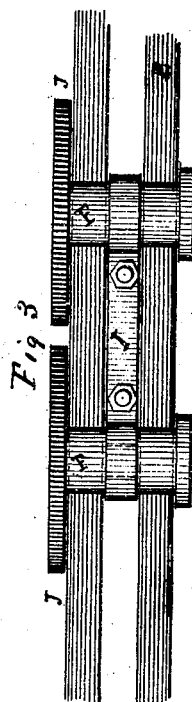
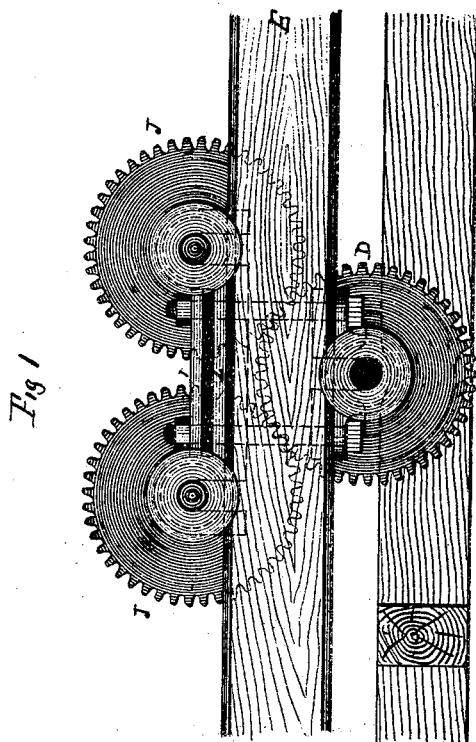
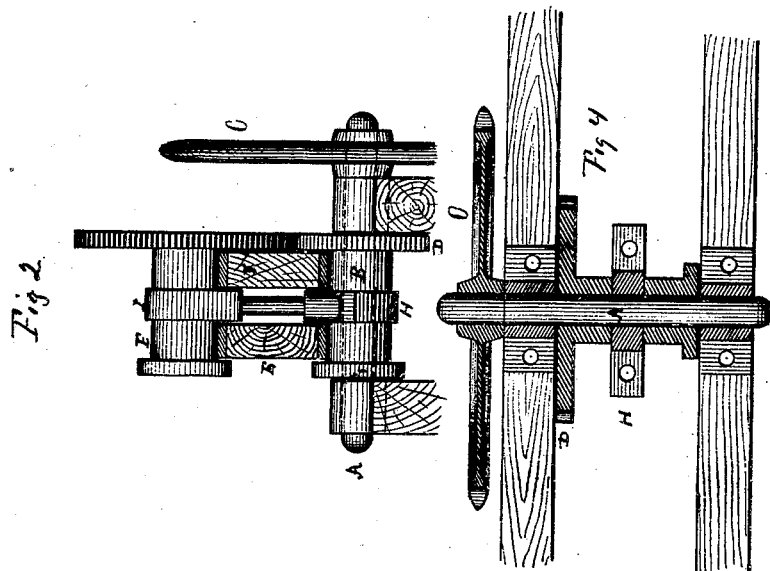


J. C. Osgood,

Excavator.

No. 113,691.

Patented Apr. 11, 1891.



Witnesses
H. Davenport
J. M. Laudon

Jason, C. Osgood

UNITED STATES PATENT OFFICE.

JASON C. OSGOOD, OF TROY, NEW YORK.

IMPROVEMENT IN EXCAVATORS.

Specification forming part of Letters Patent No. **113,691**, dated April 11, 1871.

To all whom it may concern:

Be it known that I, JASON C. OSGOOD, of Troy, county of Rensselaer, and State of New York, have invented certain Improvements in Dredging-Machines or Excavators, of which the following is a specification:

My invention relates to the construction of the main shaft of the crane and the dipper-handle of dredges of the Carmichael & Osgood and Jason C. Osgood patterns, and others similarly constructed, in such manner that the dipper-handle can be controlled by friction-rollers, instead of the racks and pinions in common use.

Referring to the accompanying drawing, Figure 1 is a side elevation of the dipper-handle, cog-wheels on the friction-rollers, and a portion of the yokes. Fig. 2 is an end view of the friction-rollers, a section of the dipper-handle, and cog-wheels. Fig. 3 is a top view of the two upper friction-rollers and the upper yoke and dipper-handle. Fig. 4 is a view of the main shaft and a section of the lower yoke.

The crane and dipper-handle of the dredging machine in general form and manner of construction are similar to those of the Carmichael & Osgood and of the Jason C. Osgood patterns, now in general use. The dipper-handle I control by means of friction-rollers instead of the racks and pinions, as herein described.

On the main shaft A of the crane I place the blank friction-roller B. On the outer end of this roller, and outside the crane-frame, is the wheel C, which is connected by a chain to the power, as in the Carmichael & Osgood machines now in common use. On the same roller, but within the crane-frame and secured to the roller, is the cog-wheel D. The dipper-handle E, which is slotted, rests upon the friction-roller B. On the top of the handle I put two other blank friction-rollers, F F, not secured to the frame, and of the same size as the lower roller B. Under this lower roller B, and closely and properly fitted to it, I put a yoke, H, of sufficient size and strength to hold the required strain. Over the two upper friction-rollers F F, I put another yoke, I, closely and properly fitted to the rollers, and of sufficient size and strength to bear the required strain.

The lower yoke H has an eye at each end, and the upper yoke has holes through the center corresponding with the eyes of the lower yoke. Through these eyes of the lower

yoke and the holes of the upper yoke I put heavy bolts to hold the two yokes together. On the upper end of the bolts, and over the yoke, I put nuts, by which the two yokes are drawn together upon the dipper-handle to create the friction desired.

Between the nuts and the top of the upper yoke I put a packing of rubber or other elastic material, L, properly protected by iron plates, and held in place by the yoke-bolts which pass through it and the iron plates above the rubber.

The upper rollers are separated from each other by the length of the yoke just far enough to admit a cog-wheel, J J, on one end of each to work into the cog-wheel D on the lower roller without working into each other. These cog-wheels may be doubled—*i. e.*, there may be one on each end of the friction-rollers, if considered desirable. These rollers I make of iron and about nine inches in diameter. The upper rollers are in length about the width of the dipper-handle, or a trifle longer.

The upper and lower sides of the dipper-handle, and which come in contact with the friction-rollers, I strap with iron.

When the machine is at work, and the toothed wheel C in gear, the power is carried to the shaft A and the friction-roller B and cog-wheel D, and by the cog-wheel D to the two cog-wheels J J, and thus turning the friction-rollers in such direction that the dipper-handle will be forced outward or drawn inward and controlled the same as by the racks and pinions now in use for such purpose.

By the use of these friction-rollers the great weight of the racks and pinions is avoided, and the dipper-handle made much stronger by the continuous straps of iron in place of the racks, which must be put on in sections, and the better support and leverage of the rollers. The dipper-handle is also more easily and simply controlled, and the machinery less liable to breaks and damage, and much more easily and less expensively kept in working order.

What I claim as my invention, and desire to secure by Letters Patent, is—

The friction-wheels B F F, arranged to act on the dipper-handle, and receiving motion through the cog-wheels, as set forth.

JASON C. OSGOOD.

Witnesses:

N. DAVENPORT,
J. M. LONDON.