L. B. WOOLFOLK.

Steam Plow.

No. 28,933. Patented June 26, 1860.

Fig. 1.

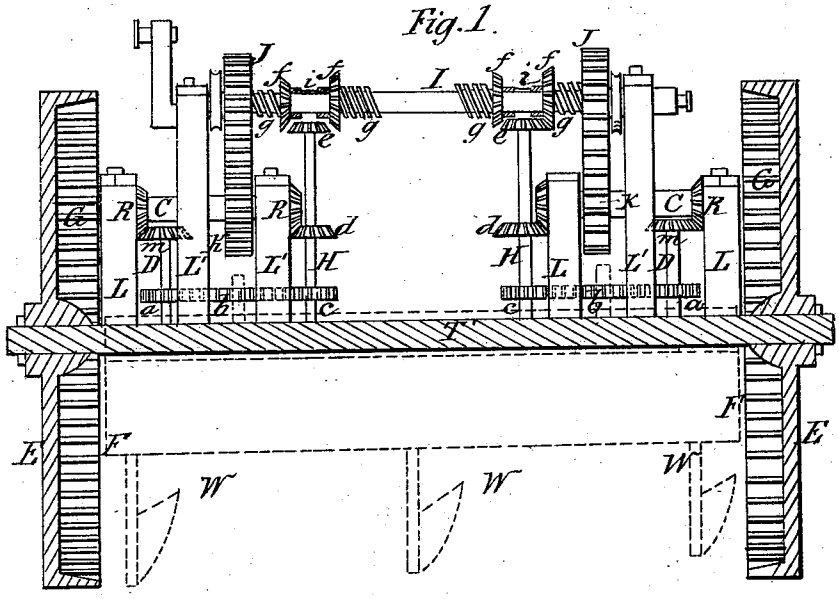


Fig. 3.

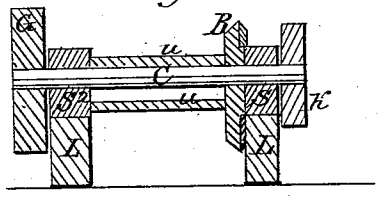


Fig. 4.

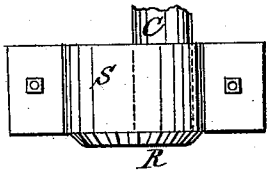
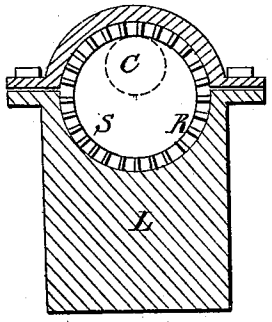


Fig. 2.



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UNITED STATES PATENT OFFICE.

L. B. WOOLFOLK, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN STEAM-PLOWS.

Specification forming part of Letters Patent No. **28,933**, dated June 26, 1860.

To all whom it may concern:

Be it known that I, L. B. WOOLFOLK, of Nashville, in the State of Tennessee, have invented certain new and useful Improvements in Steam-Plows; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in constructing and arranging the several parts hereinafter particularly described substantially in the manner that will be set forth.

In the annexed drawings, Figure 1 represents a back view of the apparatus, the driving-wheel and axle being shown in section. Fig. 2 is a section of a detached portion of the machine. Fig. 4 is a plan view of the same part. Figs. 3 and 5 are modifications of the plan seen in Fig. 1.

In the figures, T′ represents an axle, to which two driving-wheels, E E, are secured. Upon a substantial frame which is secured to this axle are erected the supports L L L′. I represents a horizontal shaft, which has its bearings in the supports L′ L′. Upon this shaft I are secured two cog-wheels, J J, and also two sleeves, each of which are provided with two bevel-wheels, *f f*, as represented in Fig. 1. These sleeves slide upon the shaft I, and are kept in place and from turning upon said shaft by means of pins, which pass through the slots *i i*.

g g represent springs, which surround the shaft I, and which press against the bevel-wheels on the sleeves in the manner represented, so that if the sleeve is moved to one side or the other from its normal position they will return to it again when pressure is removed from it.

C C represent two short shafts, which have their bearings in the supports L L indirectly, their ends being secured eccentrically in two short cylinders, S S², which bear directly in the said supports. The cylinders S S² are provided with bevel-wheels R R. The bevel-wheels and the cylinder have a positive rotary motion when they turn; but the shafts C C, which are secured in the cylinders, have an eccentric motion as the cylinders S S² are revolved.

K K represent cog-wheels, which are secured upon the shaft C C, and which gear into the wheels J J, which are situated just above them. It will be seen readily that the turning of the cylinders S S² will cause the wheels K to recede from and to approach the wheels J alternately. When the cylinders are turned so that the shafts C C will be at their highest point of rotation the wheels K K will gear full into the wheels J J; but when said shafts are at their lowest point the teeth of the two wheels will part, not gearing into each other. The wheels G are also secured to the shafts C, and are cogged, and gear into the cogged rims F of the driving-wheels E.

D and H represent vertical shafts. To the shafts H are secured the bevel-wheels *e* and *d* and the pinions *c*, and to the shafts D are secured the bevel-wheels *m* and the pinions *a*. Between the pinions *a* and *c* are situated the idle wheels *b*, which serve to communicate motion from one to the other.

It will be clearly seen that by this system of wheels just mentioned the bevel-wheels *f* upon the sleeve on the shaft I may be made to gear into the bevel-wheels *e*, and thus motion may be communicated from the shaft H through the bevel-wheels *d* to one of the bevel-wheels R on the cylinders S and at the same time through the pinions *c b a* and bevel-wheels *m* to the other bevel-wheel, R, thus giving motion to the shaft C by applying power in two points at the same time. The object of this arrangement is to raise and lower the wheels K gradually, so that the machine may be thrown in or out of gear at the pleasure of the operator with ease and facility.

Fig. 3 represents another mode of accomplishing the same result. In this figure the cog-wheel K is placed upon the end of the shaft C, and the bevel-wheel R upon the cylinder S is placed upon the inside of the support L. This bevel-wheel is worked by the wheels *f f* upon the shaft I, either directly or by means of intermediate wheels and shaft. The bevel-wheel R, when operated directly from the wheels *f f*, has bevel-gearing half-way around on each side. The sleeve *u* connects the two cylinders S S², and the motion from R is thus transmitted to both.

It will be understood that the wheels E E turn loosely upon the axle T′, and that by means of the cogged rims F upon these wheels, operated by the cog-wheels G upon the shaft C, they are turned so as to carry the carriage forward, or either may be operated alone, so

as to turn the carriage in any required direction. A gang of plows, W, are secured to the frame in such a manner that they may be raised or lowered at the will of the operator, as seen in dotted lines, Fig. 1.

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

1. The arrangement of the cylinder S, provided with bevel-wheel R, having the shaft C passed through it eccentrically, shaft I, springs *g g*, bevel-wheels *f f*, sleeves *i*, pinions G, rim F, wheels E, and plows W, the whole being constructed in the manner and for the purpose herein described.

2. In combination with the above, the cylinders S S^2, sleeve *u*, bevel-wheel R, and shaft C, as described.

L. B. WOOLFOLK.

Witnesses:
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