

(No Model.)

2 Sheets—Sheet 1.

I. H. BRADSHAW.
HEADER.

No. 248,633.

Patented Oct. 25, 1881.

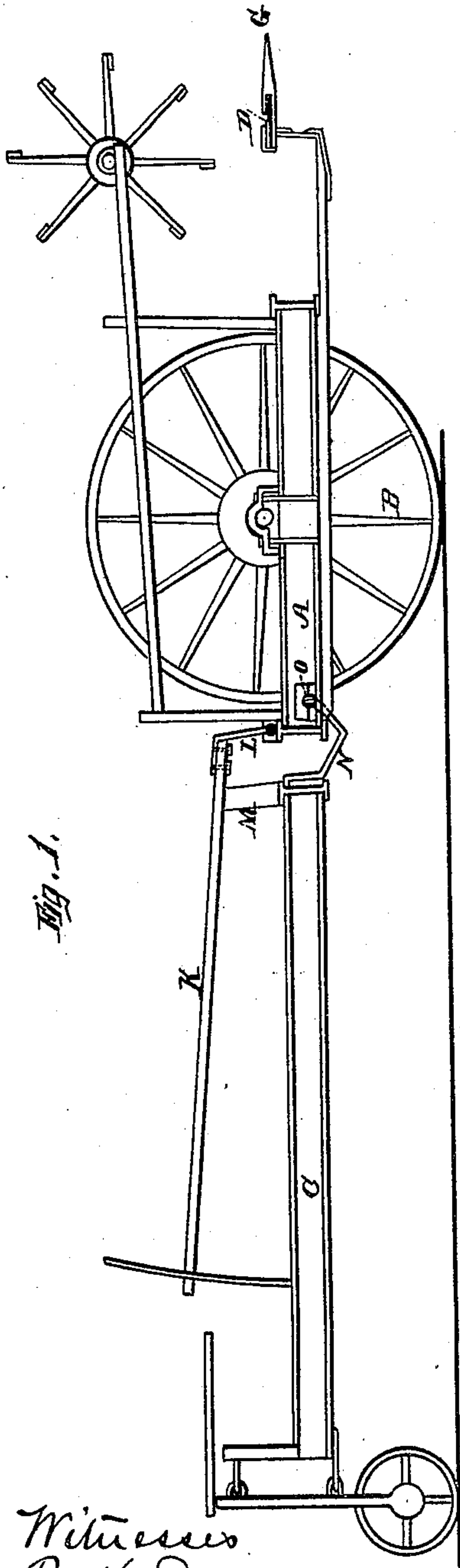


Fig. 1.

Witnesses
R. K. Evans
A. H. Evans

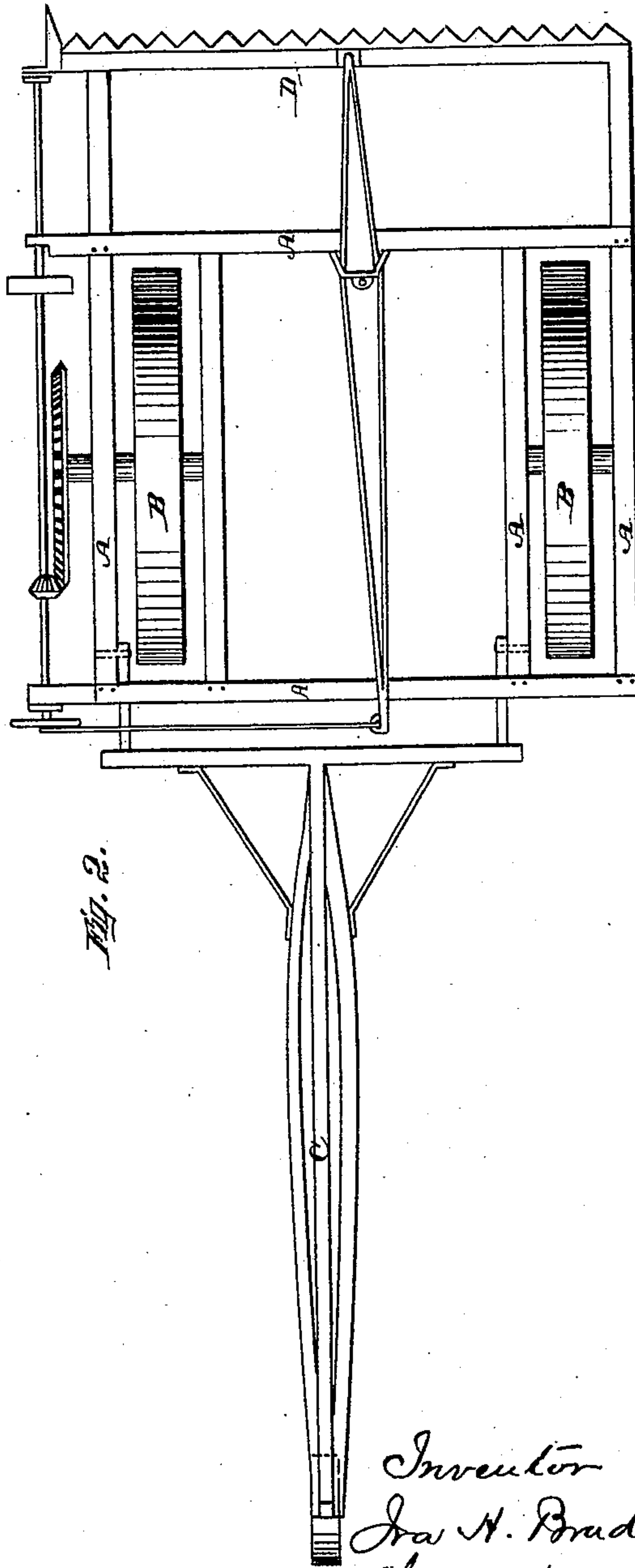


Fig. 2.

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Fig. 3.

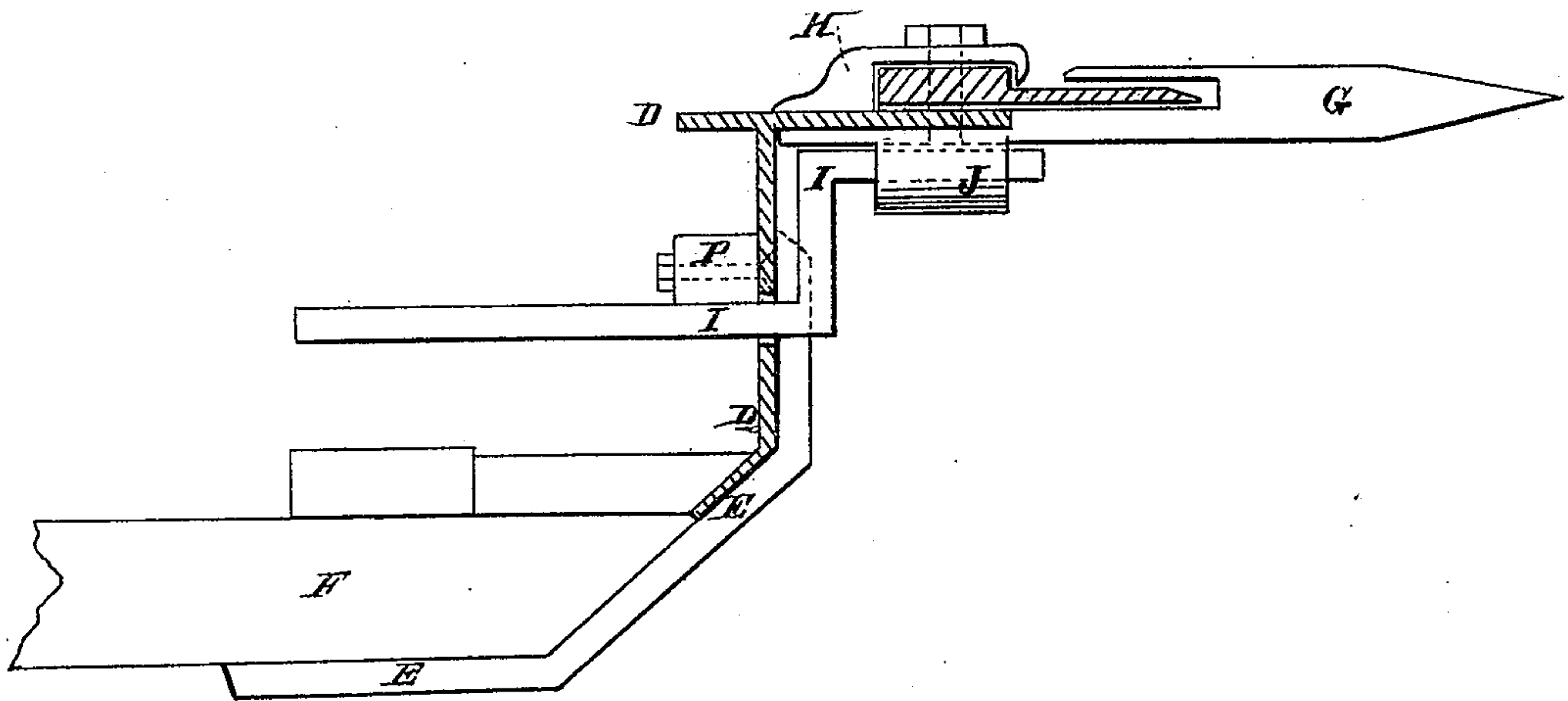
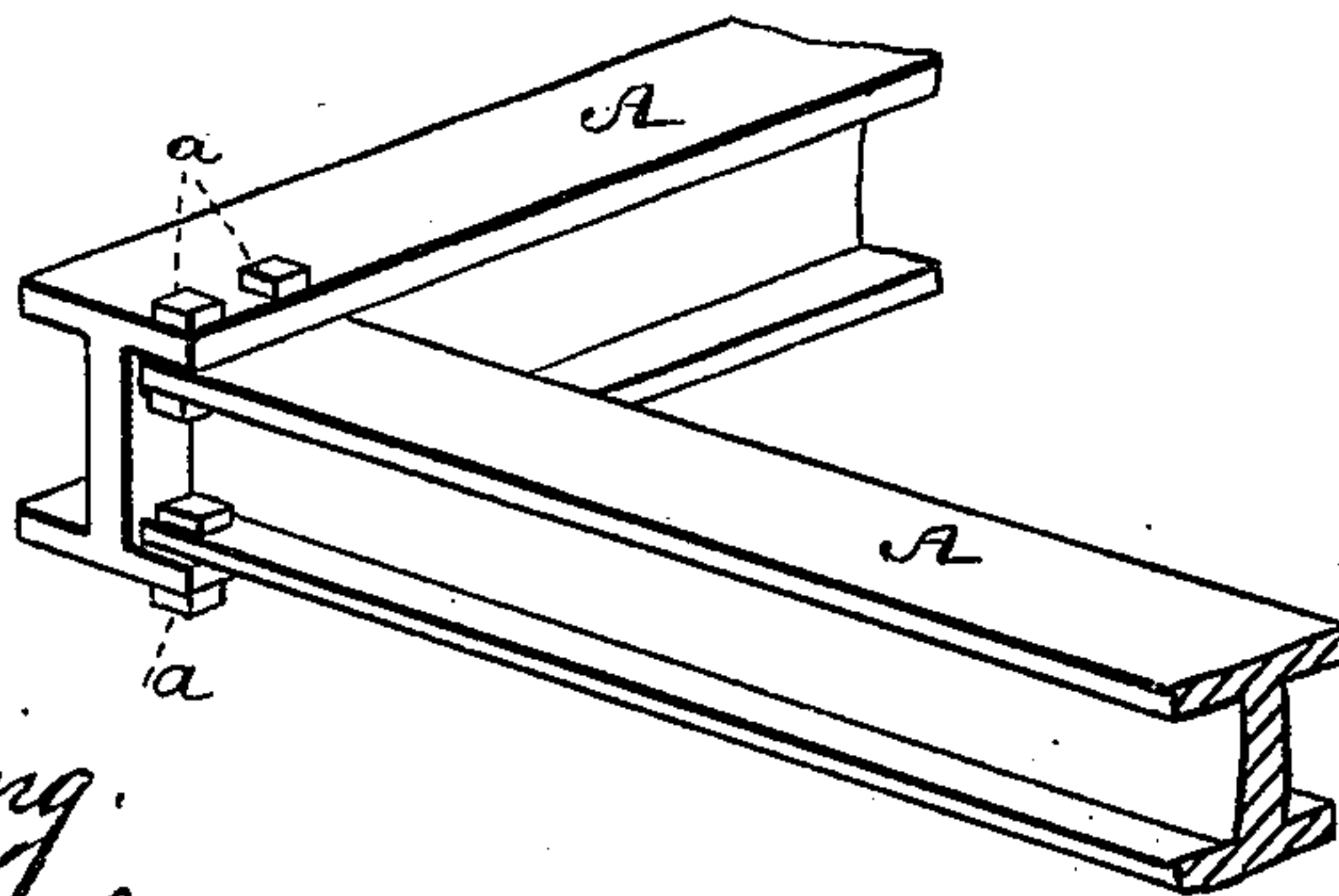


Fig. 4.



Witnesses,
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UNITED STATES PATENT OFFICE.

IRA H. BRADSHAW, OF SAN LEANDRO, CALIFORNIA.

HEADER.

SPECIFICATION forming part of Letters Patent No. 248,633, dated October 25, 1881.

Application filed March 12, 1881. (No model.)

To all whom it may concern:

Be it known that I, IRA H. BRADSHAW, of San Leandro, county of Alameda, State of California, have invented an Improvement in Headers; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in the construction of headers; and it consists, first, in the employment of iron having an H-section peculiarly united to form the frame of the machine; secondly, in a novel construction of the sickle-bar; and, thirdly, in certain details of construction, as hereinafter fully described and specifically claimed.

It further consists in a novel means for raising and depressing the sickle-bar, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my apparatus. Fig. 2 is a top or plan view. Fig. 3 is an enlarged view of the cutter, cutter-bar, and operating-lever. Fig. 4 is a perspective view, showing the construction of the frame.

A is the frame of my machine, supported upon bearing-wheels B, and having the pole C projecting to the rear, and supported upon the usual steering-wheel. The frame-work of these machines is usually made of wood, and from the large size of the frame is not very stiff, while the shrinkage of the wood and the constant strains upon it loosen the joints in time, so that the whole machine is apt to twist and get out of shape. To overcome this and produce a strong, stiff, and light frame, I take iron which I have rolled into a form which gives a cross-section like a letter H. The bars forming the sides and ends of this frame are so placed that the central rib stands vertically, while the broad flanges lie horizontally above and below, forming the top and bottom of the frame. At the angles where the sides and ends of the frames meet the projecting top and bottom flanges of one part of the frame overlap those of the other, as shown in Fig. 4, and they are bolted together by bolts *a*, the ends of the side frames butting closely against the vertical ribs of the end bars.

The sickle-bar D is formed of an iron-plate, consisting of a vertical rib having across its top a transverse plate projecting farther to the front

than the rear of the rib. The lower edge of the rib is bent at an angle inward, as shown in Fig. 3, which gives it a greater stiffness at this point, and the rib is secured to the irons E, which are bolted to the timbers F of the draper-bed, and are bent up, as shown, to receive the lower part of the flange or rib. This construction produces a very strong, rigid, and light sickle-bar. The fingers G extend beneath the top plate of the sickle-bar D, and rivets pass down through the front extension of the plate into the ends of the fingers, thus securing them rigidly in place. Guides H are riveted to the top of the plate at intervals, to hold the sickle in place. In order to use a central driving-lever to operate the sickle, the vertical rib of the sickle-bar has a horizontal slot cut through it to admit the arm I of the driving-lever to pass through and allow space for it to oscillate. This arm is bent upward in front of the rib, and extends up close beneath the horizontal top plate, where it is again bent so as to extend forward and enter a hole in the lug J, which is secured to the central part of the sickle on the lower side, as shown. By this construction I am enabled to drive the sickle from the lower side of the sickle-bar. The bar P is bolted to the inside of the vertical rib at a point sufficiently below the top flange to admit the front edge of the draper, which runs between them, and is supported upon the bar P.

In order to reduce the weight which must be carried upon the driving and guiding pole to counteract the strain upon the front of the machine, I have devised a novel method of raising and depressing the front and the sickle-bar. Instead of extending the lever K, by which these movements are controlled, to the front of the machine, it extends to a point just above the rear part of the frame, and is connected therewith by a bar, L, which is loosely jointed to the frame at its lower end. A standard or fulcrum, M, supports the lever from the inner end of the pole, while the pole is connected with the frame by a strong angle-iron, N, which is also hinged to the frame at O. The action of my lever will be to depress the sickle-bar when the lever is depressed and raise it when raised, the fulcrum about which the frame turns being the wheel-base. This gives me a sort of

compound lever having much greater power than the usual form, being easier to work, and needing less counterbalancing-weight upon the tongue or pole. By this construction I am enabled to provide a strong, light, and stiff header-frame and sickle-bar, and also to drive the sickle by a centrally-operating lever and mechanism in front of the sickle-bar.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The improvement in constructing header-frames, consisting in the employment of I-shaped iron having the ends of the side bars fitted between the overlapping flanges of the end bars, so as to rest against the vertical central rib, and then bolting the flanges together, substantially as herein described.

2. The sickle-bar consisting of the vertical rib bent at an obtuse angle at the bottom and secured to the iron supports E, and having the transverse flanges of unequal width at the top, in combination with the fingers G, riveted to the lower side, and the sickle-guides H, secured to the upper side of the front flange, substantially as herein described.

3. The sickle-bar D, consisting of the vertical rib, with its transverse flanges at the top, said rib being slotted horizontally, in combination with the vibrating bar, having the cranked arm I in front of the rib, and connected with the sickle by the lug J, so as to oscillate it from below, substantially as herein described.

4. In a header, the sickle-bar consisting of the vertical rib having its lower edge bent at an angle, and having at the top the transverse flange to support the fingers, sickle, and guides, as shown, in combination with the vibrating cranked lever I, passing through a slot in the rib and driving the sickle from below, and the bar P, bolted to the inside at the rib to support the edge of the draper, substantially as described.

In witness whereof I have hereunto set my hand.

IRA H. BRADSHAW.

Witnesses:

GEO. H. STRONG,
FRANK A. BROOKS.