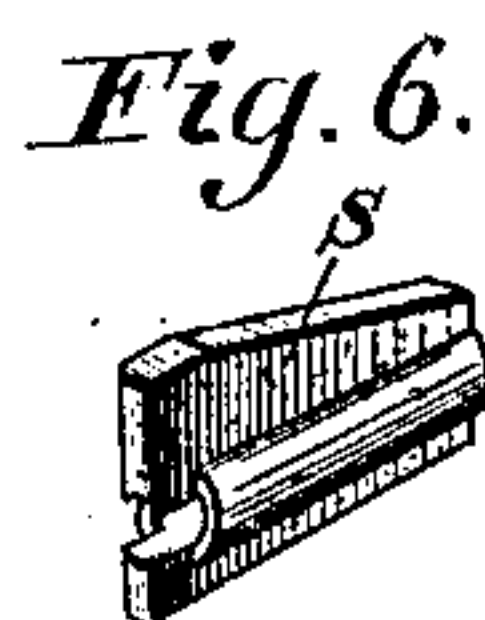
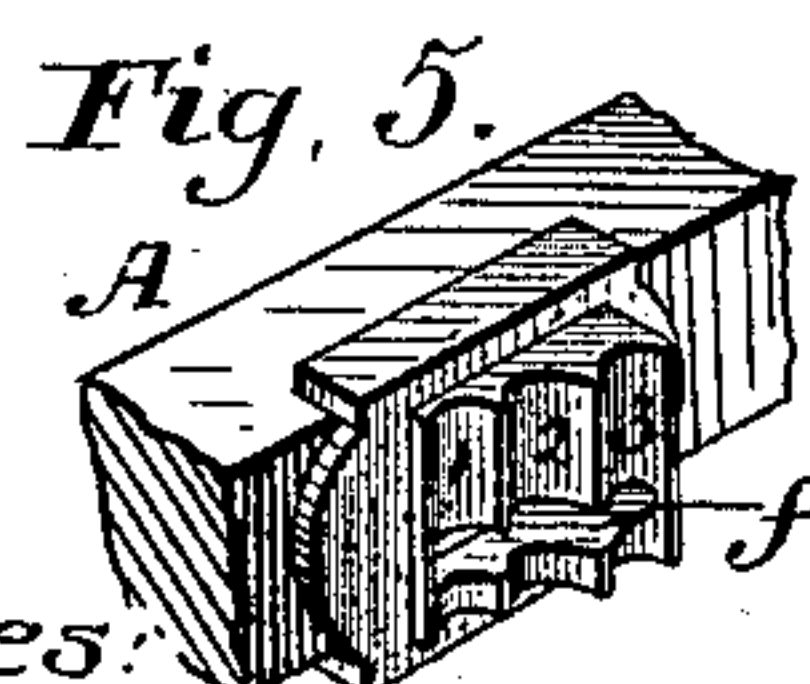
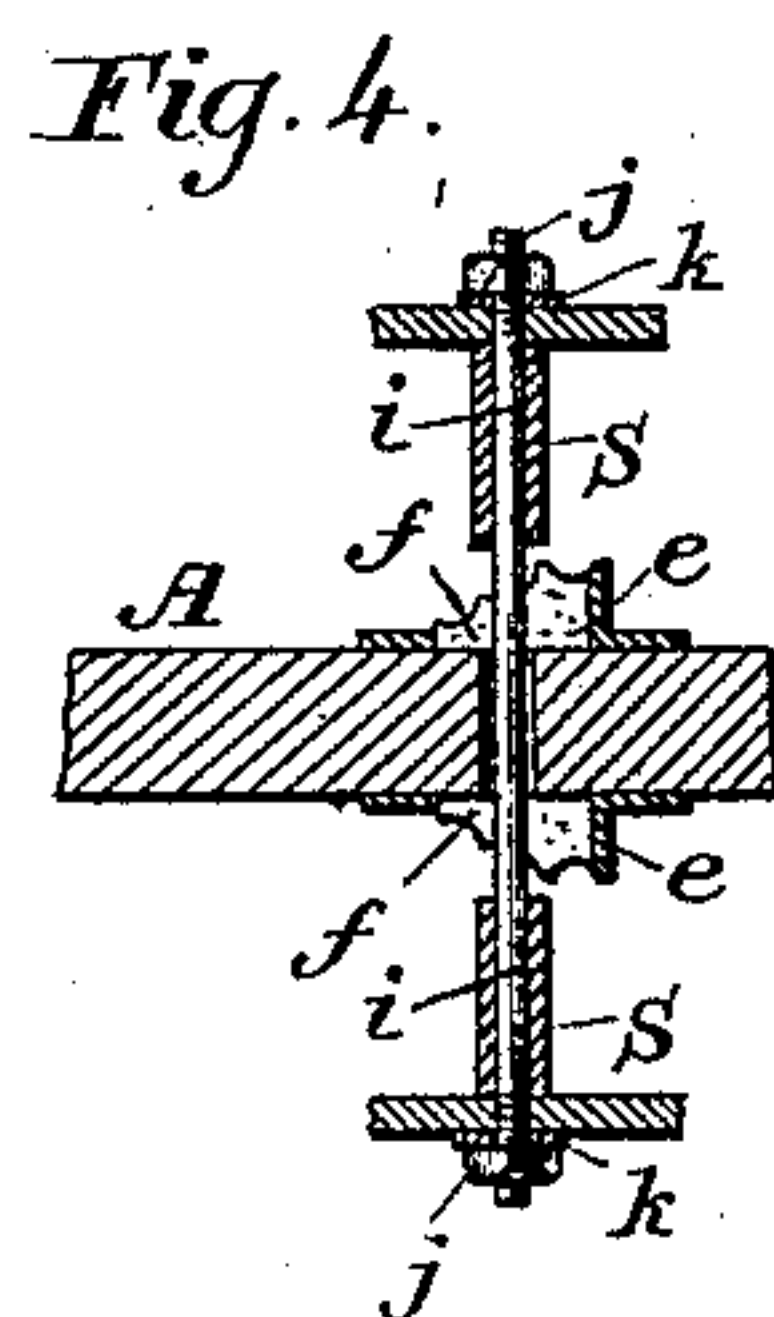
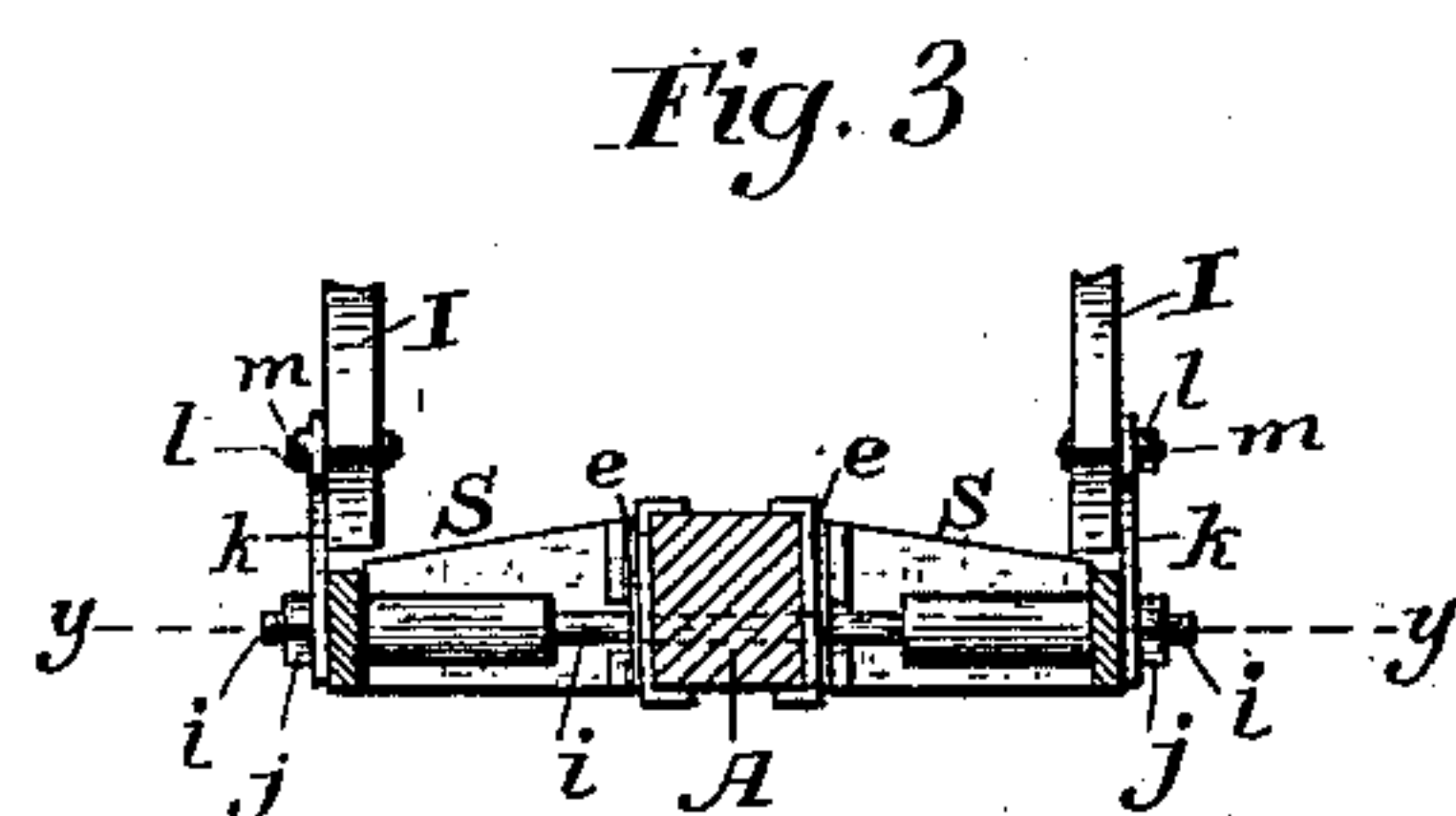
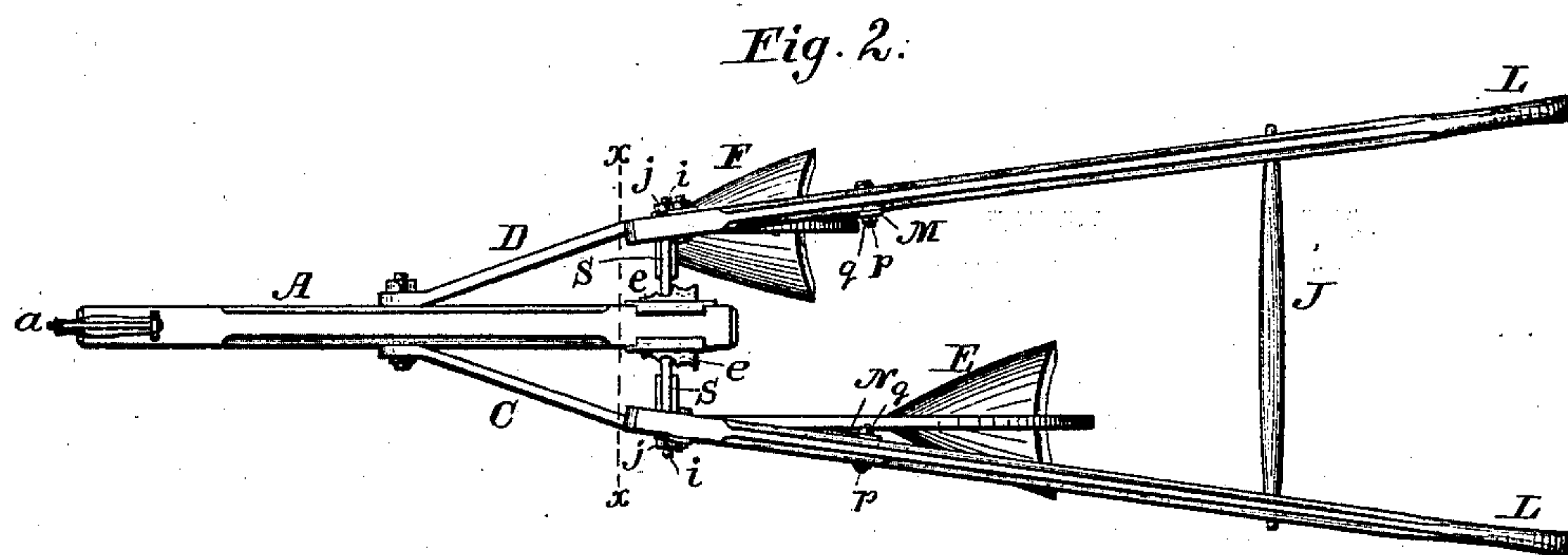
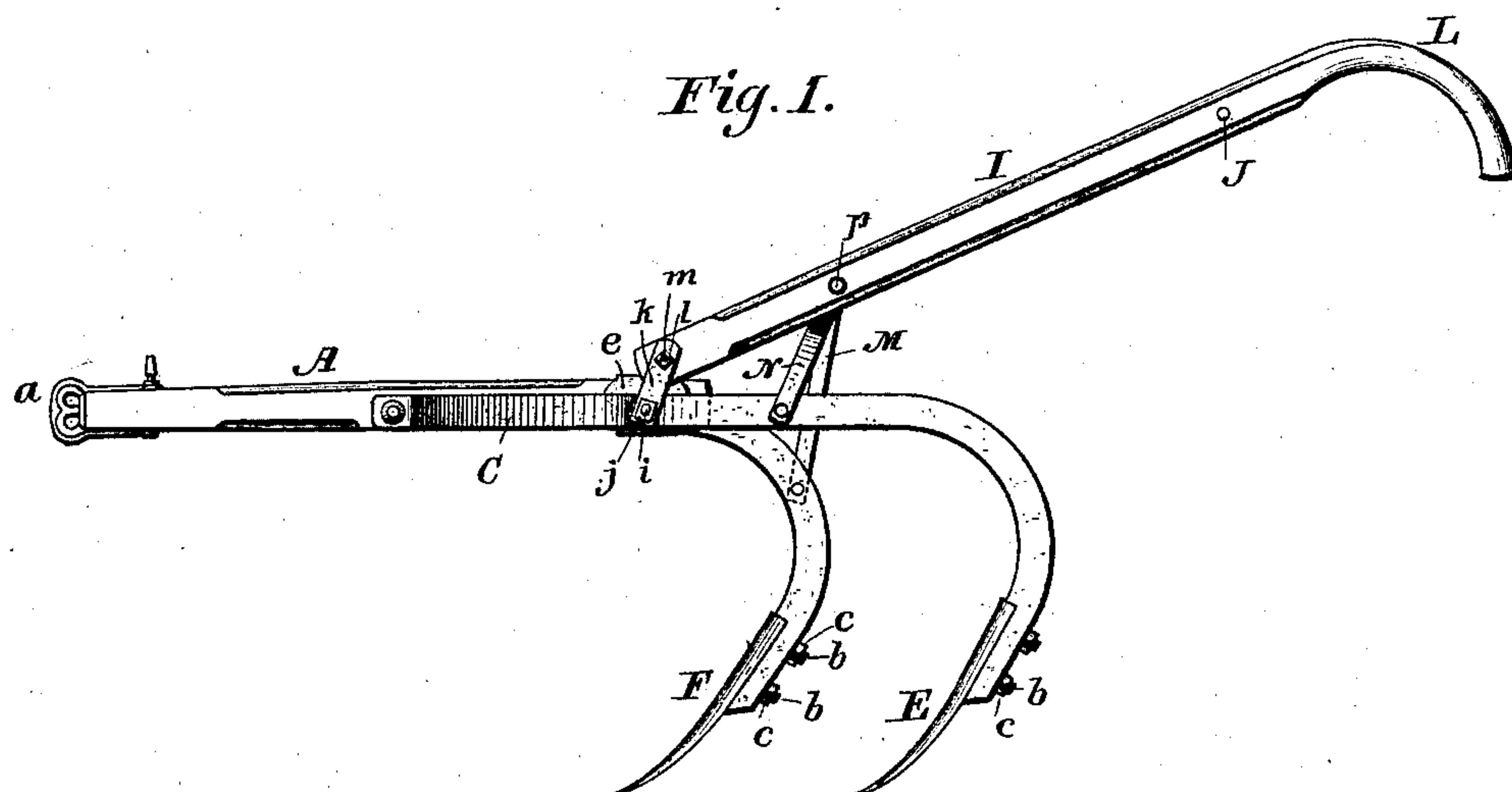


(No Model.)

G. C. AVERY.
DOUBLE SHOVEL PLOW.

No. 285,723.

Patented Sept. 25, 1883.



Witnesses:

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Jacob Felbel.

Inventor:

Geo. C. Avery.
by atty.
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UNITED STATES PATENT OFFICE.

GEORGE C. AVERY, OF LOUISVILLE, KENTUCKY.

DOUBLE-SHOVEL PLOW.

SPECIFICATION forming part of Letters Patent No. 285,723, dated September 25, 1883.

Application filed March 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. AVERY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful
5 Double-Shovel Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

10 My invention relates to certain new and useful improvements in cultivating implements; and it consists, essentially, in the novel features of construction, which will be hereinafter more fully explained, (and which will be
15 particularly specified in the claim of this application,) in what I denominate an "expanding, wooden beam, iron standard double-shovel plow."

To enable those skilled in the art to which
20 my invention relates to understand and practice the same, I will now proceed to more fully describe the construction and operation of a double-shovel plow embracing my improvements carried out in that form in which I
25 have so far successfully practiced my invention, (and which is the best form for carrying out the same now known to me,) referring by letters to the accompanying drawings, which make part of this specification.

30 In the drawings, Figure 1 is a side elevation. Fig. 2 is a top view. Fig. 3 is a partial vertical section at the line *xx* of Fig. 2, enlarged scale. Fig. 4 is a partial horizontal section at the line *yy* of Fig. 3, enlarged scale.
35 Fig. 5 is a detail view, on a somewhat enlarged scale, showing in a detached condition one of the shoe-pieces or castings applied to the rearmost portion of the wooden beam of the plow; and Fig. 6 is a detail view, on a like
40 scale, showing detached one of the brace-blocks or pieces which serve to hold apart the rearmost portion of the wooden beam of the plow and the metallic standards or beams which carry the shovels, and which are arranged on
45 either side of said wooden beam.

In the several figures the same part will be found designated by the same letter of reference.

A is the main wooden beam of the plow or
50 implement, provided, as usual, at its forward

end with a clevis, *a*, and having secured to it on either side, at or near its middle, (endwise,) the forward ends of the two metallic beams or bearers C and D, which carry at
their lower downwardly-curved ends, respectively, the shovels or blades E and F, the said
55 blades being secured in about the usual manner, as shown, to the depending portions of the metallic beams C and D by means of bolt-like studs *b*, which pass through the support-
60 ing-standards, and are secured thereto by means of the usual nuts, *c*, all as plainly shown in the drawings. The metallic shovel-carrying beams C and D diverge rearwardly from
their forward ends at either side of the main
65 wooden beam A until they reach points nearly opposite the rear end of said wooden beam, from whence they run rearwardly in directions about parallel with each other and with the
70 direction of length of the main beam A, as best seen at Fig. 2, one of them extending rearwardly some distance before it descends, while
the other is curved downwardly at a point
some distance in advance of that at which descends the first mentioned, as best seen by ref-
75 erence to Fig. 1.

Near the rear end of the wooden beam A is arranged, on either side of it, metallic shoe pieces or castings *e*, which, as shown, are
80 formed with inwardly-projecting flanges at their upper and lower edges, which overlap the top and bottom surfaces of said wooden beam A and adapt the said shoe-pieces to
move or slide longitudinally on the beam A, in a manner and for the purpose to be pres-
85 ently explained. The said shoe-pieces are also slotted longitudinally, as clearly shown at *f*, Fig. 5, and are formed with a series of
notched steps, 1 2 3, for the accommodation of the inner ends of two brace-blocks or metallic
90 stays, S S, which are arranged or located between said shoe-pieces and the inner sides of the metallic beams C and D, as clearly illustrated. These blocks or stay-pieces are per-
forated longitudinally for the accommodation
95 of a tie-rod, *i*, which passes through both of them, and also through the slots of the shoe-pieces, as well as through a slot in the rear-
most portion of the wooden beam A and bolt-
100 holes in the metallic shovel-beams C and D,

the said tie-rod being provided at each of its screw-threaded ends with an ordinary nut, such as shown at *j j*. Confined between the faces of said nuts and the outer faces of the metallic beams C and D are the lower ends of two upwardly-projecting metallic standards, *k k*, to the upper ends of which are secured, by bolts *l* and nuts *m*, the forward lowermost ends of the handles or handle-beams I of the implement, the said handle beams or bars extending backwardly in a diverging manner, and being united near their rearmost ends by a wooden cross-bar, J, and being formed with curved hand pieces or portions at L, all in about the usual and well-known manner.

A short distance in rear of the points at which the forward ends of the handle-beams are attached to the metallic standards, as just explained, are located two metallic links or thin flat bars, M and N, which, as shown, are pivoted, respectively, at their lower ends to the metallic shovel-beams, and which are connected, respectively, at their upper ends to the inner faces of the handle-pieces by means of bolts *p* and nuts *q*, each of said bolts passing through a hole made in one of the handle-beams, and through any one of several holes made in the upper portion of the metallic bars or braces, in which said bolt may be placed at the option of the user of the implement for the purpose of adjusting the handle-pieces, as may be desired.

In the drawings I have shown the devices by means of which I am enabled to set and hold the shovel-beams and their shovels at various distances apart, adjusted or arranged so that the metallic blocks S S have their inner and adjacent ends seated on the middle notched steps of the shoe-pieces *e*; and it will be understood that this represents the medium distance apart at which the shovels may be set, while by an adjustment of the notched shoe-pieces, so as to have the inner ends of said metallic blocks seated in the notched steps 3, the shovels will be set and held at the maximum distance apart, and by a different adjustment of the parts, so as to have the inner ends of the said metallic blocks seated in the notches *l l* of said shoe-pieces, the said shovels will be set and held at the minimum distance apart.

From what has already been said in connection with the drawings, forming part of this specification it will be understood that in the operation of my improved cultivating implement the shovels or blades may be set at various distances apart (to adapt the machine for operation where the furrows in the ground are different distances apart) by simply loosening the nuts *j j*, then shifting or sliding the shoe-pieces *e* so as to bring a different set of their notched steps in line with the metallic blocks S S, which are hung on the tie-rod *i*, and then retightening or screwing up the said nuts *j j*, so as to securely hold in place the adjustable parts referred to; and it will be seen that this

longitudinal adjustment of the shoe-pieces *e* for the purpose mentioned is permitted by reason of the said shoe-pieces being slotted longitudinally, to permit the requisite extent of motion, while the tie-rod *i* remains always in the same position. Of course the said shoe-pieces may be made with a greater or less number of notched steps, and the other details of construction of the devices, by means of which I accomplish with facility the setting and holding at different distances apart of the metallic shovel-beams, may be varied without departing from the principle of my invention, so long as the construction and operation are such, as described, that by means of a single tie-rod passing through the shovel-beams and through the central wooden beam, A, and suitable devices for chocking or bracing the inner or adjacent surfaces of the metallic shovel-beams against portions of the sliding shoe-pieces, which project more or less, and nuts or other devices for clamping and holding (securely in adjustment) the said chocking-pieces, are employed.

It will be observed that the tie-rod *i* is located in a plane or at a level somewhat below that of the middle of the wooden beam A—that is, considerably nearer to the lower edge of the surface of said beam than to its uppermost surface—and that consequently the hole in the beam A, and also the slots in the metallic shoe-pieces *e*, bear a similar relationship to the middle of the wooden beam A. The object and effect of this relative arrangement of the parts is that the contrivance may be better capable of withstanding the downward pressure or strain which occurs at the rear end of the main beam A when the draft-power is applied to the clevis during the operation of the cultivator. It will be understood that the downward tendency of the rear end of beam A excites a tendency at the lower inner portions, *x x*, of the pieces S S to move or spring away from their bearings against the vertical sides of the shoe-pieces *e* in arcs of motion, the centers of which would be at the points *y y*, and that hence the lower down the tie-rod *i* (which holds the parts together) be placed the better will it possess the necessary capacity to overcome any such tendency of the parts to separate, and the more efficient will the organization be.

I do not of course wish to be understood as limiting my claim of invention to any particular form of cultivating implement to which my improvement may be applied, or to which it may be adapted by mere modifications; but,

Having so fully explained the construction and operation of a cultivating implement such as I have so far applied my invention to in practice, what I claim as new, and desire to secure by Letters Patent, is—

In combination with the usual beam, A, and the shovel or blade carrying beams C and D, longitudinally-adjustable metallic shoes or their equivalent arranged on either side of the rear portions of the beam A, and provided with

step-like projections 1, 2, and 3, intermediate
blocks or chocking-pieces, SS, adapted to op-
erate as stays or braces between the inner faces
of the shovel-beams and the step-like projec-
5 tions of the metallic shoes, and a suitable tie-
rod and nut, or the equivalents thereof, for
clamping or holding in place (when adjusted)
the said stay-pieces and the said metallic shoes,

all substantially in the manner specified, and
for the purposes set forth.

In testimony whereof I have hereunto set
my hand this 19th day of March, 1883.

GEORGE C. AVERY.

In presence of—

GEO. PORTEOUS,
W. C. GATES.