

W. A. WOOD.

Journals for Harvester Frames.

No. 158,559.

Patented Jan. 5, 1875.

Fig 1.

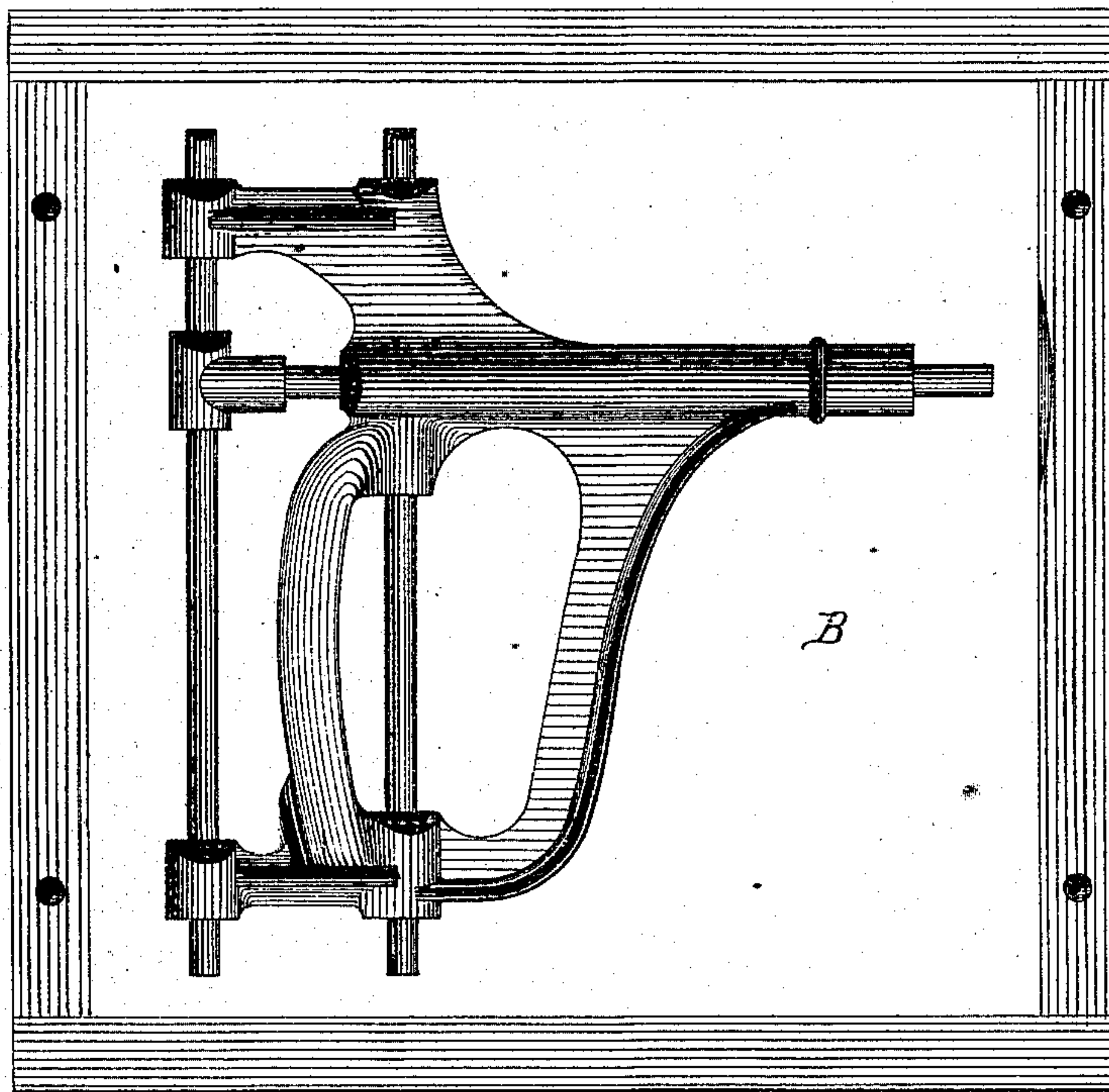
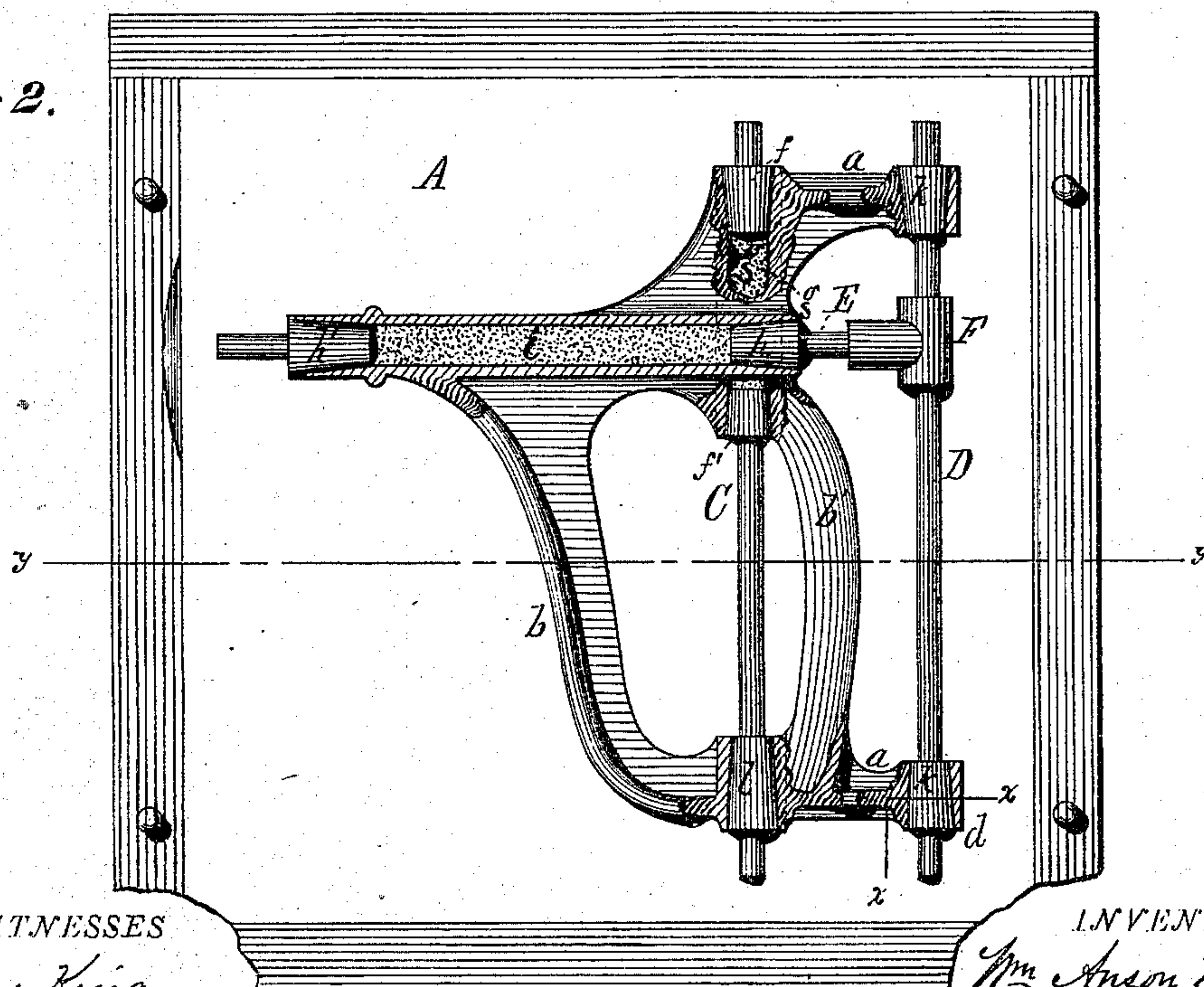


Fig 2.



WITNESSES

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Fig 3.

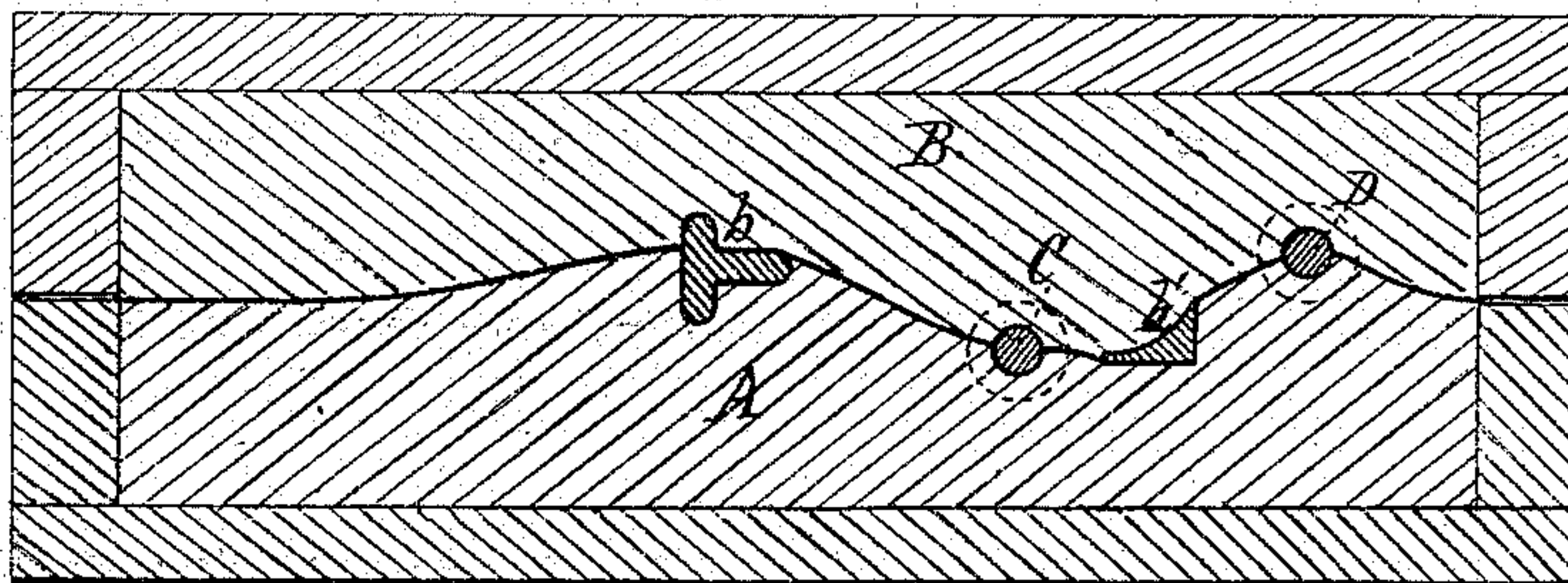


Fig 4.

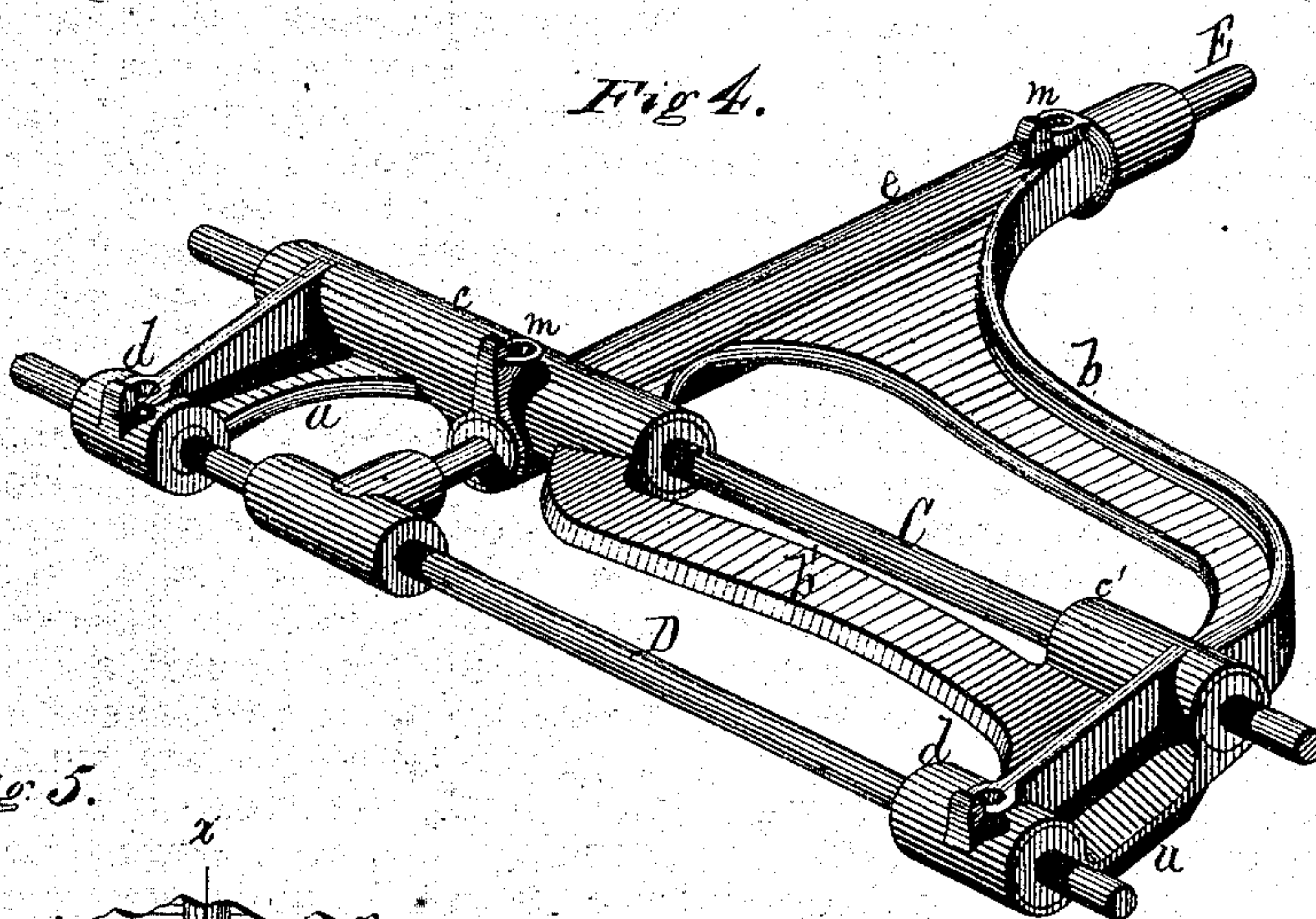


Fig 5.

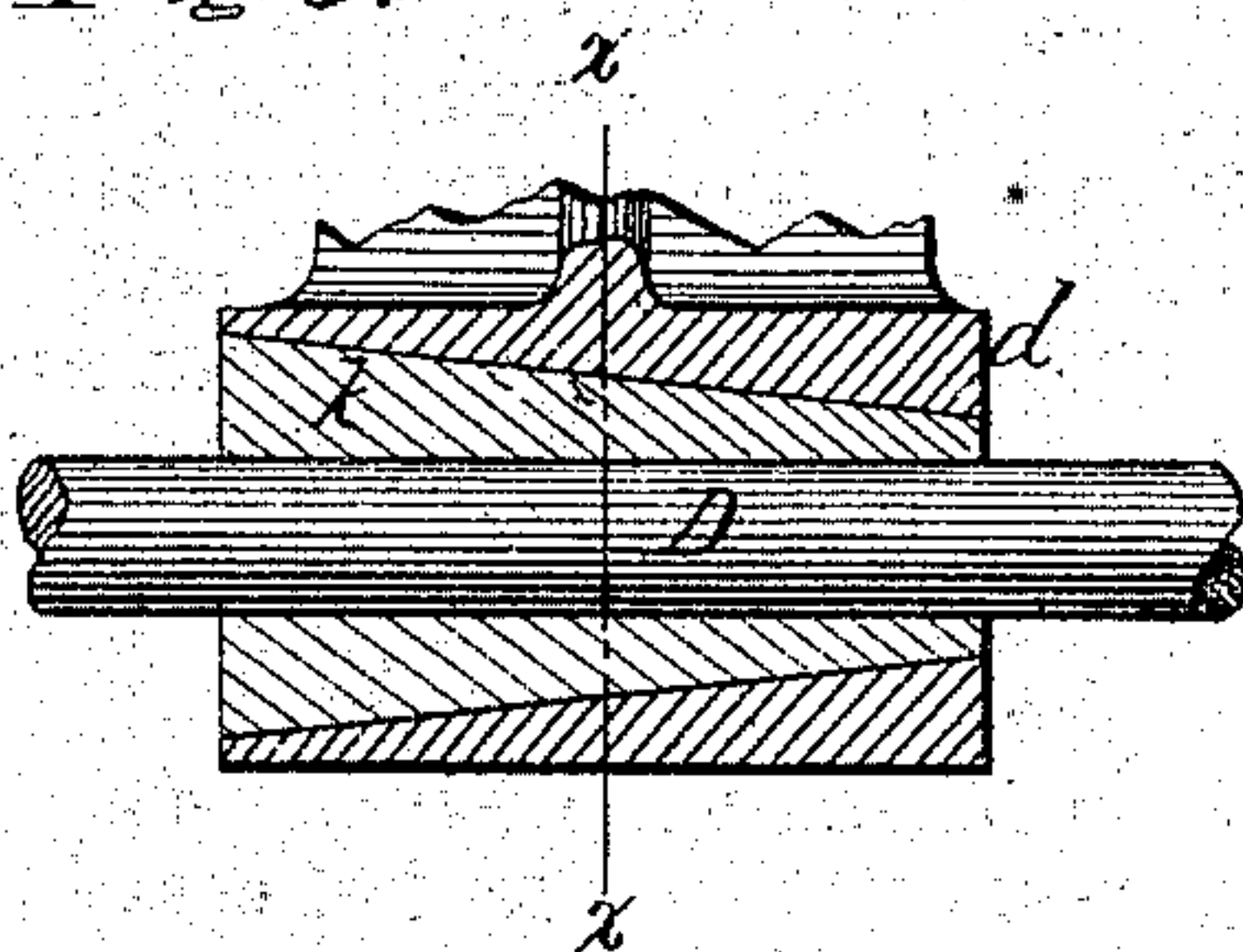
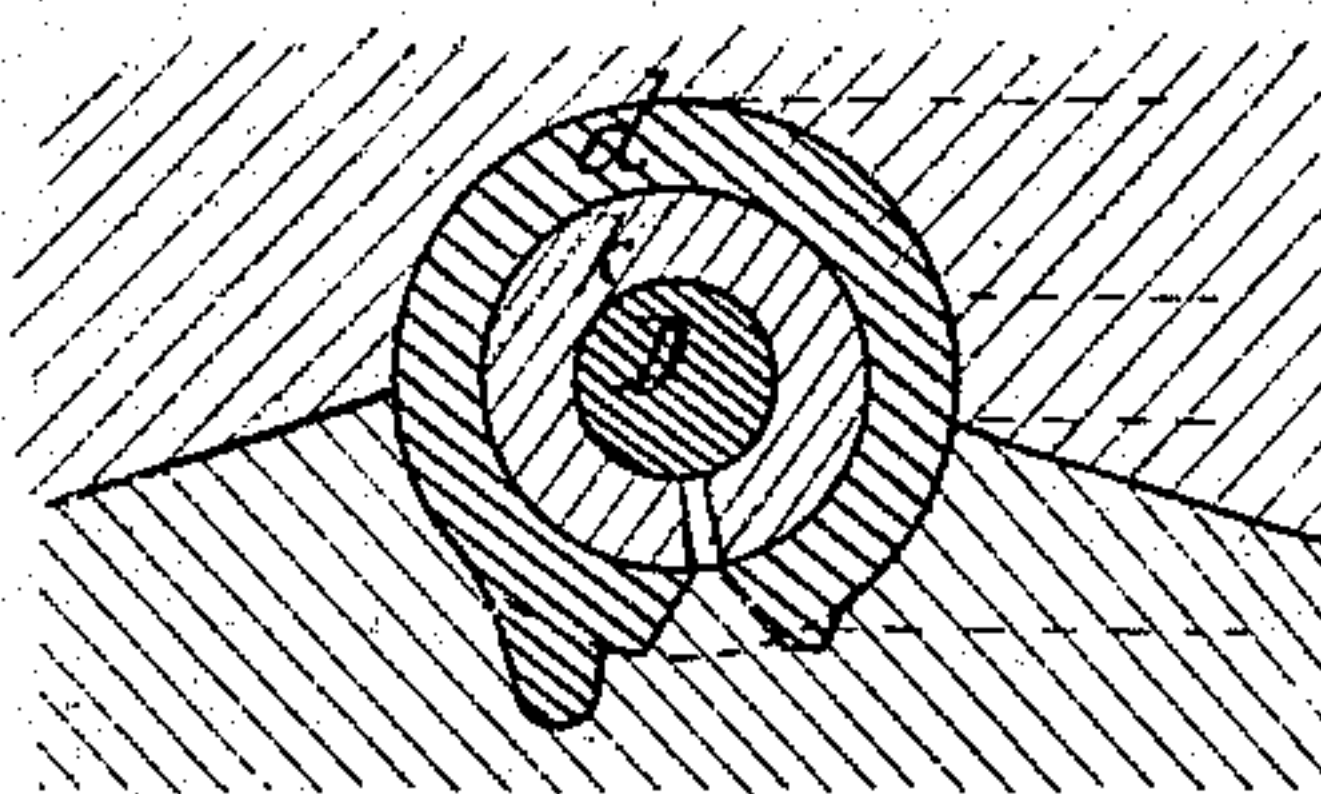


Fig 6.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN JOURNALS FOR HARVESTER-FRAMES.

Specification forming part of Letters Patent No. **158,559**, dated January 5, 1875; application filed July 9, 1874.

To all whom it may concern:

Be it known that I, WILLIAM ANSON WOOD, of the city and county of Albany, State of New York, have invented certain new and useful Improvements in Harvester-Frames, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a bottom view of the "cope" or upper portion of the mold. Fig. 2 is a plan view of the "nowel" or lower half of the mold, showing the rods, removable thimbles, and sand-cores in position, and the frame partly in section therein. Fig. 3 represents a vertical longitudinal section of the mold and frame, taken on line *y y*, Fig. 2. Fig. 4 represents a perspective view of the frame removed from the mold. Fig. 5 is a vertical longitudinal section through one of the thimbles, and Fig. 6 is a cross-section of the same in the mold.

Similar letters of reference denote corresponding parts wherever used.

In the manufacture of cast-metal harvester-frames having tubular sleeves, in which the shafts of the machine have their bearings or support, it has heretofore been the practice to form these bearings directly in the metal frame itself, and in the use of these frames, in consequence of their exposure to the elements, the conditions under which they are used, exposing the journal-bearings to the dust or grit arising from the grass or grain upon which they operate, the hurry of the harvest season, and the consequent liability to neglect oiling said bearings, it is found in many cases that these bearings speedily become so worn as to permit the shafts to wobble in such manner as to seriously impair the efficiency of the machine, and this wobbling, constantly and rapidly increasing, soon results in the destruction of the frame, necessitating its replacement at considerable expense, or the purchase of a new machine.

The object of the present invention is to overcome these difficulties by supplying the tubular metal frame with removable thimble-bearings, which, when they become worn sufficiently in any way to impair the efficiency of the machine, or interfere with its proper working, can readily be driven out or removed,

and their places supplied by new ones, virtually restoring the machine to the condition of a new machine, and this at a comparatively trifling expense.

To enable others to understand and apply my invention, I will proceed to describe the same with reference to the drawings, in which—

A represents the nowel or lower portion, and B the cope or upper part, of the sand-mold in which the frame is cast, the mold itself being formed partly in each, in the usual manner. In the formation of this mold rods C D E are placed therein, corresponding in size and in their relation to each other with the main axle, bevel-wheel shaft, and crank-shaft, respectively. Referring to Figs. 1 and 4, it will be seen that the frame is provided with transverse sleeve or sleeves *c c'*, surrounding the axle-rod C in rear thereof, supported upon arms *a a*, with transverse sleeves *d d'* surrounding the bevel-wheel rod D, and at right angles thereto, and underneath the axle-sleeve *c*, with a longitudinal sleeve, *e*, surrounding the crank-shaft rod E. The portion of the mold corresponding to the long sleeve *c* has placed in it, upon the rod C, two tapering thimbles, *f f'*, one at each end of said sleeve, both tapering inward, with a sand-core, *g*, conforming in diameter to the inner ends of these thimbles *f f'*, formed upon the rod C between them. A similar arrangement of thimbles *h h'* and sand-core *i* is placed upon the crank-shaft rod E, and in each of the short sleeves *c' d d'* is placed, on their respective rods, thimbles *k k'* and *l*, these also, by preference, tapering inward, as shown. A tubular cross or T piece, F, placed on the rod D, serves to support the rear end of rod E in the exact desired relation to rod D in the mold. Cross or T-flanged arms or braces *a a b b'* serve, by their counterparts in the mold, to connect the sleeves with each other, and to give form and strength to the frame. The nowel of the mold, in which the frame is cast in an inverted position, is provided with spurs or teats, which project upward into contact with the thimbles, closing the oil-holes therein, and forming oil holes or cavities *m* in the casing.

The sprue-hole may be located at any desired point in the cope, ordinarily where the metal frame will be the thickest.

With the mold thus prepared, when the molten metal is poured in and comes in contact with the cold-metal thimbles, its tendency is to shrink slightly therefrom, and to become chilled and hardened out of actual contact therewith, in a manner well understood by those skilled in the process of casting, and this failure of the metals to unite, in connection with the tapering form given to the thimbles, as explained, permits said thimbles, which form the bearings of the shafts of the machine when set up, to be readily driven out when they become worn, and their places to be supplied by new ones. These thimbles are prepared by being accurately turned on their inner faces in cylindrical form to fit the shafts, and on their outer faces tapering, as explained, and, by preference, and to prevent their becoming loose in their sleeves from the shrinkage of the frame metal in casing it around, are provided at their smaller ends with slight longitudinal grooves or depressions, which, being filled by the metal of the frame in casting, while they prevent the sleeve from rotating or becoming loose, do not interfere with the thimbles being driven out when they become worn; and the thimbles being made uniform in size for their respective places in the machine, when one is removed it may be readily replaced by a new one corresponding

to the old one removed, and a farmer or operator supplied with a few extra thimbles is enabled to keep his machine in constant repair at a very moderate expense. In addition to this, the frame comes from the mold all ready to be set up after the removal of the sand-cores and rods referred to, and the labor and expense of handling and turning the bearings in the cumbrous frame itself, as has heretofore been necessary, are entirely avoided.

In setting up the machine, the rods C, D, and E are removed, and the axle and bevel-wheel and crank-shafts are substituted therefor, any usual or preferred arrangement of gearing being employed thereon.

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

1. A metal harvester-frame provided with removable thimble-bearings for the shafts mounted therein, substantially as and for the purpose set forth.

2. The combination of removable thimble-bearings with the frame of a harvesting-machine in the process of manufacture, substantially as described.

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Witnesses:

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