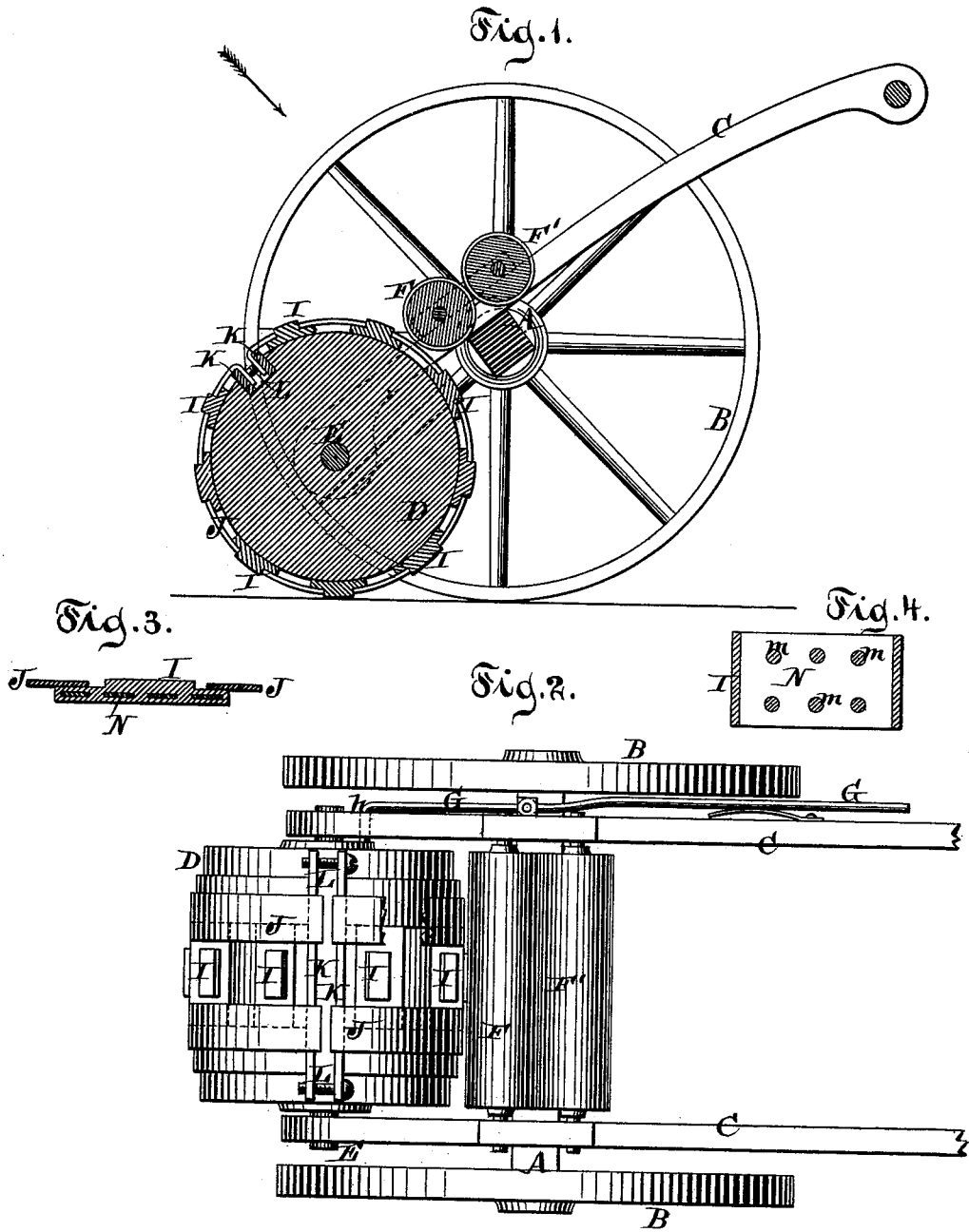


K. GRAY.
 Traveling Printing Apparatus.

No. 200,711.

Patented Feb. 26, 1878.



Witnesses.
 Chas. Wahlers
 Otto Schupfand.

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 by
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UNITED STATES PATENT OFFICE.

KENNEDY GRAY, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN TRAVELING PRINTING APPARATUS.

Specification forming part of Letters Patent No. **200,711**, dated February 26, 1878; application filed December 18, 1877.

To all whom it may concern:

Be it known that I, KENNEDY GRAY, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Traveling Printing Apparatus, which invention is fully described in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a longitudinal vertical section of my apparatus. Fig. 2 is a plan or top view thereof. Fig. 3 is a cross-section of one of the types used in my apparatus. Fig. 4 is a horizontal section thereof.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in traveling printing-presses, in which are combined the following instrumentalities, viz: supporting truck-wheels, parallel side sills mounted on the axle of the wheels, and forming pulling-handles, journaled inking-rollers, and a type-wheel journaled in the extreme ends of the side sills, as will be more fully hereinafter set forth; further, in the combination, with the aforesaid type-wheel, of circumferential bands, serving to confine the types of such wheel, clamping-bars, to which the opposite ends of said bands are fastened, and adjusting-screws which pass through said bars, and serve to move the same toward or away from each other, so as to tighten or loosen the bands; also, in the combination, with the type-wheel and its circumferential bands, of types constructed of vulcanized india-rubber, and having metallic strengthening-plates, which are embedded in the india-rubber, so as to stiffen the types, as will be hereinafter more fully set forth.

In the drawing, the letter A designates an axle. B B are the wheels, and C C are two sills composing the truck or carriage of my apparatus, the sills being secured to said axle, and one of the ends thereof being made in form of a handle, as shown. D is the type-wheel, which is located between the sills C C, near one end thereof, and the shaft E of which has its bearings in said sills.

F F' are two rollers mounted on the sills C C, and which form the inking device of my apparatus, the inner roller F being arranged in superficial contact with the type-wheel D or its types, while the outer roller F' supplies

ink to said inner roller, so that the ink is continuously applied to the type-wheel. Said outer wheel F' takes the ink from a box or reservoir, (not shown,) and this box may be subjected to the action of a spring; or, in lieu thereof, either or both the rollers F F' may be mounted in elastic or yielding bearings.

When it is desired to print with my apparatus the desired types are placed in the wheel D, and the whole is propelled over the surface to be printed on, such as a sidewalk, the cover of a box, or a fence, by taking hold of the sills C C, the wheel D being at the same time allowed to rest on such surface. Said wheel D is thus caused to revolve, and hence an impression is thereby made on the surface over which it moves.

The letter G designates a spring-catch, having the form of a spring-impelled lever, which is pivoted to one of the sills C, and one end of which is bent, as at *h*. This bent end *h* of said catch passes through the sill C, to which it is pivoted, and at a point opposite thereto, in the side of the type-wheel D, is formed a hole for the reception thereof. When the catch G is allowed to follow the action of its spring it has a tendency to catch in said hole in the type-wheel D, and thus arrests this wheel. Said catch G is brought into play once during each revolution of the type-wheel D, and hence the operator is thereby enabled to determine the starting-point of the wheel, or, in other words, the point where the matter represented by its types commences.

The letter I designates the types of the type-wheel D, having a flat form, and J J are bands by which such types are held in position, these bands being arranged on the circumference of the wheel, and the edges of the types being inserted beneath the bands, as shown. The opposite ends of the bands J J are riveted or otherwise fastened to clamping-bars K K, which extend lengthwise of the type-wheel D, and are located in a recess formed in the circumference thereof.

L L are adjusting-screws passing through and serving to connect the clamping-bars K K, these screws being situated near the opposite ends of the bars. By a suitable adjustment of the screws L L the clamping-bars K K can be drawn together or moved away from

each other, which has the effect of tightening or loosening the straps J J, so that the types I can be placed in position or removed with great facility. I construct the types I of vulcanized india-rubber, and combine with each of them a metallic plate, N, so as to impart thereto a certain degree of stiffness, and obviate the liability of its being drawn out from under the bands J J by adhesion with the surface over which the type-wheel travels, or from any other cause. Said metallic plate N is embedded in the india-rubber composing the types I previous to its vulcanization, and in order to hold said metallic plate in position it is provided with holes *m*, (see Fig. 4,) which become filled up by the india-rubber, and thus prevent the plate from shifting.

The types I, with their strengthening-plates, are also adapted to be combined with blocks of wood or other material, and used in other ways than by the wheel D.

In the example shown the sills C C are placed between the wheels B B; but in some cases the sills and said wheels are transposed. Said wheels B B, moreover, may be spiked to prevent slipping thereof on the surface over which they travel.

With either or both the sills C C may be combined a brace or buffer adapted to lift the type-wheel D from the ground, and thus sustain the weight of said wheel when my apparatus is not in use.

What I claim as new, and desire to secure by Letters Patent, is—

1. A traveling printing-press in which are combined the following instrumentalities, viz: the supporting truck-wheels B, the axle A, the parallel sills C C, mounted on the axle, and forming pushing and pulling handles, the journaled inking-rollers, and the type-wheel journaled in the extreme ends of the side sills, substantially as shown and described.

2. In a traveling printing apparatus, the combination of a type-wheel, circumferential bands serving to confine the types of said wheel, clamping-bars to which the opposite ends of said bands are fastened, and adjusting-screws passing through said bars, substantially as described.

3. The combination, in a traveling printing apparatus, of a type-wheel, types constructed of vulcanized india-rubber, and having metallic strengthening-plates, which are embedded in the india-rubber, and circumferential bands serving to confine said types, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 15th day of November, 1877.

KENNEDY GRAY. [L. S.]

Witnesses:

R. W. SUMMERVILLE,
ALBERT W. LOCKE.