

A COMBINED PUNCHING AND SHEARING MACHINE.

A machine to facilitate the cutting and punching of metal plates, as boiler iron, etc., is illustrated herewith, and has been patented by Mr. Henry A. Ridley, of Newport, Ark. The guideways on which the head slides form a bearing for the shear and punch blade, adapted to move vertically in the head. In the blade is an aperture in which turns an eccentric on a shaft, on the outer end of which is a lever, by which the shear and the punch are moved up and down. From this lever projects a pin passing through a slot in a pawl over a toothed bar secured to the tops of the standards. This pawl and toothed bar serve to move the head forward on its guideways when cutting metal plates. Directly below the movable shear blade is a stationary one, extending from one standard to the other, while the offset has a recess in which is fitted a punch die or block, with a number of apertures, into which fits the lower end of the punch, the punch die being movable to any desired place on the offset. Guide bars hold the plates in place for either cutting or shearing.

The Empress Frederick and Sir Morell Mackenzie.

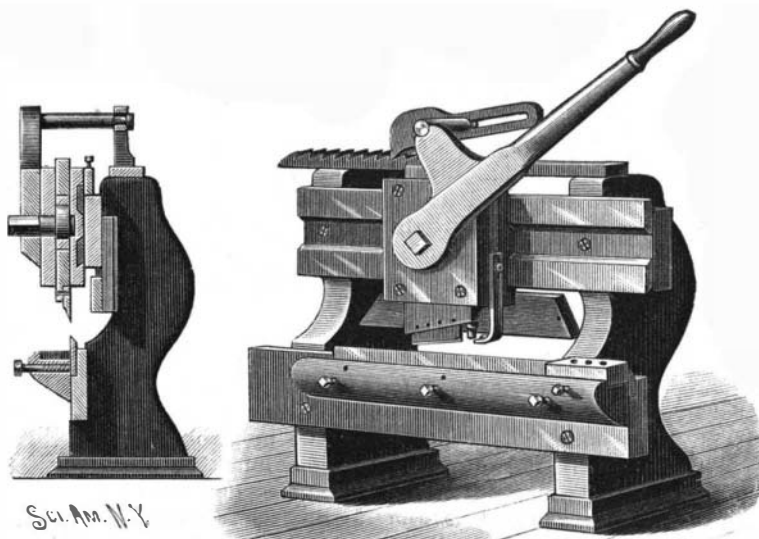
The following extracts, reprinted from the *Pall Mall Gazette*, are from a letter written by the Empress Frederick to Sir Morell Mackenzie. The letter is not printed in Sir Morell's work, and has never before been published:

"I took care to tell all eminent German medical men with whom I came casually in contact that you had said to me the first time I saw you, that though what you saw was innocent, yet you could not be sure until it was examined by Virchow, and that a malignant disease might be present somewhere out of sight, though there was no proof of it, the most unfavorable element of the case being my husband's age at the time. You told me that benign growths and malignant growths were seldom found together, and that you thought the growth you could see on the vocal cord was a benign one. You also said you could not hold out any security to me that a malignant growth might not appear some day. You said that the operation proposed was running too great a risk, that it was exposing life, and that should it succeed, the condition of the patient after would be so terrible that his chances, if let alone, would be more favorable. I have since heard that different German medical men think this a reasonable and sensible view, and say that, under the circumstances, we could have done nothing better. You also said, I think, if I remember rightly, that you would not have laryngotomy or laryngofissure performed on your own throat on the surmise or suspicion of a malignant affection of the larynx without very positive proof, and not even then, as the tendency of malignant disease was to reappear in other places when removed from one. Consequently, there would be a possibility of having gone through the operation, and yet losing one's life after all, by the reappearance of the disease. Furthermore, you said, I think, that you did not know whether the Crown Prince's constitution could withstand so serious a shock as that inflicted on the whole system by so important an operation. I should have repeated all this at the time much oftener had not the prevailing feeling been one of joy and gratitude at having escaped the horrible operation. 'You can show this letter to whomsoever you please.'"

Bright's Disease.

The coccus of acute Bright's disease, which has been expected for a long time, was born to science in Vienna recently. Dr. Julius Mannaberg, working in Nothnagel's clinic, has found a new streptococcus in the fresh urine of acute Bright's disease, and not found in two hundred examinations of

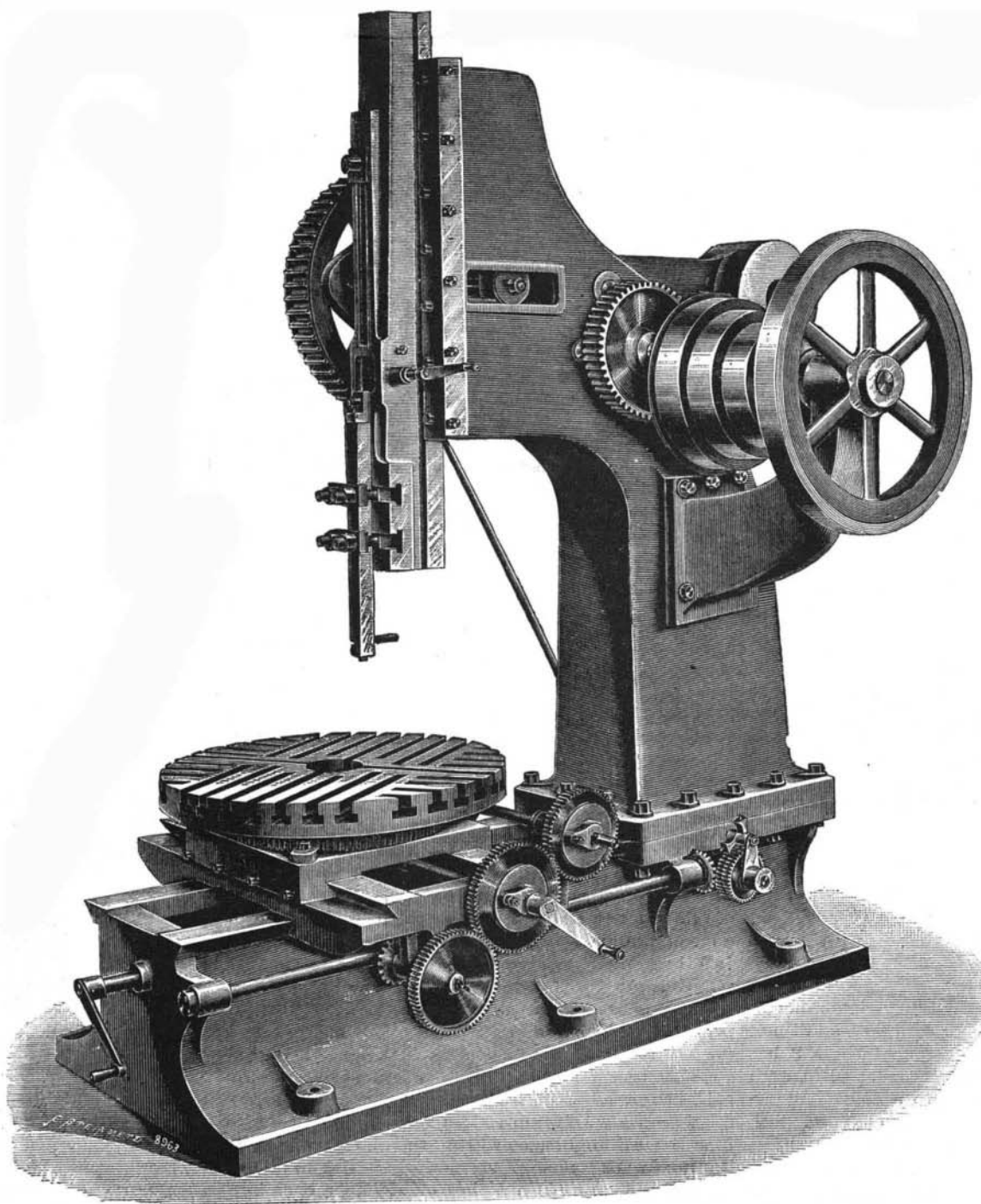
urine in forty-five other patients not "Brightiques." Dr. Mannaberg has cultivated, inoculated, etc., his coccus, and concludes: In the majority of cases of acute Bright's disease, the streptococcus is found in large quantities in the fresh urine, which was not the case in the urine of healthy persons, or those affected with another malady. The pure cultures of this microbe essentially differed from all other microorganisms hitherto described. The injection of this streptococcus into the blood vessels of rabbits and

**RIDLEY'S PUNCHING AND SHEARING MACHINE.**

dogs produced an inflammatory lesion of the kidneys, whereas the other organs were only exceptionally affected. These results he believes have proved, with probability, that certain forms, and perhaps all the forms, of the idiopathic acute Bright's disease had a bacteriological foundation.—*Med. Record*.

IMPROVED SLOTTING MACHINE.

The slotting machine which we illustrate was constructed by Messrs. Wilkinson and Lister, of Bradford Road Iron Works, Keighley, Yorkshire, who have recently supplied one of this pattern to the Victorian Railway Company. The machine is self-acting in all cuts, with positive feed, catch, and quick hand motions,

**IMPROVED SLOTTING MACHINE.**

The ram is balanced and has a quick return motion; it is adjustable in height by a screw. Its maximum stroke is 22 in. The table is 4 ft. in diameter, and when in its central position under the tool will admit work up to 7 ft. 6 in. in diameter and 3 ft. 9 in. in depth. The movements of the slides are 3 ft. 6 in. and 3 ft. 9 in. The machine weighs 10½ tons complete.—*Engineering*.

The Mobangi River, Africa.

The *Mouvement Geographique* of April 22, 1888, contains details of Lieutenant Van Gele's recent ascent of the Mobangi. Van Gele left Equator Station Oct. 27, 1887, and on Nov. 21 reached the foot of the Zongo Rapids, the spot at which the Rev. G. Grenfell was turned back in 1884. These rapids extend over a distance of twenty-four miles, and are six in number, but the steamer *En Avant* succeeded in passing them, though she had to be unloaded before she could pass the fifth, which consists of a group of islands connected together and with both banks by a rocky bar forming rapids and two falls. The banks of the river on both sides along the line of the rapids are bordered with gently sloping hills, studded with villages and presenting alternations of woods, meadows, maize fields, and banana plantations. The villages on the river bank are palisaded in front, and watch posts are established in the cotton trees. As far as Belly, in the middle of the cataracts, the natives have their heads shaved, except at the nape, and wear fierce-looking mustaches. Above Belly the Bakombe form the population, and are distinguished from their neighbors by their method of wearing the hair, which extends behind in queues sometimes seven feet long.

After passing the sixth rapid, at Mukuangai, the river comes from the northeast free from all obstacles, and the view is described as superb. It has a width of about half a mile and an average depth of fourteen feet. After about twenty-two miles it bends eastward and continues in this direction as far as was navigated by Van Gele (above 172 miles). Along this stretch the natives call it the Dua. The people on the right bank of this portion belong to the Buraka and Maduru tribes, those on the left to the Bakangi, Mombati, and Banzy. They shave the head so as to leave a little

triangle of hair on the forehead, and wear immense copper rings or wooden cylinders in their ears. The native huts are cone-shaped, rest on a wall of stone about two feet high, and are neatly arranged in rows forming broad streets around a central building used as a common meeting place. These people work iron into all sorts of implements, weapons, and ornaments. In this reach of river there are many islands, most of them inhabited and cultivated. A rapid was passed at about one hundred and thirty miles above the Zongo Rapids, and twenty-five miles further east another was met with, at which the steamer had to be unloaded. About twelve miles above this rapid (21° 30' E. long.) the Bangasso discharges into the right bank of the Mobangi. Up to this point the natives had invariably been friendly, offering for sale all kinds of provisions, but here difficulties began. The Mombongo and Takomatries, which inhabit both banks, were decidedly hostile, so, as the navigation was obstructed by rocks and sand banks, Van Gele decided to turn back at 21° 55' E. lon. At this point the river is a mile and a half wide, and is studded with islands, the larger of which are inhabited. As Dr. Junker coming westward reached 22° 55' on the Welle, and as both points are in 4° 20' N. lat., there can be little doubt of the identity of the Welle and Mobangi.

CHARCOAL is recommended as an absorber of gases in the milk room where foul gases are present. It should be freshly powdered and kept there continually.