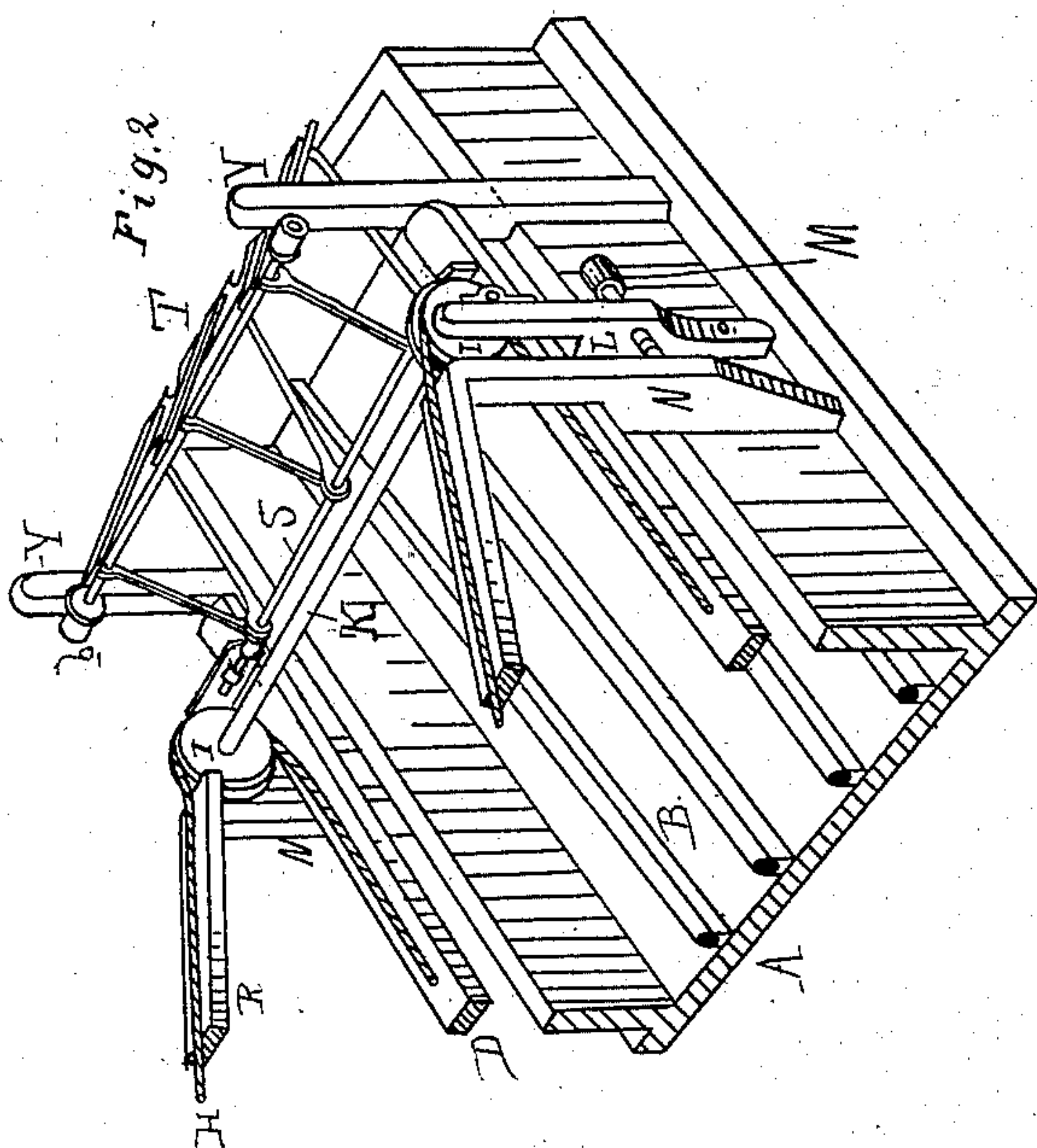
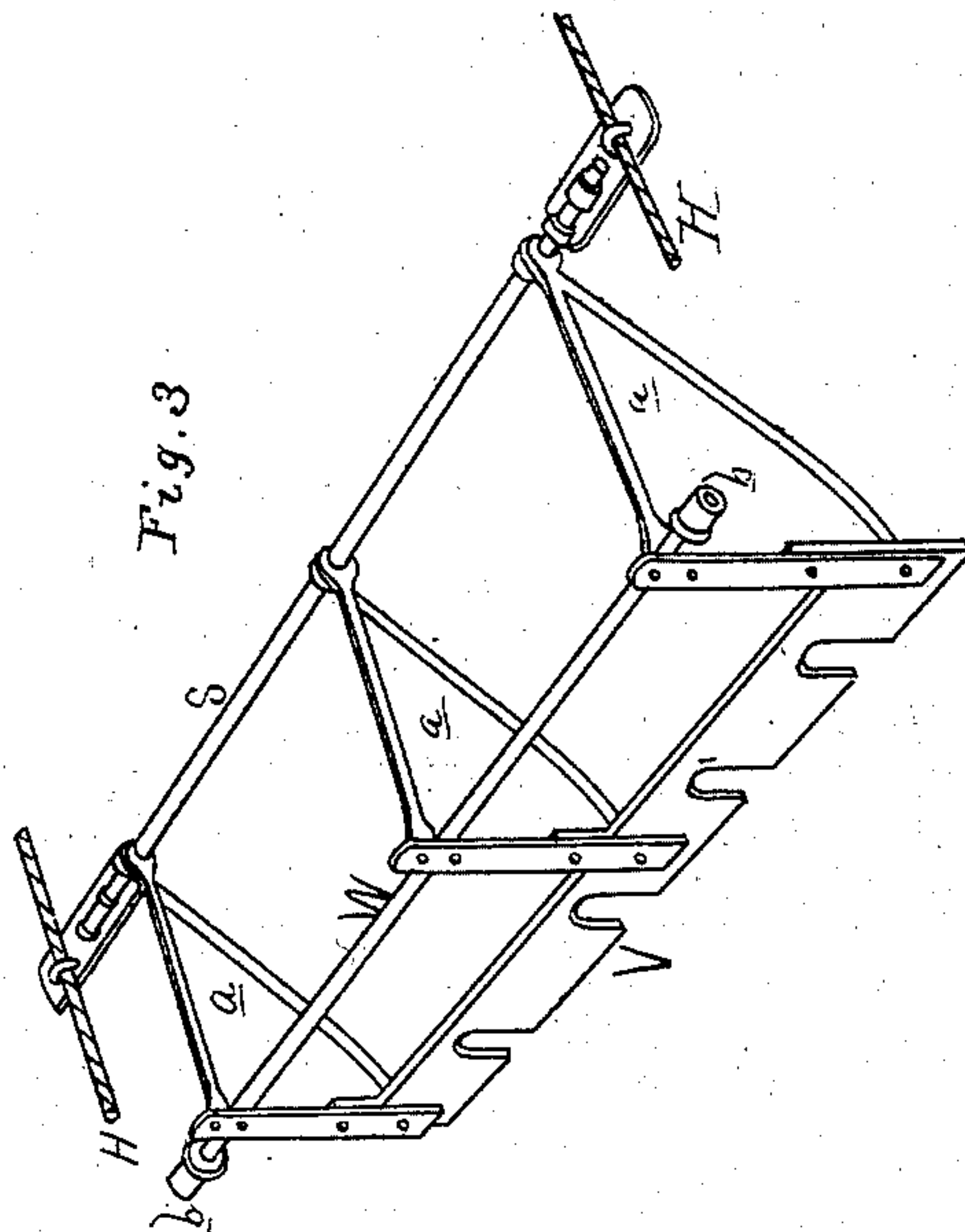
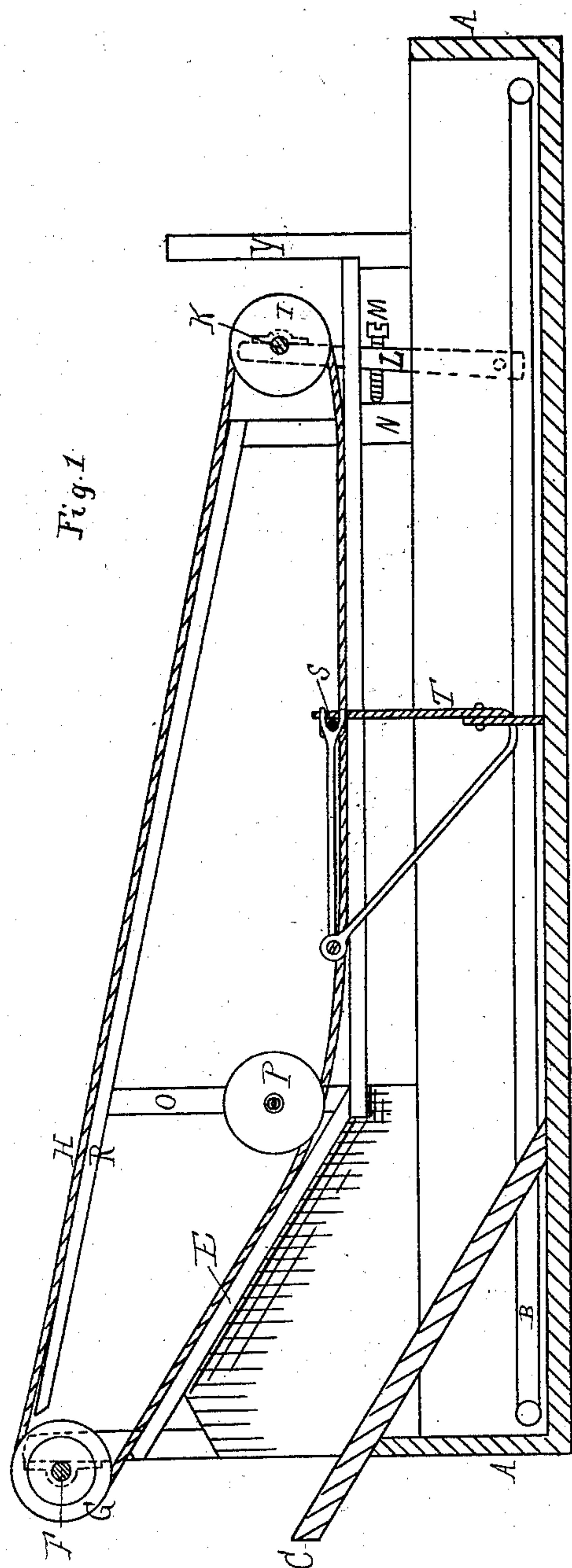


(No Model.)

J. CUSSON.
SALT GRAINER.

No. 315,390.

Patented Apr. 7, 1885.



Attest:
John Schumann
J. J. Sprague

Inventor:
Joseph Cusson.
by his Atty
Thos. L. Sprague

UNITED STATES PATENT OFFICE.

JOSEPH CUSSON, OF BAY CITY, MICHIGAN, ASSIGNOR TO SAMUEL CUSSON,
OF SAME PLACE, AND JOHN KING, OF SOUTH BAY CITY, MICHIGAN.

SALT-GRAINER.

SPECIFICATION forming part of Letters Patent No. 315,390, dated April 7, 1885.

Application filed September 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH CUSSON, of Bay City, in the county of Bay and State of Michigan, have invented new and useful Improvements in Attachments to Salt-Grainers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in attachments to salt-grainers; and the invention consists in the peculiar construction, arrangement, and various combinations of the parts, all as more fully hereinafter set forth.

Figure 1 is a vertical central longitudinal section. Fig. 2 is a perspective of one end of the grainer, showing position of the scraper as it is about to enter the brine. Fig. 3 is a perspective view of the scraper detached.

In the accompanying drawings, which form a part of this specification, A represents a salt-grainer, which is provided with a system of steam-pipes, B, as in the usual construction of such devices, and with the inclined table C at one end, which leads to the draining-board.

At each side of the grainer, and at a suitable distance above the same, I secure the horizontal ways D, terminating at one end in the inclined ways E, which are of the same pitch as the inclined table C.

Journaled in proper bearings at this end of the grainer is a shaft, F, which carries near each end a grooved or sprocket wheel, G, around which endless cables or chains H pass to and around a similar pair of wheels, I, upon a shaft, K, journaled in boxes upon the upper ends of the adjustable standards L, the latter being pivotally secured to the sides of the grainer.

M are set-bolts which pass through the standards L, and are tapped into or through the standards N in such a manner that the tension of the cables may be regulated by such bolts.

O are risers secured to the sides of the grainer at the foot of the inclined ways E. Journaled upon stub-shafts projecting in-

wardly from these risers are the grooved pulleys P, beneath which the endless chains travel, the function of these pulleys being merely to compel the chains and scraper to travel in a horizontal plane the length of the ways D. Upon the top of the standards N and O, I secure the inclined ways R.

S is a cross bar or rod secured at its ends to the cables H, and upon this rod the scraper T is pivotally secured. This scraper consists of a suitable number of triangular frames, a, pivotally secured at one of their corners upon the bar S. At one of the other corners there is secured the bar scraper-plate V, the outer edge of which is notched, so as to straddle the steam-pipes in the bottom of the grainer. At the remaining corners of the frames a there is secured a rod, W, upon the outer ends of which are journaled the friction-rollers b.

In practice motion is communicated to the shaft F from any convenient power, causing the chains to move slowly and drag the scraper through the grainers, producing an agitation of the brine, and gathering the salt that has been precipitated. In the continual movement of the parts the scraper is compelled to travel up the inclined table, deposit the collected salt upon the draining-board, and thence the scraper passes on, following the change of the direction in the run of the chains down the upper inclined ways, in this return movement the scraper-blade projecting upward. In the further travel of the parts the frames a of the scraper strike against the shaft K and compel the scraper to drop over, the friction-rollers impinging against the stops or standards Y, down which they slide until they rest upon the horizontal ways, when the operation of removing the salt begins anew.

What I claim as my invention is—

1. In combination with a salt-grainer, endless cables carrying a scraper, arranged to enter the grainer at one end, travel the entire length thereof, and in returning to its starting-point to pass over the top thereof and down inclined ways, substantially as and for the purposes set forth.

2. The combination, in a salt-grainer, of the shafts F and K and endless cables H, carry-

ing a scraper, T, with the standards L N and set-bolts M, substantially as and for the purposes described.

3. A scraper for salt-grainers, consisting of
5 a series of triangular frames, *a*, carrying the scraper-plate V, and the rod W, provided with friction-rolls *b*, substantially as specified.

4. In a device for collecting salt from a salt-grainer, the combination of the grainer A,
10 horizontal ways D, inclined ways E R, shafts

F K, wheels G I, the endless cables H, passing over said wheels, adjustable standards L N, set-bolts M, pulleys P, and scraper T, when constructed, arranged, and operating substantially in the manner and for the purposes
15 set forth.

JOSEPH CUSSON.

Witnesses:

J. A. BEARDSLEY,
CHARLES D. FISHER.