of the mop board. This machine is designed to be used in connection with an extensible paper-hanging clamp, also patented by the same inventor, and illustrated in our issue of September 8. The end of the paper, after it has been passed through the machine, is fastened in the clamp, when the operator, in raising the end of the paper up against the wall, by the same motion draws the required amount of paper through the machine, pressing its pasted side against the wall by means of the brush with which the clamp is provided, and cutting off the paper as it is attached. Extension legs for the machine and a roller-supporting frame, to assist in carrying the paper, are also provided for use in papering ceilings.

Moisture in Houses.

It is stated that the sudden change of the weather recently from cold to warm and damp, observes the Philadelphia *Times*, has caused thousands of dollars of damage to wall paper and other articles in houses. Of course it has, and it is so simply because many people do not study the plainest common sense principles in airing their houses.

One evening lately people went to bed with a hunt for extra blankets because of the sudden and severe chill in the atmosphere. When they rose in the morning, their bedrooms, parlors, dining rooms, etc., were yet chilly from the cold of the previous day, while the outside atmosphere had suddenly become not only warm, but hot and oppressive with dampness.

Inconsiderate people opened their windows and doors because the weather was warm, forgetting that the excessive moisture in the atmosphere would rush in with the warm air and swiftly deposit itself on the cold walls, furniture, etc., and penetrate wall papers, curtains, bedding, and everything within reach that presented a surface colder than the air that carried it into the house.

Of course the moisture loosened and discolored paper; made curtains as limp as a washrag; made beds damp and musty, and generally spoiled everything that water could spoil; but all could have been avoided by following the plain, common sense rule of not opening houses suddenly to suddenly changed atmosphere, carrying an excessive quantity of moisture.

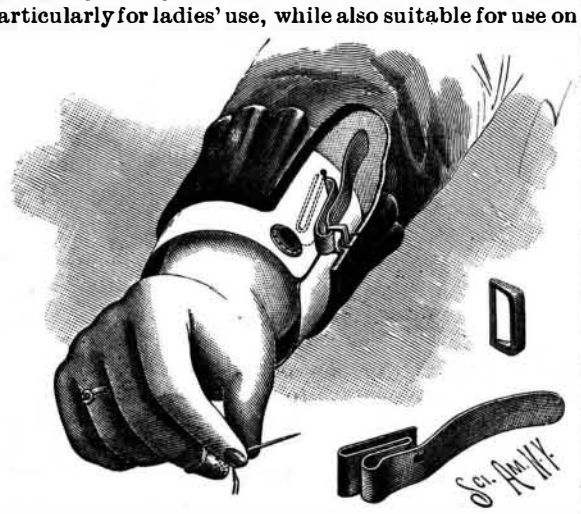
A pitcher filled with cold water and placed in a room in summer will "sweat"—at least that is what it is commonly called. The pitcher does not sweat, because it is not porous and cannot sweat; but the cold water inside of it chills the outer surface, and, as soon as the outer surface of the pitcher becomes cooler than the atmosphere in the room, the moisture of the air will be precipitated upon the pitcher in drops.

This simple illustration should teach all housewives to avoid suddenly opening rooms in a house when the outside atmosphere is warmer than the temperature of the rooms and full of moisture. In all such cases the wall paper, furniture, etc., being cooler than the outside air, will speedily have the moisture of the atmosphere precipitated upon them, and it will require days to restore the house to the dry condition that is essential to health.

There are no arbitrary freaks in the laws which govern the atmosphere surrounding us, and there is nothing abstruse in mastering them. Warm, damp air will ever precipitate its moisture in houses or elsewhere whenever it comes in contact with anything chilled by a cooler atmosphere, and that is the whole story. The only thing to be added is that, when people have thus ignorantly or negligently allowed their houses to become damp, they should light fires and dry them as promptly as possible.

AN IMPROVED CUFF HOLDER.

A cheap and practical cuff holder, designed more particularly for ladies' use, while also suitable for use on



PERRY'S CUFF HOLDER.

gentlemen's cuffs, is illustrated herewith, and has been patented by Mr. Charles F. Perry, of Augusta, Me. It is made of a single strip of sheet metal, bent upon itself, as shown in the small view, the holder to be used with a loop made of wire or any suitable material, as shown, secured to the interior of the sleeve.

A DEVICE FOR USE IN DARNING STOCKINGS.

A suitably formed support for use in darning stockings, which may also be used as a receptacle for the thimble, needles, etc., is illustrated herewith, and has been patented by Mr. Charles Austin, of No. 30 East Fourteenth St., New York City. It consists of an egg-shaped shell divided into two interlocking sections, one of which is filled with emery, sawdust, or similar material, covered by a piece of suitable fabric secured to the inner walls of the section. This portion forms a needle cushion, from the center of which projects a post forming a thimble support. The other section of the shell

AUSTIN'S DARNING LAST.

is provided with a cushion-like drapery, whereby, when the two sections are united, the thimble, needles, etc., may be retained in position. The shell may be made of gold, silver, plated ware, rubber, ivory, celluloid, papier mache, or other suitable material.

Carriage Road to Pike's Peak.

Not the least interesting attraction at Cascade Cañon is its carriage road to the summit of Pike's Peak, which was formally opened on September 12. It is not a mere trail or a wood road, but it is as much of a carriage drive as can be made in climbing Rocky Mountains. It not only furnishes a safe and convenient route to the summit of Pike's Peak, but it affords a view, both in magnitude and magnificence, superior to all others obtained from other trails or roads. One who has been over both the old trail and the new road to the summit of Pike's Peak pronounces the sight to be had from Grand View to be even superior to the view from the summit of the Peak. From Cascade to the summit the drive is seventeen miles and the ride is one of five hours. From the hotel the drive is up Cascade Cañon, through wild and romantic scenery. Eight miles up it passes into Glen Cove, a vast amphitheater with a grassy pit through which course two pretty streams. Near here is what has been termed the Devil's Leap, a precipice 2,500 feet high. Near here, also, is a wonderfully balanced rock, 4 feet thick and 12 or 14 feet across, which may be swayed back and forth with one's hand. Twelve miles from Cascade is the Hayden Divide, and there on a mountain spur from Pike's Peak is the point—Grand View. The traveler is stopped in his journey here by the magnificent prospect before him, and he pauses to look at the great plains stretching far out to the east. He picks out Colorado Springs at his feet, Denver, seventy-five miles to the north, and Pueblo, fifty miles to the south. The course of the Arkansas River is traced. Looking southwest, the observer, if he is fortunate enough to be at Grand View when a train crosses Marshall Pass, may see quite a remarkable sight, for on the Pass, at an altitude of 10,852 feet, and ninety miles away, may be seen the smoke of the locomotive of a railroad train climbing the mountains.—*Plains to Peaks.*

Action of Bleaching Agents on Writing Ink.

BY R. IRVINE.

The author made a series of experiments to ascertain whether it is possible to tell the age of writing, and if writing has been executed at one and the same time, and if so at what time. He selected writing one day, six months, twelve months, two years, six years, fourteen, and twenty-two years old, and exposed these writings to the action of a very dilute solution of bleaching powder, specific gravity 1·001. In six minutes the newly written matter had disappeared; in from nine to twelve minutes the writing of six months ago had disappeared; in twenty minutes the writing of two years had partly disappeared; while in a like time the writing of six years ago was not greatly affected, of fourteen years ago very slightly, and of twenty-two years hardly at all. Hydrogen peroxide acts more slowly, but gives more definite results. When writing ink is thus bleached, most of the iron contained therein remains mordanted with the fibers of the paper. Consequently writing so tampered with can be restored by the application of gallic or tannic acid. In determining the age of any particular writing, the following precautions should be observed:

1. The inks must be those known as ordinary writing inks, prepared from iron and chromium salts and galls.

2. Writing dried by means of blotting paper is more easily removed than writing which is allowed to dry on the surface of the paper.

3. The bleaching solution must be exceedingly dilute, otherwise the action is so rapid and powerful that both old and new writings are removed almost simultaneously.

4. The action must be carefully watched, so as not to be too long continued.

5. Very old writing, which has become brown by age, although it resists the action of weak solutions of bleaching powder and hydrogen peroxide, will show signs of giving way almost instantly when acted on by dilute nitric, hydrochloric, or oxalic acids.—*Jour. Chem. Soc.*

Rudolph Clausius.

Rudolph Julian Emmanuel Clausius, the noted German physicist, died at Bonn on the 24th of August. He was born in 1822 at Koeslin, in Pomerania. He began his studies at the gymnasium, and pursued them at the University of Berlin, and then at Halle, where he was made a doctor in 1848. In 1850 he was privat-docent at Berlin, where he at the same time taught in the Royal School of Artillery and Engineering up to 1855. Two years afterward he was appointed by the Swiss Federal Council to the chair of physics of the Polytechnic School of Zurich.

The work of Clausius was purely doctrinal. He made no experiments, and contented himself with applying the results obtained by others to his mathematical deductions. His work was connected with either general mechanics or thermo-dynamics and electricity. It was published for the most part in the *Annals* of Poggendorf.

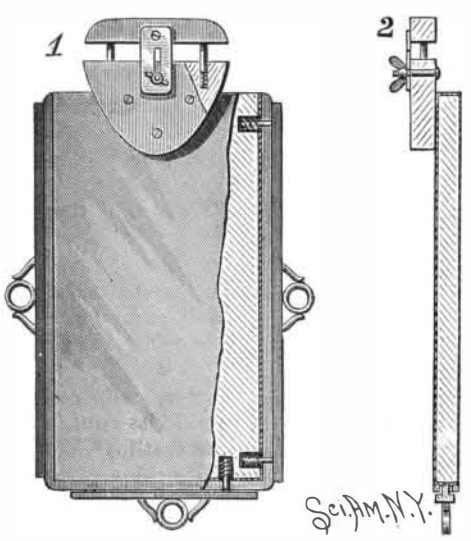
His first memoirs upon the mechanical theory of heat date back to 1850, when he established the proposition upon which he relied to demonstrate the second law of thermo-dynamics, viz., that heat cannot of itself pass from a warmer to a colder body.

The chief memoirs of Clausius were printed in two volumes, which have had a large sale and been reprinted several times.

Clausius was correspondent of the Academy of Sciences from 1859 to 1882, and obtained the Poncelet prize for his works in general. He was a member of the Royal Society of London and of a large number of other learned bodies, and received a multitude of decorations.

AN IMPROVED BOSOM BOARD.

A board to facilitate the ironing of shirt bosoms, and which is applicable for use in connection with shirts of different sizes, is illustrated herewith, and has been patented by Mr. Frank H. Argersinger, of Newkirk Mills, N. Y. Layers of fibrous material are stretched over one face of the board, being held thereto by cleats screwed to the two sides and one end. In the outer faces of the cleats are grooves, in the ends of which are recesses extending into the edges of the board, and adapted to receive pins rigidly connected to clamping strips having tongues to fit in the grooves, these clamping strips being normally held against the cleats by spiral springs, and having handles by which they can be slightly pulled out against the tension of the springs. To one end of the board is connected a heart-shaped block having an extensible strip which may be



ARGERSINGER'S BOSOM BOARD.

adjusted to fit the neckband of the shirt to be ironed, the loose material at the sides and ends of the bosom being drawn down between the cleats and the clamping strips and there clamped to place, so that the bosom may be ironed without becoming wrinkled or pulled out of shape.