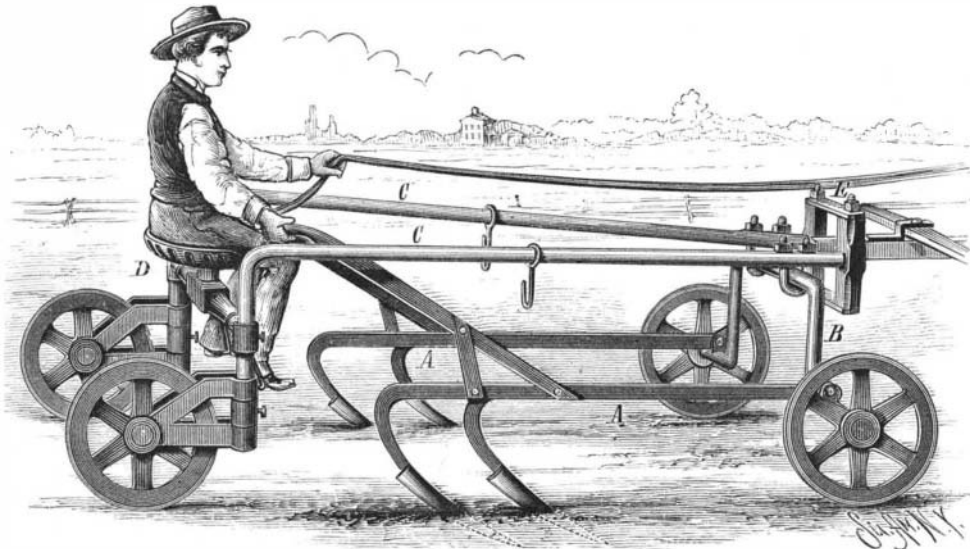


IMPROVED RIDING ATTACHMENT FOR CULTIVATORS.

We give herewith an engraving of a new riding attachment for cultivators, recently patented by Mr. Henry Cole, of Cedar Hill, Ohio. It is constructed so that it may be applied to any of the cultivators now in use, and will enable the driver, while riding, to guide the plows without great exertion, and permits of full control of the shovels. It is light on the horses, and may be turned in growing corn without breaking it down. The beams, A, of the cultivator have plows and handles attached in the usual way, and their forward ends are supported by the bent axle, B. To this axle two bent bars, C, are attached by a head, E. These bars are supported at their rear ends by caster wheels, and are connected by a cross bar, D, which supports the driver's seat. The tongue by which the attachment and cultivator are guided and drawn forward passes through the head, E, is jointed to the bars, A, and has the same movement as a common wagon tongue.

The advantages of this device will be understood and appreciated by those who have used the common cultivator.

The inventor may be addressed for further particulars.



Transmission of Motive Power by Electricity.

At Shaw's Water Chemical Works, Greenwich, a neighboring waterfall furnishes the power to drive a circular saw, a turning lathe, and a vertical boring machine. Two Siemens machines and a water turbine are employed. The turbine is driven by the fall, and one machine is driven by the turbine. The current from the latter is conveyed to a second machine in the workshop 150 yards distant, and keeps the

out, except in a general way, the imperfection of many of the coverings now in use. Mineral substances, as a class, are fairly good conductors of heat, and are not, therefore, well adapted to the purpose. Hair and wool are, in themselves, good non-conductors of heat, but in the coarse felted form in which they are usually applied, these natural good qualities are not utilized to the best advantage, and besides this heat exerts a destructive action on hair or wool, so that they,

in time, become friable, rendering it unfit for reapplication. Wood, which is sometimes used, is liable to warp and crack, and thus destroy its efficiency.

The Burgess non-conductor—the application of which we illustrate on this page—combines the advantages of all other non-conducting coverings, and is inexpensive, easily applied, very light and strong, and not affected by changes of temperature. It is applicable to plain or curved surfaces, pipes, elbows, and valves. It may be readily sawed, cut, and fitted by unskilled persons, and should occasion require, it may be removed and replaced without injury.

It is composed of vegetable fiber and sawdust, moulded into a light but firm body of sufficient compactness to prevent the permeation of heated air through it, while its porous texture insures that cellular structure most effective for non-conducting purposes. The covering is rendered incombustible by a peculiar process.

In applying the non-conductor to steam pipes, the end of one section is placed at the middle of the opposite section, so as to break joints, and the edges of the sections are pressed well together and secured by staples or by bands passing around the pipe-covering, which is afterwards covered with canvas. The sections may be mitered and adapted to elbows and bends by means of ordinary wood-working tools.

The machinery employed in making this covering is equally well adapted to mineral fiber, such as mineral wool or asbestos, and this company manufacture a special mineral covering for steam pipes conveying superheated steam.

We are informed that the great strength of this covering is due to the concentric arrangement of the fibers composing the sections.

Further particulars may be obtained by addressing the Burgess Steam Pipe Covering Company, N. W. corner Twentieth and Ridge avenue, Philadelphia, Pa.

CLOES' RIDING ATTACHMENT FOR CULTIVATORS.

latter going. From this machine the tools above mentioned are driven by means of belting.—*Electrician.*

NON-CONDUCTING COVERING FOR HEATED SURFACES.

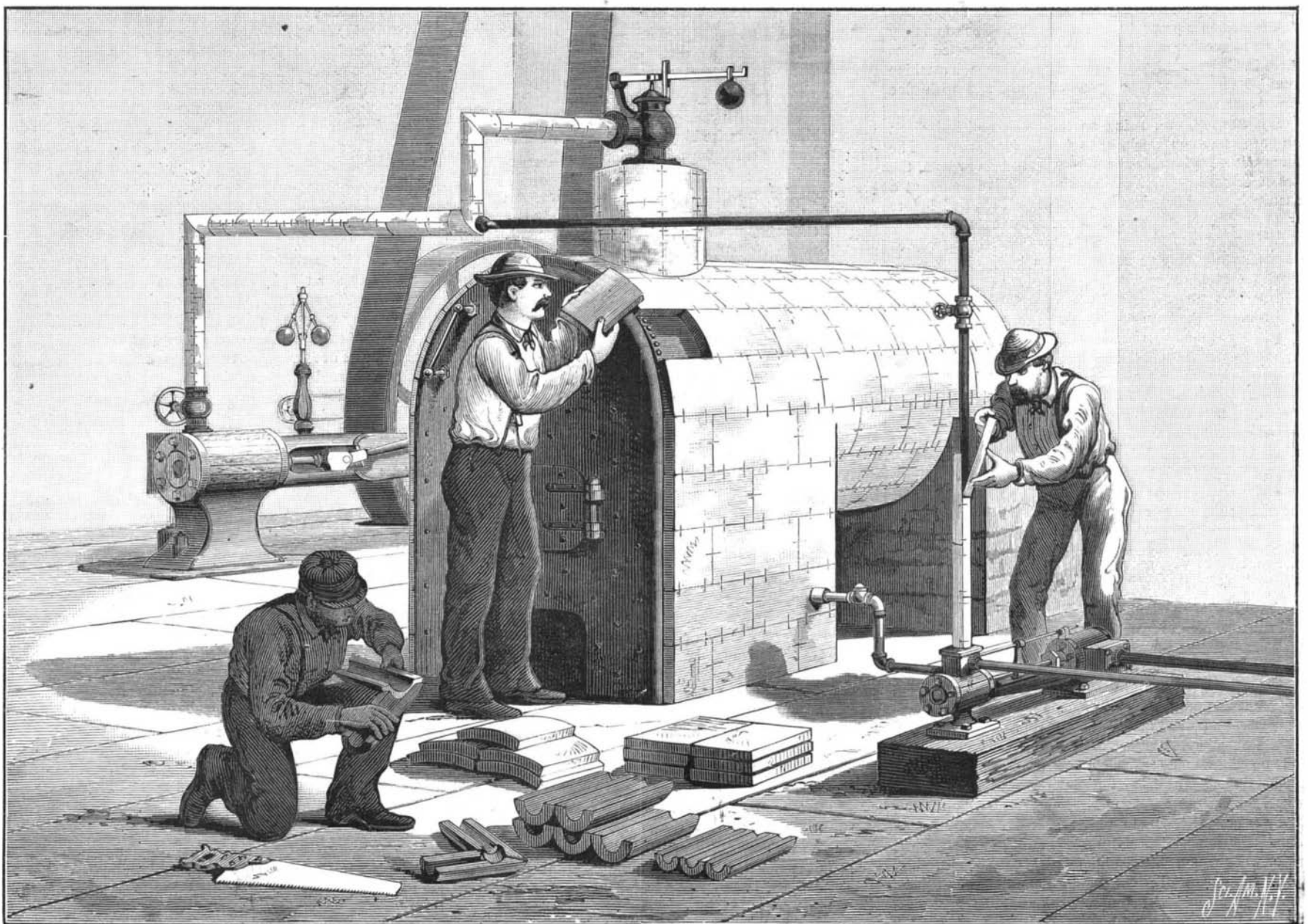
To secure the highest economy in the use of steam or in the use of heating or cooling agents, it is absolutely necessary to protect generators, pipes, and all other needlessly exposed radiating surfaces, with a non-conducting covering to prevent loss of heat by radiation or convection. The essential features of such a covering are, primarily, a low heat-conducting power and facility of adaptation to different surfaces, but in addition to these requisites it must be light, incombustible, and easily applied or removed.

There are numerous substances that will fulfill one or two of these requirements, but a perfect covering should embody all of the features enumerated. It is unnecessary to point

New Electric Lamp.

According to our English contemporaries, Mr. J. W. Swan, of Newcastle-on-Tyne, patentee for the carbon process of photography, has taken out a patent for improvements in electric lamps. It is stated that Mr. Swan has succeeded in making a lamp which gives a perfectly steady light, and is indefinitely durable. The light is produced by the incandescence of carbon, and ranges in power from one to ten gas burners. It is described as a moderate and pleasant light. It is claimed, on behalf of Mr. Swan, that many years ago he used carbonized cardboard, the feature in the Edison light.

We hope it may prove true that a lamp has been invented which will render the electric light a steady one, and we have no objection to Mr. Swan being the fortunate discoverer of it. But this flickering difficulty has been so often overcome, according to the newspapers, both at home and abroad, that we have some doubts if the anti-flickering lamp has been found yet.



BURGESS' NON-CONDUCTING COVERING FOR HEATED SURFACES.