

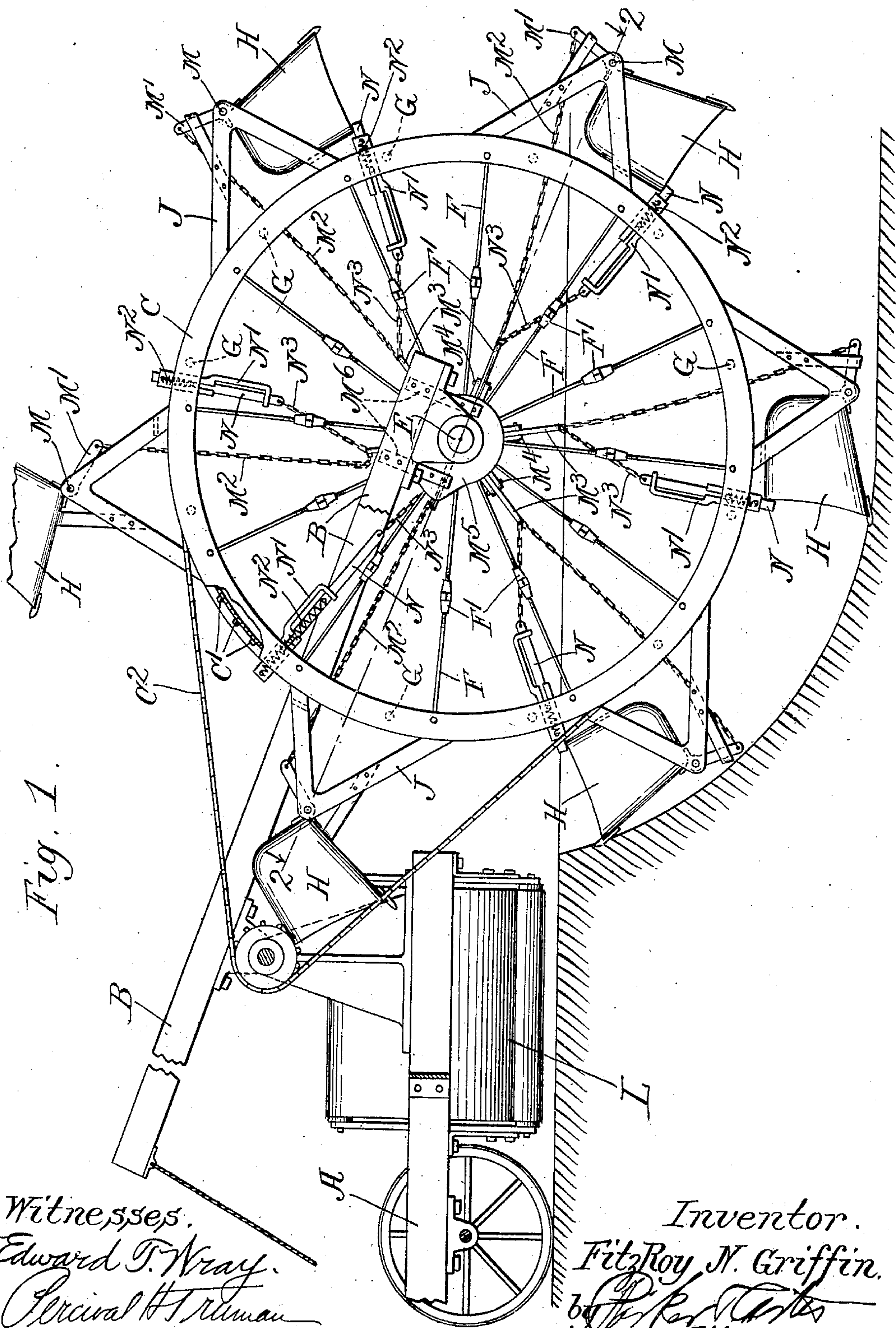
No. 865,380.

PATENTED SEPT. 10, 1907.

FITZ ROY N. GRIFFIN.
EXCAVATING WHEEL.

APPLICATION FILED OCT. 17, 1906.

2 SHEETS—SHEET 1.



Witnesses.
Edward T. Wray.
Cecilia H. Truman

Inventor.
Fitz Roy N. Griffin.
by *[Signature]*
Attorneys.

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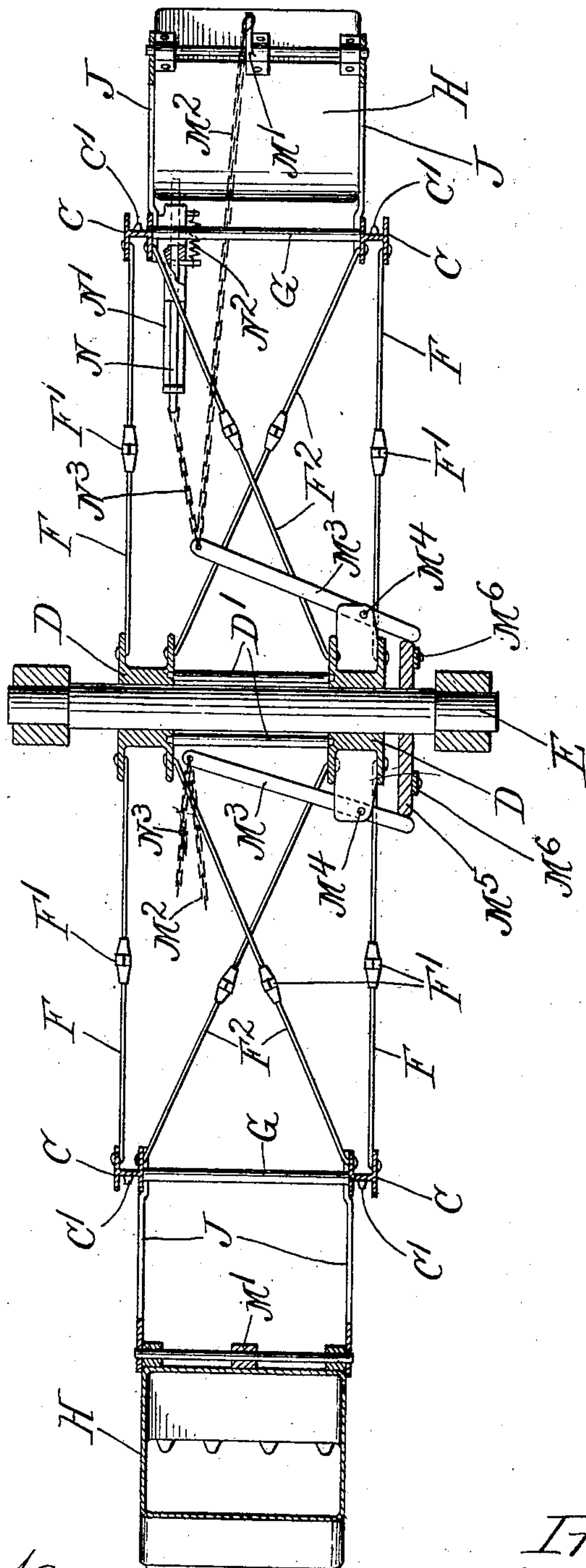
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

FITZROY N. GRIFFIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO ROBERT P. DUNSTON, OF HANCOCK, MICHIGAN.

EXCAVATING-WHEEL.

No. 865,380.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed October 17, 1906. Serial No. 339,279.

To all whom it may concern:

Be it known that I, FITZROY N. GRIFFIN, a subject of the King of England, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Excavating-Wheels, of which the following is a specification.

My invention relates to excavating or ditching machines and has for its object in particular to provide an excavating wheel of new and improved construction and operation and new and improved arrangements associated therewith.

The invention relates especially to the construction of the wheel and the arrangement of the buckets thereon. A wheel of this character might be mounted in various ways upon the excavating machine and as the several types of these machines are well known I have not thought it necessary to show any particular machine in its entirety.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a side elevation of the wheel with parts broken away, and Fig. 2, a vertical section of the wheel of Fig. 1.

Like letters of reference indicate like parts in all the drawings.

A represents a portion of the carriage or other device upon which the wheel is mounted, B, B swinging arms extending therefrom upon which the excavating wheel is journaled. In Fig. 1 the near one is broken away to show the arm at the other side.

C, C represent the double rim having teeth C^1 for the chains C^2 C^2 . The chains will, of course, extend from a suitable sprocket. For the sake of lightness I prefer to make the hubs in two parts, D, D separated by the spreaders D^1 , these hubs turning on the shafts E suitably fixed in the frame B.

The rims and hubs are connected by the radial tension spokes F provided with the turn buckle F^1 and the crossed spokes F^2 having like turn buckles. The rims will be separated by the braces G at intervals. The buckets are preferably of the tilting type being indicated by the letter H. They are pivoted preferably at their forward edges in a suitable frame work, indicated generally by the letter J, built out from the periphery of the wheel.

A conveyer L is designed to receive the excavated material and carry the same to the side of the trench. This conveyer is preferably a belt conveyer, although I may use any desired form of conveying means. The conveyer necessarily must be arranged outside of the digging circle, that is, the circle described by the buckets in their normal position on the wheel and,

therefore, there will be necessarily a gap to be bridged over between the excavator wheel and the conveyer. This is accomplished by tilting the buckets outwardly, thereby throwing them out of the digging circle. This may be accomplished by any desired means. I have shown the buckets pivoted at their lower forward corners on pivots M and provided with arms M^1 connected by chains M^2 to levers M^3 pivoted at M^4 to a portion of the hub D, the other ends of said levers being in engagement with a cam M^5 secured to one of the arms B by the straps M^6 , M^6 .

To hold the buckets in their digging position I provide latches N running in guides N^1 and pressed by springs, these latches being connected by chains N^3 to the levers M^3 . The movement of the lever operated by the cam will first pull the latches and then tilt the buckets. Gravity carries the buckets back to their digging position.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to any person skilled in the art.

I claim:

1. In excavating apparatus, an excavating wheel comprising a double rim, and an excavating bucket pivoted between the sections of said rim.

2. In excavating apparatus, an excavating wheel comprising a hub, spokes and a double rim, in combination with an excavating bucket pivoted at its forward side between the sections of said rim.

3. In excavating apparatus, an excavating wheel comprising a double rim, sprocket teeth on the sections of said rim, and an excavating bucket pivoted between the sections of said rim.

4. In excavating apparatus, an excavating wheel comprising a double rim, a bucket supporting frame work extending outwardly from the sections of said rim, and an excavating bucket pivoted in said frame work.

5. In excavating apparatus, an excavating wheel comprising a double rim, a bucket supporting frame work extending from the sections of said rim, and an excavating bucket pivoted at the forward side in said frame work.

6. In excavating apparatus, an excavating wheel comprising a hub, a double rim, spokes connecting each section of the rim with the corresponding ends of the hub, crossed spokes connecting each section of the rim with the opposite ends of the hub and excavating buckets pivotally mounted between the rim sections.

7. In an excavating machine, the combination of an excavating wheel comprising a hub, a double rim, and spokes connecting the hub with the rim, in combination with buckets pivotally mounted between the rims, and means for tilting the buckets so as to throw them out of the digging circle.

FITZROY N. GRIFFIN.

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