

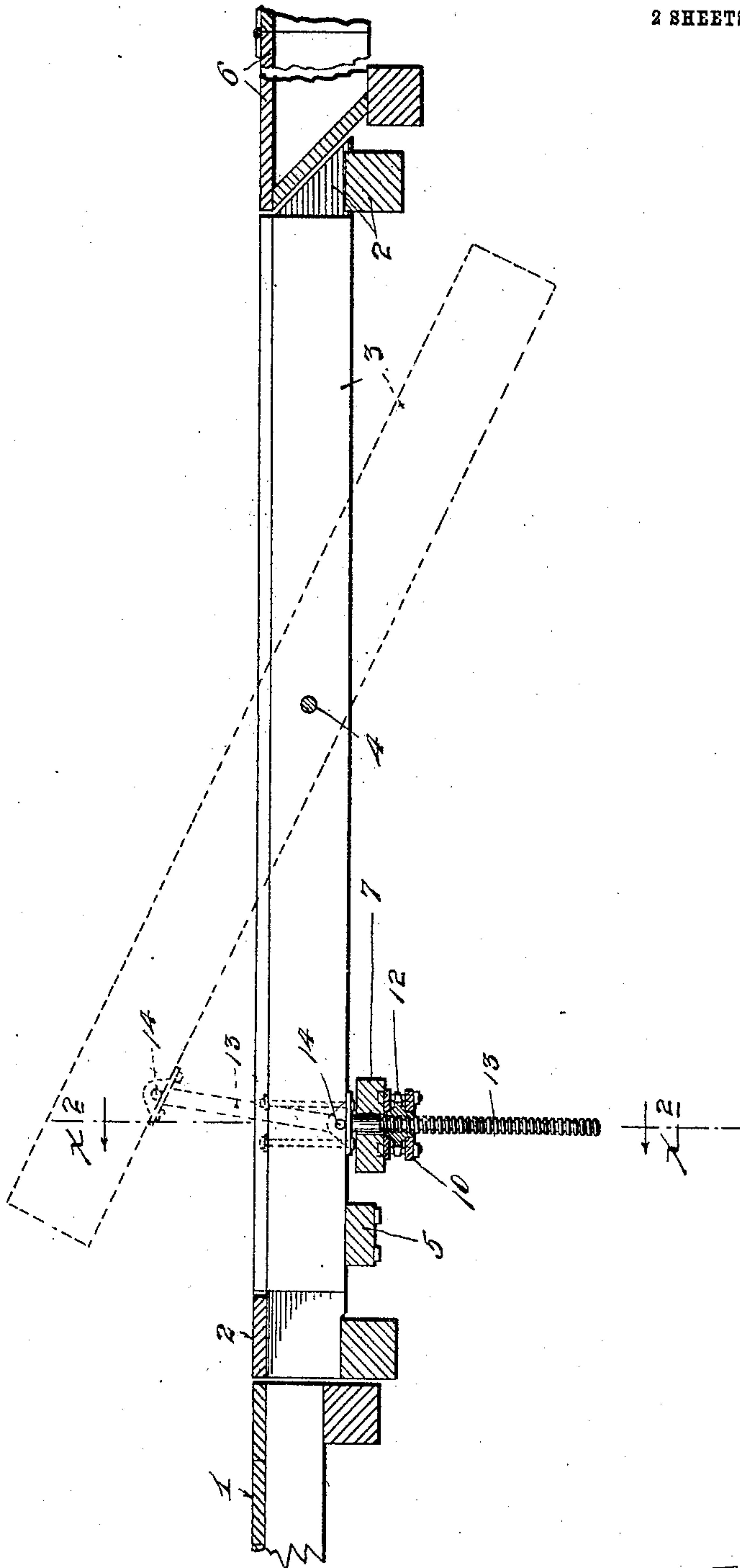
No. 839,813.

PATENTED JAN. 1, 1907.

F. W. COOLEY.
DUMPING PLATFORM.

APPLICATION FILED SEPT. 1, 1908.

2 SHEETS—SHEET 1.



Witnesses,
H. D. Kilgore.

A. H. Opsahl.

*Inventor,
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By his Attorneys,*

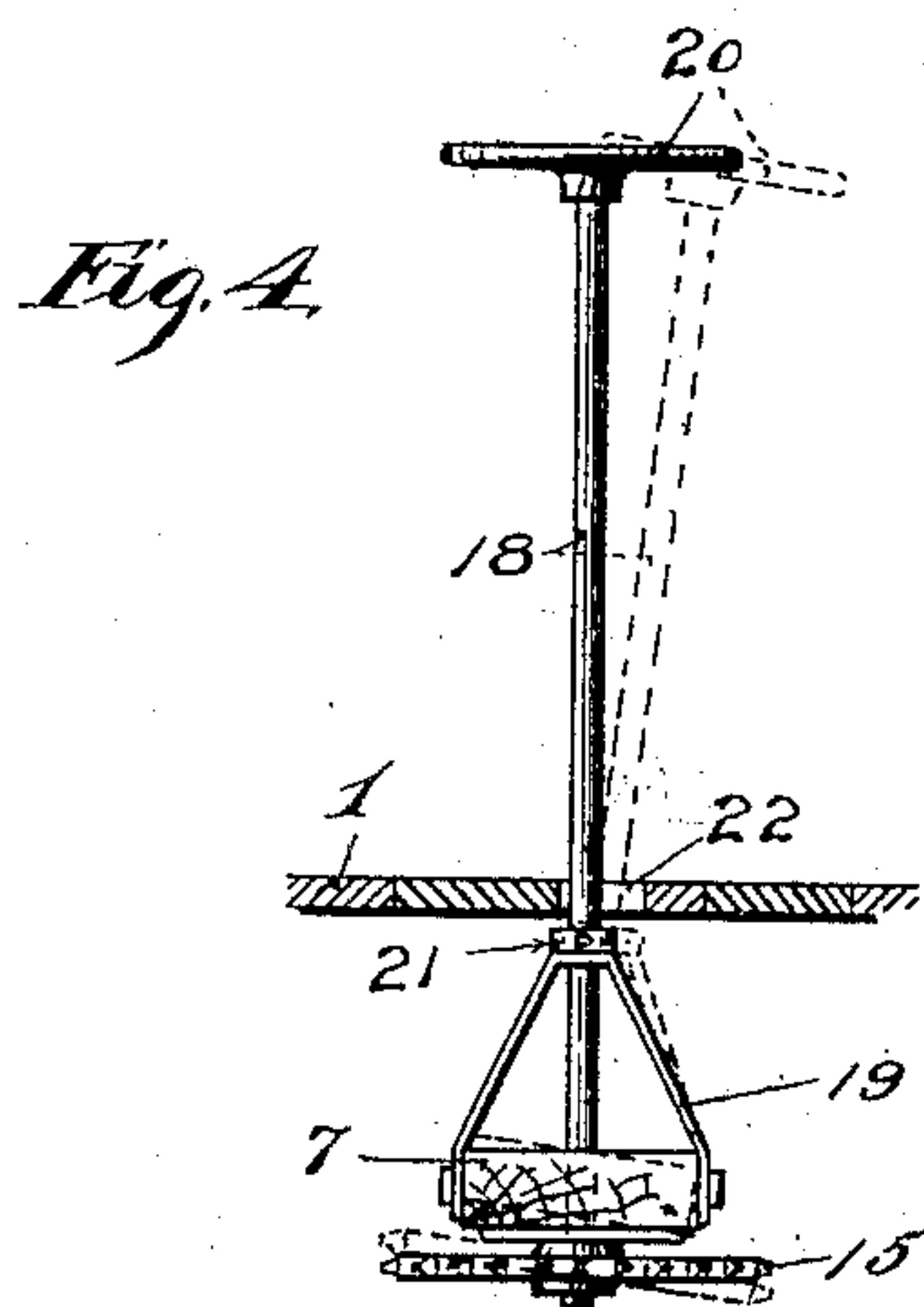
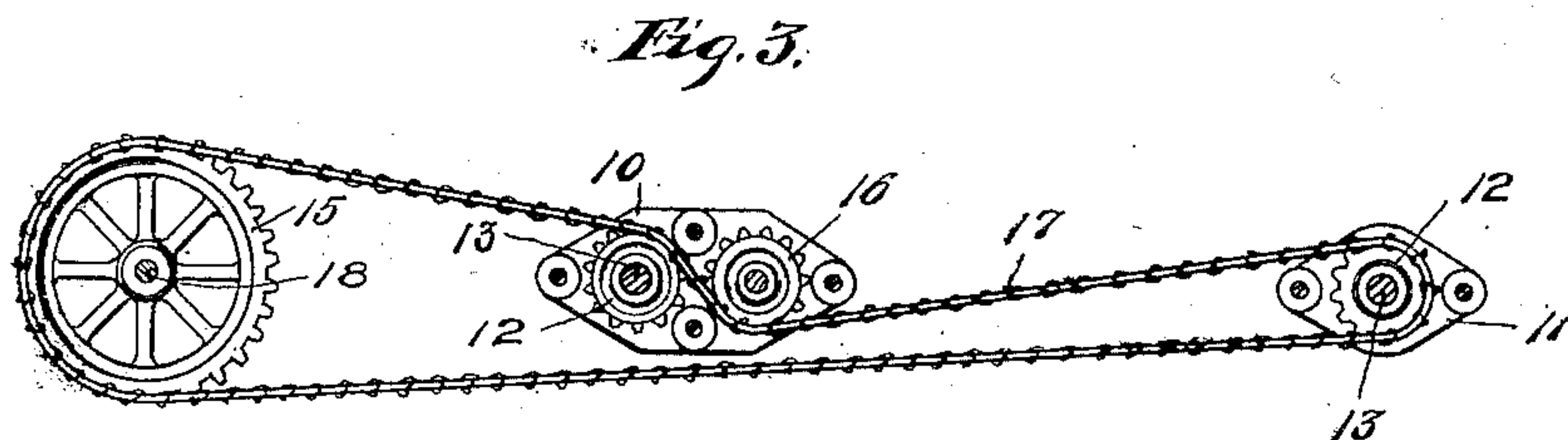
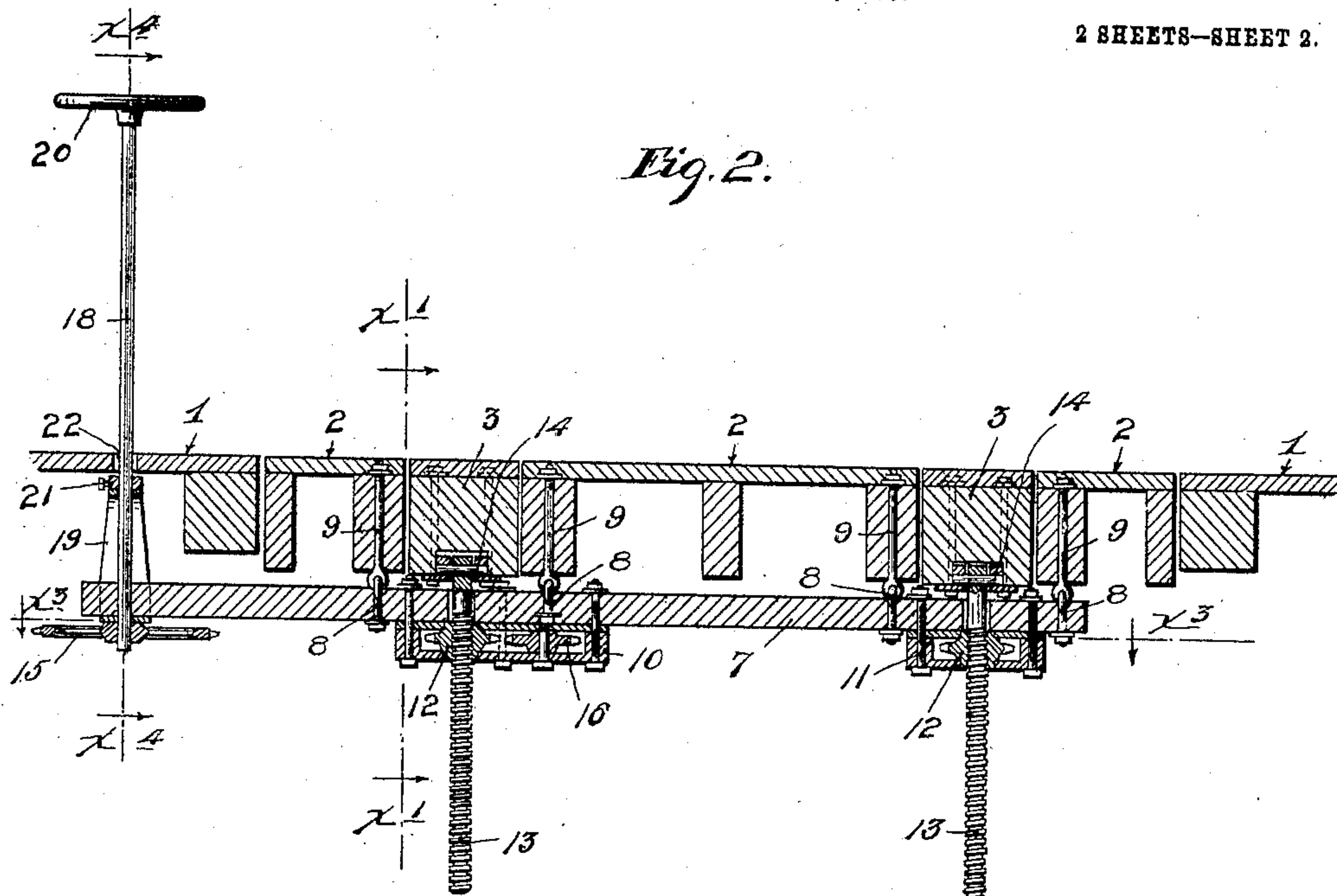
Williamson Merchant

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2 SHEETS—SHEET 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

FRED W. COOLEY, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF TWO-THIRDS TO GEORGE T. HONSTAIN, OF MINNEAPOLIS, MINNESOTA.

DUMPING-PLATFORM.

No. 839,813.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed September 1, 1906. Serial No. 332,976.

To all whom it may concern:

Be it known that I, FRED W. COOLEY, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Dumping-Platforms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to dumping-platforms such as used in connection with grain-elevators and elsewhere for unloading grain from wagons, and has for its object to improve such devices in the several particulars hereinafter noted.

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a vertical section taken longitudinally through the improved platform and coöperating parts on the line $x'x'$ of Fig. 2. Fig. 2 is a transverse vertical section taken on the line x^2x^2 of Fig. 1. Fig. 3 is a horizontal section taken on the line x^3x^3 of Fig. 2, and Fig. 4 is a vertical section taken on the line x^4x^4 of Fig. 2.

As is well known, these so-called "dumping-platforms" are usually applied to the platform of a platform-scale and are usually made up of a pair of heavy parallel beams that are pivotally connected at their intermediate portions to the scale-platform. Also the said scale-platform is usually mounted approximately on the same level with a fixed platform or driveway, and by tilting movements of the so-called "dumping-platform" the load of grain or other material on a wagon may be dumped into a pit located below the said platform.

My invention relates particularly to means for operating the so-called "dumping-platform" or pivoted beams which constitute the same.

Referring now in detail to the construction illustrated, the numeral 1 indicates the fixed platform or driveway below which the pit is located.

The numeral 2 indicates the scale-platform, which may be supported in the usual or any

suitable way by means of a scale mechanism, and hence is of course capable of limited upward and downward movements as required in the weighing action, but is always held in a horizontal position. The beams which make up the so-called "dumping-platform" are indicated by the numeral 3, and these are loosely mounted in parallel longitudinally-extended seats formed in the said scale-platform. The said beams 3 at their intermediate portions are pivotally connected to the adjacent beams of the scale-platform 2 by heavy pivot-bolts 4. The scale-platform 2 is shown as provided with a transverse bar 5, that limits the downward movements of the forward ends of the platform-beams 3, the said beams being capable of pivotal movements, as indicated by dotted lines in Fig. 1.

The numeral 6 indicates a hinged door which when raised affords an opening through which the material from the wagon located on the beams 3 may be dumped into the pit below the platform.

Extending transversely below the scale-platform 2 slightly at the rear of the forward ends of the platform-beams 3 is an oscillatory support 7, shown in the form of a heavy plank. This plank 7 is supported entirely from the central platform and is connected thereto with freedom for oscillatory movements transversely of its length and longitudinally of the pivoted platform-beams 3 by several pairs of pivotally-interlocked eye-bolts 8 9, the former of which are rigidly secured to the said plank or oscillating support 7 and the latter of which are rigidly secured to the longitudinal beams of the said scale platform 2.

Bolted or otherwise rigidly secured to the under surface of the plank 7 is a pair of box-like bearing-brackets 10 and 11, in each of which is rotatively mounted a nut member, shown as in the form of a sprocket 12. Working with threaded engagement through each sprocket or nut member 12 is a long and heavy screw-bolt 13, which, as shown and preferred, is provided with square threads. The said screw-bolts 13 work freely through perforations in the plank 7, and at their upper ends they are pivotally connected one to each of the platform-beams 3, as shown at 14. These pivotal connections 14 are preferably quite close to the forward ends of the said platform-beams 3, as clearly shown in Fig. 1.

As is evident, by simultaneous rotations of the two sprockets or nut members 12 the two platform-beams 3 may be given like tilting movements either upward or downward.

5 For imparting these simultaneous rotary movements to the brackets or nut members 12 I preferably provide a sprocket-and-chain drive which includes a driving-sprocket 15, an idle sprocket 16, and a sprocket-chain 17.

10 The idle sprocket 16 is journaled in the bearing-bracket 10, and the driving-sprocket 15 is secured to the lower end of an upright operating-rod 18, which rod is rotatively mounted in one end of the plank 7 and in a bearing-bracket 19, secured to said plank.

15 At its upper end the operating-rod 18 is shown as provided with a hand-wheel 20, by means of which it may be easily rotated, and just above the bracket 19 it is provided with a collar 21, that holds the same against end-wise downward movement. The sprocket 17 runs over the driving-sprocket 15 and over the sprockets 12 and 16, as best shown in Fig. 3. The said operating-rod 18 works freely

25 through a slot 22 in the fixed platform 1.

As is evident, by turning the operating-rod 18 in the proper direction the sprockets or nut members 12 may be simultaneously rotated in a direction to cause the screw-bolts

30 13 to move upward and thereby tilt the platform-beams 3 into dumping position. (Shown by dotted lines in Fig. 1.) It will be noted that when the said screw-rods are moved upward, as just noted, they assume angular positions with respect to vertical lines, and hence cause the oscillating support—to wit, the plank 7—to oscillate or move out of a horizontal position, such oscillatory movements being permitted by the hinge-like

40 connections afforded by the I-bolts 9. It will also be noted by reference particularly to Fig. 4 that the operating-rod 18 is then moved out of a true vertical position, inasmuch as it is carried by said oscillatory support 7. The groove 22 in the platform 1 permits the free oscillatory movement of said operating-rod 18.

By mounting the screw-rod-operating devices upon the oscillatory support or plank 7

50 very simple operating mechanism is made possible, and, furthermore, there is provided an operating device which works under a minimum of friction. The elements in the said rod-operating device, it will be noted, always maintain predetermined relative positions with respect to each other. Furthermore, the mechanism described is simple and of small cost.

What I claim is—

60 1. The combination with a dumping-platform, of means for imparting pivotal movements thereto, comprising an oscillatory support, a screw-rod connected to said dumping-

platform at one end, a nut member swiveled on and carried by said oscillatory support 65 and working on the said screw-rod, and means for transmitting rotary motion to said nut member from a distant point, substantially as described.

2. The combination with a dumping-plat- 70 form comprising a pair of pivoted beams, of an oscillatory support mounted below one end of said dumping-platform, a pair of screw-rods attached at their upper ends to said dumping-platform, a pair of nut mem- 75 bers swiveled on and carried by said oscillatory support and working on each of said screw-rods, and power-transmission mechanism extending from a distant point to the said two nut members and operative to simul- 80 taneously rotate the same, substantially as described.

3. The combination with a scale-platform, of a dumping-platform applied thereto and comprising a pair of pivoted beams, a trans- 85 verse support connected to one end portion of said scale-platform and supported thereby for oscillatory movements, a pair of screw-rods attached at their upper ends to said dumping-platform and depending through 90 said transverse oscillatory support, a pair of nut members swiveled on said oscillatory support and working one on each of said screw-rods, of an upright operating-rod mounted in bearings carried by said oscillatory support, 95 and connections between said operating-rod and the said nut members for simultaneously rotating the latter, substantially as described.

4. The combination with a fixed platform 1 and scale-platform 2, of a dumping-plat- 100 form comprising a pair of beams 3 pivotally connected to said scale-platform, of a plank or support 7 extending transversely below one end portion of said scale-platform, inter-locked eyebolts 9 loosely suspending said 105 plank or support 7 from said scale-platform, screw-rods 13 pivotally connected to said platform-beams 3 and working loosely through said plank or support 7, sprocket-wheels 12 journaled in bearings on said plank 110 or support 7 and working as nuts on said screw-bolts, an idle sprocket 16 also journaled on said plank or support 7 and working through an opening in said platform 1, a wheel or handpiece 20 on the upper end of 115 said supporting-rod, a sprocket-wheel 15 on the lower end of said operating-rod 18, and a sprocket-chain 17 running over said sprockets 12, 15 and 16, substantially as described.

In testimony whereof I affix my signature 120 in presence of two witnesses.

FRED W. COOLEY.

Witnesses:

MALIE HOEL,
F. D. MERCHANT.