the top of the edging is sometimes slightly frosted, but no more is injured than is desirable to cut off in clipping. I have practised this method, says a correspondent in the *Practical Farmer*, and have seen others do the same for two score years, and have never seen a failure with it. For dividing walks from beds, both in the kitchen and flower garden, no other edging is as good or as lasting as this. It should never be allowed to grow more than ten inches high, and six inches high and thick is better.

When over a foot high and thick, it looks clumsy, injures the crops near it, takes up too much room, and injures the appearance of both walks and beds.

Wax flowers, if left out in the drizzling rain, will be thoroughly cleaned in a short time

**WRIGHTSON'S ANIMAL TRAP.**

freshest is, in most parts of our northern and western regions, the driest period of the season. We present herewith some suggestions for the laying out, seeding, and care of a lawn, the result of our own experience and that of others, which we believe will be interesting and useful to a great number of our readers: