

Improvement in Power Punching Presses.

Twenty years ago the punching press existed only in a very crude form, and was used but seldom, and then only for a special class of work. Now it is an elaborate and workmanlike machine, one of the most valuable tools the machinist uses, and is applied to many purposes. Small forgings are finished by it, and their substance condensed and surfaces smoothed, while its power of rapidly cutting out and fashioning blanks of almost all forms, has scarcely a limit.

Fig. 1 is a perspective view of a powerful back geared

stroke of the pitman, D, and the consequent throw of the punch stock. E is the worm meshing with the teeth on the eccentric.

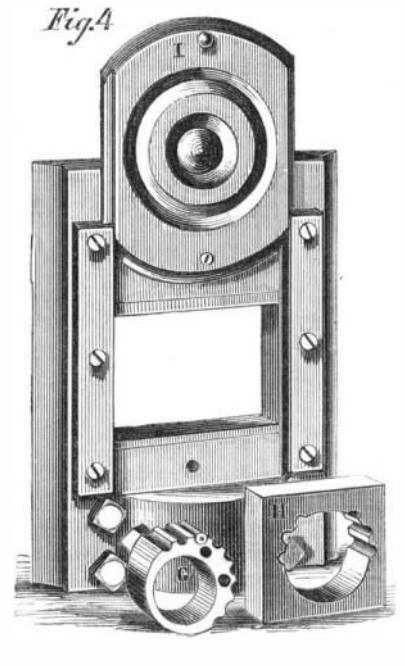
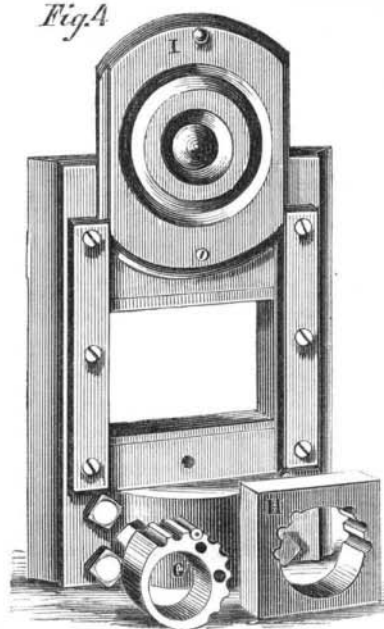
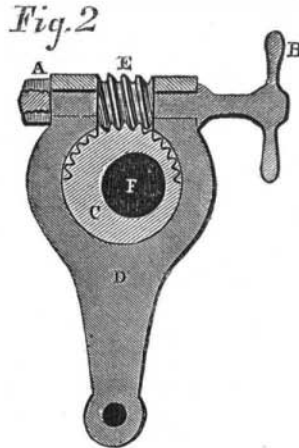
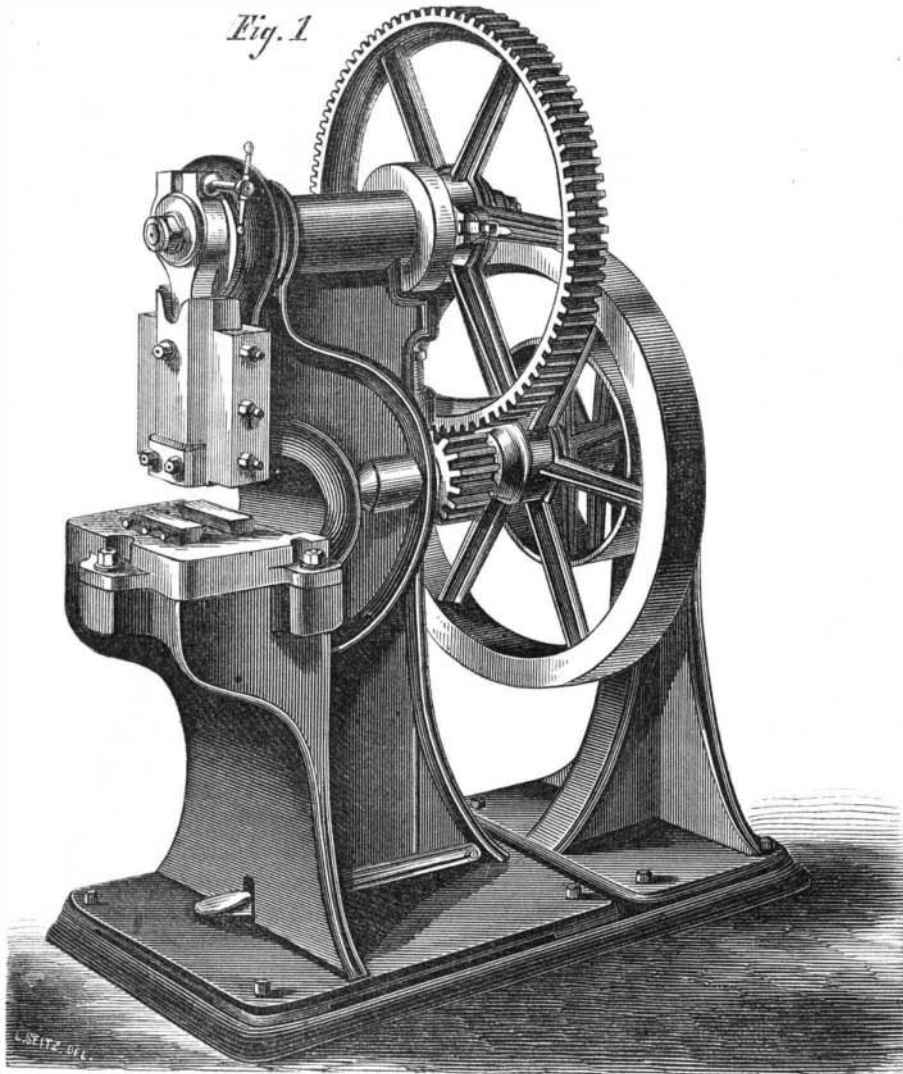
Fig. 5 is a perspective view of the parts of the machine containing the stop or lock motion, and Fig 6 is a vertical longitudinal section of the same. In both figures the same letters of reference are used. A is the hub of the driving wheel, turning free on the shaft, B, and locked or keyed to the shaft by the spring bolt, C, which is held by means of the vertical catch, D, the top or head of which is crescent

Singular Preservation.

The London *Herald* tells the following singular and touching story :

Not many years since, certain miners, working far underground, came upon the body of a poor fellow who had perished in the suffocating pit forty years before.

Some chemical agent to which the body had been subjected—an agent prepared in the laboratory of nature—had effectually arrested the progress of decay. They brought it up to the surface, and for a while, till it crumbled away through exposure to the atmosphere, it lay there the image of a fine sturdy young man. No convulsion had passed over the face in death—the features were tranquil; the hair was black as jet. No one recognised the face—a generation had grown up since the day on which the miner went down his shaft for the last time. But a tottering old woman, who had hurried from her cottage at hearing the news, came up, and she knew again the face which through all these years she had never quite forgotten. The poor miner was to have been her husband on the day after that on which he died. They were rough people, of course, who were looking on; a liberal education and refined feelings are not deemed essential to the man whose work is to get up coals or even tin; but there were no dry eyes there when the gray-headed old pilgrim cast herself upon the youthful corpse, and poured into its deaf ear many words of endearment unused for forty years. It was a touching contrast; the one so old, the other



STILES' PATENT IMPROVED PUNCHING PRESS.

machine. The pitman on the front connects at one end with the sliding block, or punch stock, and at the other end with a toothed eccentric on the main shaft, the teeth being cut around a portion of its periphery. These teeth engage with a worm turned by a hand lever, the device being seen in section in Fig. 2. By this means the stroke of the punch may be graduated, and governed to the minutest fraction of an inch.

shaped, its inner surface fitting the shaft, and its reduced end edge allowing the end of bolt, C, to pass between it and the shaft or outside, as the position of the catch, D, may determine, which position is governed by the action of the treadle seen in Fig. 1, and operated by the foot of the workman. Spiral springs on bolt, C, and catch, D, assist in the operation of the stop motion. So long as the workman presses upon the treadle, the bolt keeps the driving wheel

so young. They had both been young those long years ago; but time had gone on with the living, and stood still with the dead.

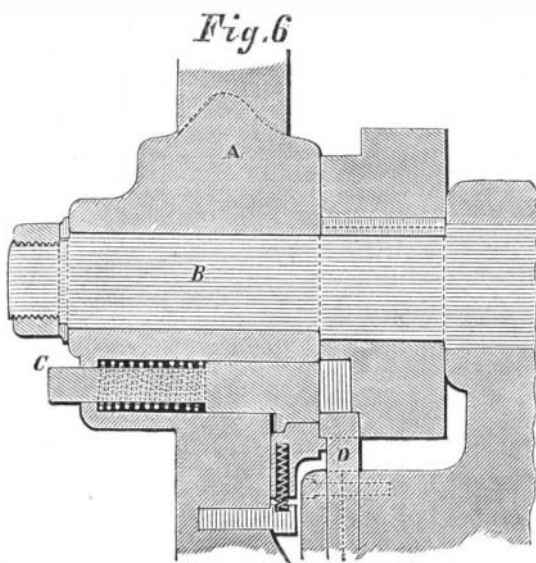
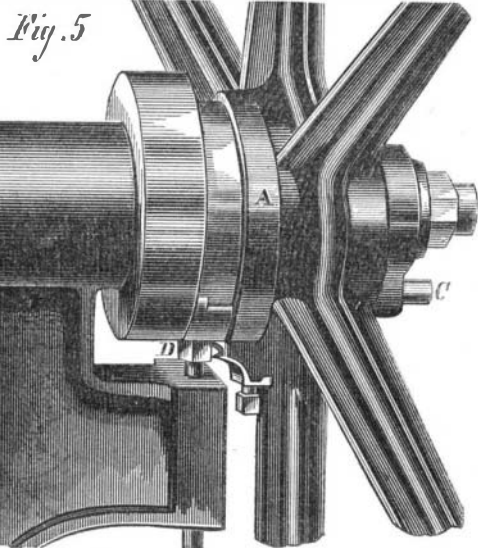
Workmen as Students.

Professor Tyndall, who occupies the chair of natural philosophy at the Royal School of Mines in London, reports some striking results from the delivery of evening lectures, a plan which was set on foot a few years ago, partly with a view to meet, in some degree, the wants of schoolmasters. On alternate evenings the lectures are to workmen, and these he says are far more attentive than the others. "I have purposely," he observes, "looked round the filled benches in search of a yawn. I never once saw it among these workmen." The professor further states: "I often receive letters which are perfectly touching, in the name of twenty workmen or thirty workmen, in such and such a factory, expressing their intense disappointment at not being able to get tickets for the lectures." As soon as an advertisement appears, stating that 600 tickets will be disposed of at a certain time, the demand is such that tickets are sold as fast as they can be given out. Those who thus attend are described as being "for the most part, *bonâ fide* workmen; hard-handed, earnest people, who have no time to devote to study save the time which they take at night."

The West Side Elevated Railway.

The recent meeting of the directors of the West Side Elevated Railway Co., resulted in a very favorable exhibit of the future prospects of the road. Proposals for the iron necessary for further construction were received, and some large contracts completed. The reports of surveys for the fixing of the remainder of the line were submitted, and referred to the chief engineer with power. The section already completed will be put in operation about the first of November; and all legal difficulties having been removed, the company will proceed to raise money as rapidly as possible for the completion of the road.

ELECTRICAL FREAKS.—A tinsmith in Reno, Cal., during a recent thunder storm noticed that a lad in his employ seemed to be afraid of his tools. Upon questioning the boy, he complained that something strange was the matter with them. The tinsmith upon attempting to take up the large scissors which the youngster had dropped, received a shock that nearly prostrated him. Immediately after little balls of fire began hopping about over bits of iron, and making finally a united assault upon the coal furnace, whereupon the "boss" and his apprentice wisely and speedily vacated the premises until the subsidence of the storm.



Figs. 3 and 4 represent the Stiles' patented device for graduating the stroke of ordinary crank presses, by which means the stroke may be graduated to the sixty-fourth part of an inch. The eccentric marked G has a series of semicircular holes on its periphery, engaging, when in position with similar holes in the block, H, the eccentric being moved on the shaft by means of a pronged wrench fitting the holes seen on its face, and being held in connection with the block by a pin fitting the two semicircular engaging apertures. In Fig. 3 the eccentric is seen seated in the block, and in Fig. 4 both the eccentric and block are seen removed. The face plate, or cover, I, in either case is raised.

This device is the principle, and one of its adaptations to the adjustment of the stroke of the punch, the toothed eccentric, however, in Fig. 2 is an improvement on the original design, which was described and illustrated on page 305, Vol. X., current series of SCIENTIFIC AMERICAN.

In Fig. 2, A is a tightening nut on the end of the worm shaft, the shaft being worked by the handle, B, by which the eccentric, C, is turned on the shaft, F, thus governing the

in connection with the shaft, and the punch is operated, but when he releases the pressure of his foot the catch, D, is forced upward by its spring, and the bolt or key, C, engages with the other surface of the head of D, and releases the key bolt, leaving the driving wheel to revolve freely on its shaft without imparting motion to the punch. The relation of the punch and the key bolt is arranged so that the punch must stop always at the highest point of its stroke, so there can be no chance of cutting off fingers by the continued action of the press after the treadle and its connections have been put in operation.

This machine and its parts are the subject of several patents, procured through the Scientific American Patent Agency, dated January 26, 1864; January 30, 1866; re-issued December 26, 1865, and April 2, 1867. Manufactured by N. C. Stiles, who may be addressed at Middletown, Conn.

ALASKAN and British Columbian birds are said to be numerous in variety and most beautiful in plumage. Two thousand specimens are on their way to this country for museums.