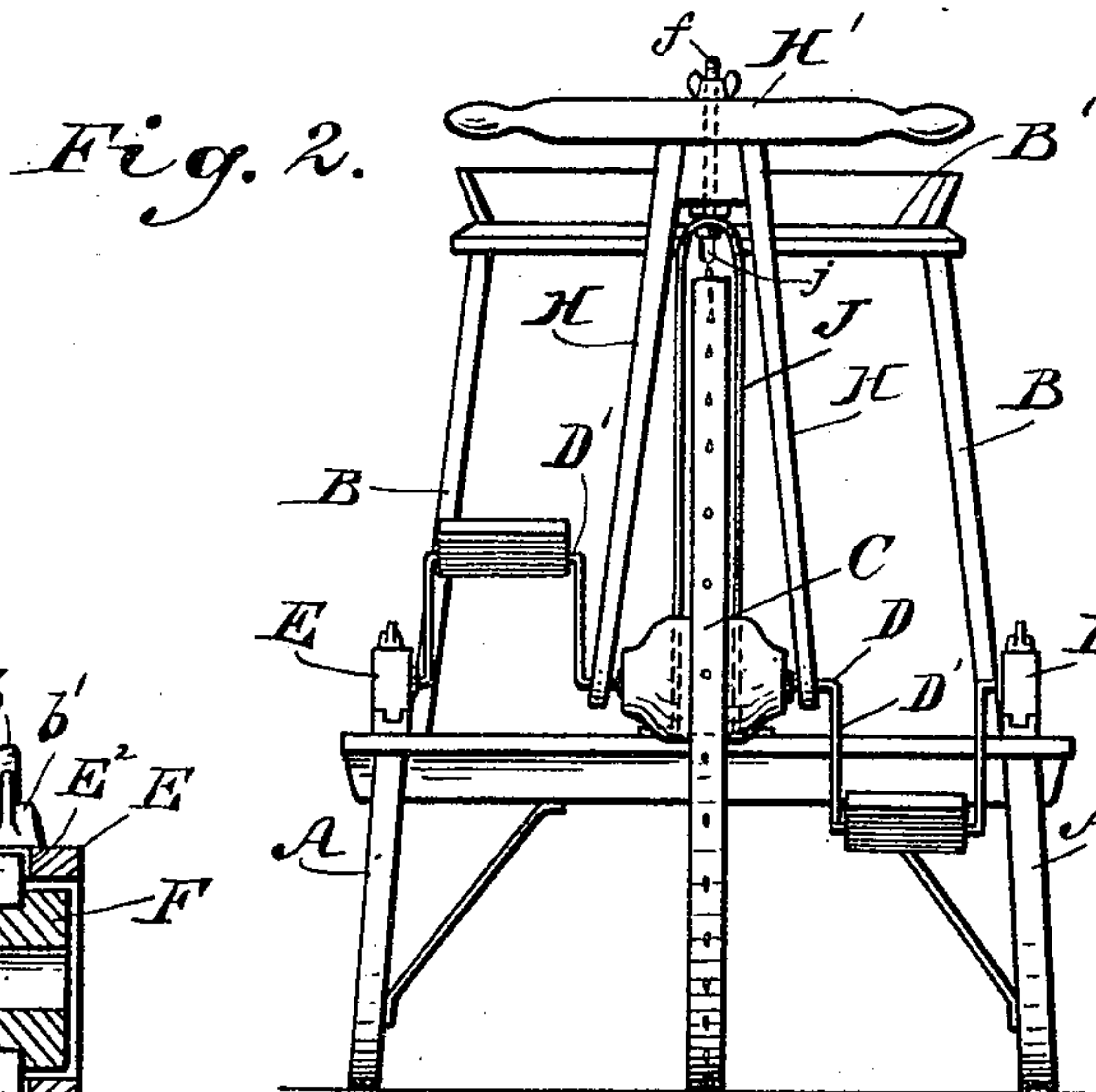
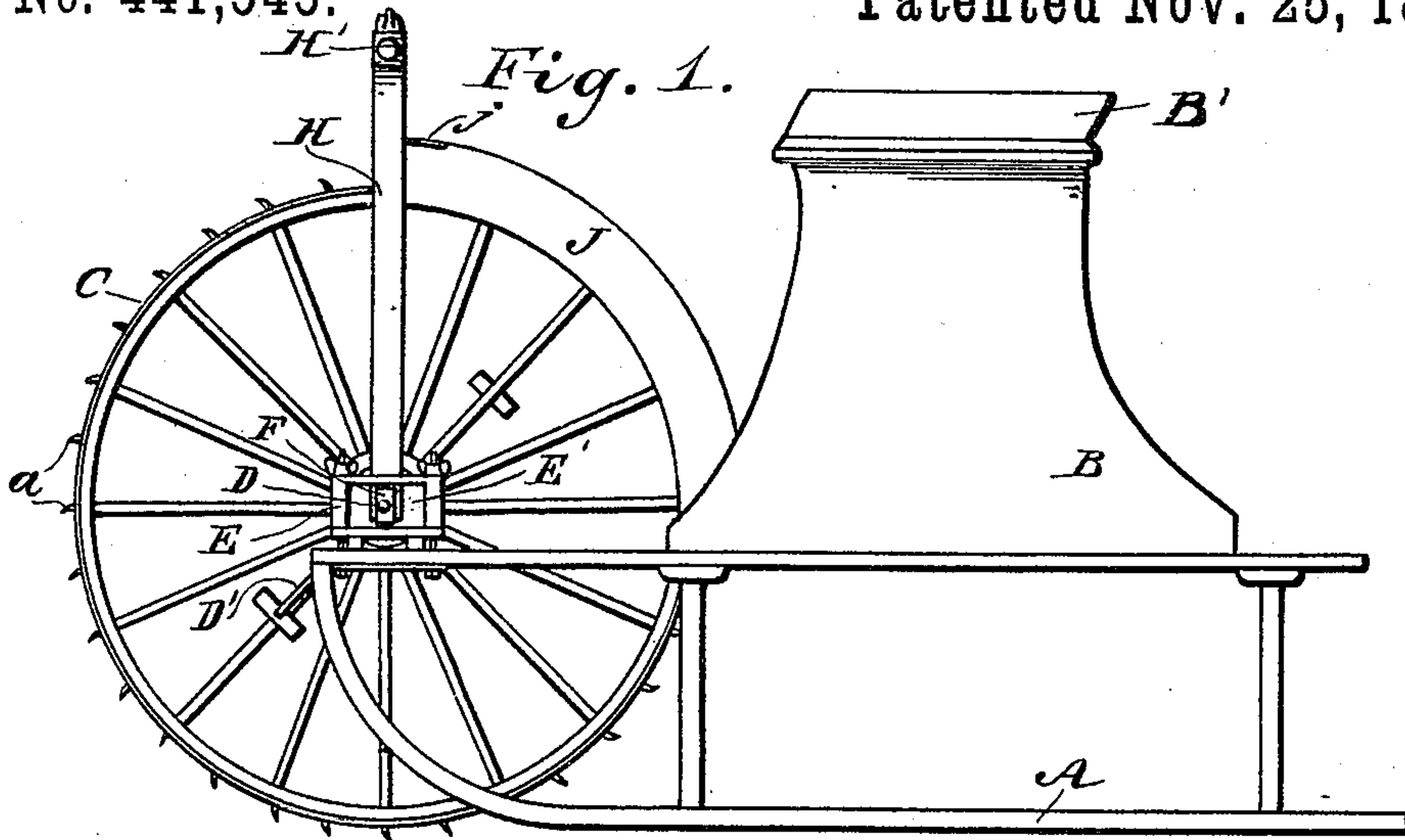


(No Model.)

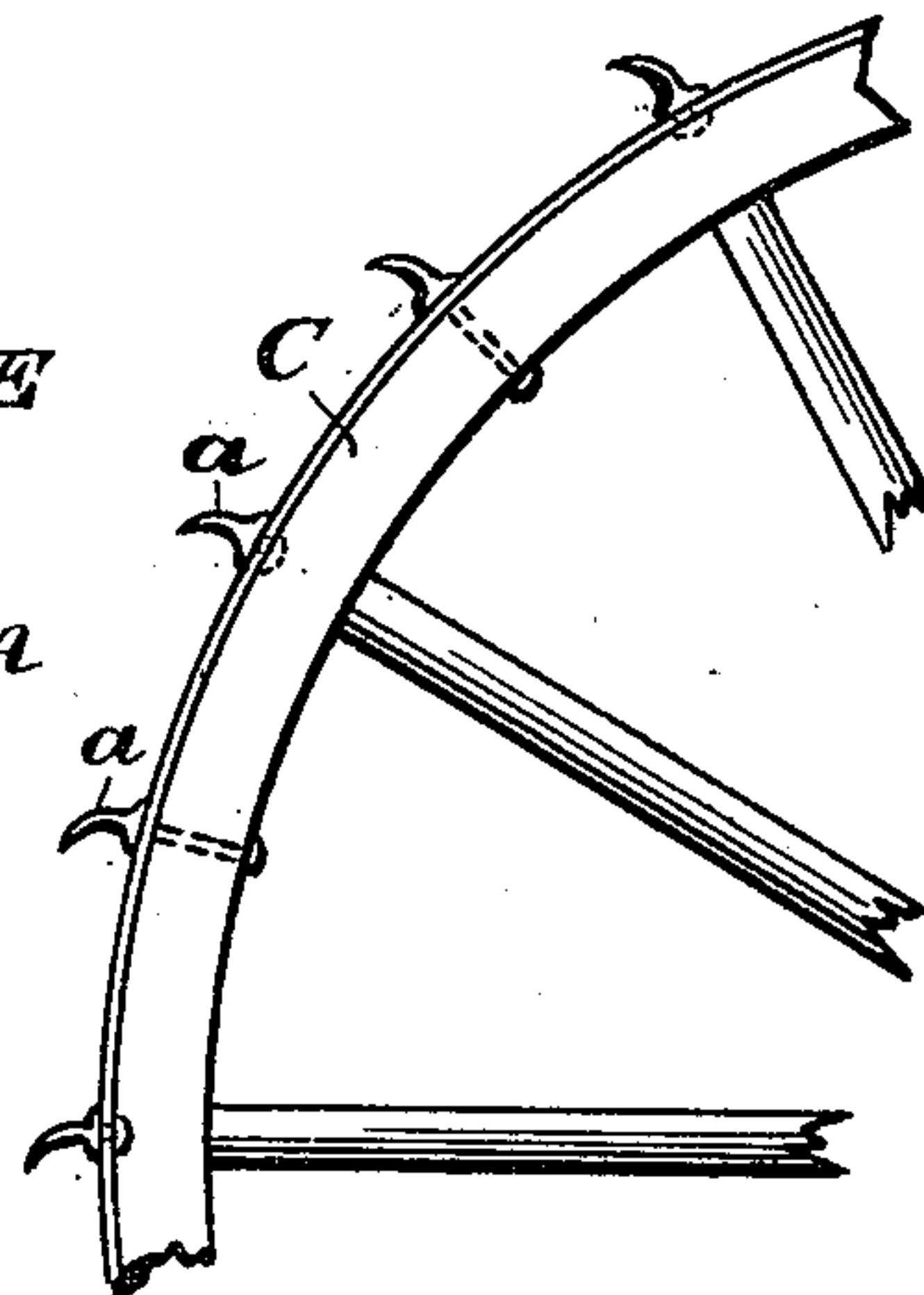
W. F. FLICKINGER & G. J. WIETT.  
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No. 441,545.

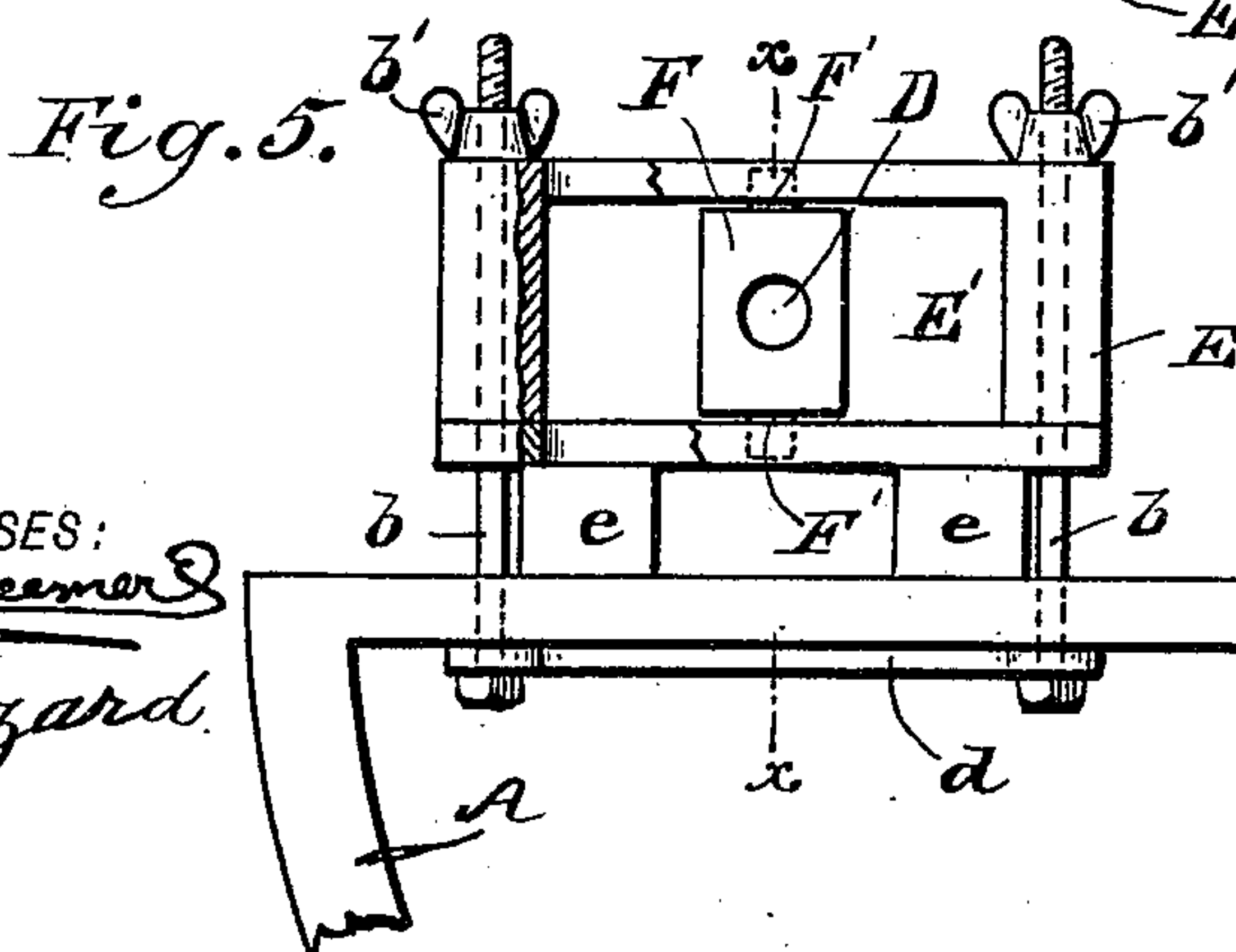
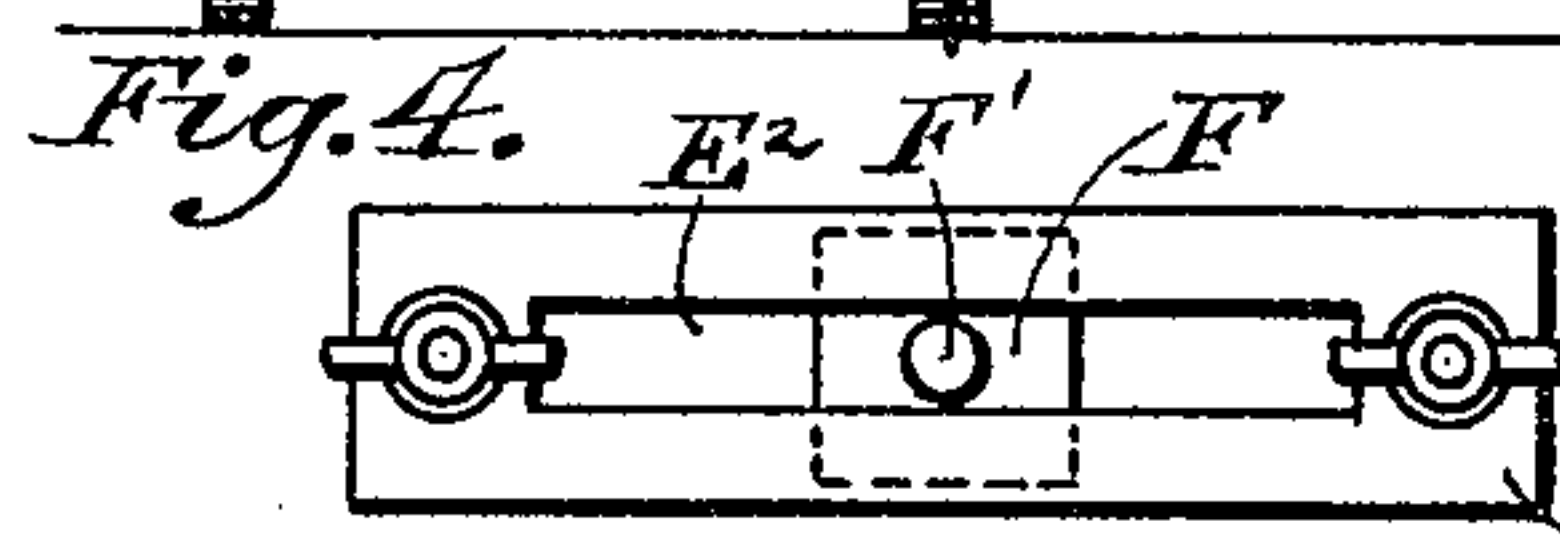
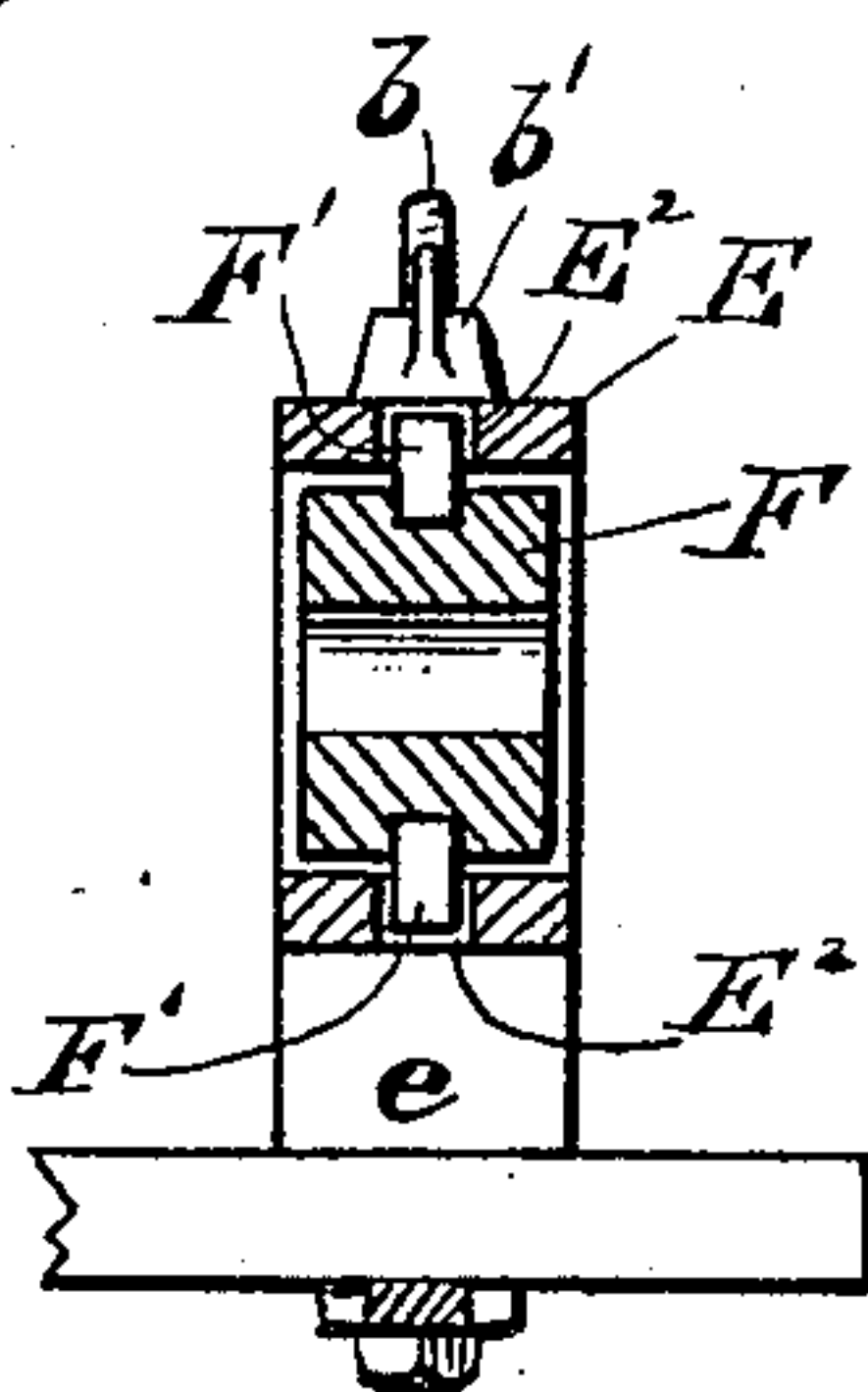
Patented Nov. 25, 1890.



*Fig. 3.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

WILLIAM F. FLICKINGER AND GEORGE JOB WIETT, OF ORCHARD PARK,  
NEW YORK.

## ICE-VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 441,545, dated November 25, 1890.

Application filed July 8, 1890. Serial No. 358,087. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM FREDERICK FLICKINGER and GEORGE JOB WIETT, both of Orchard Park, in the county of Erie and State of New York, have invented a new and Improved Ice-Velocipede, of which the following is a full, clear, and exact description.

Our invention relates to improvements in ice-velocipedes; and the object of the invention is to provide a simple, durable and efficient device, which may be easily and rapidly propelled over snow or ice.

To this end our invention consists in a pair of runners having a suitable frame and seat mounted thereon, a driving-wheel mounted between said runners and having its outer edge provided with spurs, and means for revolving the driving-wheel and steering the device. This construction will be hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the device embodying our invention. Fig. 2 is a front view of the same. Fig. 3 is a broken detail view of the driving-wheel. Fig. 4 is a plan view of one of the axle-boxes. Fig. 5 is a broken detail side elevation of one of the axle-boxes as applied to the sled-runner, and Fig. 6 is a cross-section on the line *xx* of Fig. 5.

The sled-runners *A* are of ordinary construction, and mounted thereon is a vertical frame *B*, which is surmounted by a suitable seat *B'*. A driving-wheel *C* is pivoted between the forward portion of the runners, is provided with a suitable axle *D*, to which it is fixed, and has means for vertical and longitudinal adjustment, as hereinafter described. The wheel *C* is provided upon its outer circumference with projecting rearwardly-curved spurs *a*, adapted to engage the ice or snow and propel the machine.

The axle *D* is provided on each side of the wheel with a crank *D'*, and each end of the axle is mounted in a box *E*. The box *E* is of rectangular shape, thus forming an inner opening *E'*, and is bolted to the runners *A* by

the bolts *b*, which are provided with suitable thumb-nuts *b'*. The upper and lower sides of the box *E* are each provided with a longitudinal slot *E<sup>2</sup>*, said slots being in vertical alignment.

The ends of the axle *D* turn in the blocks *F*, which are longitudinally movable in the recess *E'* of the box *E*, said blocks being provided upon their upper and lower sides with trunnions *F'*, which project through the upper and lower slots *E<sup>2</sup>*, respectively, of the box *E*. The lower ends of the bolts *b* are connected by a strip *d*, and beneath the box *E* and between the box and the top of the runner are the rubber blocks *e*, which form a substantial but yielding bearing for the boxes. The thickness of the blocks *e* is such that when placed beneath the box *E* they will cause the lower perimeter of the wheel *C* to be about flush with the bottom of the sled-runner *A*, in which position the wheel is placed when the device is to be used upon ice.

When the device is to be used upon snow, it is necessary to place the wheel lower on the runners, and the rubber blocks *e* are removed, thus letting the boxes *E* upon the tops of the runners. When the blocks *e* are removed, they are placed between the rave of the runners and the strips *d*, thus holding the boxes firmly upon the top of the runner-rave.

Pivoted upon the axle *D* is an upwardly-extending fork *H*, which straddles the wheel *C*, and is provided at the top with a handle-bar *H'*, by means of which the fork may be turned, thus turning the axle and wheel and steering the device. A curved fender *J* covers the upper rear portion of the wheel *C* and prevents particles of snow or ice from being thrown from the wheel against the rider. The fender is suspended from the handle-bar *H'* between the members of the fork *H* by the bolt *f*, which passes through a slot *j* in the fender and up through the handle-bar, where it is provided with a suitable thumb-nut, by which it is held in position.

The device is operated as follows: The rider sits upon the seat *B'*, grasps the handle-bar *H'*, places his feet upon the cranks *D'* of the axle, and by turning the cranks the driving-wheel is revolved and the velocipede pro-



10 pelled. As the velocipede is driven, the blocks  
F, which carry the axle, rest normally in the  
front portion of the boxes E, and to steer the  
machine the rider pulls the handle-bar toward  
5 him and twists it and the fork H so as to move  
one of the blocks F backward, thus turning  
the driving-wheel, and the runners will follow  
the wheel. The handle-bar is moved easily  
toward the rider, as the bolt *f* slides in the  
10 slots *j*, and the wheel is easily turned, as the  
trunnions F' of the blocks F turn easily in  
the slots E<sup>2</sup> of the boxes E, and as said trun-  
nions also move longitudinally in said slots  
there is sufficient play to permit the turning  
15 of the wheel.

We have shown the device provided with one  
seat; but it is obvious that two or more may  
be applied, if desired, and it is evident that  
the propelling mechanism may be applied to  
20 any sort of a runner-frame.

Having thus fully described our invention,  
we claim as new and desire to secure by Let-  
ters Patent—

1. An ice-velocipede comprising a pair of  
runners having a seat thereon, a spur driving- 25  
wheel adapted to contact with the snow or  
ice, a steering-fork for the wheel, and a crank-  
axle fixed to the wheel and having its ends  
mounted in longitudinally-movable bearings,  
substantially as described. 30

2. The combination, with a driving-wheel,  
of an axle fixed to the wheel and provided  
with cranks carrying pedals on opposite sides  
of the wheel, said axle having its ends mounted  
in longitudinally-movable bearings, substan- 35  
tially as described.

3. The combination, with the runners A and  
boxes E thereon, said boxes having slots E<sup>2</sup>  
therein, as shown, of the wheel C, the axle D,  
and blocks F, having vertical trunnions F', 40  
substantially as described.

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Witnesses:

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