C. H. CARR, F. REIF & R. M. AREY.

STRIPING IMPLEMENTS.

No. 183,282. Patented Oct. 17, 1876.

FIG. 1.

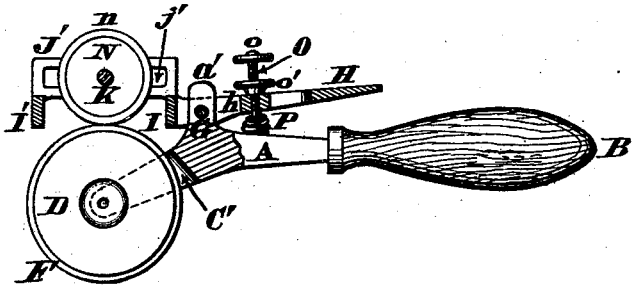


FIG. 2.

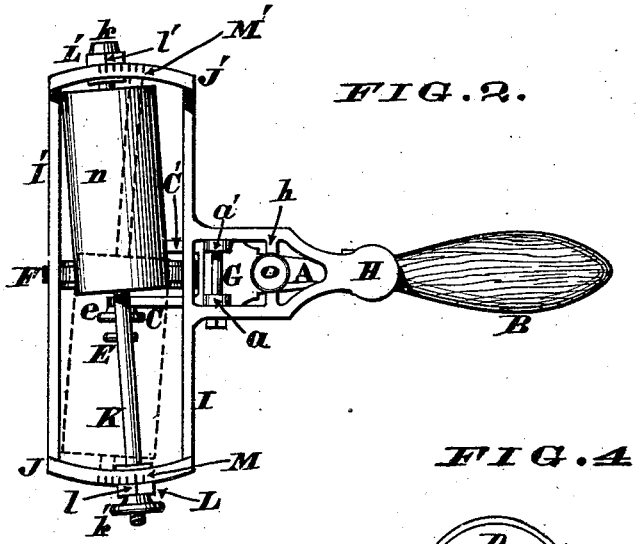


FIG. 3.

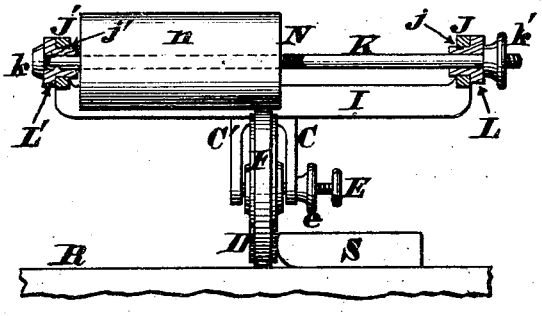
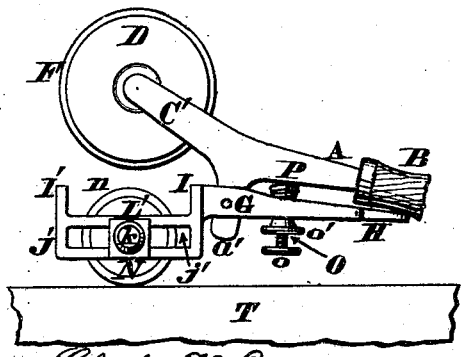


FIG. 4.



Attest.
C. Watton Jr.
Charles Schammel

Charles H. Carr,
Frederick Reif,
Robert M. Arey,
Jner
Wm. Hubbell Fisher.
their Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. CARR, FREDERICK REIF, AND ROBERT M. AREY, OF CINCINNATI, ASSIGNORS TO CINCINNATI COFFIN COMPANY, OF CINCINNATI, OHIO.

IMPROVEMENT IN STRIPING IMPLEMENTS.

Specification forming part of Letters Patent No. **183,282**, dated October 17, 1876; application filed June 23, 1876.

To all whom it may concern:

Be it known that we, CHARLES H. CARR, FREDERICK REIF, and ROBERT M. AREY, all of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Striping Implements or Devices, of which the following is a specification:

The object of our invention is to furnish an implement wherewith stripes of any required width may be painted in the most expeditious and perfect manner, either upon wood, metal, or any other material. This implement consists, essentially, of a light metallic shank, having at one end a convenient handle, and forked at the other end to receive the striping wheel or disk. This wheel or disk is surrounded with a band of leather, rubber, or other yielding material, which band receives its supply of paint or other coloring medium from a distributing-roller, the latter being journaled in a vibrating frame that is pivoted to the aforesaid metallic shank. By means of a suitable spring the distributing-roller is maintained in contact with the upper part of the striping-wheel, so as to furnish the latter with a constant and regular supply of coloring material. In order to render this supply as regular and uniform as possible, the roller is made only about half as long as the shaft upon which it is mounted, and by fixing said shaft at any suitable angle with reference to the axis of the striping-wheel, said roller is caused to describe a helical path as it travels from end to end of the vibrating frame. The advancing end of the vibrating frame can be instantly elevated, so as to throw the distributing-roller out of contact with the periphery of the striping-wheel whenever it is desired to stop the supply of paint.

Having thus briefly indicated the leading features of the invention, we will now proceed to give a detailed description of the device and explain the manner of using the same.

Figure 1 is a longitudinal section of the implement in the plane of its handle. Fig. 2 is a plan of the same. Fig. 3 is a transverse section taken in the plane of the distributing-roller shaft; and Fig. 4 is an elevation, showing the implement inverted for charging the roller with paint, and the roller thrown out of contact with the striping-wheel.

A represents a metallic shank, having at one end a suitable handle, B, and forked or divided at its other end, so as to form two arms or branches, C C′, whose extremities carry a disk or wheel, D, that is secured in position by a set-screw, E, and jam-nut *e*. By this arrangement one wheel can be readily unshipped from the implement, and either a wider or narrower one inserted in its place in a few moments.

This wheel or disk, which may be made of any suitable material, constitutes the striping device of the implement; and in order that it may apply the paint or other coloring medium regularly and in a stratum of uniform thickness, and without producing a ragged edge, the periphery of said wheel is surrounded with a band or cushion, F, of leather or rubber, or any other pliable material. The exterior surface of this band may be formed into any suitable designs, thus enabling the operator to print an ornamental stripe instead of a plain one upon the object to be marked. In such case the band is preferably made of vulcanized rubber.

The wheel or band may contain numbers or letters where it is found expedient to employ our devices to print these.

This band may be cemented or otherwise immovably secured to the wheel, or it may be simply united to the same by frictional contact with its periphery.

Projecting upwardly from the shank A are two ears or lugs, *a a′*, to which is coupled by pivot G the lever H of a light metallic frame, composed of two parallel bars, I I′, that are disposed at right angles with reference to said shank. The ends of these bars are bent upwardly, and united by plates J J′, slotted, respectively, at *j j′*, for a purpose which will presently appear. These plates are not straight, but are somewhat bowed outwardly, as shown in Fig. 2, their curvature being concentric with the frame I I′ J J′, in order that the shaft K may be shifted horizontally, so as to stand at any desired angle with reference to the axis of striping-wheel D F. This shifting of said shaft is effected by inserting it in boxes

L L′, which latter are capable of being adjusted within the respective slots *j j′* of plates J J′. The aforesaid shaft is furnished with a head, *k*, and a nut, *k′*, which nut maintains the shaft in any desired position, whether parallel with or oblique to the axis of disk D.

The shiftable boxes L L′ are, respectively, furnished with indicators *l* and *l′*, and the slotted arc-plates J *j* J′ *j′* are, respectively, provided with graduations M M′. The purpose of these indicators and graduations is to enable the operator to accurately adjust the position of the distributing-roller in reference to the striping-wheel. The mode of such adjustment will be described hereafter.

Adapted to rotate upon shaft K, and to have a free longitudinal movement on the same, is a distributing-roller, composed of a wooden or any other suitable core, N, which cylindrical core is covered with an envelope, *n*, of rubber, leather, or other appropriate material. The lever H of vibrating frame I I′ J J′ is furnished with a cross-bar, *h*, tapped to receive a screw, O, having a milled head, *o*, and a jam-nut, *o′*. The lower end of this screw rests upon a spring or elastic cushion, P, which latter is seated upon the upper side of shank A. R represents the article that is to be striped, and S is a straight-edge for guiding the wheel D in a right line. T is a slab or pad containing the mixed paint that is to be used with the implement.

The manner of using our striping-implement is as follows: The paint is first mixed of the desired tint, and then spread upon the slab or pad T, after which the operator inverts the implement, and grasps it by its handle B, the lever H being forced against said handle, so as to cause frame H I I′ J J′ K to vibrate upon the pivot G, and thereby throw roller N out of contact with striping-wheel D F. The implement is now rolled back and forth upon slab T until a proper quantity of paint has been uniformly distributed upon roller N, after which the pressure is relaxed from lever H, and the implement turned over so as to bring said roller uppermost, as seen in Figs. 1, 2, and 3. A straight-edge or other suitable guide, S, is then placed upon the article R to be striped, and one side of the wheel D F is brought to bear against the chamfered edge of said guide. The implement is then shoved forward, and as the wheel D F rotates it receives a supply of paint from roller N, and applies it uniformly and with sharp, clear, and well-defined edges upon the material R. One perfect stripe having thus been painted, in a moment's time the guide S is shifted, and the above-described operation is repeated as often as may be necessary to produce the desired effect. During this movement of the implement across the face of the work the elastic cushion or band F performs a very important function in the perfect working of the device, as the yielding nature of said band insures the paint being applied with the utmost uniformity, although there may be some irregularities in the surface of the material R. The ability to dispose shaft K obliquely with reference to the axis E of striping-wheel D F is another great advantage peculiar to this implement, as the shifting of said shaft insures a uniformity of distribution that cannot be attained in any other manner. By shifting said shaft until it assumes the oblique position shown in Fig. 2, the roller N *n* will describe a helical path around said shaft, thereby causing said roller to travel from plate J to plate J′, or, in other words, from left to right, as the wheel D is advanced upon the surface of the work.

If it is desired to produce a rapid helical rotation of roller N, the shaft K is set as obliquely as the slots *j j′* will permit, while a slower rotation of said roller is effected by shifting the shaft until it is more nearly in line with the axis E of striping-wheel D F.

If it is desired to produce a simple rotation of roller N, and without imparting any motion to it longitudinally of shaft K, the latter is shifted until it assumes a position midway between the bars I I′ and parallel therewith, in which case said shaft is directly above and exactly in line with the axis E of striping-wheel D F.

If it should be preferred to have the roller N travel from the right to the left while the wheel D F applies the paint to the work, the shaft is then pitched in an opposite direction, as represented by dotted lines in Fig. 2.

The curved plate J *j* J′ *j′* and sliding boxes L L′ enable the shaft K to be shifted with the utmost facility, and the provision of indicators *l l′* and graduations M M′ insures the utmost nicety of adjustment of said shaft. The manner of adjusting said shaft by means of the indicators and graduations is as follows, viz: The graduations on the curved arcs, it must be remembered, are marked off as radii of a circle, whose center is in the horizontal plane of the arcs, and at a point in a vertical line passing through the center of the axis of the striping-wheel—*i. e.*, the center of the space I I′ J J′. There are several of these graduations on each side of the middle line of each arc, and at desired distances from each other, the corresponding graduations on each arc being the same distance apart.

Now, for illustration, suppose that the shaft K has been so placed that the indicator *l′* has been on arc M′ to the right of the middle of the latter, and the indicator *l* to the left of the middle of its arc M. It being desired to reverse the direction of the shaft K with reference to the axis of the striping-wheel, the nut *k′* is turned, so as to allow the boxes L L′ to slide upon their respective arcs. The box L′ is then slid along till the indicator *l′* is over, say, the graduation-mark farthest to the right on arc J′, and is there retained in position, and box L is slid around on its arc J till the indicator *l* is over the graduation-mark farthest to the left on said arc. The nut *k* is then screwed up, and the shaft K is now in a posi-

tion exactly the reverse of what it occupied before the change. The shaft K may be made to assume a less angle of inclination to the axis of the striping-wheel by moving the boxes L L′ so that their respective indicators come over graduation-marks nearer to the center of the arc than those already chosen. Care should be taken to see that the graduations so covered on the opposite arcs are the ones the like distance from the center of their respective arcs. By placing the indicators over the middle graduation of their respective arcs the shaft K and the axis of the striping-wheel D would be parallel; but this is not the best position for the roller and striping-wheel to assume in relation to each other, for the reasons heretofore and now to be mentioned. The advantage of inclining the shaft K at an angle to the axis of the striping-wheel insures a perfect and even distribution to the striping-wheel of the paint or ink previously applied to the distributing-roller, and the reversal of the inclination of the latter in relation to the said axis of the striping-wheel will prevent much wear of the roller in any one direction.

The spring P maintains the roller N constantly in contact with the striping-wheel D, and in case there should be any irregularities in the peripheries of either of these devices said spring will at once compensate for them by allowing the advancing end of frame J J′ I I′ to rise or lower, as may be necessary.

By properly adjusting the tension-screw O spring P may be caused to exert a greater or less pressure upwardly against lever H of the vibrating frame, within which the distributing-roller is journaled.

An obvious, but inferior, modification of the implement may be formed by omitting the shifting devices *j j′* L L′, and securing the shaft K immovably in position, and exactly in line with the axis E of wheel D F.

It is evident this implement can be used for applying any other agent or medium than paint, and it can be made either large or small, so as to adapt it to any possible variety of work. The outer bar I′ is not essential to the working of the apparatus, and therefore said bar may be omitted, if desired.

We claim as our invention—

1. A striping implement consisting, essentially, of a holder, A C C′, carrying the rotating striper D, said holder having applied to it a vibrating frame whose shaft has journaled upon it a distributing-roller, N, the latter being maintained in contact with the periphery of wheel or disk D by a spring, substantially as described.

2. In connection with the holder A C C′, wheel or disk D, vibrating frame H I J J′, shaft K, and distributing-roller N, the spring P and tension device O *o′*, as and for the purpose specified.

3. The combination of the curved ends J J′ of the vibrating frame and shaft K, plates L L′, head *k*, and nut *k′*, for disposing said shaft obliquely to the axis of the striping-wheel, for the purposes set forth.

4. The combination of frame H I J J′ *j j′*, shaft K *k k′*, sliding boxes L L′, and distributing-roller N, as and for the purpose set forth.

5. In combination with the frame I J *j* J′ *j′*, shaft K *k k′*, shiftable boxes L L′, and distributing-roller N, the indicators *l l′* and graduations M M′, substantially as described, and for the object explained.

CHARLES H. CARR.
FREDERICK REIF.
ROBERT M. AREY.

Attest:
E. GILLIGAN,
C. WALTON.