

(No Model.)

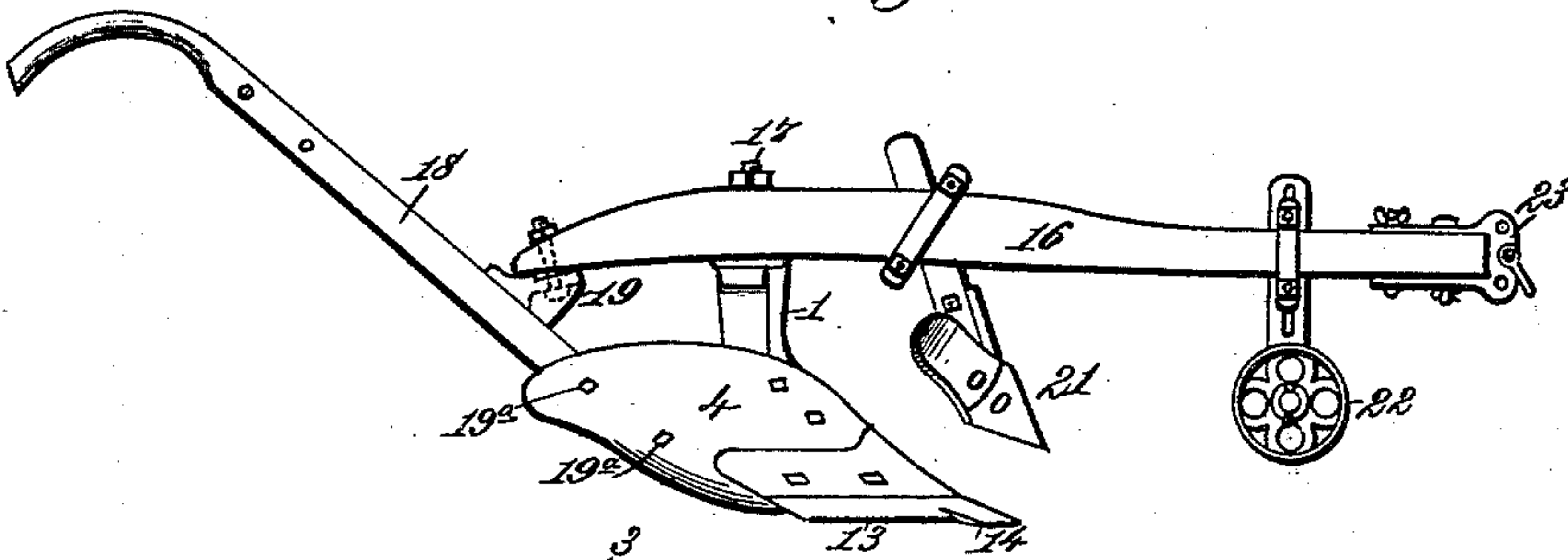
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W. MILLER & T. ANDERSON.  
PLOW.

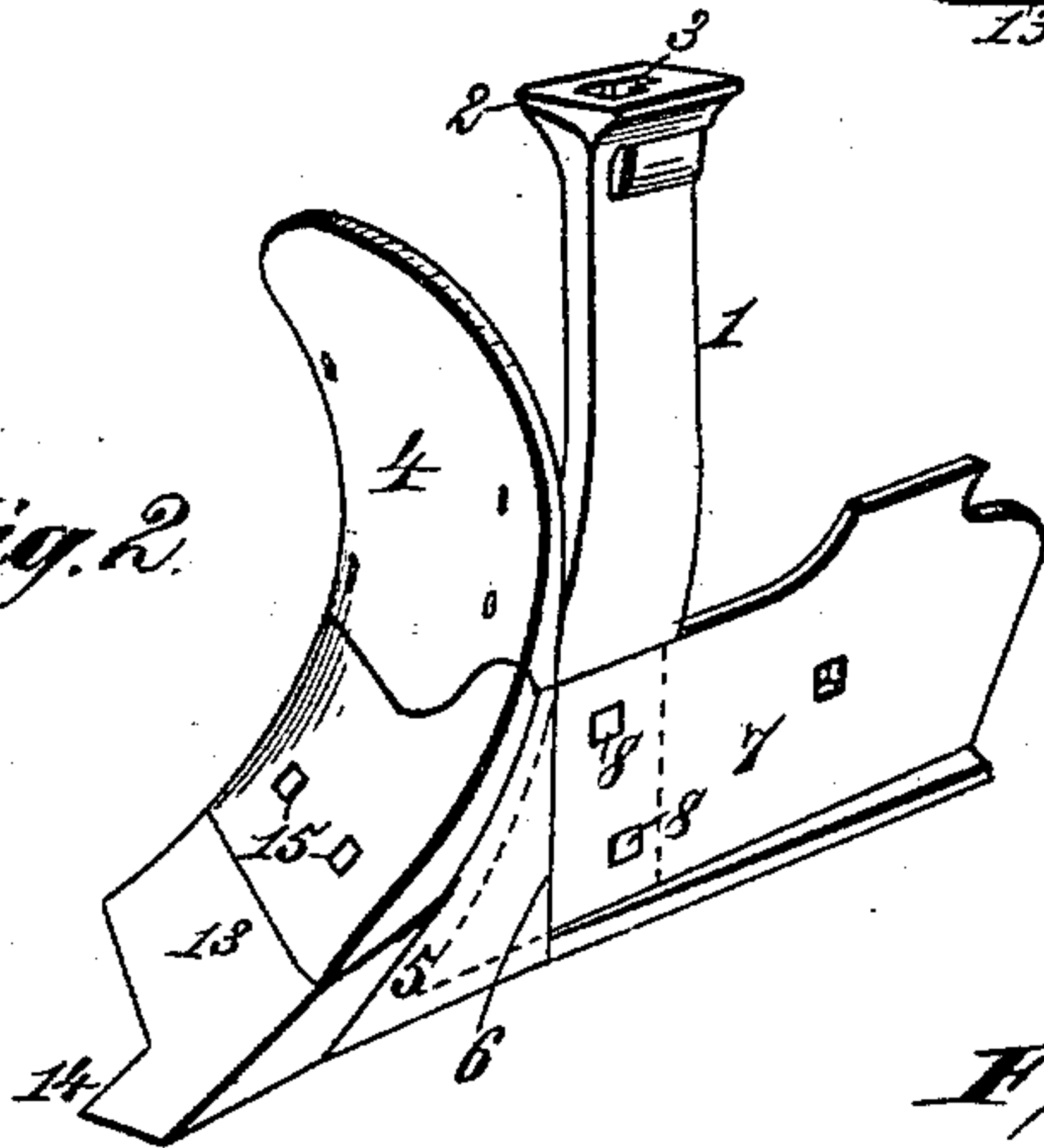
No. 420,350.

Patented Jan. 28, 1890.

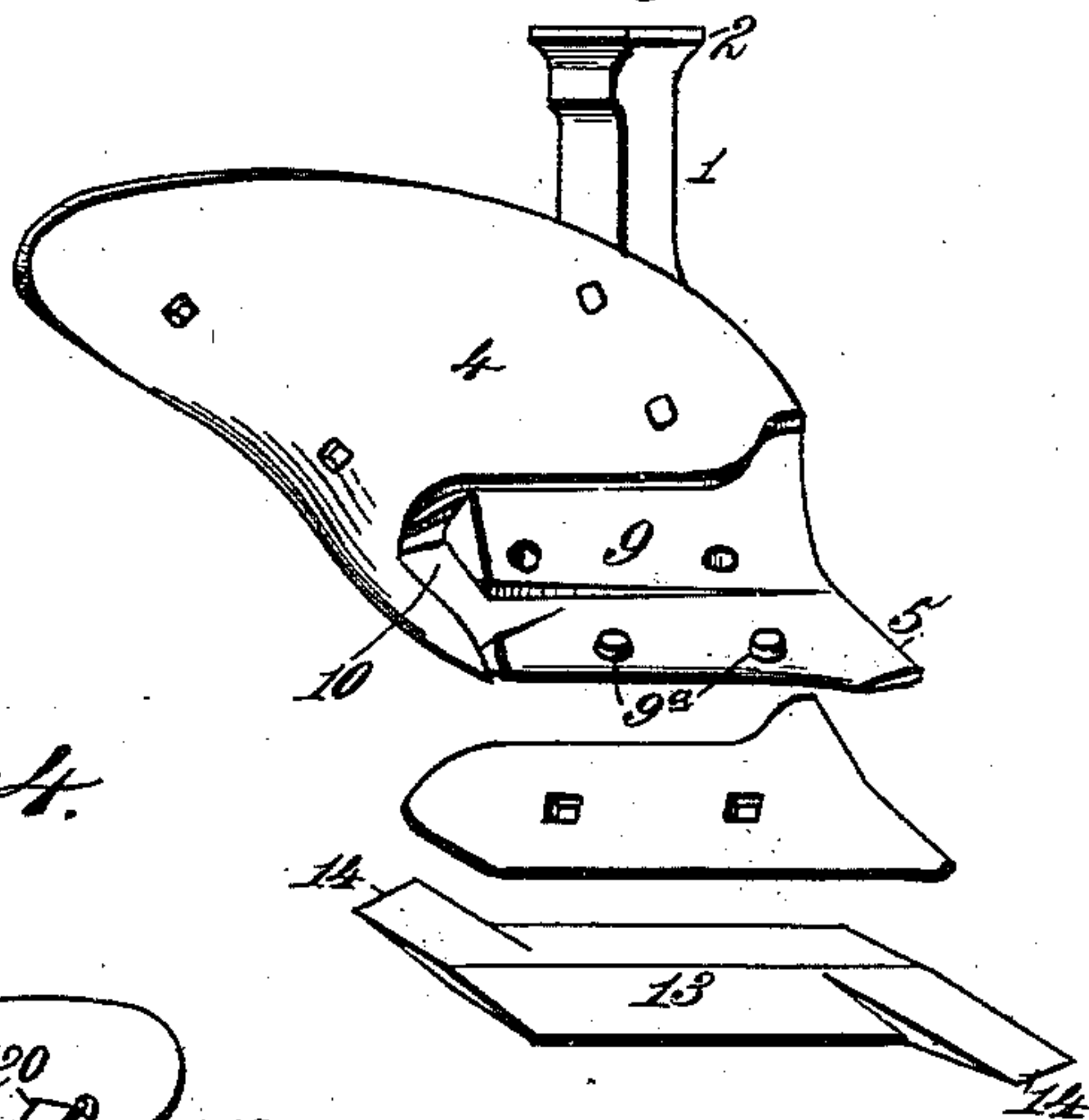
*Fig. 1.*



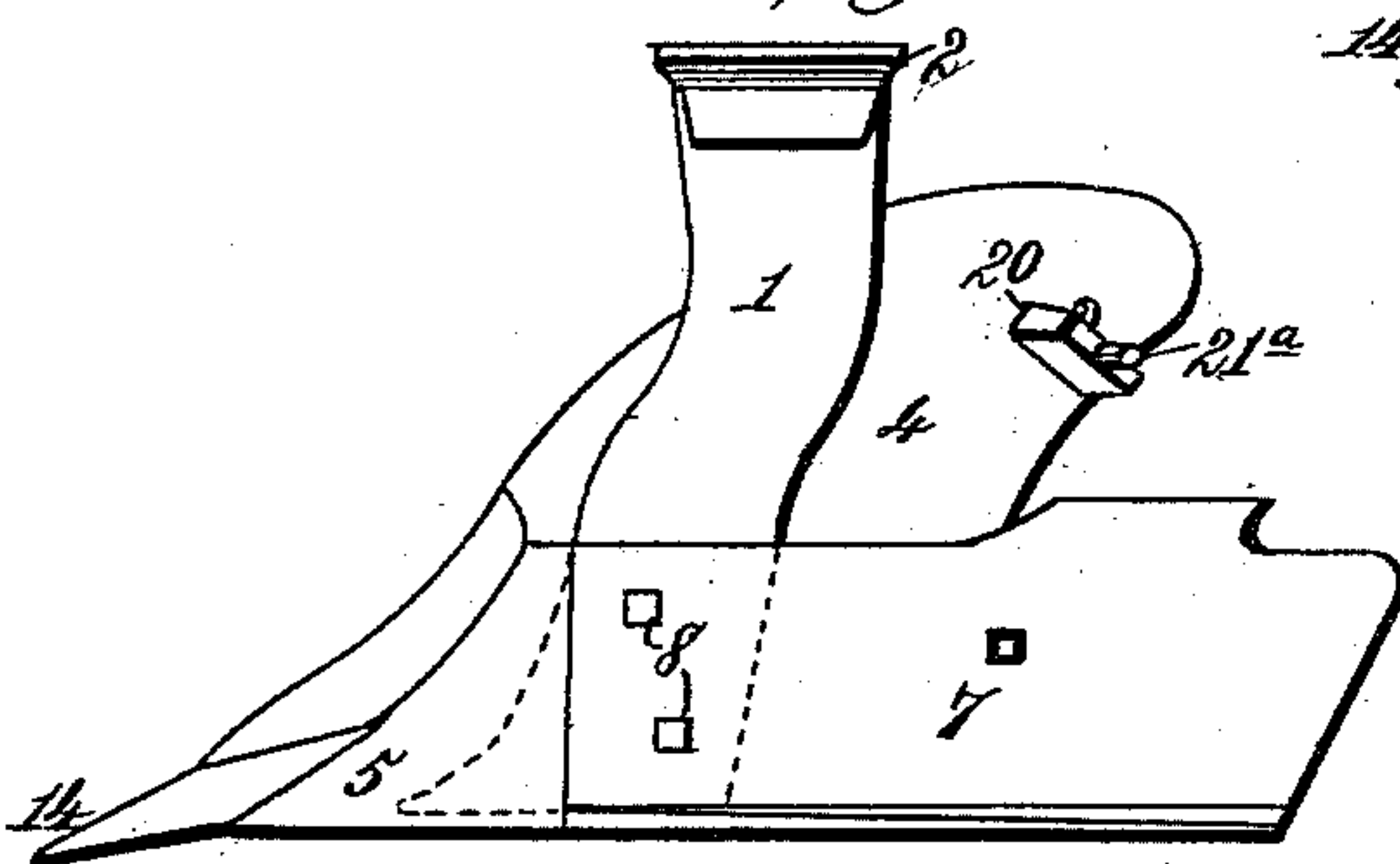
*Fig. 2.*



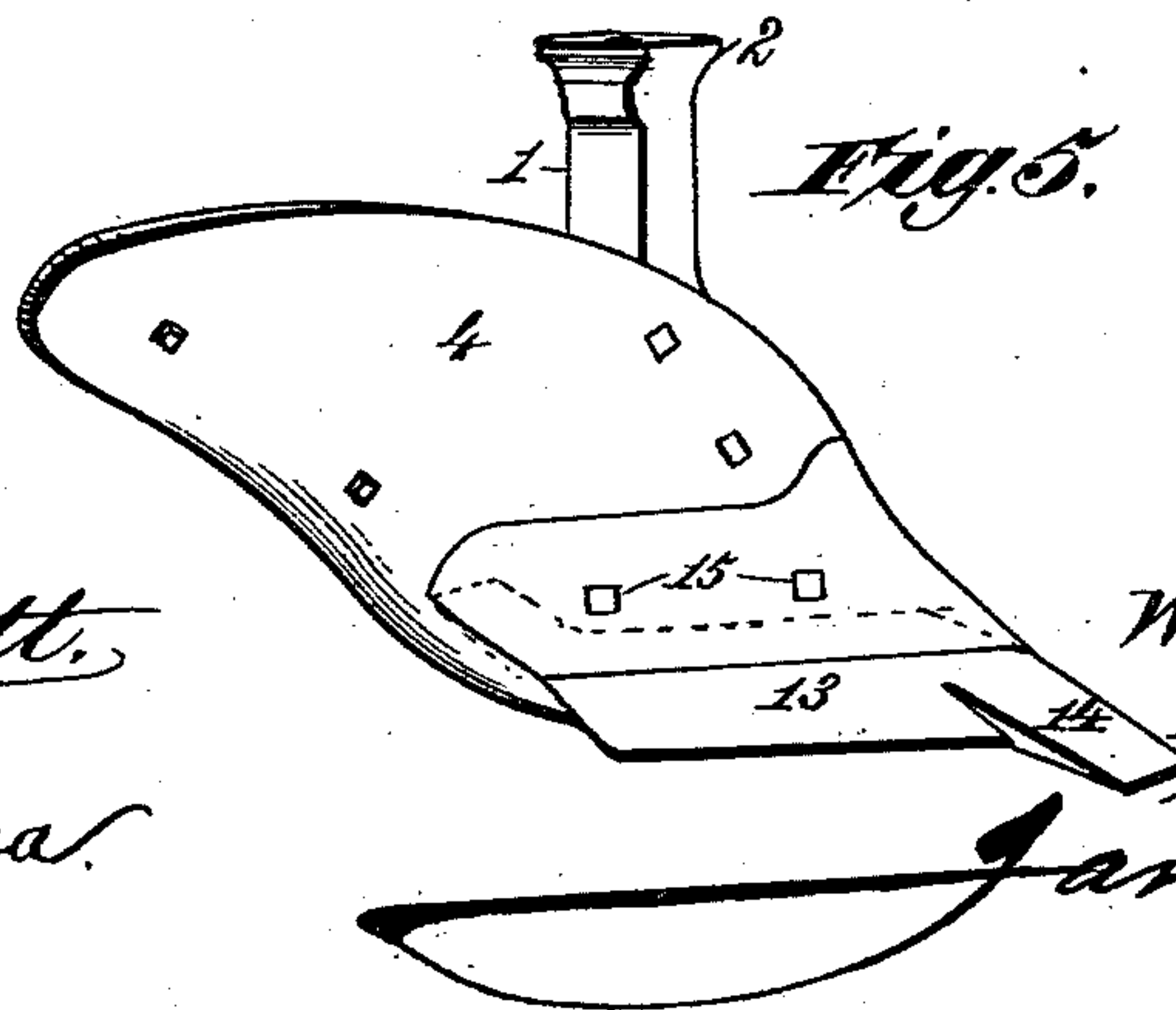
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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*William Miller.*  
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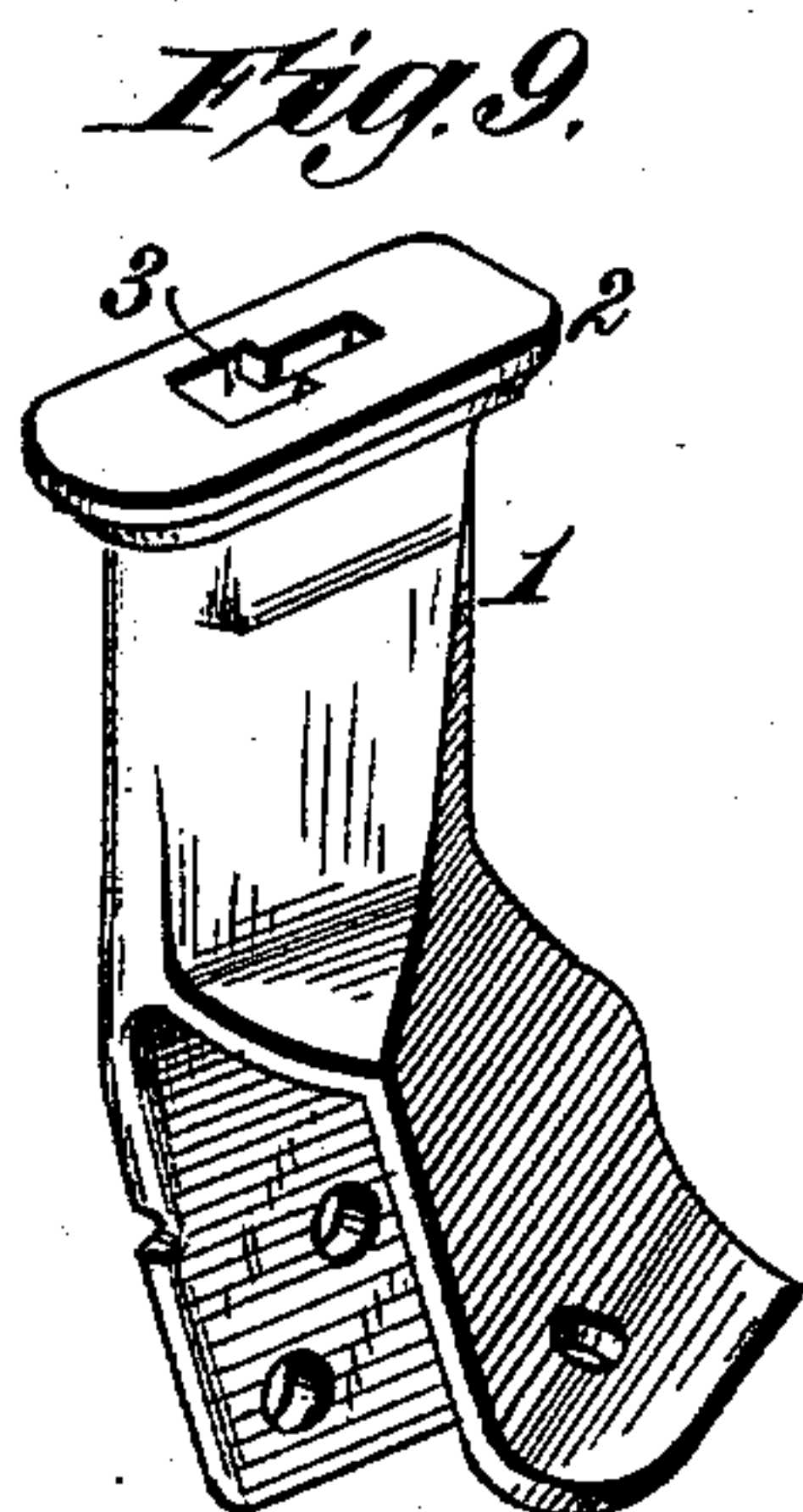
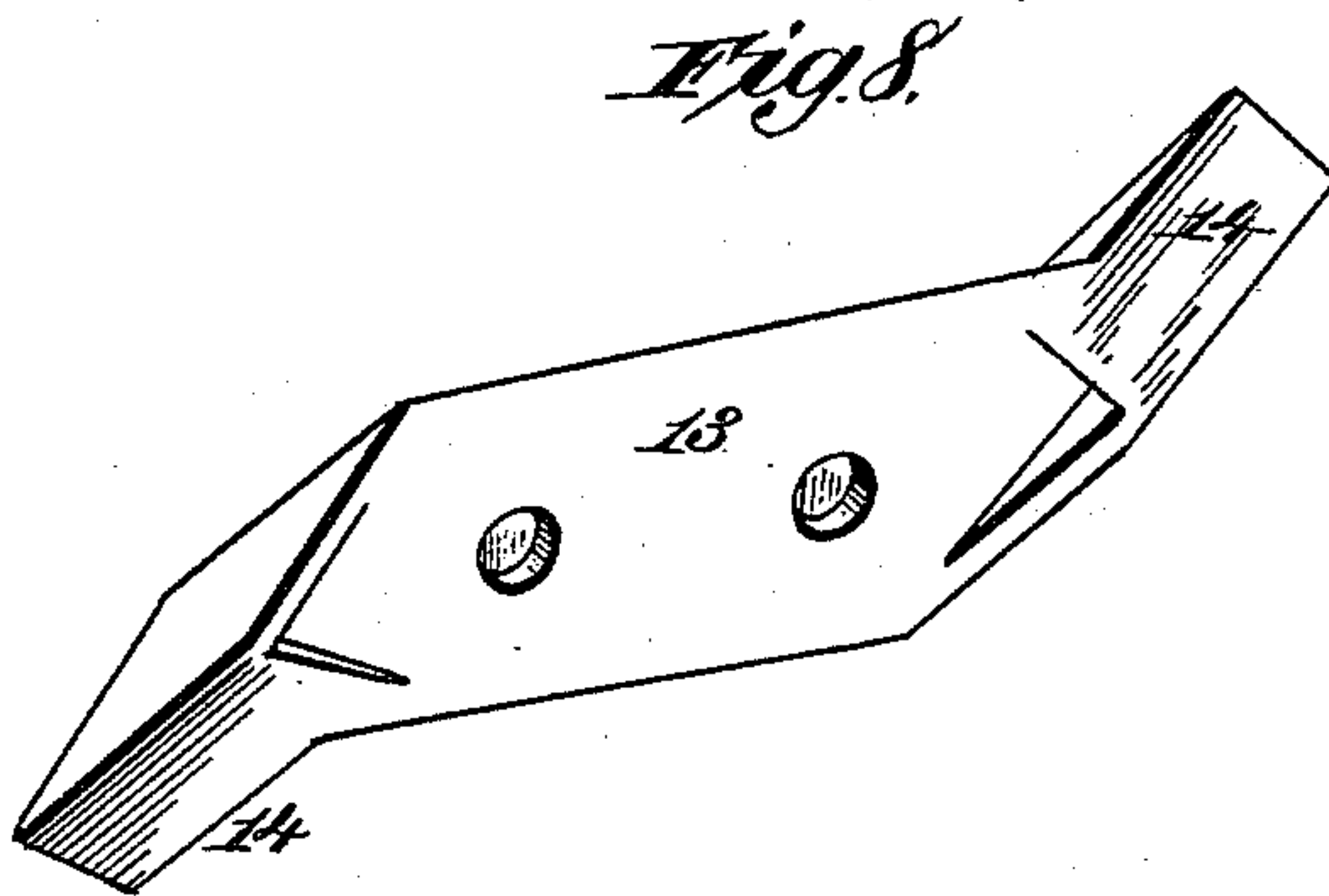
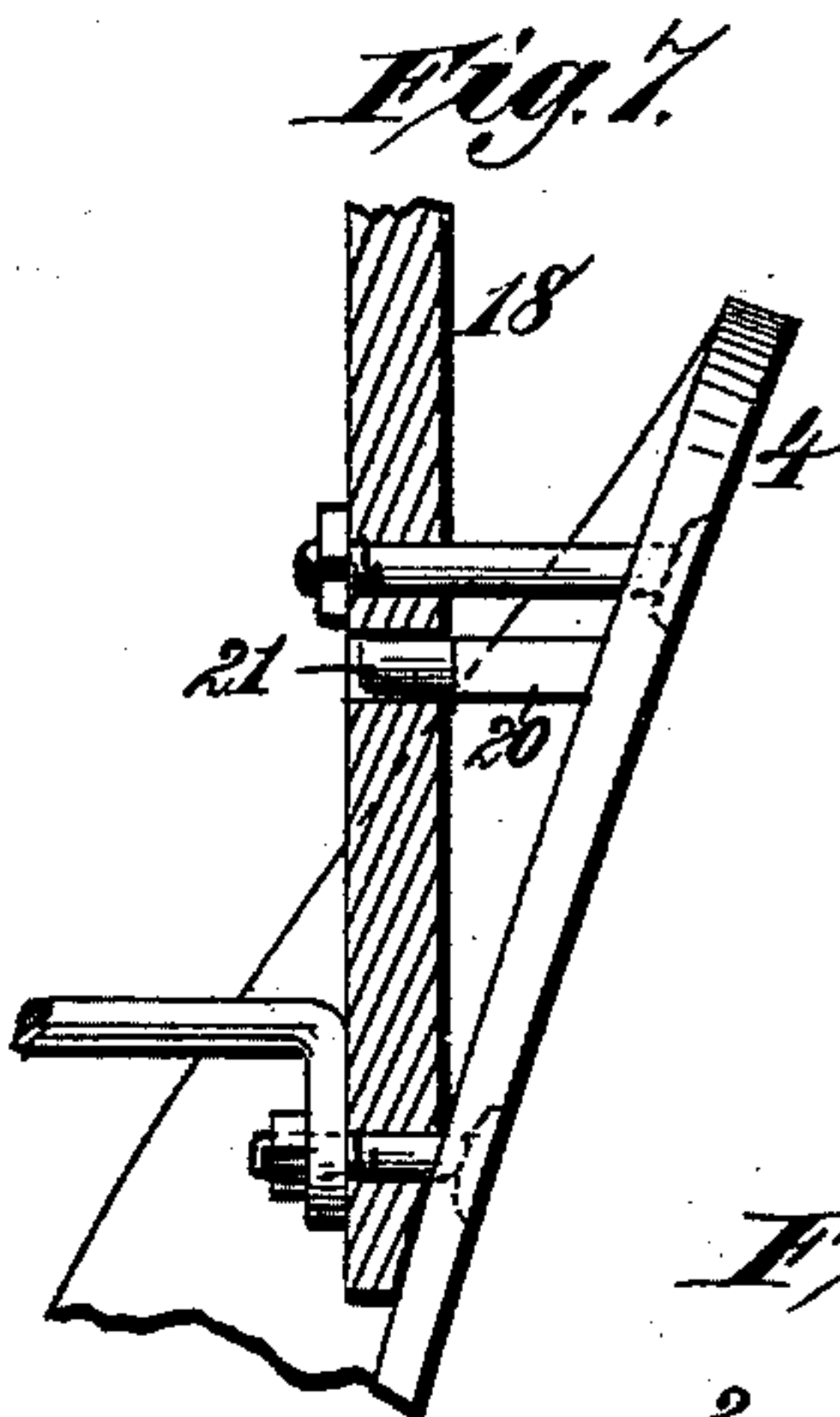
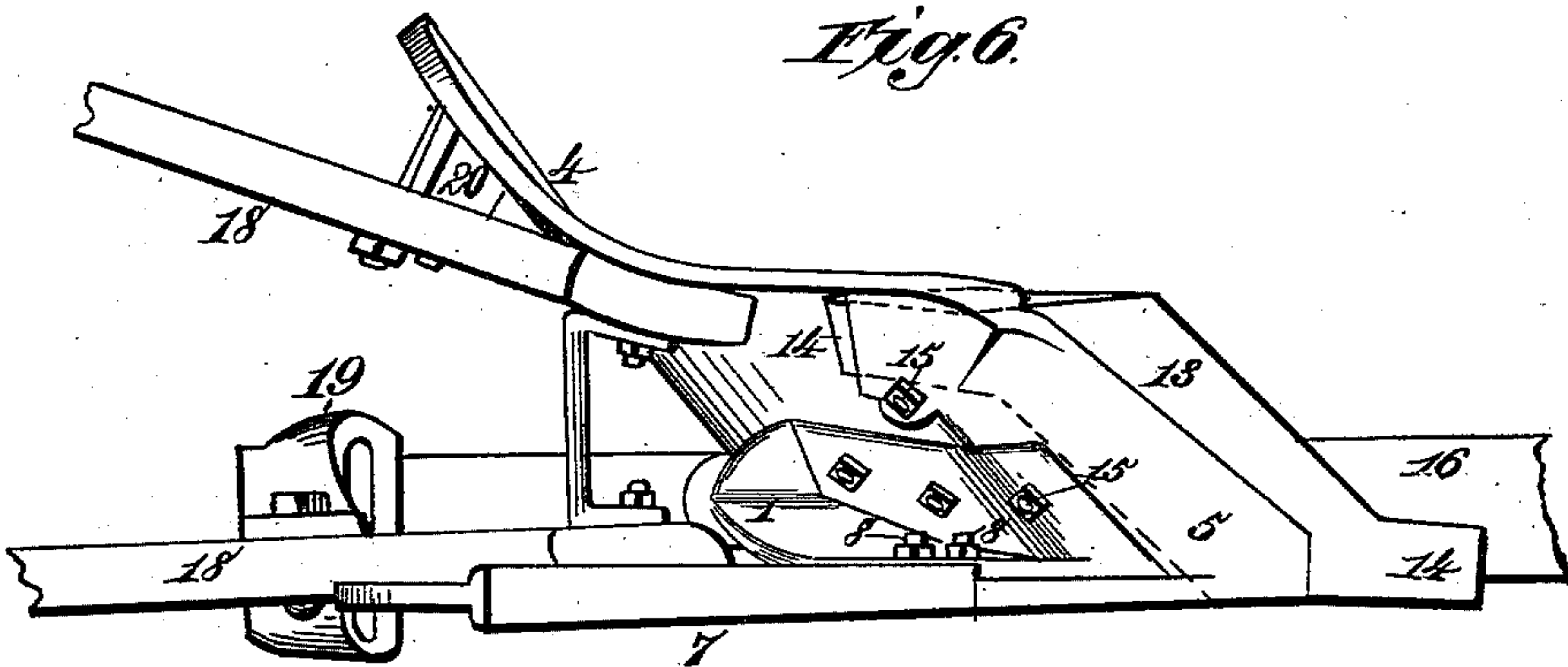
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# UNITED STATES PATENT OFFICE.

WILLIAM MILLER AND THOMAS ANDERSON, OF AVONDALE, PENNSYLVANIA.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 420,350, dated January 28, 1890.

Application filed September 28, 1889. Serial No. 325,392. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM MILLER and THOMAS ANDERSON, both citizens of the United States, residing at Avondale, in the county of Chester and State of Pennsylvania, have invented new and useful Improvements in Plows, of which the following is a specification.

Our invention relates to the manufacture of plows; and the purpose thereof is to so construct and combine the mold-board, share, landside, and standard as to give additional strength and durability to the plow and reinforce the mold-board while the entire strain and wear falls upon the mold-board base, which forms an integral part of the mold-board.

It is our purpose, also, to provide a novel and simple construction and combination of parts whereby the mold-board, the mold-board base or point, the share, shim, and landside are all formed in single castings and united together and to the standard by bolts, none of which pass through the point or mold-board base.

It is our purpose, finally, to provide a simple construction and organization of parts whereby the standard, the mold-board and point, or mold-board base, and the landside shall be cast in separate parts and united by bolts passing through the landside, standard, mold-board, and shim, the latter overlying the reversible share and confining it in place without bolts.

The invention consists in the several novel features of construction and combination of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of the plow. Fig. 2 is a perspective of the mold-board and point, the standard, the share, the shim, and landside. Fig. 3 is a side elevation of the parts shown in Fig. 2 slightly separated. Fig. 4 is an elevation of the plow looking toward the landside. Fig. 5 is a view showing the mold-board, shim, and share united. Fig. 6 is a bottom plan view of the plow. Fig. 7 is a detail elevation and section of a portion of the mold-board, showing the manner of connecting same to the plow-handle. Fig. 8 is a

detail view of the share. Fig. 9 is a detail perspective of the plow-standard.

In the said drawings, the reference-numeral 1 designates the plow-standard, which is cast with a head 2, adapted to lie under the plow-beam, to which it is united by a bolt engaging with a bolt-seat 3. Upon the standard is cast the usual foot-piece, containing seats for the landside and mold-board.

The numeral 4 denotes the mold-board, which is cast integral with the mold-board base or point 5, the latter having a square vertical shoulder 6 on the landside side. This shoulder passes from the forward edge of the standard down to its base, and the landside 7 is attached to its seat on the standard, its forward end lying behind the shoulder 6 and flush outwardly with the shoulder, and with the mold-board base 5. Two bolts 8, passing through the end of the landside, connect it firmly to the standard.

The mold-board is formed with a depressed seat or base 9, which receives the shim and gives a flush outer surface with the mold-board. This seat is cut away at one end, leaving a recess 10 in the mold-board, which is covered by the end of the shim.

The share is formed of a single casting 13, having reverse points 14, one of which lies within the opening 10, and is covered by the end of the shim. The body of the share rests upon the lower border of the seat 9, which is provided with nipples 9<sup>a</sup>, entering recesses in the under face of the share, its edge being countersunk to allow the lower edge of the shim to rest thereon and give flush outer surfaces. The parts are united by two bolts 15, passing through the shim and mold-board. By this construction the share is held in place by the overlying shim without the use of bolts engaging the share, while the latter may be removed and reversed by simply detaching the bolts 15.

The plow-standard is connected to the beam 16 by a bolt 17, passing from the end of the standard through the beam. The plow-handles 18 are connected to this beam by an adjustable joint 19, of ordinary construction, and the prolonged end of one handle is bolted to the rear margin of the mold-board by bolts 19<sup>a</sup>, a bracket 20 being cast on the inner face of the mold-board and provided with a dowel-



pin 21<sup>a</sup>, entering an opening in the handle, against which the bracket is drawn by one of the bolts 19<sup>a</sup>.

The plow-beam is provided with the usual 5 colter 21, and also has a vertically-adjustable ground-wheel 22, to regulate the depth of cut. An adjustable clevis attachment 23 is also mounted upon the end of the beam, whereby the draft-line may be varied to suit the re- 10 quirements of the work.

Among the advantages of the invention it may be mentioned that by casting the point, or "landside-base," as it is sometimes termed, integral with the mold-board and providing 15 it with the vertical shoulder 6, we are able to combine the same with the standard and landside without bolting through that point, and as the entire strain is thrown upon the latter we thereby avoid the wear and the constant 20 working of the parts, which soon loosens the bolts and admits grit and other matter, which speedily wears away the attachments. By our construction the landside is wholly shielded by the point from direct strain, and a strong 25 and durable union of the parts is effected by two bolts passing through the end of the landside and the standard.

By forming the mold-board, shim, and share separately we are able to secure much better 30 and cheaper castings, and by the peculiar formation of each they are readily united without weakening the share by the formation of bolt-holes and enabling it to be removed and reversed by simply detaching the 35 two bolts 15.

The standard of the plow is shown in detail in Fig. 9. It is provided upon one side with a seat 24, which receives the point 5, which is fastened by one of the bolts 15 passing 40 through an opening 25. Upon the other side the standard is provided with a recess 26, which admits the landside, thereby giving a perfectly flush surface with the outer face of the standard. Two bolt-holes 26 are formed 45 in the latter to receive the bolts 8, fastening the landside in place. The foot of the standard is of wedge shape, and when the point 5 is placed thereon and fastened upon the seat 24 the shoulder 6 on the point projects far

enough to bring the vertical face flush with 50 the face of the standard. Thus when the landside 7 is in place a perfectly flush surface is presented throughout all three of the parts. By this construction the entire strain is thrown upon the standard and is exerted 55 thereon in a line of strain substantially coincident with a plane passing through the standard parallel with the flush surfaces of the landside, point, and standard, giving great strength and durability to and enabling the 60 said parts to be cast separately, and renewed, whenever broken or worn, at a small expense.

What we claim is—

1. In a plow, the combination, with a stand- 65 ard, of an integral mold-board and point and a landside, the three parts being cast separately, the standard provided with a recess to receive the landside and a seat for the point which overlaps the front of the stand- 70 ard to form flush surfaces therewith and with the landside, the latter being bolted to the standard behind the vertical shoulder of the point, a reversible share laid on the mold- 75 board, and a shim holding said share, both having surfaces flush with the mold-board and edges flush with the landside, point, and standard, substantially as described.

2. In a plow, the combination, with a mold- board and point cast in one piece, the former having a countersunk seat for a shim and 80 share, said seat provided with nipples or dowels, of a reversible share having recesses engaging said nipples, a shim holding the share in place, both having edges lying flush with the vertical face of the point, a standard sup- 85 porting the latter and having a recess, and a landside bolted to said standard and lying in said recess behind a vertical shoulder on the point and forming flush surfaces with the said point, standard, and edges of the share 90 and shim, substantially as described.

In testimony whereof we have affixed our signatures in presence of two witnesses.

WILLIAM MILLER.

THOMAS ANDERSON.

Witnesses:

LEWIS A. LIPP,

WILLIAM T. ANDERSON.