

(No Model.)

J. GRAVES & J. R. DREYFUS.

HAND TRUCK.

No. 335,810.

Patented Feb. 9, 1886.

Fig. 1.

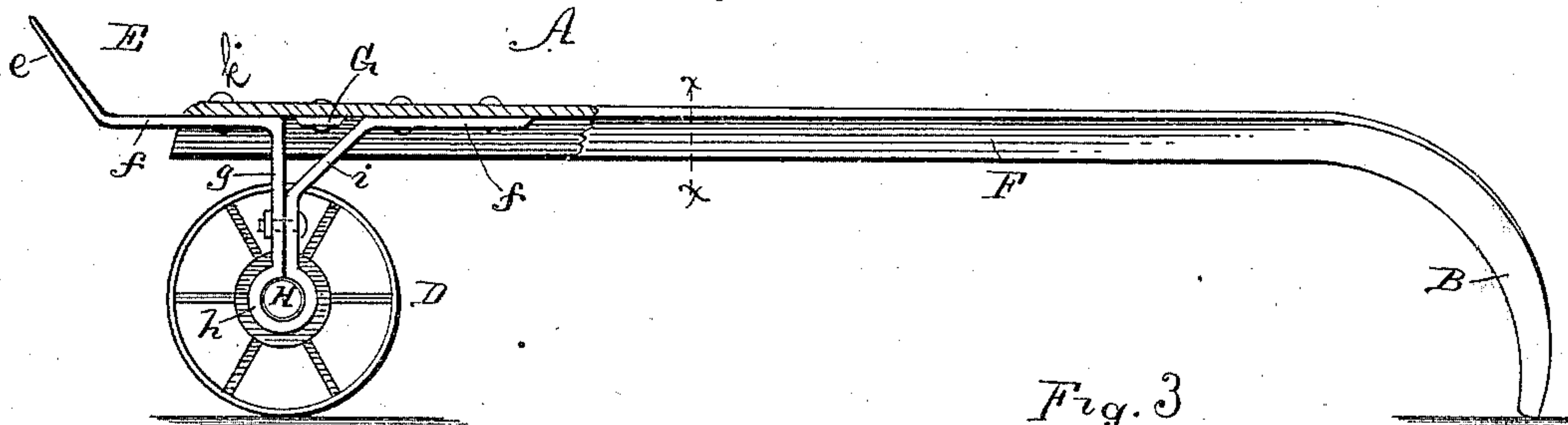


Fig. 3.



Fig. 2.

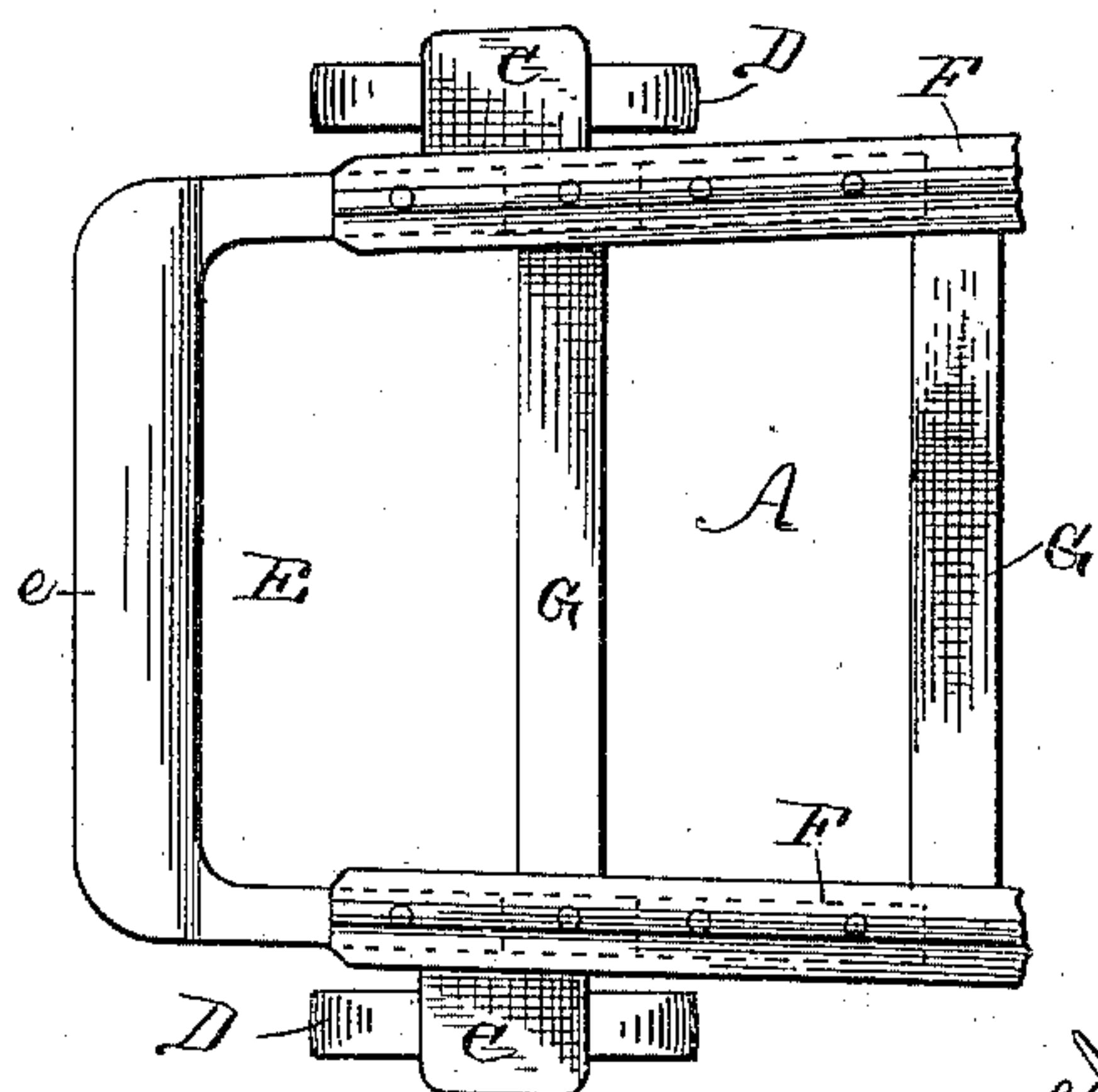


Fig. 5.

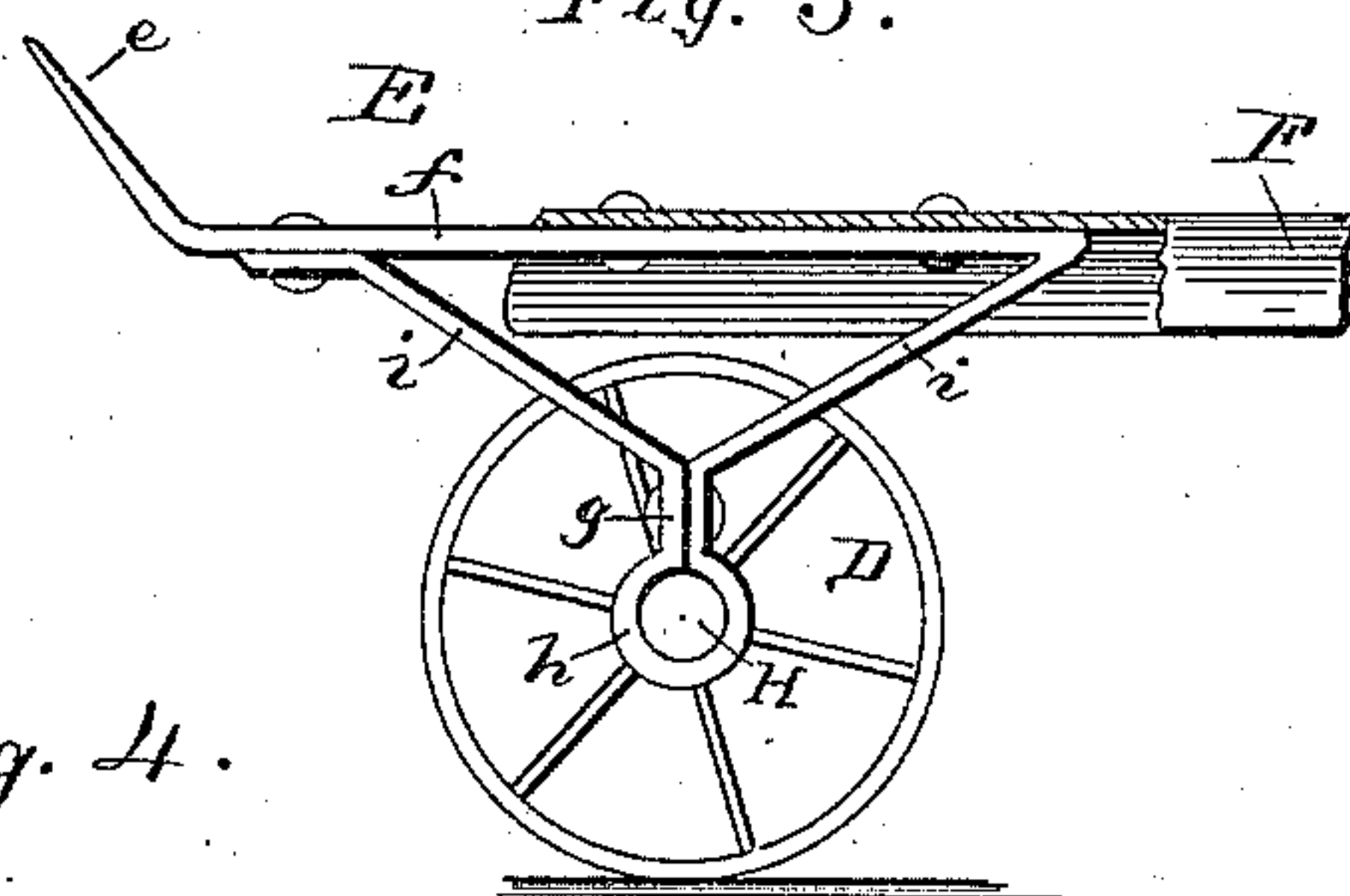
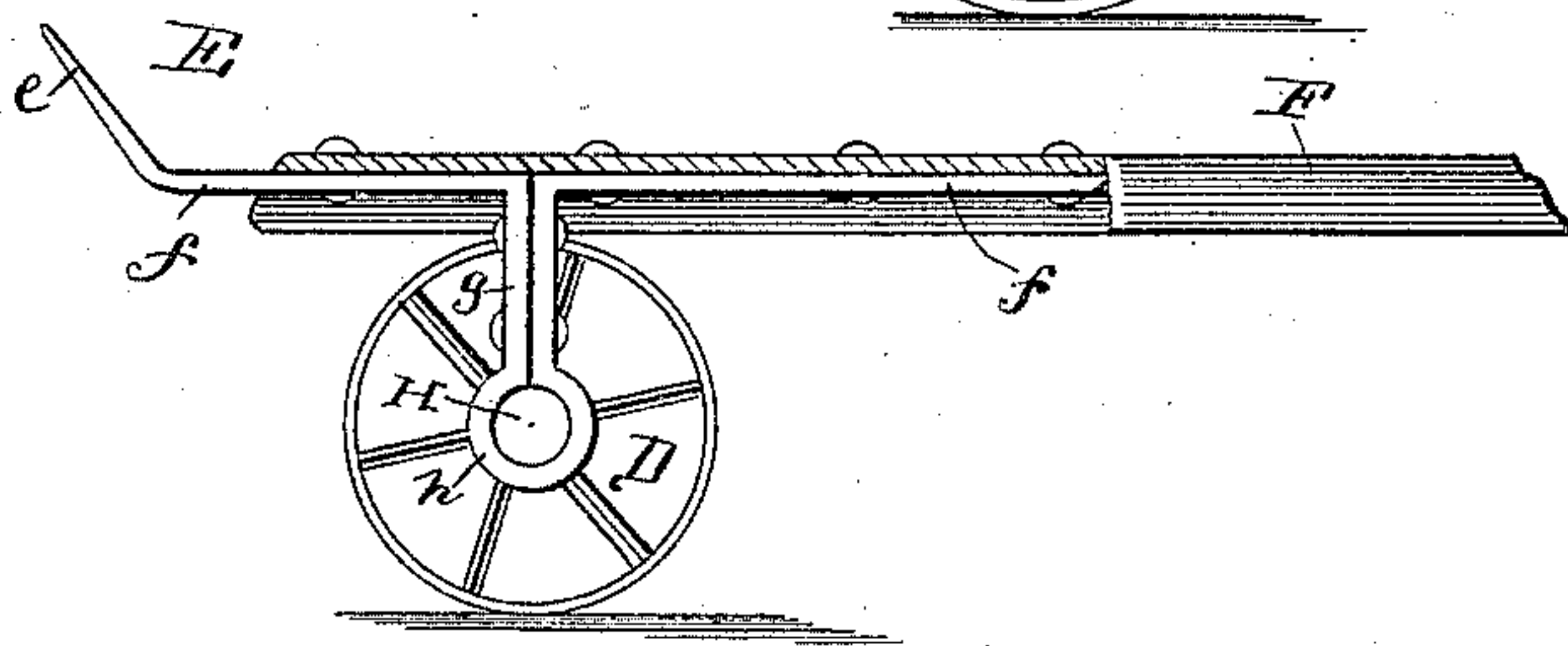


Fig. 4.



WITNESSES

Thos. Houghton.
Saml. D. Jacobson

INVENTOR

John Graves and Jules R. Dreyfus
by
Abraham Mayer

Attorneys

UNITED STATES PATENT OFFICE.

JOHN GRAVES, OF GREEN POINT, AND JULES RAPHAEL DREYFUS, OF NEW YORK, N. Y.; SAID GRAVES ASSIGNOR TO SAID DREYFUS.

HAND-TRUCK.

SPECIFICATION forming part of Letters Patent No. 335,810, dated February 9, 1886.

Application filed October 20, 1885. Serial No. 180,443. (No model.)

To all whom it may concern:

Be it known that we, JOHN GRAVES, a citizen of the United States, residing at Green Point, county of Kings, State of New York, and JULES RAPHAEL DREYFUS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have jointly invented a new and useful Improvement in Trucks, of which the following is a specification.

The invention relates to store-trucks, and has for its object the production of a truck that shall combine lightness in weight with great strength; and the invention consists in novel construction of the various parts of the device and in combinations thereof, as illustrated in the drawings, hereinafter fully explained, and specifically pointed out in the claims.

Referring to the accompanying drawings, in which like letters of reference point out similar parts on each figure, Figure 1 is a side elevation of a truck, partly in section, one wheel off. Fig. 2 is a plan view of front end of truck. Fig. 3 is a sectional view on the line *x x* of Fig. 1, showing channel-iron with corrugations thereon. Fig. 4 is a side elevation, partly in section, representing axle without the brace *i* shown in Fig. 1. Fig. 5 is a modification showing side supports and two braces, *i i*, made so as to re-enforce the nose-piece at the point where the greatest strain comes when lifting the load off the ground.

In the drawings, A is the truck; B, handles; C, wheel-guards; D, wheels; E, entire end or nose, *e* being the end bar thereof; F, side bars; G, cross-bars; H, axle; *f*, side bars of nose; *g*, hanger-bars; *h*, axle supports and bearings; *i*, braces; *k*, bolts or rivets.

The truck proper is constructed of metal, preferably Bessemer steel, the side pieces, F, being of channel form, the edges of which may be turned over at one end to form tubular handles B. From thence said side bars extend in channel or trough form toward the nose E.

We do not confine ourselves to any special character of channel, as we employ any suitable form to impart rigidity and strength to the truck.

In addition to the channel formation we also corrugate the metal in direction of its length. Such corrugations may be placed on the main side bars, F, cross-bars G, leg-braces, and on any or all of the members of the truck, and this is an important element of our invention. Figs. 1, 2, and 3 illustrate such corrugation, wherein an arched channel-iron has its sides rounded or curved inwardly, the middle portion, uprising, composing a continuous bead; but there may be more than one of such beads, so as to comprise a series of lengthwise corrugations or ribs at the sides or top of the channel or both.

Instead of the handles B being turned down, as shown in the drawings, legs with suitable braces may be provided for ground-supports, as have been heretofore employed in analogous devices.

We will first describe the nose-piece and its continuous connections as illustrated in various forms, Figs. 1 to 5, inclusive.

This part of our invention relates to making the end bar, *e*, of the nose with continuations that comprise its sides, serving as supports for the forward end of the main side bars, F, and also composing braces *i*, hanger-bars *g*, and axle-bearing *h*.

The main features of this part of our invention consist in making these members all of one piece of metal, thus dispensing with joints that may become loose or disconnected, and it will be readily understood that the cost of production is materially reduced thereby.

e is the forward end of the nose, *f* the side extensions thereof, which (where not bent downwardly for other purposes, as hereinafter set forth) are in alignment with the forward end of the side bars, F, and are firmly connected thereto by rivets or the like. At a given point said sides are turned downwardly to form hanger-bars *g*, axle-bearing *h*, and side braces, *i*. Said hangers *g* may extend in a vertical line, their lower ends being turned to form axle-bearing *h*. As plainly shown in Fig. 4, one or both of said hanger-bars *g* may be bent over obliquely at any point of their length, (see *i*, Fig. 1.)

A modification is shown in Fig. 5, wherein the nose end bars *f* extend rearwardly their

full length in an unbroken right line, (at right angles to the nose end, *e*.) From their rearward end said bars *f* are turned downwardly in an oblique line toward the wheel-axle, where
5 they are again bent downwardly in a vertical line, forming hanger-bar *g*, then turned round to compose axle-bearing *h*, from which uprises a hanger-bar, *g*, which is riveted to its opposite one, and then the bar *f* is bent upwardly
10 in a forward direction opposite to the rear oblique member, the terminal end of the continuous bar *f* being fastened to the upper portion of itself at about the point where it starts at right angles from the nose-bar *e*. This latter form is fully illustrated in Fig. 5.

Having now fully described our invention and its operation, what we claim, and desire to secure by Letters Patent, is—

1. A truck made of sheet metal, iron, or
20 steel, in channel form, said channels provided

with one or more corrugations in direction of their length, substantially as described, as and for the purpose intended.

2. A truck having a forward nose, *E*, provided with side bars *f*, extending at about
25 right angles from the end *e*, said bars *f* being bent downwardly to form hanger-bars *g*, braces *i*, and wheel-axle bearing *h*, substantially as described.

3. In a metallic truck having its frame made
30 of channeled form, said channels corrugated or ribbed in direction of their length, in combination with cross-bars *G*, and braces also ribbed or corrugated in direction of their length, substantially as described.

JOHN GRAVES.

JULES RAPHAEL DREYFUS.

Witnesses:

JOHN MCGREEVEY,

SAML. H. JACOBSON.