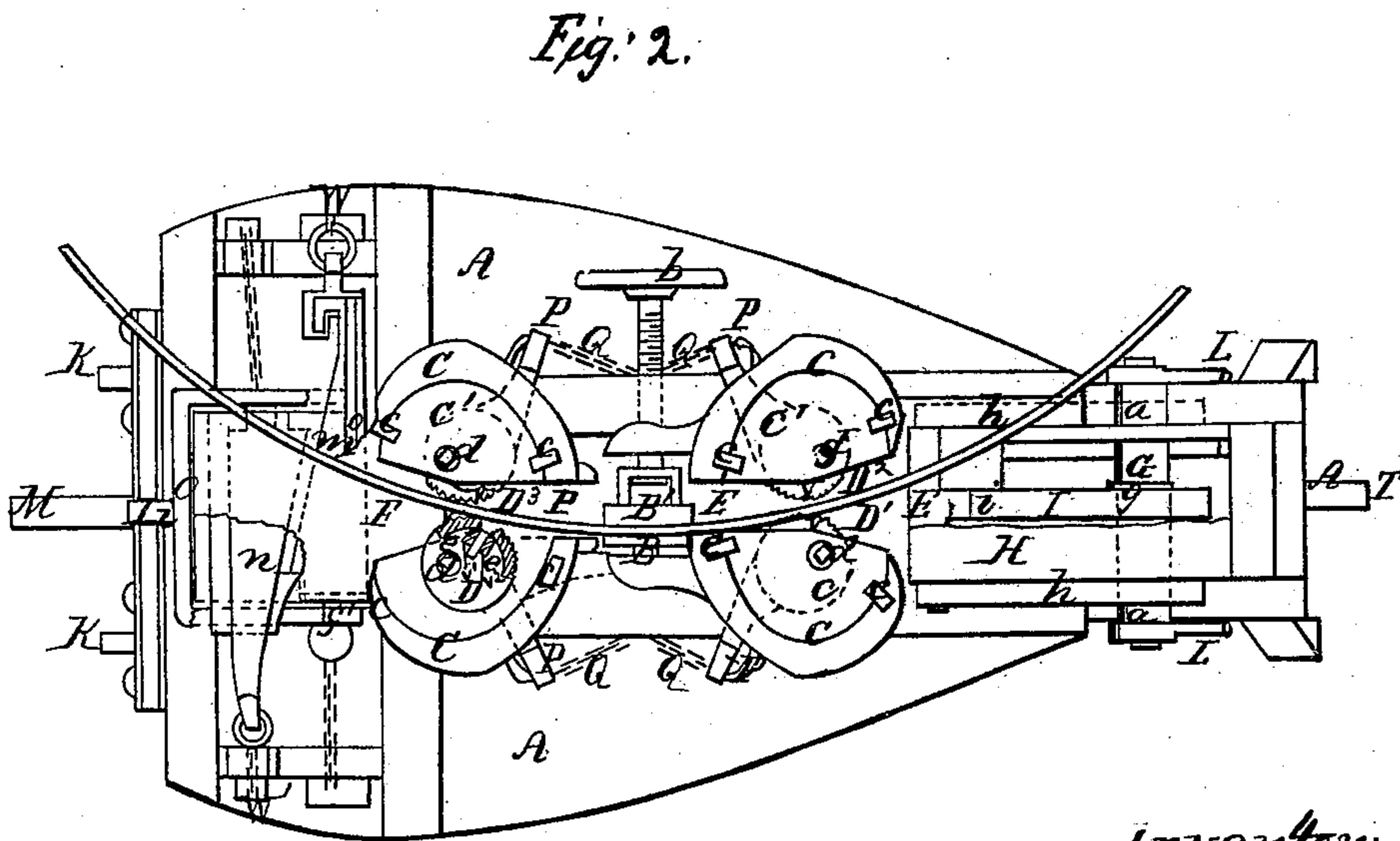
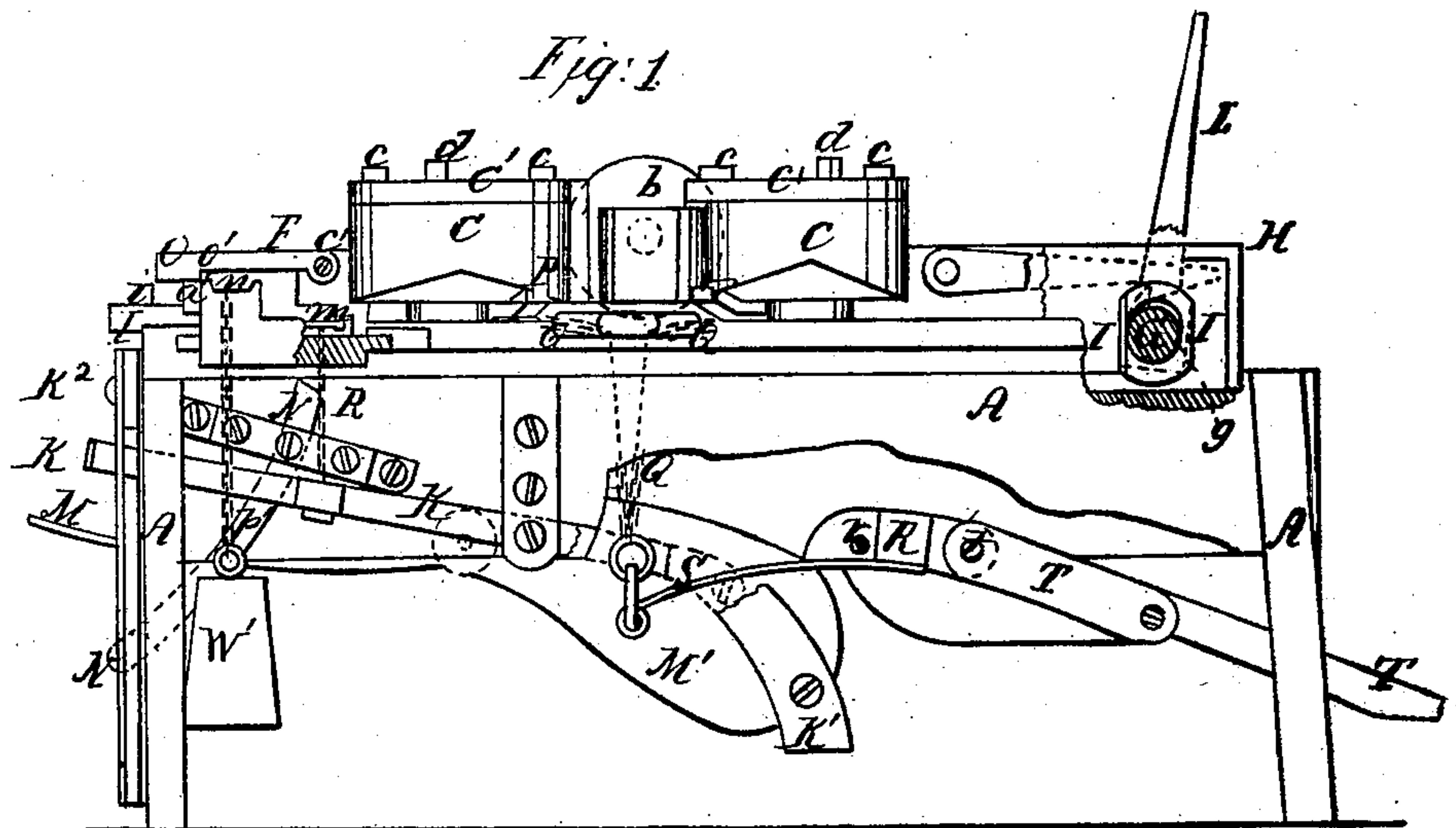


O. Patee.

Mach. for Upsetting Tires &c.

N^o 92,089.

Patented Jun. 29, 1869.



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ORLANDO PATEE, OF YPSILANTI, MICHIGAN.

Letters Patent No. 92,089, dated June 29, 1869.

IMPROVED MACHINE FOR UPSETTING TIRES, AXLE-TREES, &c.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ORLANDO PATEE, of Ypsilanti, in the county of Washtenaw, and State of Michigan, have invented a new and improved Machine for Upsetting Tires, Axle-Trees, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation, the wall or frame of the machine being removed in three places, and the interior parts at those points shown in section.

Figure 2 is a plan, the floor or platform of the machine being broken away in several places for a similar purpose.

The object of this invention is to construct a machine for the purpose of upsetting tires, &c., which shall operate effectively, and with greater convenience than any heretofore employed.

To this end the eccentrics that hold the tire are all made to be operated by the movement of a single treadle; and the slides that compress the iron longitudinally are separated by the movement of another treadle, and are capable of being forced together again, by hand-lever, with great power, and in a very convenient manner.

In connection with this improved construction and arrangement of the parts referred to, a new and improved method of constructing the eccentrics is employed, whereby they are rendered much cheaper and more durable than heretofore.

In the drawings—

A represents the frame of the machine;

B B', the clamps that hold the tire or other article, one of them screwing toward and from the other, by means of a hand-screw, b;

C C, the boxes, which cover and protect all but the faces of the eccentrics, each box having a removable cover, C', held in place by buttons c c;

D D', the four eccentrics, which take hold of the ends of the tire, or other metallic article, and compress it longitudinally;

E, a platform, supporting two of the eccentrics D' D², and the clamps B B', and capable of sliding longitudinally by the operation of a lever, L;

F, another platform, supporting the other two eccentrics D D³, and likewise sliding longitudinally by the action of the lever L; and

G, a shaft, covered and concealed by a box or housing, H, and capable of being rocked by lever or levers L L.

The function of shaft G is twofold: first, by means of an eccentric, g, to give a reciprocating motion to a bar, I; and secondly, to give a similar motion to platform E, throwing said platform to the left (fig. 1) when the handle of lever L is thrown to the left, by means

of a shoulder, i, which strikes against the end of the platform, and drawing said platform to the right again, when said handle is thrown to the right by means of hooks h h, attached to the platform, and ratchet-teeth a a, on the ends of the shaft, adjacent to levers L L.

It will be here observed that the lever, as it is rocked, moves the table or sliding platform E back and forth, and carries two of the eccentrics D' D², and the two clamps B B', back and forth with said platform.

While this process is going on, it is designed that the other platform F, with its eccentrics D D³, shall, at every throw of the lever to the left, approach slightly nearer to platform E, and be fixed in that position, while, every throw of said lever to the right, it shall move toward the right, together with the platform E. In other words, every throw of the handle of lever L to the right, (fig. 1,) slides both platforms F and E toward the right, while during every movement of said handle to the left, platform F remains fixed, and platform E moves to the left towards it, thus bringing the two platforms nearer together, and upsetting the tire, or other article held by the clamps B B'.

I will now more particularly describe the mechanism by which this is effected.

The bar I extends the whole length of the machine, and under the platform F, has a transverse notch or gain on its upper side, through which works a sliding wedge, m, actuated by a weight, W, the wedge being held in connection with platform F, by means of a guide-groove, o, and a spur upon the under side of the platform, projecting into the groove.

As the bar is forced toward the left, (fig. 1,) the weight draws the wedge into the slot in it, and thus fixes them in that new position with relation to platform F.

Now, when the lever is thrown to the right again, it carries bar I and platform F both to the right with it, and, as it does so, another wedge, n, actuated in the opposite direction by a weight, W', slides into a gain in the under side of platform F, and between the shoulder of such gain and a rigid part, a', of frame A, and holds platform F in the new position with relation to the frame. In other words, the two wedges act as chocks.

When, by the left throw of the lever, platform E is moved toward platform F, wedge m slides into the gain in bar I, and chocks the two platforms in that position; and when, by the right throw of the lever, platforms E and F are moved to the right, wedge n slides into the gain on the under side of platform F, and chocks that platform, so that it cannot slide to the left again.

Thus at every throw of the lever back and forth, the two pairs of jaws D D³ and D' D² are forced nearer together, and the process of upsetting is advanced.

K K are two levers weighted at K', which, by means

of chains *k*, withdraw the wedges from the slots or gains.

M, a treadle weighted at *M'*, and connected to the ends of levers *K K* by a bent cross-bar, *K²*, whereby it is enabled, when depressed by the operator's foot, to depress simultaneously both levers *K K*, and withdraw both wedges, allowing the platforms to be forced apart again.

N N, two levers bent at *p'*, and extending through slots in levers *K K*, and so connected to the platforms *E F*, that when the levers *K K* are depressed to a considerable distance, so as to withdraw the wedges *m n*, then the action of the levers *K K* upon the bent part *p'*, will move the levers *N N*, and thereby draw the platform *F* away from the platform *E*.

O is a link or bent rod articulated to the sides of platform *F*, at *f'*, and provided with a shoulder, *o'*, which, when this platform is drawn away from the other, to the proper point, falls by its own weight, and locks over the beam *a'*, so as to hold the platform in that position, but which is itself thrown up, and unlocked by the action of a cam, *i*, on the bar *I*, at the first movement of lever *L* to the left, the inclined side of the cam striking under the shoulder *o*, raising the latter above the beam *a*, and liberating the platform.

d d are the vertical shafts of the four eccentrics *D D'*;

P P, levers or arms, affixed to the lower ends of the shafts *d d*;

Q Q, chains, extending from the long arm of levers *P P* in under the platform, where they are attached to springs *S S*;

R, a stout block, pivoted at *r*, and supporting the two springs *S S*; and

T, a treadle articulated to the end of the block *R*, as shown at *t*, in such a manner, that by depressing the outer end of the treadle, the block will be rocked on its pivot, the springs thrown down, and the eccentrics *D D'* turned on their vertical axis, and caused to grapple the tire, axle-tree, &c., and hold it firmly during the movement of the two platforms by the lever *L*, as above described.

The construction of the eccentrics *D D' D² D³* is a matter of some importance. If made of steel, they are unnecessarily expensive, and if made of iron, they become pressed out of shape themselves, and have to be often renewed. I, therefore, make the body of them, as shown by the lines *e e*, of iron. Into one side of the iron part, I insert a corrugated steel facing, *v*, fixing it in place by means of a dovetail, *v¹*, and, if necessary, bolts or screws *v²*.

The operation of the machine is simple and convenient.

As soon as one tire, axle-tree, or other article is upset, the operator removes his foot from treadle *T*, thus releasing the eccentrics *D D' D² D³*. He then

unscrews the part *b*, and removes the tire, shown in red lines, fig. 2. Next, he goes round to the other end of the machine, and presses his foot on treadle *M*, which removes the wedges from their gains, and at the same time draws platform *F* to the left until the hook *o'*, on bent bar *O*, drops over the beam *a'*, and locks the platform in that position. He then throws the handle of lever *L* to the right as far as it will go, separating the jaws *D D³* from the jaws *D¹ D²* as far as possible, after which he inserts the new tire, or other article to be upset, clamps it by a movement of screw *b*, and brings all the eccentric grippers *D D' D² D³* to bear upon it by a single downward movement of treadle *T*. He is now ready to operate lever *L*, the first movement of which to the left, throws up bar *O*, and releases platform *F*, and at the same time pushes platform *E* to the left, partially upsetting the tire, &c. The return movement of the lever draws back platform *E*, and with it platform *F*, and wedge *n* slides behind the latter, preventing it from losing the ground thus gained.

The next movement of lever *L* to the left, further advances the process of upsetting the tire, and the operation is thus continued until the tire is fully upset, or until it becomes necessary to adjust it again in the eccentric jaws, and repeat the process.

Having thus described my invention,

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

1. The combination of platforms *E F* with bar *I*, wedges *m n*, eccentric shaft *G*, lever *L*, and hooks *h h*, all constructed to operate substantially as and for the purpose set forth.

2. Connecting the wedge *m* to the platform *F* by means of the slot *o* and the spur of the platform projecting into it, when the parts referred to are constructed and operated as and for the purpose set forth.

3. Operating simultaneously all the eccentrics *D D' D² D³* of an upsetting-machine, by means of the parts *Q S R T*, substantially as and for the purposes described.

4. The hooked link or bar *O*, when constructed to operate in connection with platform *F*, bar *I*, beam *a'*, and cam *i*, substantially as and for the purposes described.

5. The combination of weighted treadle *M*, with weighted levers *K K*, chains *k k*, wedges *m n*, and weights *W W'*, substantially as and for the purposes set forth.

6. In combination with the parts *M K K k m n W W'*, the bent levers *N N*, constructed to operate in connection with platform *F*, as described.

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Witnesses:

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