J. M. THOMPSON.

Sectional Cams for Ore-Stamps.

No. 140,318. Patented June 24, 1873.

Fig. 1.

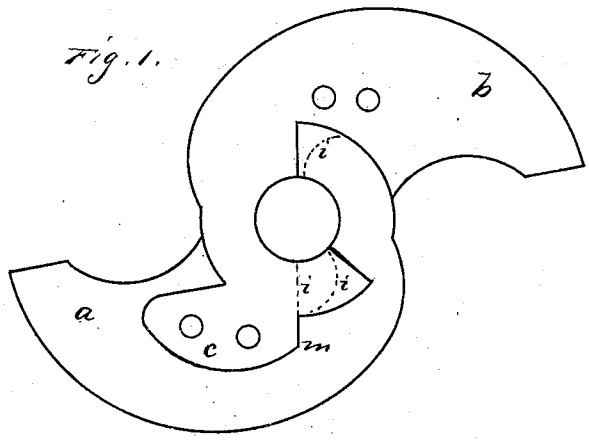


Fig. 2.

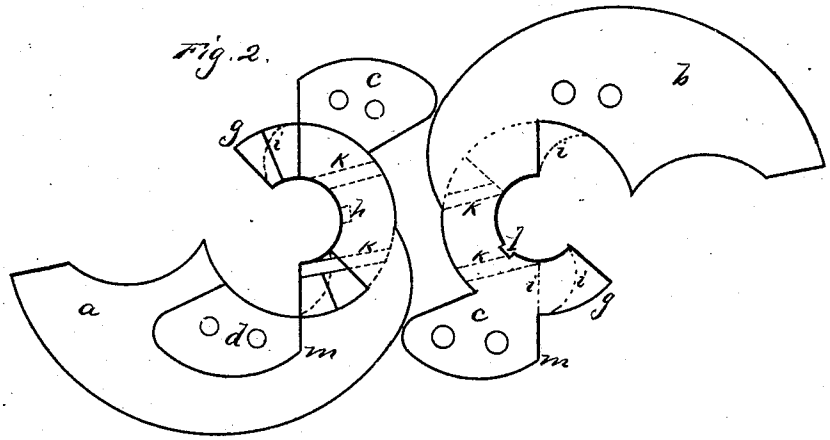
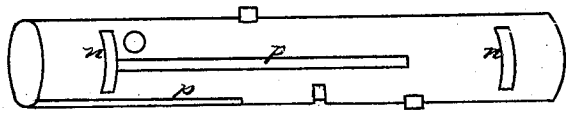


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES M. THOMPSON, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN SECTIONAL CAMS FOR ORE-STAMPS.

Specification forming part of Letters Patent No. **140,318**, dated June 24, 1873; application filed May 13, 1873.

To all whom it may concern:

Be it known that I, JAMES M. THOMPSON, of Quincy, Plumas county, State of California, have invented an Improved Sectional Cam for Stamp-Mills; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to that class of cams which are used in stamp-mills for lifting and dropping the stamps.

It is an improved method of forming the cam in two sections or parts, so as to permit of the cam being readily applied and secured to its place on the cam-shaft without the slow and tedious process required with the ordinary solid cam; and my invention also embraces a novel method of securing cams from slipping on their shafts; and also an improved method of forming and placing the key-seats and keys in the cam and cam-shaft, in order to secure the cams in their different positions on the shaft required for them to be placed on it.

My device consists of two sections or parts, so constructed and fitted to each other as to allow of each of the parts being first placed on the shaft before being closed together, and the two forming, when so applied to the shaft and to each other, a complete cam in the desired position on the shaft.

To more fully explain and describe my invention, reference is made to the accompanying drawings, in which—

a b, in Fig. 2, are two sections of a cam, each having a projecting arm, *c c*, which is halved and beveled, and can have one or more projections or corners, *m*, and fits into corresponding recesses *d* formed on the opposite sides of the sections, and through which bolts are passed through the holes *e e* to firmly secure the parts together when in position on the shaft. It will be seen that both sections are of exactly the same form and size, having nearly equal portions of the collar or hub *g* on each, and corresponding in all other respects with each other, excepting that the arms *c* and recesses *d* are on their opposite sides, and that one of the sections *a* also has a small shallow hole, *h*, in its inner face, which fits around the shaft, into which one end of a short iron or "dowel"-pin projects when the section is placed in position on the shaft, and the other end of the pin or "dowel" at the same time fits into a corresponding hole in the cam-shaft, and secures the cam from slipping from its place along the shaft, as frequently happens with cams not secured by the methods herein described.

Figure 1 represents the sections applied to each other, and forming a complete cam; and also shows, by the dotted lines *i i*, some of the different positions and directions which the joints between the sections can have by making corresponding modifications in the shape of the sections; and it is also evident that many modifications may be made in the shape, size, and position of the arms *c*, with corresponding modifications in the recesses *d*. The joint *i*, which passes across the hub of the cam, can be strengthened by overlapping the parts of each section upon each other on each side of the joint and interlocking them, as shown in Fig. 2.

In Fig. 2 is also shown, by the dotted lines *k k*, my new method of running bolts through the hub or collar of the cam into which bolts or keys can be driven and secured by nuts or riveted, and thus firmly secure the sections together without the wrought-iron band or tire usually employed; and one or both of the holes for these bolts can be so placed, as shown at *l*, that the bolt or key, when driven into it, will also pass into a groove or key-seat, which is cut transversely across the cam-shaft to receive it, as shown at *n*, in Fig. 3, and will thus, after being driven to its place and secured, as before described, serve the double purpose of a bolt and key by securing the parts together, as well as keying or securing the cam in its position on the shaft.

Fig. 3 represents a section of a cam-shaft, showing at *p p* my new method of cutting the key-seats in the shaft at the different positions required for each of the cams to be placed on it, when the old method of keying is employed, and shows at *n n* the method of cutting the key-seat across the shaft, when it is desired, to make the bolt which passes through the hub or collar of the cam and secures the

parts together, serve also the purposes of a key to secure the cam in its position on the shaft.

By either of these devices for keying, herein described and claimed, the key-seats are all in the same place or position in every cam, so that all cams will be exactly alike, and any one can be applied to any place on the shaft, and the frequent bursting of the cams, which, in the old method of changing the key-seats on the cams, was often caused by the driving of the keys when the key-seats were near the sides of the cam, will be avoided.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The two parts or sections *a b* of a cam, formed as shown in the drawings, substantially as described, and secured to each other in the manner and for the purpose set forth.

2. The dowel or pin *h*, fitted into corresponding holes *p* in the shaft, and on one of the cam-sections, substantially as and for the purpose described.

3. The bolts or keys *k k* used in combination with and passing through the bolt-holes in the hub or collar of the cam, and the keyways formed in the shaft, substantially as and for the purpose set forth.

4. The cam-shaft, provided with the key-seats *p p* in the different places corresponding to the different portions of the cams on it, substantially as described.

In witness whereof I hereunto set my hand and seal.

JAMES M. THOMPSON. [L. S.]

Witnesses:
JOHN L. BOONE,
C. M. RICHARDSON.