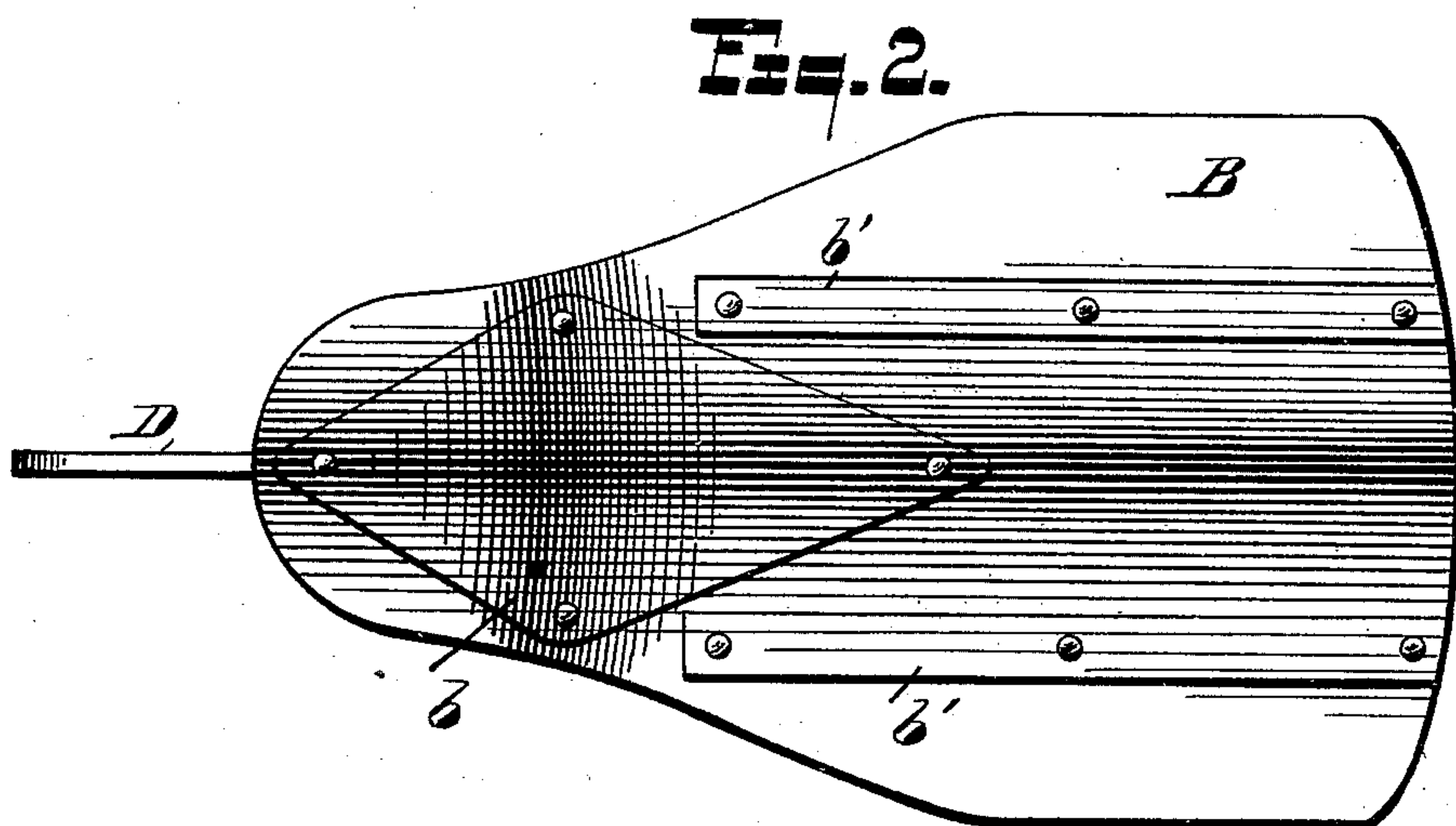
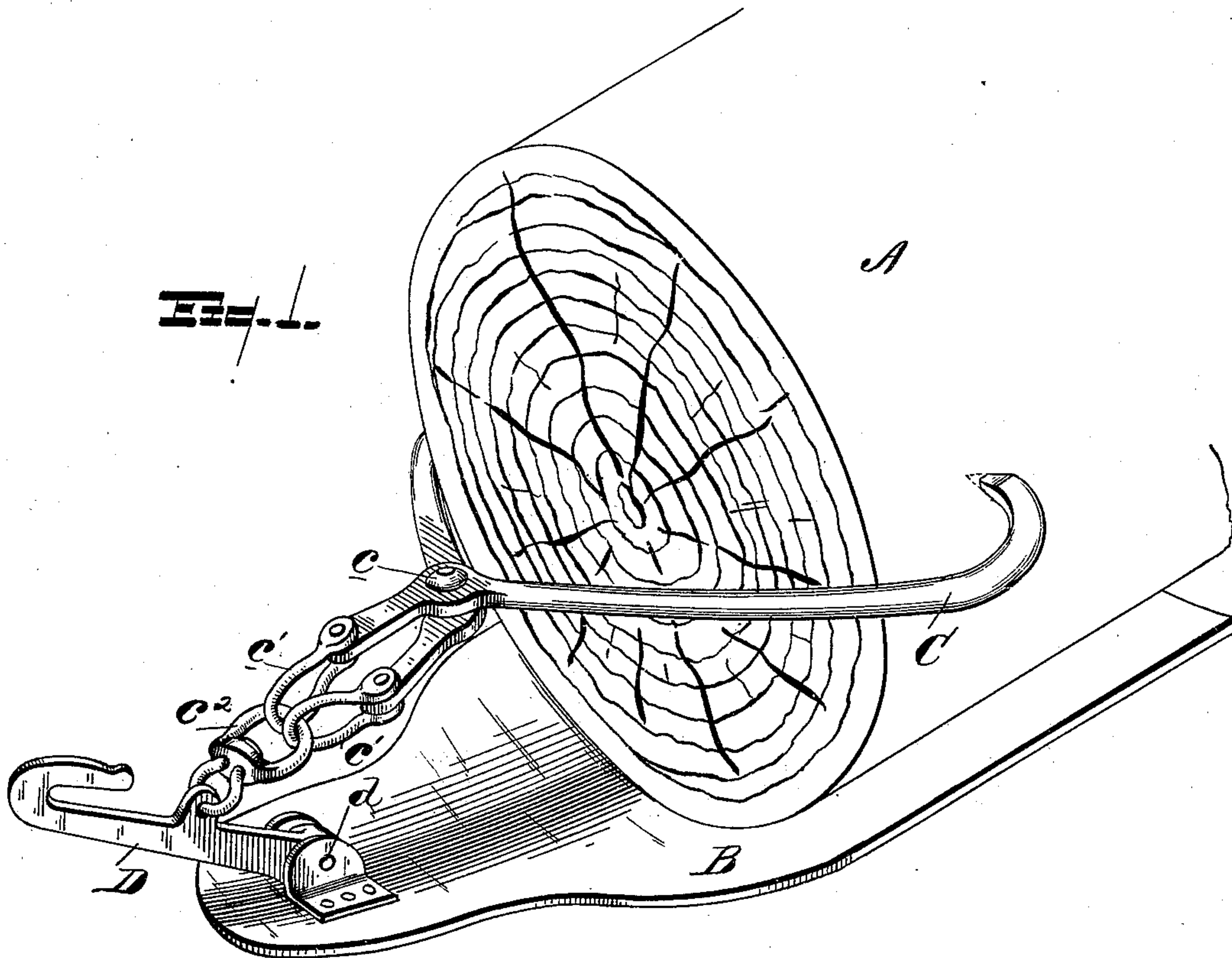


(No Model.)

H. & J. K. PANGBORN.  
COMBINED SKIDDING TONGS AND DRAY.

No. 420,733.

Patented Feb. 4, 1890.



WITNESSES

Samuel E. Thomas.

E. Schenck.

INVENTOR

Henry Pangborn

James K. Pangborn

By their Attorney

Arthur H. Swarthout.

Attorney.

# UNITED STATES PATENT OFFICE.

HENRY PANGBORN AND JAMES K. PANGBORN, OF MENOMINEE, MICHIGAN,  
ASSIGNORS TO THE DUNNING, PANGBORN MANUFACTURING COMPANY,  
OF SAME PLACE.

## COMBINED SKIDDING TONGS AND DRAY.

SPECIFICATION forming part of Letters Patent No. 420,733, dated February 4, 1890.

Application filed October 26, 1889. Serial No. 328,348. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY PANGBORN and JAMES K. PANGBORN, citizens of the United States, residing at Menominee, in the county of Menominee and State of Michigan, have invented certain new and useful Improvements in Combined Skidding Tongs and Dray; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 represents a perspective view of the machine in use. Fig. 2 represents a view of the bottom of the dray.

In the drawings, A represents a log upon which the machine is being operated.

B represents the dray; C, the tongs—ordinary skidding-tongs; D, the draft-bar, which is hinged to dray B by pivot  $d'$  and to the tongs C by links  $c'$  and swivel  $c^2$ .

In Fig. 2,  $b$  represents a triangular plate of iron or steel riveted to the bottom of the dray B directly under hinge  $d$ .  $b'b'$  are iron or steel bars riveted to bottom of dray B and serve as braces and shoes for the same.

We do not wish to be understood as confining ourselves to any special form of construction of dray or tongs or draft-bar, and therefore any changes or modifications may be made as comes within ordinary mechanical skill without departing from the principle of our invention.

This invention has relation to that class of devices used in skidding logs.

Formerly to skid a log a chain was wrapped around one end and it was dragged to the skidway. Another way was to place at the side of the log a dray or drag, sometimes called a "stone-drag," onto which the log was rolled and drawn where wanted. Lately it has been common to use a pair of large tongs at one

end of a chain. The logs would be caught with the tongs and drawn to skidway. Our invention is a combination of both of these old methods, and produces greater ease and effectiveness in hauling the log, and is accomplished in the following manner, viz:

The dray B may be placed in front of the log A. The tongs are then drawn back and fastened to the log A. Pulling on the draft-bar D when the tongs are thus fastened causes the dray B to remain stationary, it thereby becoming the fulcrum of the bar D at  $d$ , and the log A is thereby hauled upon the dray B; or, in case the end of the log is loose, the dray B will be forced under the log. In case the position of the log is such in the brush, &c., that the dray cannot be placed at the end of the log, it may be placed at the side, and the tongs C, turning upon the swivel  $c^2$ , pulled over and attached to the log. Pulling upon the bar D will result in the tongs C turning the log upon the dray B. In either case the dray serves to keep the end of the log from plowing into the ground or snow as it is being drawn to the skids, thus making it much easier for the horses and saving strain on chains and tongs.

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

The combination of the tongs C, and the swivel  $c^2$ , and the connecting-links  $c'$  with the dray or drag B, as shown in the drawings and described in the specification, and the bar D, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

HENRY PANGBORN.  
JAMES K. PANGBORN.

Witnesses:

CHARLES LINE,  
M. A. DUNNING.