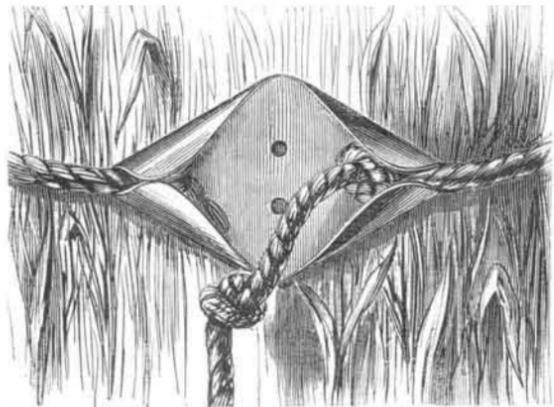


TRUSLOW'S PATENT SHEAF BINDER AND BAG TIE.

The embarrassment of the large western wheat growers caused by the scarcity of skilled binders to follow the reaping machine and secure the crop, with the consequent exorbitant demands of the binders, led to the contrivance of the simple device herewith exhibited. It is so simple in construction and so facile in use that even a child may bind a sheaf with it. The inventor asserts that its use is a great saver of time, an important consideration in the harvesting of cereal crops, so liable to be injured by exposure to the inclemency of the weather. Not unfrequently, also, the straw is weakened by rains or its toughness impaired by the peculiarities of the soil on which the grain is grown, so that it is difficult to make a binding band of it.



The device under consideration is simply a piece of tin or other sheet metal bent in the form shown in the engraving and having attached a knotted cord which readily engages with the turned-up lips of the metal clasp. It is cheap, durable, portable, and easy of application. It is intended also, to be applied to securing the mouths of grain sacks, for which purpose it may be attached permanently to the bag by sewing it on, for which the holes seen in the face of the clasp are intended.

Patented through the Scientific American Patent Agency, June 30, 1868, by Edward Truslow, who may be addressed at 78 Maiden Lane, New York city.

HIGH HEELS, NARROW TOES, AND OTHER ABSURDITIES OF FASHION.

The medical journals, and some other papers, are making a feeble crusade against the high-heeled and narrow-toed boots now in vogue. This fashion must be creating a rich harvest for the corn doctors, and it is sure to result in a greater or less degree of permanent deformity. Especially may the latter consequence be expected, in the cases of young children. When the heel is raised, as is the prevalent custom, the bones of the thigh, pelvis, and leg, as well as the foot, are thrown into abnormal positions; and while the bones retain their plasticity, the effect of such unnatural tension is sure to be perpetuated, in the shape of crooked shins, bandy legs, elephantine toe joints, and cramped ungraceful gait. Let us hope that before these evils shall have become greatly multiplied, fickle fashion may remove the cause, and give us something more sensible and enduring than these toe-screws, which are giving us the hobbling gait of Chinese women, and which possess neither beauty nor comfort.

The newspapers report that the "Grecian Bend" is all the rage at fashionable watering-places; and one correspondent actually gained the important information from an elderly female acquaintance, as to the *modus operandi* of its accomplishment. The "Grecian Bend" is an S-like curvature of the upper figure, caused by thrusting out the chest, bending forward the head, contracting the stomach, and elevating the hips, the latter effect being aided by wearing very high-heeled shoes, and an arrangement upon the hips called a *panier*, which is, most unsophisticated reader, in plain English, a bustle. The obliging matron above referred to thus discloses the mysteries of this wonderful female structure:

"The 'Grecian Bend' is quite painful and wearisome, and some girls adopt artificial contrivances to aid them in preserving the posture for several consecutive hours. A belt is fastened about the waist, under the skirts. From this belt, down either side the hips, two straps, furnished with buckles, descend, and are attached to strong bands made fast around the lower thighs. As the buckles of the straps are tightened, the hips are drawn up and held in 'position.'"

"This," said my amiable informant, "is a relief, of course, to only one part of the frame. The construction of the upper part has to be preserved with no other aids than the stays, and those often render it the more difficult and tiresome."

"You perhaps notice another peculiarity about some of the ladies' dresses. The bodies are not only cut very low, but are so far from clinging jealously to the figure as to seem to challenge the gaze."

"So gracious a condescension on the part of our belles," continued the matron, in a tone tingling with irony, "commends them, you will surely admit, as a far more honest and unequivocal set than the haunts of fashion are used to boast of." And, indeed, this claim might be founded upon proofs even more striking than the one alluded to. Nobody who has been entrapped here, as a spectator of the frequent displays of under-drapery on the stairways and the edges of verandas and colonnades, can doubt that many of the embroidered hose and delicate laces which adorn the limbs of the exhibitors were donned as well for beauty as for wear, and that the manner of making a graceful disclosure of them is studied as a fine art."

No sensible person can read this description without regret that we have no Juvenal to sing the flagrant follies (too mild a term) of the age.

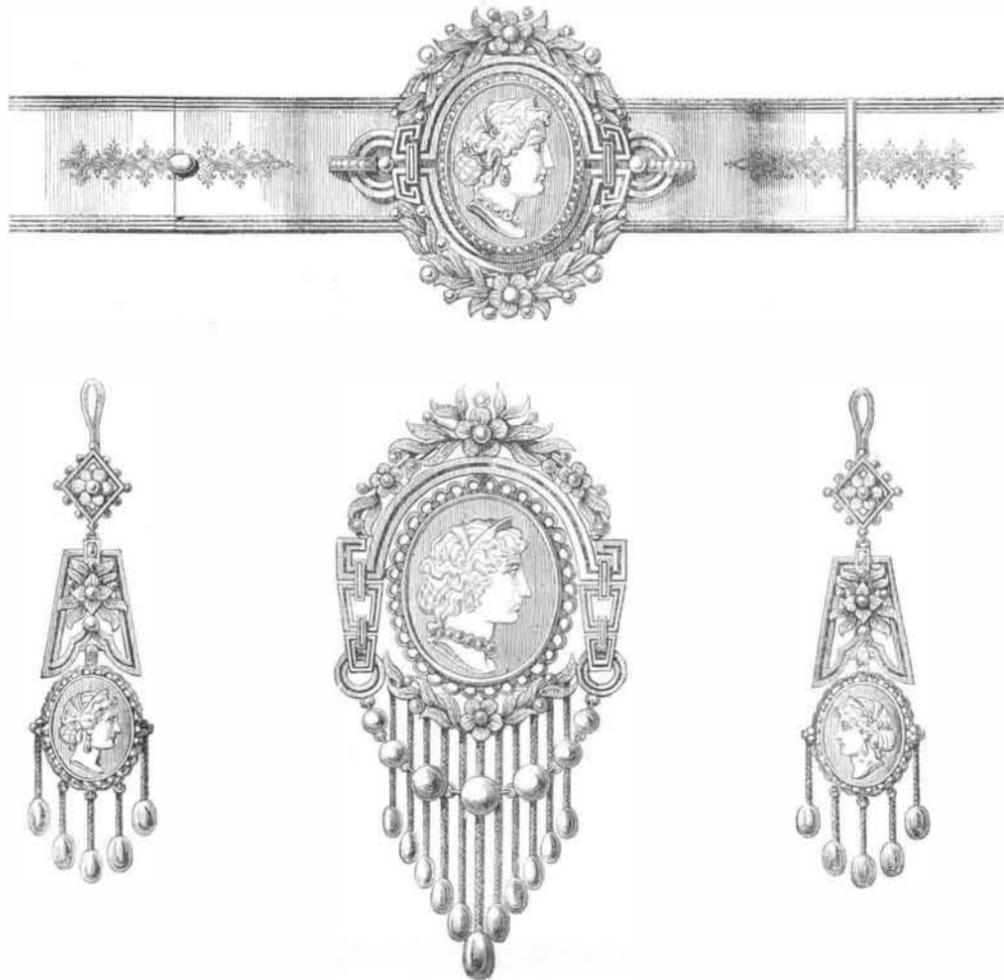
Appearance of Encke's Comet.

Mr. B. T. Sands, superintendent of the United States Naval Observatory, reported to the Secretary of the Navy that Encke's comet was observed at Washington on the morning of the 13th August by Professor Hall. It was near the place

predicted by Messrs. Becker and Van Asten. At 3 o'clock that morning (15h. m. t.), the comet's right ascension was 6h. 59m. and declination 30° 52m. It is about two weeks behind the time it was expected to appear. Our National Observatory has the credit of being the first to discover it this time. It is nearly in the same position that it was thirty years ago. It is now observable between 3 A. M. and daylight. It will disappear in a week or two, and then reappear in the latter part of September, when it can be seen with the naked eye from 9 o'clock in the evening until 2 o'clock in the morning.

DESIGNS FOR MODERN ARTICLES OF JEWELRY.

We herewith produce from the *Workshop* a beautiful design for a set of jewelry, comprising a Bracelet, Brooch, and Ear-



pendants, which will command the admiration of lovers of the beautiful, as well as the large number of our subscribers who are engaged in the manufacture of fine jewelry.

GREAT MACHINE TOOL-MAKERS.

William Fairbairn, the celebrated machinist, has left it on record that, when he commenced his career at the beginning of the century, the human hand performed all the work that was done. In these days, such a statement seems very strange, and the wonder is, how the craftsmen of the days of our fathers managed to get through the work they did. At the present time, in the vast majority of occupations, we have reversed the old order of things, and machinery may now be said to have superseded the use of the ten fingers, in most cases where rapidity and cheapness of manufacture are required. It is said that the first person who invented labor-saving machines was Bramah, the maker of the patent lock. He found it necessary to give the greatest exactness to every part of the ward and key of this celebrated lock. This he found very difficult to do without employing the very best workmen; and their charges were so exorbitant, that his invention was in a fair way of dropping out of use on account of expense. In this dilemma, he was forced to turn his attention to the introduction of machinery to produce with unerring nicety the different parts of the complicated little apparatus with which his name is yet associated. The workshop in which the many clever contrivances to perform this work with speed were invented, may be said to have been the training school for the early machinists, whose labors have, within the present century, built up the mechanical greatness of England. Accuracy of machine-work before his day was utterly unknown. Watt had the greatest difficulty in getting his first model of the steam engine constructed with sufficient truth to work; its cylinder was not bored, but hammered, and consequently was so imperfect that it leaked in every direction, and, when his "old white iron man" died, he was plunged into despair to obtain another skilled man. Even when he had obtained the trained workmen of the Soho Foundry, they found a difficulty at first in constructing working engines after his design. The accuracy and quality of the best workmen of the day may be gaged by what he says of the working of his steam engine: "The velocity, violence, magnitude, and horrible noise of the engine give universal satisfaction to all beholders,—believers or not." What a contrast this to the smooth, irresistible noiseless action of a steam engine of the present day, constructed with mathematical accuracy and perfect finish! But to attain these qualities, machinery had to be constructed in a wholly different manner to the methods pursued by the old smiths. Every step, in

fact had to be built up. The invention of the famous fixed slide rest by Maudslay, the journeyman, who learned his trade with Bramah, was the first step in a series of inventions leading towards the same end. Before its invention, the turning lathe depended for its accuracy upon the steadiness of the muscles of the workman. If at any moment, in turning a cylinder, for instance, he leaned heavier upon the tool than another, the whole work had to be gone over again. By simply fixing the turning tool, however, this cause of error was entirely obviated, and mathematical accuracy of workmanship was obtained. Maudslay was the man who executed from the drawings of the elder Brunel the series of labor-saving machines at present at work in Portsmouth Dockyard for the manufacture of ships' blocks. These ingenious machines, forty-six in number, were only a few years ago the

curiosities of the place, and may be, for aught we know, yet. They were the first ever set up in a public yard, and, although they have been at work for sixty years, they remain still in capital working order. Maudslay afterward, in conjunction with his partner Field, founded in Lambeth Marsh the famous firm which is still carried on under their names. This firm has done much towards training the splendid machinists which have made English work so famous throughout the world. We are told, indeed, that Belgium is running us hard in this kind of work,—at all events, she is underselling us in cheap locomotives; but we do not fear that any nation will excel us in really conscientious work. We are told, and we believe it, that first class machine makers cannot afford to turn out any but first class work.

Clements was another inventor who learned his art in the school of Bramah, and afterwards worked for Maudslay and Field. This clever machinist invented the planing machine, without which no perfect plane can be made. The value of such a machine is incalculable. Indeed, upon the truth of the plane depends the whole value of modern machinery. Of old, by chipping and filing, an attempt to approach the plane was made, but of course perfect accuracy was out of the question.

The fame Clements acquired by his planing machine, directed the attention of Professor Babbage to him when constructing his famous calculating machine. This instrument was, perhaps, the most wonderful specimen of mental labor-saving machine that was ever conceived. Professor Babbage, indeed, only commenced its construction, and before he had proceeded with the working drawings far, we are told that his ideas with respect to its capacity as a calculating machine developed so rapidly, that the Government became frightened. Certain portions of this curious engine were, however, furnished by Clements, and remain now, we believe, in the South Kensington Museum, as splendid fragments of mental and mechanical labor. But, although the English had not the honor of carrying out the idea conceived by one of her sons, yet it did not fall to the ground. The Messrs. Scheutz, of Stockholm, followed it out, and, after many years' labor, produced a calculating machine, a copy of which was purchased, some years since, by the British Government, and was subsequently employed in calculating a large volume of life tables, which we are assured by the authorities at Somerset House never would have been undertaken had this machine not been in existence. Everything Clements undertook he did effectually. To this day we all of us have experience of this in the steam whistle, which was invented by him.

Perhaps a still greater pupil of Maudslay was Nasmyth. This remarkable man was the son of the celebrated artist of that name, consequently he sprang of a cultivated stock.