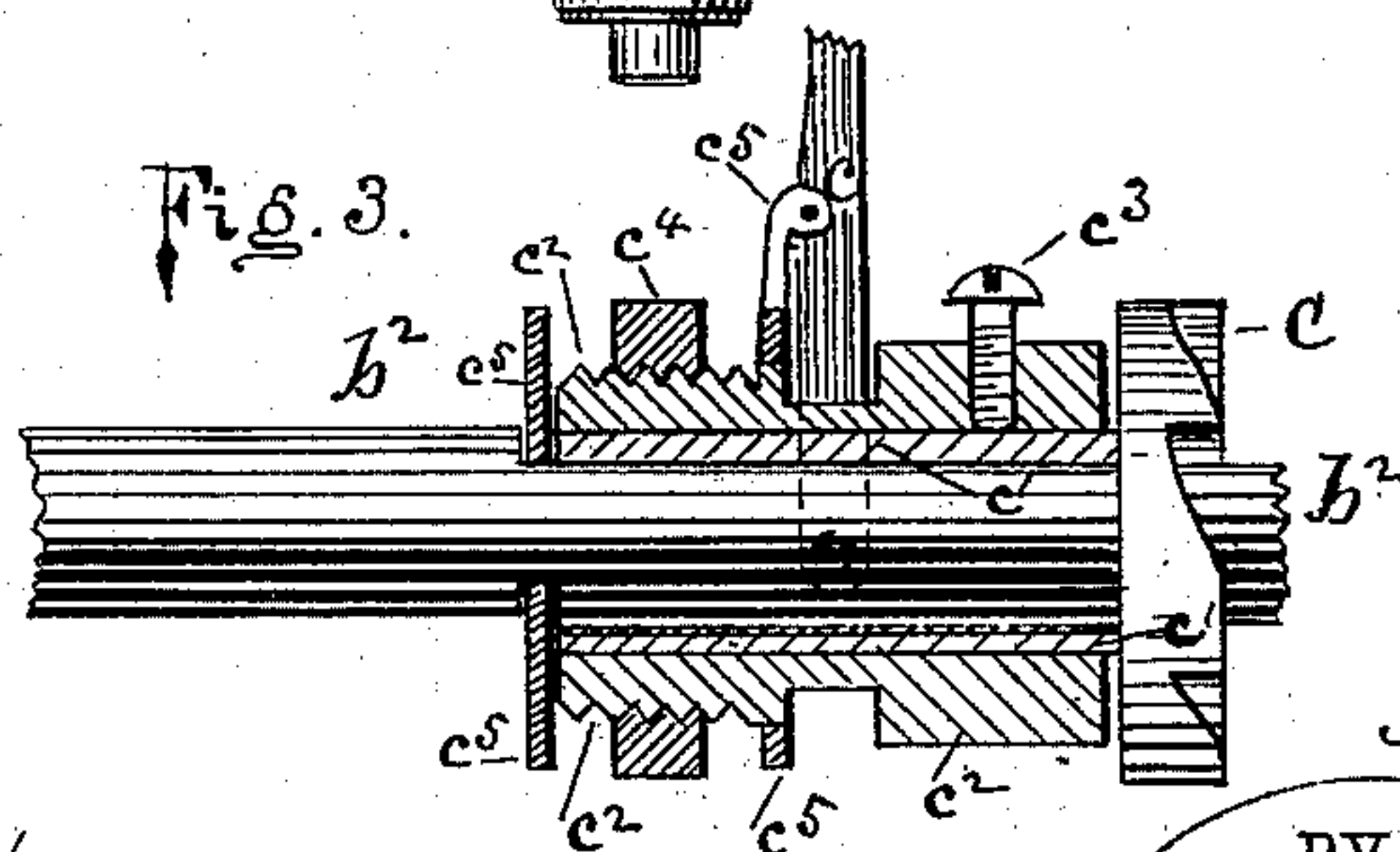
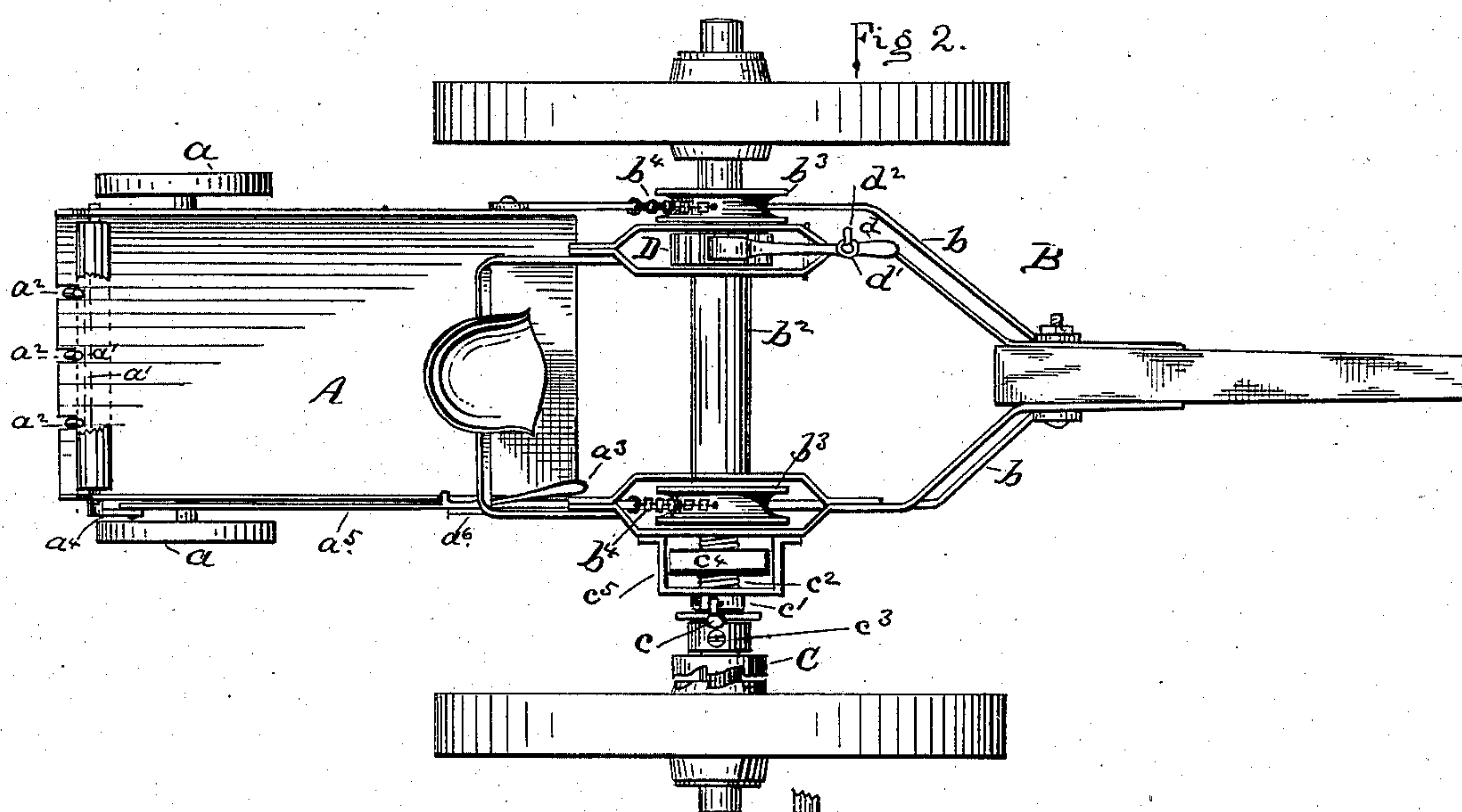
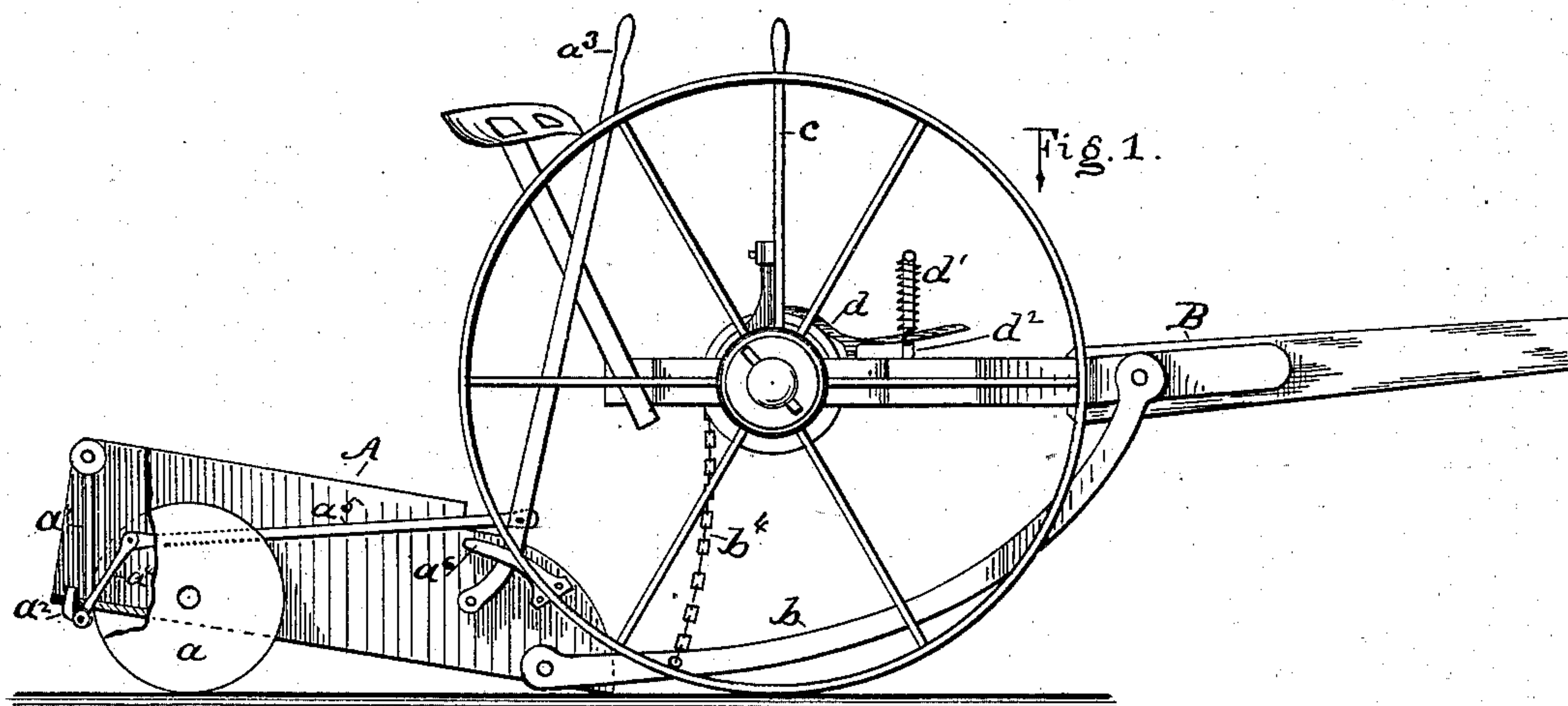


(No Model.)

R. W. CHAMBERS.
EARTH SCRAPER.

No. 258,373.

Patented May 23, 1882.



WITNESSES :

Thos. Houghton.
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BY

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UNITED STATES PATENT OFFICE.

ROBERT W. CHAMBERS, OF SIDNEY, OHIO, ASSIGNOR OF ONE-HALF TO
P. SMITH, BROTHER & CO., OF SAME PLACE.

EARTH-SCRAPER.

SPECIFICATION forming part of Letters Patent No. 258,373, dated May 23, 1882.

Application filed December 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WILSON CHAMBERS, of Sidney, in the county of Shelby and State of Ohio, have invented a new and useful Improvement in Earth-Scrapers, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to the class of earth-scrapers in which a wheeled frame is employed for supporting the scraper; and the invention consists in a wheeled scraper having suitable means for adjusting the scraper in loading and unloading the same, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of my improved earth-scraper. Fig. 2 is a plan view of the same; and Fig. 3 is a detail of the clutch mechanism, showing the same in longitudinal section on a vertical plane.

The scraper A, which is of the usual form, is provided with rollers or casters *a a* near its rear end, and has its end-gate *a'* hinged at its upper edge, so as to swing outwardly to allow the earth to pass from the scraper when the forward end thereof is elevated. For the purpose of holding the end-gate in position to retain the earth in the scraper when loaded, the rear edge of the bottom of the scraper is provided with recesses, through which pins *a²*, secured to a shaft underneath the said bottom, are made to oscillate by means of a hand-lever, *a³*, which is connected to said shaft by the arm *a⁴* and rod *a⁵*, so that the pins *a²* shall form stops to limit the rearward movement of the gate. For holding the pins in position to limit the movement of the gate, a recess is cut in one of the sides of the scraper, at its forward end, so that a lug on the inner side of the rod *a⁵* shall be held in engagement with the recess by a spring, *a⁶*, which bears against the outer side of the lever *a³*. When the end-gate is to be opened the hand-lever *a³* is to be pressed outward from the scraper against the spring *a⁶*, so as to disengage the said lug from the said recess, and then backward until the pins *a²* are thrown out of the way of the gate. The forward end of the scraper A is pivoted, by means of hooks on opposite sides thereof, to

the curved bars *b b*, the forward ends of which are pivoted on opposite sides of the tongue of the sulky B. The tongue of the sulky is secured to the axle *b²* at one side of the center thereof, so that the scraper shall be adapted to run close to one of the wheels of the sulky, and thus to take up earth lying adjacent to a steep hillside or bank.

The axle of the sulky B is provided with two sheaves, *b³ b³*, to which are secured chains *b⁴ b⁴*, connected respectively to the curved bars *b b*, or to the scraper, or both, whereby the forward end of the scraper shall be raised or lowered by winding the chains upon the sheaves. For the purpose of thus winding the chains, one of the wheels of the sulky is provided with a clutch at the inner end of its hub, with which a sliding clutch, C, is made to engage by means of the lever *c*.

The operating mechanism of the clutch C consists of the clutch-sleeve *c'*, to which the clutch is secured, and which is keyed to the axle *b²*, the screw-threaded sleeve *c²*, which incloses sleeve *c'* and is adapted to be secured thereto by the set-screw *c³*, the rectangular nut *c⁴*, inclosing the threaded end of sleeve *c²*, the rectangular guide or bracket *c⁵*, inclosing and holding the nut to prevent it from turning, and the lever *c*, pivoted to an arm on the said bracket and connected to the sleeve *c²* by means of a collar. With this construction, by loosening the set-screw *c³* the threaded sleeve *c²* may be rotated upon the axle *b²*, causing the rectangular nut *c⁴*, which is held from turning by the bracket *c⁵*, to move longitudinally upon the threaded end of the sleeve *c²* until it comes in contact with the bracket or with the base to which the bracket is secured. By thus rotating the sleeve *c²* by hand the nut *c⁴* may be adjusted in any given position on the screw-threaded end of the sleeve, so that after the set-screw *c³* is set the rotation of the clutch C by the clutch on the wheel shall be limited by the contact of the nut with the end of the guide or bracket, the nut being drawn against the bracket by the rotation of the clutch C and threaded sleeve *c²*, and the chains *b⁴ b⁴* will be wound upon the sheaves *b³ b³* only to a given extent. In this manner the clutch mechanism may be set so that in elevating the forward

end of the scraper for the purpose of transportation the chains shall not be wound accidentally to too great an extent, and thus need to be unwound. When the chains are being
 5 unwound the axle is rotated thereby, and thus the several parts of the clutch mechanism are restored to the same relative position they occupied before the winding of the chains. To hold the chains in a wound position, a ratchet-
 10 wheel, D, is secured to the axle b^2 , and is adapted to be held by a pawl, d , which is pivoted near its center to a support and held in engagement with the ratchet by a spiral spring, d' , secured to its outer end and connected to
 15 a bracket, d^2 , so that the said outer end of the pawl shall be drawn upward. This pawl is adapted to be operated by the foot of the driver, while the levers a^3 and c are designed to be placed within easy reach of the driver's hand.
 20 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an earth-scraper, the end-gate hinged at the upper edge, in combination with a shaft
 25 having stops for holding the end-gate and means for operating the said shaft, the scraper

being mounted on rollers at the rear end and supported by a sulky at the forward end, substantially as shown and described.

2. The combination, in the scraper A, mounted on the rollers a , of the end-gate a' , hinged at its upper edge, the pins a^2 and their shaft, arranged underneath the scraper, the lever a^3 , arm a^4 , rod a^5 , having a lug on its inner side, and spring a^6 , substantially as shown and de-
 35 scribed.

3. The combination of the scraper A, the curved bars b , the sulky B, the axle b^2 , sheaves b^3 , b^3 , chains b^4 , b^4 , and means for regulating the winding and unwinding of the said chains,
 40 substantially as shown and described.

4. The combination of the sulky B, having its tongue secured to its axle to one side of the center thereof, the scraper A, secured to said tongue and adapted to run close to one
 45 of the wheels of the sulky, and having suitable means for being operated, substantially as shown and described.

ROBERT WILSON CHAMBERS.

Witnesses:

W. D. DAVIES,
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