

PATENTED IMPROVEMENTS IN JEWELRY.

We give illustrations of a few recently patented improvements in jewelry. The invention shown in Fig. 1 is an improved method of incrusting and enameling precious stones, such as onyx and agate. It consists in first engraving the design into the stone to be ornamented, then pressing or moulding a thin plate of gold into the indentation, then removing, enameling, and burning the plate, next replacing and cementing the plate into the stone, and finally grinding the surface of the enameled portions flush with the surface of the stone. This is the invention of Messrs. Peter Appel and Charles P. Appel, of West Hoboken, N. J.

Fig. 2 represents an improved fastening for ear jewels, patented by Mr. G. W. Washburn, of West New Brighton, N. Y. In this invention a neat and inconspicuous curved tube is made to inclose, conceal, and protect the bolt and spring of a secure locking device, adapted to fasten automatically with a distinct "click," which gives audible notice to the wearer when the ear wire is locked. The ear fastening is readily unlocked by the wearer or an attendant. The engraving shows the fastening both closed and open, and gives also an enlarged sectional view of the fastening.

Mr. David Untermeyer, of New York City, has lately patented an improved separable finger ring, shown in Fig. 3. This finger ring is so constructed that the shanks can be detached from the heads and replaced with larger or smaller shanks. The head has sockets upon its inner side, and the shank has hooks upon its ends, so that the setting may be detached and replaced by another at the will of the wearer. The engraving shows the ring and setting separately, also a sectional view of the two parts put together.

Fig. 4 shows a combined finger and scarf ring, patented by Mr. Carl Bachem, of Pforzheim, Baden, Germany. This is an improved finger ring, which can be used in a convenient manner as a scarf ring without any extra fastening device. The invention consists in making the ring in five parts, which are hinged together so that the two hinged sections opposite to the central stone setting may be sprung inwardly for use as a scarf ring. The hinged sections adjoining the stone setting are provided with raised cheeks, which abut against the setting when throwing the remaining sections in outward or inward direction.

An improved method and device for connecting gems, patented by Mr. August Schaffer, of New York City, is shown in Fig. 5. The object of this invention is to connect agates and similar stones of natural or artificial color, cameos, and the like, in such a manner that the upper stone projects above the surface of the lower stone or table. By this connection a larger variety of combinations can be made from this class of stones, to be used for articles of jewelry and other purposes. The improvement consists in connecting two agates or other stones by recessing or dovetailing the lower stone or table on its upper surface and the upper stone or step at its bottom surface, inserting into the recess a connecting piece or key of copper, and filling up the small wedge-shaped spaces or cavities between the connecting key by electro-deposition.

Fig. 6 shows a very pretty article of jewelry that may be changed so as to be used for different purposes. This piece of jewelry is made in the form of a cross, with detachable side pieces, pin, and hanger, so that by removing the side pieces the middle piece can be used as a lace pin and the side pieces as earrings. This invention has been patented by Messrs. Leon P. Jeanne, of Woodside, and Louis P. Jeanne, of Greenville, N. J.

NEW INVENTIONS.

Mr. John Flinner, of Millersburg, Ohio, has patented an improvement in gates. The object of this invention is to combine with a vertically swinging gate a suitable latching device adapted to be operated by the lifting rods and the levers by which the gate is raised. The gate has a stationary latch near the bottom of its swinging end, and a sliding latch near the top of same end, in combination with a recessed gate post and suitable mechanism for operating the sliding latch and raising the gate.

An improved loom shuttle has been patented by Mr. John W. Sohn, of Columbia, Pa. The invention consists in the combining, with a shuttle body and vertical spindle, of an end perforated lever and a subjacent spring.

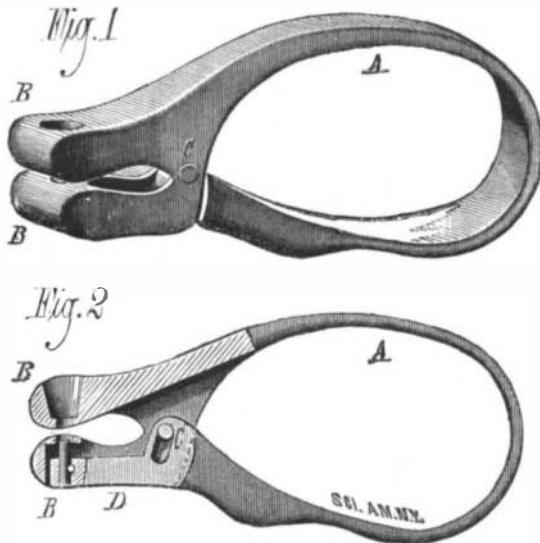
An improved butter worker has been patented by Mr. Elvearo Stout, of Ottumwa, Iowa. This invention relates to improvements in that class of butter workers in which a frame carrying a roller is reciprocated in a box having slots in its sides, the bottom faces of the slots serving as bearings for a transverse rod in the roller frame as it is moved back and forth in the box.

Mr. John Murray, of New York city, has patented a toy wagon with a figure of a driver having a hinged body, and connected by a rod with a crank formed upon the forward axle, so that the movement of the wagon will give the figure the appearance of whipping the horses; and also with a

figure of a boy connected with a crank formed upon the rear axle, so that the movement of the wagon will give the figure the appearance of jumping up at the rear end of the said wagon.

NEW TICKET PUNCH.

The engraving represents a novel ticket punch recently patented by Mr. George A. Gunther, of Bath, and William Kowalski, of Brooklyn, N. Y.



GUNTHER'S TICKET PUNCH.

The object of this invention is to simplify and cheapen the construction of ticket punches and to make them convenient to carry.

The ticket punch has a curved spring and jaws made in one piece, the upper jaw having a groove to receive the lower jaw, a curved recess to receive the ticket and carrying the female die, and the lower jaw carrying the male die and having a slot to receive the stop pin that limits the movements of the jaws.

Fig. 1 is a perspective view of the punch, and Fig. 2 is a sectional view.

A Carload of Blasting Powder Exploded.

A remarkable explosion occurred at Council Bluffs, Iowa, Sept. 26. A car laden with blasting powder consigned to Denver had been refused by the Union Pacific Railway

in all directions. Even in Omaha, on the opposite side of the river, large windows were broken by the concussion, and as far as the Missouri Valley, twenty miles north of Council Bluffs, the damage done was heavy.

Accidents to Railroad Employees.

British railroad accidents during the first three months of the current year are reported to have killed 269 and injured 1,078 persons. These accidents, however, include injuries to persons on the track, etc., by trains, as well as train accidents. There were but 3 killed and 276 injured by the latter, against 17 killed and 225 injured in the first quarter of 1880. The comparison with the accidents in this country, as reported in our columns, is as follows:

	1881.		1880.	
	Killed.	Injured.	Killed.	Injured.
United States	95	613	36	132
Great Britain	3	276	17	225

We were working something more than five times as many miles of road as there were in Great Britain; but our train-mileage was not by any means large in proportion. The *Railroad Gazette* says: The result in 1880 was decidedly favorable to this country; but for this year it is extremely unfavorable, our train accidents having killed *thirty-two* times as many and injured more than twice as many as the British train accidents. We may comfort ourselves somewhat by the reflection that last winter was extraordinarily unfavorable and productive of accidents.

Discovery of Beautiful Minerals.

Prof. B. Silliman records, in the *American Journal of Science*, the discovery of vanadinite and other crystalline salts of lead, of great beauty of color and perfection of form, in the Territory of Arizona. Some of the varieties—crocoite, a chromate of lead, and vauquelinite, a variety containing copper—have never before been found in North America. Vanadinite, chloride of lead, and vanadium, hitherto a rare species, promise now to be comparatively abundant in the silver district in Yuma county and other localities.

It is found in veins of quartz which lie between foot walls of granite and hanging walls of porphyry, the latter being similar to the usual associates of silver ore the world over. The quartz veins have also other salts of lead and argentiferous galena, but no gold. Vanadinite occurs in the "Hamburg," the "Red Cloud," and the "Princess" mines. That in the "Hamburg" is the best. The crystals are small and highly lustrous, varying in color from deep orange-red to reddish-yellow and brown.

In "Red Cloud" they are a rich flame color, and are found in rather confused masses. In "Princess" mine occur slender crystals of a brilliant red color bedded in white calcite. They are very perfect in form, and have been mistaken for chromate of lead.

Other rare species are found in the *Vulture District*, in the vicinity of the "Vulture" mine, while at "Collateral" mine, about twenty-five miles northeast of "Vulture," is the most interesting locality. The vein is about four and one-half feet wide in soft gray talcose rock. About one-half of the thickness of the vein is quartz stained green with chrysocolla and chocolate-brown with ground mass which contains vanadium. The colored masses all give strong reaction for vanadic acid.

A seam of very red ferric oxide and calcite follows next. The calcite contains crystals of vanadinite, and the oxide reacts for vanadic acid; then there is a seam of lemon-colored crystals. The whole soft mass of the vein reacts for vanadic acid, and specimens of rare beauty are found in the cleavage fragments of the calcite.

Among the ores found in this "Collateral" mine is a mineral which may prove to be descloizite. The tests of it indicate the presence of vanadium, lead, copper, manganese, and zinc, but more specimens are needed to complete the study of it.

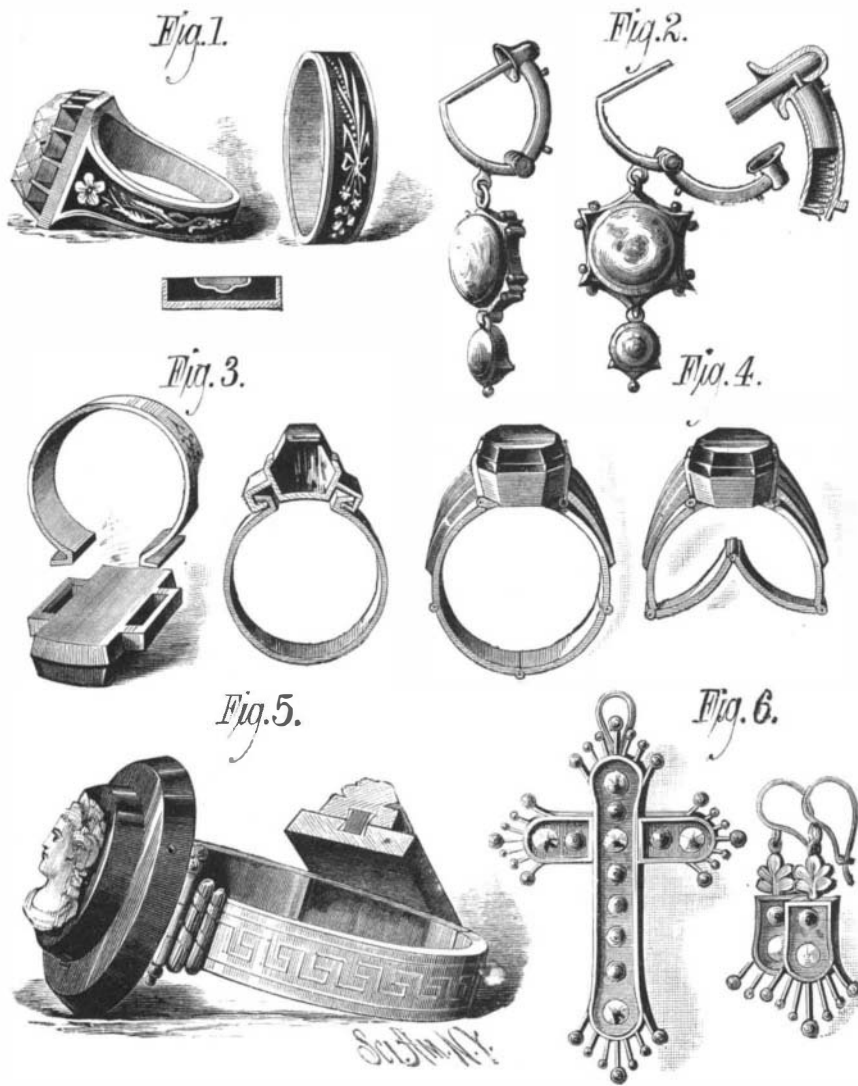
A specimen is referred provisionally to the volborthite species.

This mineral has a green color, and contains copper, lime, and vanadic acid. It was named after Volborth, its discoverer; but the specimen discovered in "Collateral" mine may turn out to be a new species.

A mineral like Domeyko's *chileite*, but not a clay-like mineral, which yields a globule of lead containing a nucleus of copper, occurs both in this mine and in the "Chromate," and something similar also is found in the "Phoenix" mine. The Montezuma lead mine abounds in vanadinite in the form of hexagonal prisms.

What may prove to be *mottramite* has been found at the "Frenchman's" mine. Wulfenite, molybdate of lead, which does not contain vanadic acid, has been found in crystals of rare beauty in "Red Cloud" mine, as well as the vanadinite before mentioned. It is also found in the "River" mine.

Three or four species of the *crocoite* group, that is, chromic acid with oxide of lead, occur in the "Collateral" and the "Chromate" veins, but as yet it has not been found



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Company and returned to the yards of the Chicago and Rock Island and Pacific Railroad, where from some unknown cause it was exploded. The concussion demolished the company's round house, repair shops, brick freight houses, and about forty or fifty freight cars. The explosion dug a hole in the ground fifteen feet deep and forty-five feet in diameter. Large windows in all parts of the city were shattered, sheets of plastering were torn from houses, and damage was done