

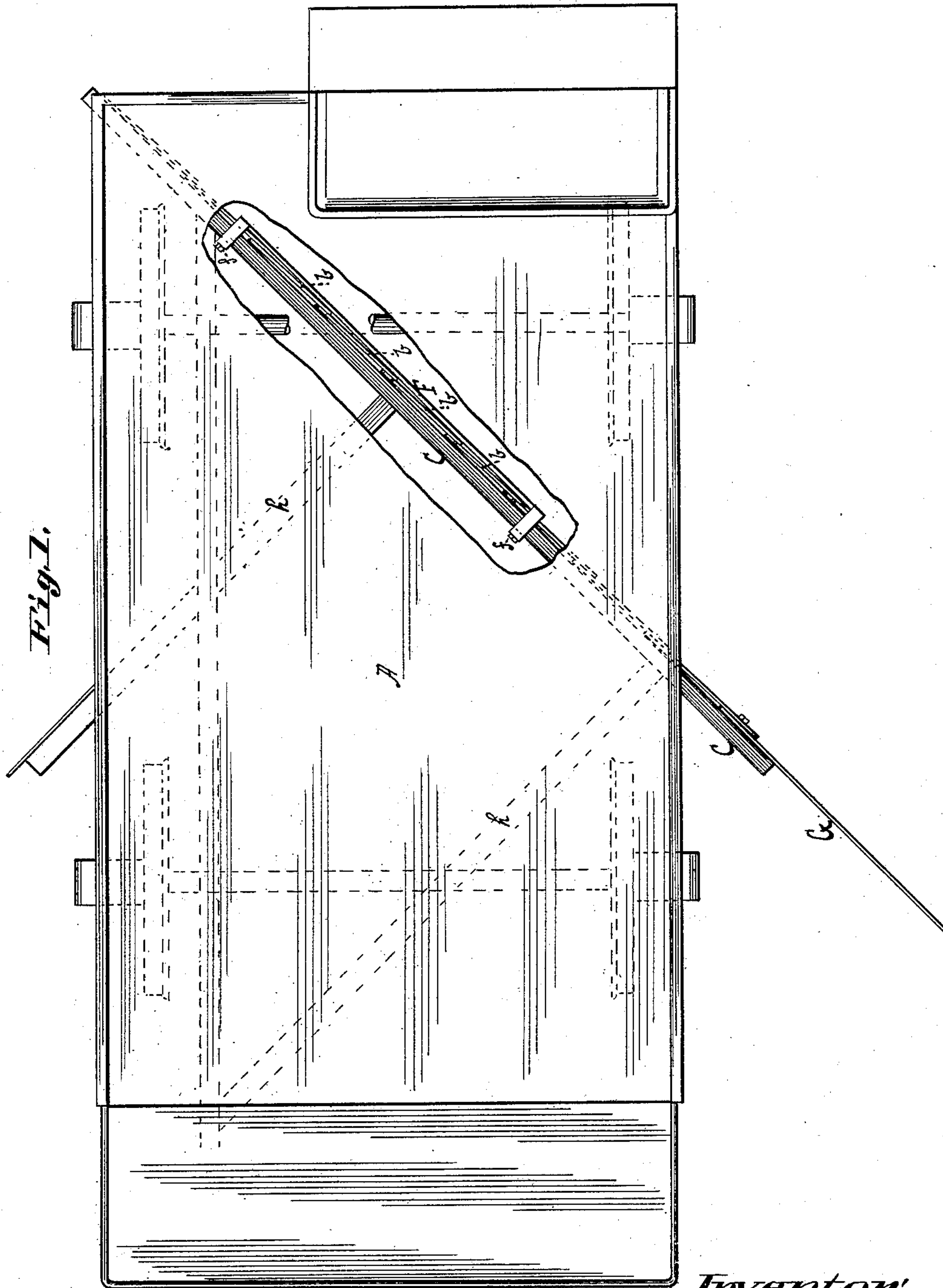
(No Model.)

2 Sheets—Sheet 1.

G. G. GIBSON.
STREET SCRAPER AND SNOW PLOW,

No. 338,262.

Patented Mar. 23, 1886.



Attest:

H. D. Moulton
A. D. D. & Co.

Inventor:

George G. Gibson
by F. W. Ritter Jr
att'y

(No Model.)

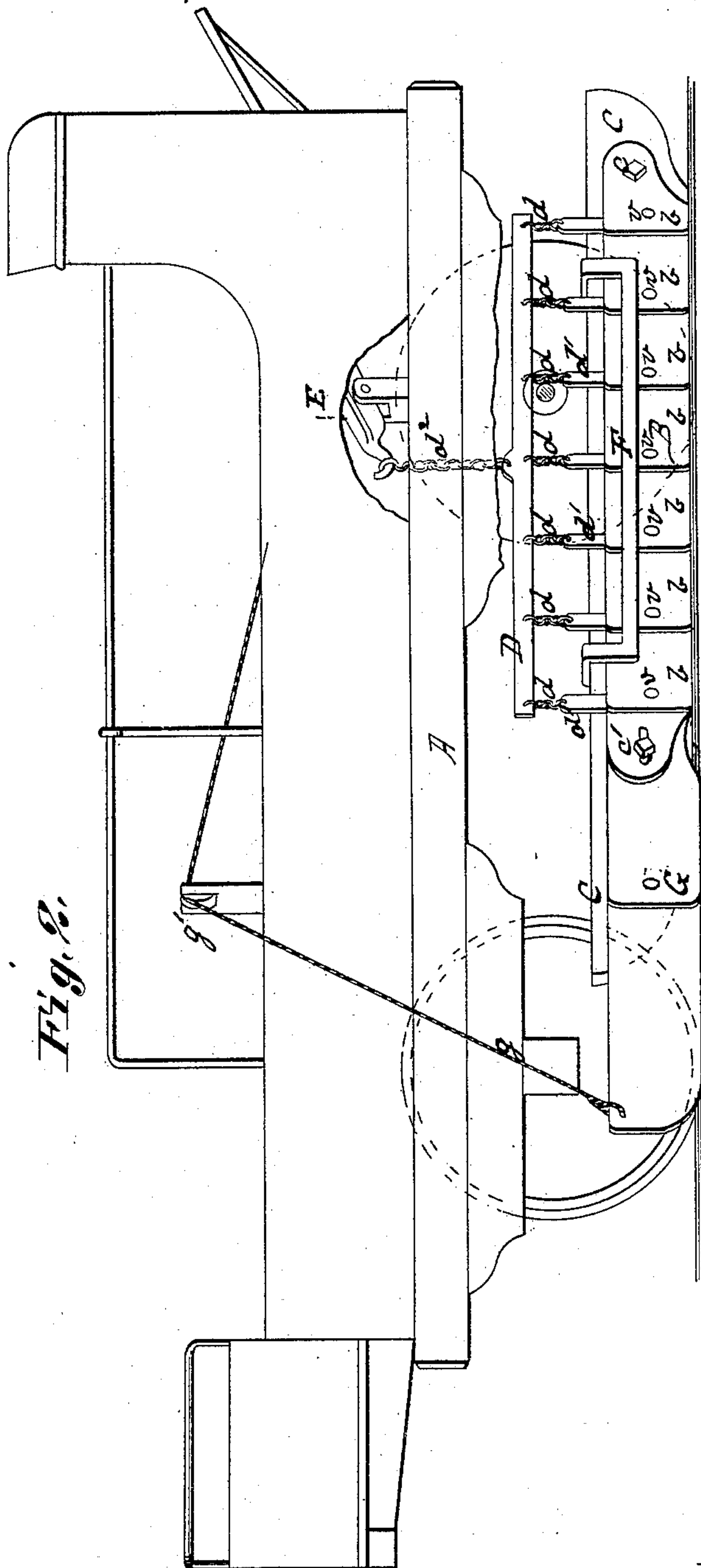
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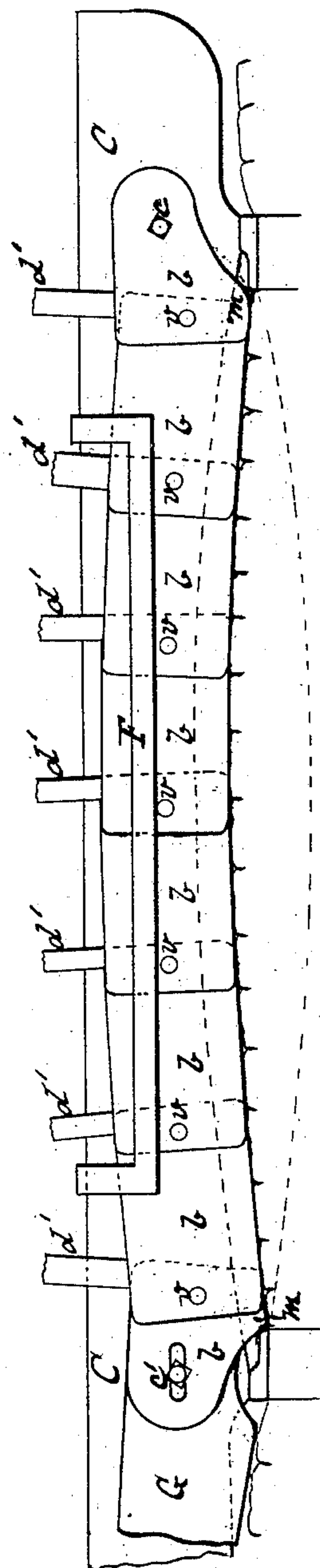
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Fig. 2.



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Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE G. GIBSON, OF ST. LOUIS, MISSOURI.

STREET-SCRAPER AND SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 338,262, dated March 23, 1886.

Application filed January 5, 1886. Serial No. 187,727. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. GIBSON, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented
5 certain new and useful Improvements in Street-Scrapers and Snow-Plows; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, wherein—
10 Figure 1 is a plan view, Fig. 2 is a side elevation, and Fig. 3 is an enlarged detail view, of a scraper or snow-plow embodying my invention.

Like letters refer to like parts wherever they
15 occur.

My present invention relates to the construction of street-scrappers and snow-plows for cleaning streets and roads, and though of general utility, wherever such apparatus is required it is of special utility where the streets
20 are paved, where car-tracks, uneven surfaces, gutters, or raised crossings exist.

Heretofore, so far as I am aware, the blade or scraper of this class of machines, which is
25 usually set angling or obliquely to the line of draft, has been continuous or rigid, and as a result illy adapted to resist the shocks and strains to which it is constantly submitted; or it has been made up of independent sections, like a series of detached hoes or shovels,
30 each section dependent for its power on its own gravity or a spring or springs.

One difficulty experienced with rigid or single-bladed scrapers has been that whenever
35 a raised crossing or similar obstruction was met the blade must be raised, and thus skip the crossing, or, if allowed to drag, when the leading end strikes the obstruction the whole blade is raised, which causes it to skip or leave
40 portions of the street untouched. When the leading end of the rigid scraper strikes the crossing or other obstruction, a strain as well as a shock is given the whole blade, which frequently results in its destruction.

45 The objection to a blade made up of short independent spring or gravity sections lies in the lack of power or strength in said sections, their liability to get out of repair and become practically inoperative, the unequal distribution of the strain on the plow and frame, and
50 the somewhat complex character of the construction.

The object of the present invention is to so modify the construction and attachment of the scraper as to avoid the objections herein-
55 before referred to; and to this end it consists, first, in providing a sectional practically continuous or flexible scraper-blade made up of sections loosely or pivotally united one with another, which shall accommodate itself to the
60 surface on which it is operating, so as to do its work thoroughly and with the least strain on the apparatus, while each section shall be held down to its work by its fellows, have the power incident to the weight of the whole
65 blade, and the strain shall be equalized or distributed over the several sections, and thus in a measure neutralized; secondly, in providing a saddle or yoke for preserving the continuous and operative relation of the sections which
70 compose the scraper, so that they may accommodate themselves to the surface over which they pass without loss of continuity and power.

There are minor points of novelty which
75 will hereinafter more fully appear.

In the drawings, A indicates the bed of the car or carriage from which the scraper is suspended by chain, ropes, or in any approved or
80 suitable manner.

B indicates the scraper, which is made up of a series of plates, *b*, pivoted on each other, as at *v*, so as to insure flexibility of the blade as a whole and enable each section to adapt
85 itself to the surface over which it is passing without disturbing or displacing the other plates of the series. This scraper-blade composed of the pivoted plates *b* is connected at each end by a pivotal bolt, *c* and *c'*, to a stretch-
90 er-bar, C, which occupies the position of the usual plank straight-edged scraper in common use, and said stretcher C, whose only function is to sustain the flexible blade and maintain the vertical position of the plates, may be of
95 plank or any suitable material.

In order to permit the movement of the plates or scraper longitudinally sufficient to render them capable of accommodating themselves to inequalities, or to concave or convex
100 surfaces, both of which are found on car-tracks and most roads, one of the bolts, *c'*, moves in a slot which may be made either in the plate or in the stretcher C. The several plates are each connected with a suspension-bar, D, by

a chain or other flexible connection, *d*, and, if desired, the plates may have shanks or arms *d'* for attaching the chain, though this latter feature is not essential. The suspension-bar
 5 *D* is in turn connected by a chain or other flexible connection, *d''*, with a lever, *E*, pivoted on the car or carriage bed *A*, which lever serves to raise or lower the scraper.

F indicates a saddle or brace bar, which is
 10 supported or rides on the stretcher *C*, and, if desired, may be secured thereto by clamp-bolts or screws *f*. This brace-bar *F* aids in preventing the tilting of the sections or plates *b* when the scraper is in use. It is valuable,
 15 but not essential, as the apparatus works well without it.

G indicates the wings of the scraper or that portion which extends beyond the pivot-bolt *C*, and is composed of two or more plates, the
 20 outer one, or both, of which is controlled by a rope or chain, *g*, passing over a pulley, *g''*, to the lever *E* or other fastening within reach of the driver. In case of single-plate wings, only level or evenly-inclined surfaces can be
 25 scraped, whereas by sectioning this wing-piece irregular surfaces may be cleaned. The scraper, as usual, is set angling or obliquely to the line of travel, and is properly supported by diagonal braces *h*, of wood, iron, or any suitable material, which extend from the stretcher
 30 *C* to the frame-work thereof, as shown in Fig. 1.

It will be noted on reference to Fig. 3 that the devices are shown as in use for scraping a
 35 car-track, as they are specially adapted for removing snow, &c., therefrom. For such purposes the outer plates or sections, which are pivoted on the stretcher, should be curved in on the edge, as at *m*, so as to come within
 40 the rail, and this will be of special importance where the track may be either convex or guttered, as shown in dotted line, Fig. 3, or worn irregular by the travel.

The devices being substantially as herein-
 45 before described, the scraper will be lowered into operation in the usual manner by means of the lever *E* and rope *g*, the stretcher bar or plank riding the rail, (if for clearing tracks,)

and the flexible or floating blade *B* will, by the independent movement of its plates *b*, accom- 50 modate itself to the character of the surface over which any part of the blade is passing. If a crossing or gutter is encountered, each plate will in its turn sag or enter, and pass from the gutter or rise and ride over the cross- 55 ing without straining or disturbing the remaining sections, and the play of the section on bolt *c'* will allow the blade to expand or contract to pass the horizontal line in dropping from a convex into a concave track. 60

Having thus described the nature, advantages, and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a scraper or snow-plow, a flexible or 65 floating scraper made up of sections loosely or pivotally united one with another, substantially as and for the purposes specified.

2. In a scraper or snow-plow, the combination, with a scraper, of a flexible or sectional 70 wing-piece composed of two or more plates loosely or pivotally connected, substantially as and for the purposes specified.

3. In a scraper or snow-plow, the combination of a floating or flexible scraper composed 75 of pivoted sections and a stretcher, the parts connected by a pivot or journal having a slotted bearing, substantially as and for the purposes specified.

4. In a scraper or snow-plow, the combination of a flexible scraper, a stretcher, and a saddle-brace, substantially as and for the purposes specified. 80

5. In a scraper or snow-plow, the combination of a flexible scraper, a stretcher, a saddle- 85 brace, and a suspension-bar with which the sections of the flexible scraper are each independently connected, substantially as and for the purposes specified.

In testimony whereof I affix my signature, 90 in presence of two witnesses, this 30th day of December, 1885.

GEORGE G. GIBSON.

Witnesses:

GEORGE M. BLOCK,
 F. W. RITTER, Jr.