

2 Sheets—Sheet 1.

No. 301,177.

Patented July 1, 1884.

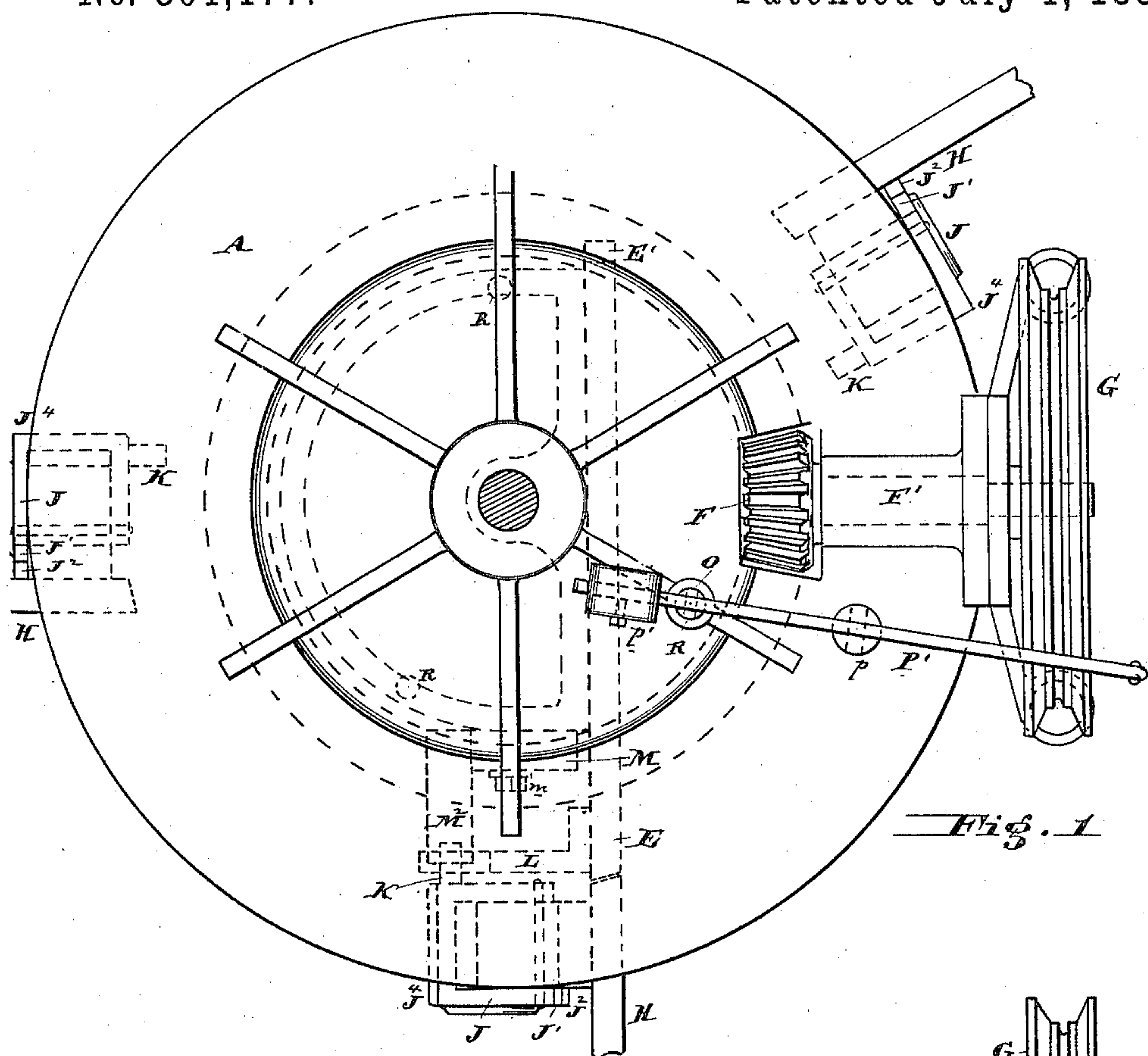


Fig. 1

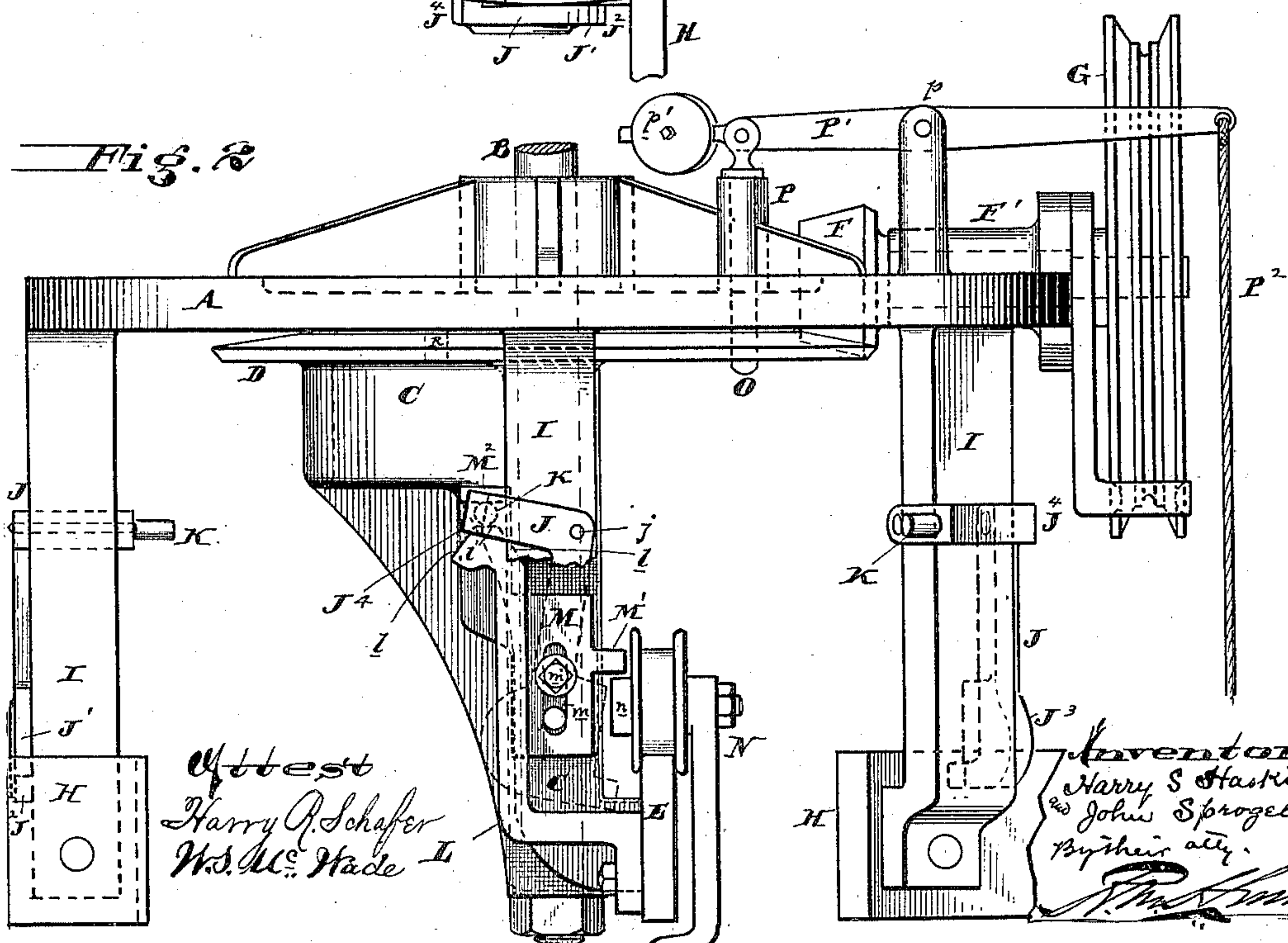


Fig. 2

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(No Model.)

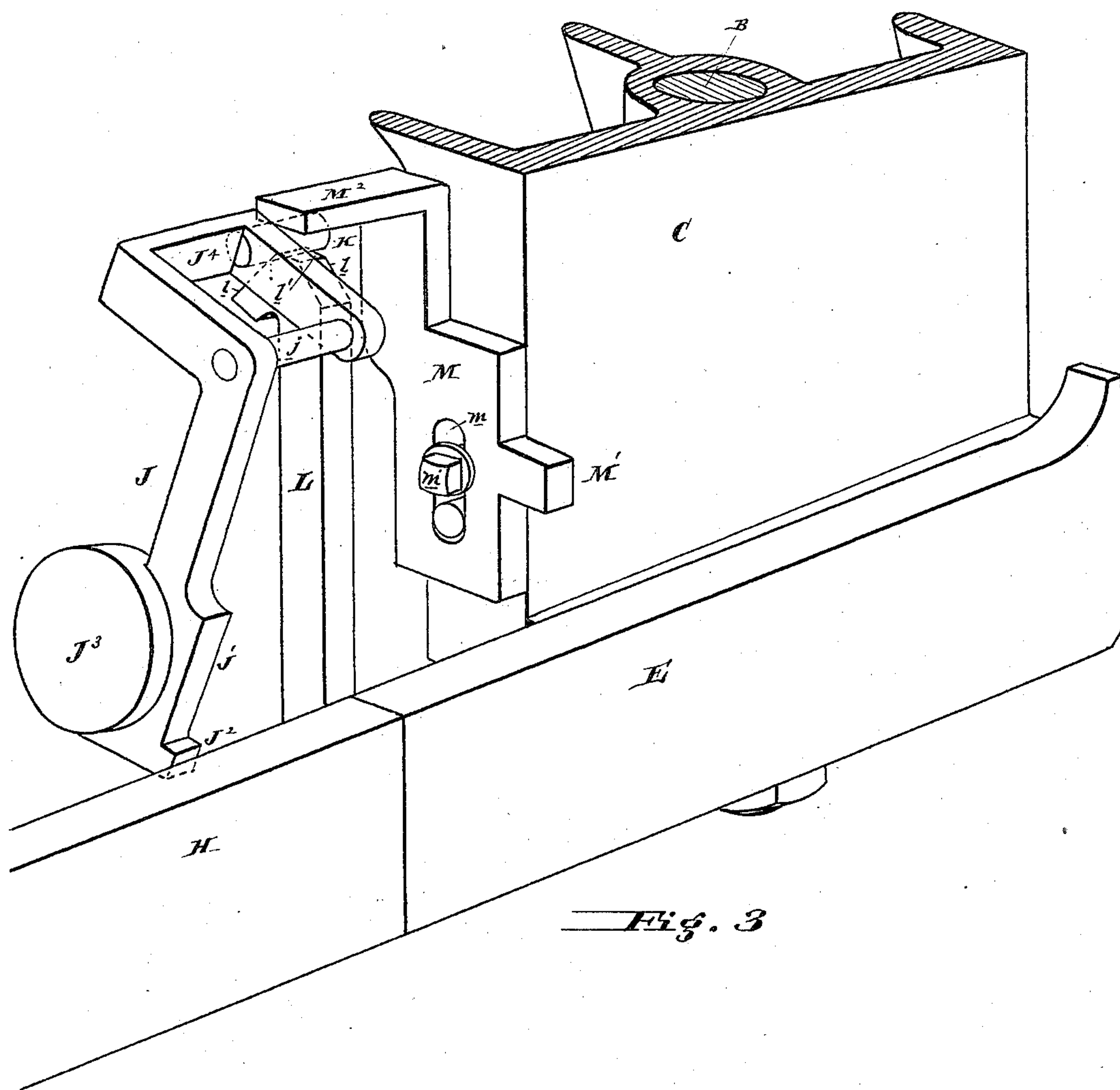
2 Sheets—Sheet 2.

J. SPROGELL & H. S. HASKINS.

OVERHEAD RAILWAY.

No. 301,177.

Patented July 1, 1884.



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UNITED STATES PATENT OFFICE.

JOHN SPROGELL AND HARRY S. HASKINS, OF PHILADELPHIA, PA., ASSIGN-
ORS TO EDWIN HARRINGTON, SON & CO., OF SAME PLACE.

OVERHEAD RAILWAY.

SPECIFICATION forming part of Letters Patent No. 301,177, dated July 1, 1884.

Application filed February 11, 1884. (No model.)

To all whom it may concern:

Be it known that we, JOHN SPROGELL and HARRY S. HASKINS, both of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented an Improvement in Overhead Railways, of which the following is a specification.

Our invention has reference to switch mechanism for overhead railways; and it consists in certain improvements upon Letters Patent granted to Edwin Harrington, dated February 20, 1883, and numbered 272,432, but more specifically in providing a turn-table and branch tracks with suitable locks, which are actuated by the movement of said turn-table, so that when the turn-table is in line with one of the branch tracks the lock of said end shall be open; further, in providing the turn-table rail with a lock to prevent the carriage running off the said rail during the movement of said turn-table, and which lock is automatically opened when the said turn-table rail is in line with one of the branch tracks, and in many details of construction, all of which are fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

The object of our invention is to provide the ends of the branch tracks of an overhead-railway system with locks, preferably automatic, whereby said locks are opened only when the switch-rail carried by the turn-table comes into line with said branch tracks, to the end that carriages upon said branch tracks shall not run off the same when the switch-rail is turned; also, to provide the switch-rail on the turn-table with a lock to prevent the carriage running off during its transition from one branch track to another, the said lock being automatically operated by the movement of the turn-table or its switch-rail; also, to simplify and improve the general construction of this class of machines.

In the drawings, Figure 1 is a plan view of a turn-table embodying our improvements. Fig. 2 is an elevation of same with one of the branch-track terminals broken away; and Fig. 3 is a perspective view of the locking mechanism for said branch tracks and switch-rail,

with the support for the locking-dog omitted; to show said dog more clearly.

A is the base-plate, and carries a bearing, F', a centrally-located bolt or pivot, B, and brackets I, to which the ends of the branch tracks are secured. Journaled on this pin B is the frame C, carrying on its upper edge the beveled gear D, and upon its lower part the switch-rail E. This frame C is rotated upon pin B by bevel-pinion F, which is rotated by a chain-wheel, G.

H H H are branch tracks, whose ends are bolted to brackets I in line with the switch-rail E.

J J J are locking-dogs, which consist of bell-cranks, the longer leg of which carries a weight, J³, a locking-face, J', and a stop, J², to prevent the wheels of the carriage striking the edge J'. These dogs J are pivoted at j to the brackets I, and their shorter legs J¹ are provided with horizontally-projecting pins K, which point toward the pin B.

Secured to the turn-table C or its rail E is an arm, L, having inclined cam-faces ll, arranged in opposite directions, and a flat or horizontal part, l', joining said cam-faces ll at their upper edges. As this cam-arm L passes under the pin K in either direction, the pin is raised and locking-dog is swung back, leaving the rail end clear for the passage of the carriages, as shown in dotted lines Fig. 2 and in Fig. 3, and if the rail E is then brought to rest when in line with a branch track, H, the pin K will rest upon the flat part l' of the cam, and the dog be thereby held away from the rail.

To bring the rail E to rest when in line with the branch tracks, we provide a locking-pin, O, which works through a guide, P, and is adapted to enter holes R in the center part of wheel D or frame C, the said holes being drilled, so that as said frame is turned to bring the rail E in line with the respective rails H they will come immediately under the said pin O. This pin is worked by a lever, P', pivoted at p, and provided with an actuating-cord, P², which, by the construction and arrangement of lever P', is brought outside of the chain-wheel G and clear of the hoisting apparatus. The inner end of this lever is weighted, as at

p' , to insure the pin O entering the holes R by gravity. In place of weight p' a spring may be used. In the patent to Harrington, hereinbefore referred to, the cord P^2 was adapted to work a catch or lock carried by the rotating wheel D or frame C, and which in revolving was liable to cause the said cord to become caught or tangled, and it was therefore found to be in the way. By this construction it remains stationary, and is placed entirely clear of all chains, &c., of the hoisting apparatus, which is hung from the carriage N. In that patent, this lock being carried by the frame C, it was also used to prevent the carriage from running off the switch-rail during its transfer; but as we use a stationary lock in this connection, it becomes necessary to provide other means carried by the frame C to prevent the carriage N running off rail E during the turning of the turn-table. We therefore provide a slotted plate, M, having a lug, M' , and an arm, M^2 , which extends over the cam $l' l'$, and guided by a bolt, m' , passing through the slot m . This plate M may be made in any other suitable manner—as, for instance, it may be pivoted so that when arm M^2 is raised the lug M' is raised also.

The operation is as follows: When the switch-rail E is in the position shown, the track is clear from the rail E onto one branch track, H, because the locking-dog J and lug M' are raised clear of the rails, as shown in Fig. 3. Now, suppose the carriage N is run onto the switch-rail E, and is to be transferred to another branch track, H. We first pull upon the cord P^2 to unlock the frame C, and then turn the chain-wheel G. As the frame C moves around, the cam $l' l'$ is drawn from under, and arm M^2 from over, the pin K, allowing the dog J and lug M' to fall back into their locking positions, the former to lock the end of the branch track and the latter the end of the switch-rail, as the bolt-head n of the carriage N would strike lug M' if it attempted to run off, and would be arrested. As the rail E comes into line with the next track, H, the cam l throws up the pin K, which in rising raises the arm M^2 and its lug M' , and the dog J is moved back clear of the rail, thus forming a clear passage-way, and the pin O may fall into the hole R and lock the frame C in position. The flat part l' of cam $l' l'$ may be dispensed with, if desired; but it is preferable, as a better working is the result, the cam will not wear out so soon, and the same accuracy is not required in the construction. The employment of the double cam-way $l l$ enables the rail E to be turned backward or forward with equal facility and operativeness.

While we prefer the construction shown, we do not limit ourselves thereto, as it may be modified without departing from our invention.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, locking devices arranged on the ends of said branch tracks, and mechanism carried by said turn-table or its switch-rail to automatically open or close said locking devices, whereby a clear track is obtained when the switch-rail is brought into line with a branch track, substantially as and for the purpose specified.

2. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, locking devices arranged on the ends of said branch tracks, and mechanism carried by said turn-table or its switch-rail to automatically open or close said locking devices when the said turn-table is turned in either direction, whereby a clear track is obtained when the switch-rail is brought into line with a branch track, substantially as and for the purpose specified.

3. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, locking devices arranged on the end of said branch tracks and switch-rail, and mechanism carried by said turn-table or its switch-rail to automatically open or close said locking devices, whereby a clear track is obtained when the switch-rail is brought into line with a branch track, substantially as and for the purpose specified.

4. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, locking devices arranged on the ends of said branch tracks, and mechanism carried by said turn-table or its switch-rail to automatically open or close said locking devices, whereby a clear track is obtained when the switch-rail is brought into line with a branch track, and stationary locking device to secure said turn-table and its switch-rail in position, substantially as and for the purpose specified.

5. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, locking devices arranged on the ends of said branch tracks and switch-rail, and mechanism carried by said turn-table or its switch-rail to automatically open or close said locking devices, whereby a clear track is obtained when the switch-rail is brought into line with a branch track, and stationary locking device to secure said turn-table and its switch-rail in position, substantially as and for the purpose specified.

6. In an overhead railway, the combination

of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, and an automatic locking device carried by said turn-table to lock the carriage upon said switch-rail during its transition from one branch rail to another, and unlock it when the said rail is in line with the branch track, substantially as and for the purpose specified.

7. In an overhead railway, the combination of two or more branch tracks with a turn-table provided with a switch-rail arranged to be brought in line with either of said branch tracks, and an automatic locking device carried by said turn-table to lock the carriage upon said switch-rail during its transition from one branch rail to another, and unlock it when the said rail is in line with the branch track, and a stationary lock to secure said switch-rail in line with either of said branch rails, substantially as and for the purpose specified.

8. The combination of plate A, frame C, pin B, rail E, tracks H, locking-dogs J, having pins K, and cam-arm L, having cam-faces $l\ l$, substantially as and for the purpose specified. 25

9. The combination of plate A, frame C, pin B, rail E, tracks H, locking-dogs J, having pins K, and cam-arm L, having cam-faces $l\ l$ and l' , substantially as and for the purpose specified. 30

10. The combination of plate A, frame C, pin B, rail E, tracks H, locking-dogs J, having pins K, cam-arm L, having cam-faces $l\ l$, and plate M, having lug M', and arm M², substantially as and for the purpose specified. 35

In testimony of which invention we hereunto set our hands.

JOHN SPROGELL.
HARRY S. HASKINS.

Witnesses:

R. M. HUNTER,
FRANCIS S. BROWN.