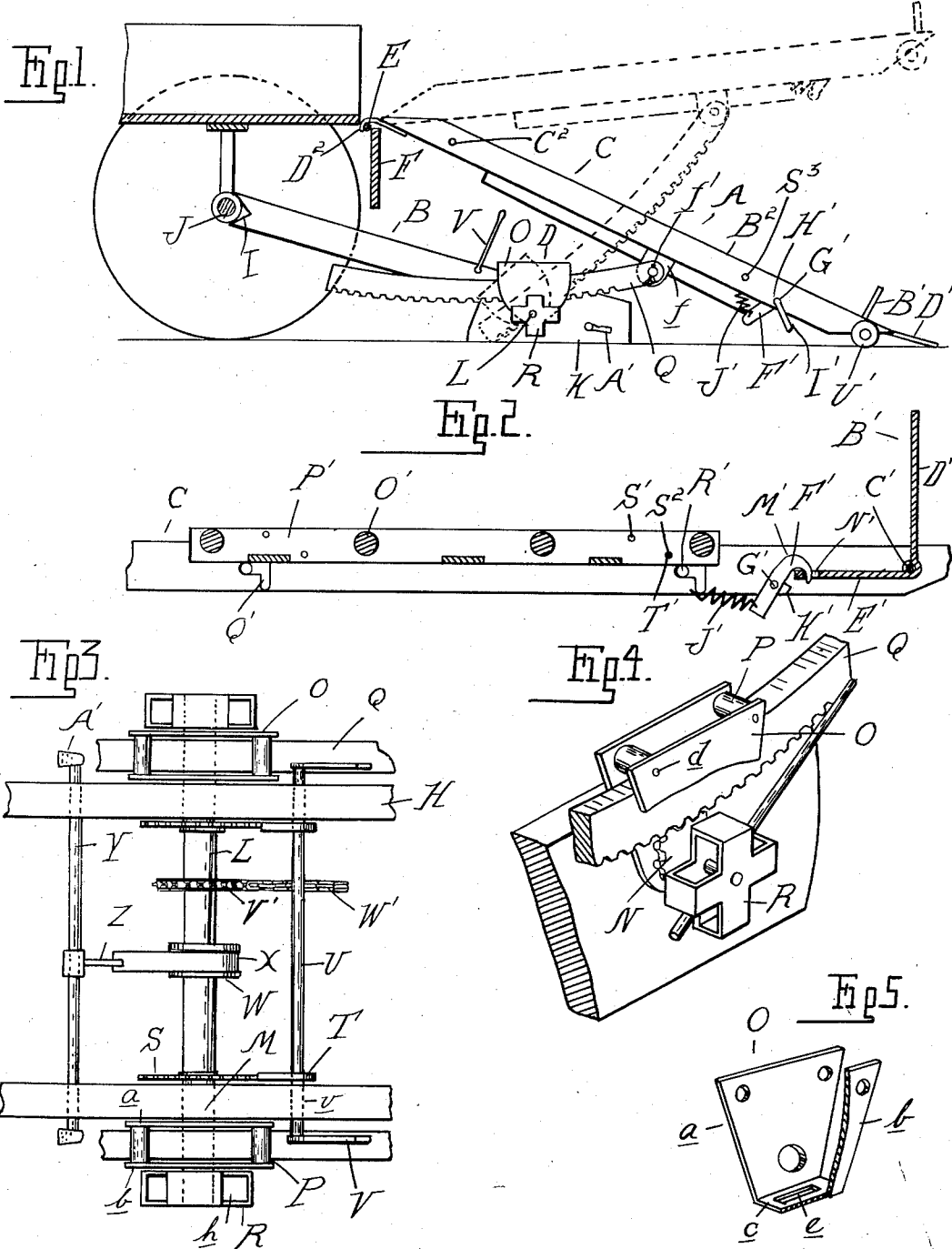


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SKID.

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Witnesses

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UNITED STATES PATENT OFFICE.

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SKID.

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To all whom it may concern:

Be it known that I, AUGUST LEMKE, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Skids, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to skids and consists in the peculiar construction of the skid, and, further, in the novel construction, combination and arrangement of parts as more fully hereinafter described.

In the drawings—Figure 1 is a side elevation of my invention as applied to a wagon; Fig. 2 is a longitudinal section through the upper section of the skid; Fig. 3 is a top plan view of the lower section of the skid; and Figs. 4 and 5 are sectional perspective views illustrating certain parts of my invention.

A represents the skid, comprising a stationary section B and a movable section or skid proper, C, and D is mechanism for raising and lowering the latter. The movable section comprises the longitudinal side members B², the cross-bars or rods C² and the hooks D² for engaging the pivot rod E of the wagon end gate F, while the stationary section consists of complementary members H, each having one end recessed as at I to engage the axle J of a wagon, and provided at the other end with an enlarged bearing portion K.

The shaft L for raising and lowering the mechanism is rotatively journaled in bearings M in the portion K, and has its opposite ends projecting beyond said bearing portions. Upon each of the projecting ends of the shaft L a gear wheel N is fixedly secured, while loosely journaled thereon is a guide bearing O. This guide bearing is preferably formed from a single sheet of metal bent to form members *a b* positioned upon the opposite sides of the gear wheel N, and spaced apart at their lower edges by the connected portions *c*, and at their upper edges by rollers P loosely journaled upon pins *d*.

e is an aperture in the lower portion of said member, through which the gear wheel N projects, and *f* is a bracket upon each of the side members B², to which a segment Q is detachably pivoted, as by means of the cotter pin *f'*. The segments Q are held in driving engagement with the gear wheels N

by the bearings O, and since the said bearing members are loosely sleeved upon the shaft L they readily adjust themselves to the different angular relations of the segments Q.

The shaft L may be rotated in any desirable manner, but I preferably employ a lever bearing R secured to each of the projecting ends of the shaft L, and having spaced apertures *h* with which a crow-bar, or other lever, may be engaged.

In order to prevent backward rotation of the shaft L during the lifting of the skid, a ratchet mechanism is employed, which, as shown, preferably comprises a pair of ratchet wheels S rigidly secured to the shaft L, and gravity pawls T' adapted to engage the wheels S. The pawls T are rigidly secured to a shaft U, which is journaled in bearings *u* in the members H, and V are hand-levers carried by the opposite ends of said shaft, whereby the pawls may be thrown out of engagement with the ratchet wheels.

To aid in lowering the skid, I provide a clutch mechanism, which may be of any suitable form, the construction shown comprising a drum W fixed to the shaft L and a brake band X.

Y is an operating shaft for the brake provided with a rocker Z intermediate its ends for actuating the brake band, and having its opposite ends journaled in and projecting beyond the bearing portions K. An operating lever, such as a foot-lever A', is secured to each of the projecting ends of this shaft.

B' is an angle-shaped member loosely sleeved upon a shaft C' extending transversely and at the lower end of movable section, or skid proper. The portion D' of this member, when the parts are in the relation shown in Fig. 1, form an extension of the skid proper, upon which the barrels or other articles to be loaded are rolled, while the portion E' forms an abutment against which the articles strike as they are loaded upon the movable section to force the angle-shaped member into its retaining portion, as shown in Fig. 2. I preferably provide means for automatically locking the member B' in its retaining position. Thus, as shown, F' is a dog fixed upon a shaft G' loosely-journaled in bearings H' in the side members of the movable section. This dog is yieldingly held by a spring J' against a stop K' so as to be in the path of the mem-

ber E' upon the downward movement of the latter, while the head of the dog is shaped to form a cam face M' against which the member E' engages to force the dog out of the path of the latter when the member B' is rocked into its retaining position. After the member E' has passed below the head of the dog the spring forces the latter into locking engagement with a slot N'. In order to provide means for releasing the dog, the ends of the shaft G are extended beyond the side members of the skid proper and bent to form operating handles, or levers I'. If desired, a pair of locking dogs could be positioned upon the shaft G', as will be readily understood. The lower end of the movable section is preferably provided with rollers U' loosely journaled upon the ends of the shaft C' of the angle-shaped member.

In the operation of the parts, assuming that a heavy barrel or keg is to be loaded into the wagon or truck, the parts are positioned as shown in full lines in Fig. 1. The barrel is then rolled up the portion D' until it engages the movable section, when a further movement will force the retaining member into the position shown in Fig. 2. The operator then rotates the shaft L, which drives the segments Q forward, raising the skid proper to the position shown in dotted lines, and the barrel can then be easily rolled into the wagon. To lower the movable section, the operator applies the brake by means of the foot-lever A', and releases the ratchet mechanism through the medium of the hand-lever V, whereupon the movable section can be gradually lowered.

In the loading of heavy boxes, considerable difficulty is frequently experienced in placing the boxes on the movable section and also in removing the boxes from the latter after the movable section has been raised. I therefore provide the section C with a series of rollers O' journaled in a member P' which is positioned between the sides of the section C, and adapted to be raised above or positioned in a plane below the top of said sides. To accomplish this raising and lowering operation, bayonet slots Q' are formed in the sides of the movable section with which the shafts R' of the member P' engage, and in order to hold the member P' in its raised or lowered position, apertures S' S² are formed in the sides of the latter, which register with apertures S³ in the sides of the skid proper respectively in the raised and lowered position of the member P'. T' are pins adapted to be inserted in said registering apertures. The skid proper may be detached from the stationary section B by withdrawing the segments Q from the guide bearings O, or by detaching said segments from the brackets f.

While I have shown my device as applied to a wagon, it will be readily understood

that it is applicable to various uses, for which the ordinary skid is employed. Also, although I have described the ratchet brake and raising mechanisms as provided each with a pair of operating levers, if desirable the actuating levers upon one side of the skid might be dispensed with. In certain uses for which the skid is employed, it is preferable, instead of rotating the shaft L by hand to drive the same by a motor and to this end a sprocket V' is fixed upon the shaft L. W' is a drive chain for the sprocket V' leading to any suitable source of power, such as the drive shaft of a motor truck (not shown).

What I claim as my invention is:

1. In a skid, the combination with an article-engaging section, of a retaining member pivoted thereto, and a spring-pressed dog for automatically locking said member in its retaining position.
2. In a skid, the combination with an article-engaging section, of a pivoted retaining member therefor, means for locking said member in its retaining position, and means operable from the side of the skid for releasing said retaining means.
3. In a skid, the combination with a movable section, of an angle-shaped retaining member pivotally connected thereto, and a spring-pressed dog for automatically locking said angle-shaped member in its retaining position.
4. In a skid, the combination with a movable section, of a retaining member pivotally connected thereto, means for locking said member in its retaining position, and means operable from the side of the skid for releasing said retaining means.
5. In a skid, the combination with a movable section, of a retaining member pivotally connected thereto, means for locking said member in its retaining position, and means operable from both sides of the skid for releasing said retaining means.
6. In a skid, the combination with an article-engaging section, of a member carried thereby, a plurality of rollers journaled in said member, and means for adjusting said member to position the rollers in a plane above the top surface of the article-engaging section.
7. In a skid, the combination with an article-engaging section, of a member carried thereby, a plurality of rollers journaled in said member, and means for adjusting said member to place the rollers into and out of operative relation to the upper surface of the movable section, and means for locking said member in its different positions of adjustment.
8. In a skid, the combination with a movable section, of a toothed segment pivoted thereto, a bearing member, a drive shaft journaled therein, a gear wheel fixed upon

said shaft and intermeshing with said segment, a guide bearing for the segment loosely sleeved upon the shaft, and means for rotating said shaft.

5 9. In a skid, the combination with a movable section, of a toothed segment pivoted thereto, a bearing member, a drive shaft journaled therein, a gear wheel fixed upon the shaft and intermeshing with the segment, a ratchet wheel fixedly secured to said
10 drive shaft, a pawl engaging said ratchet wheel, and a lever positioned at the side of the skid for operating said pawl.

10 10. In a skid, the combination with a movable section, of mechanism for raising the same, a drive shaft for operating said mechanism, and a clutch associated with said shaft.

20 11. In a skid, the combination with a movable section, of mechanism for raising the same, a drive shaft for said mechanism, a clutch associated with said shaft, and a lever positioned at the side of the skid for operating said clutch.

25 12. In a skid, the combination with a movable section, of mechanism for raising the same, a drive shaft for said mechanism, a clutch associated with said shaft, and means operable from either side of the skid for applying said clutch.
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13. In a skid, the combination with a movable section, of a stationary section, and means for raising and lowering the movable section comprising a member secured to the
35 latter, and means rigidly secured to the stationary section for driving said member.

14. In a skid, the combination with a mov-

able section, of a stationary section, means for raising and lowering the movable section comprising a member pivoted to the latter, 40 a bearing member fixedly secured to the stationary section, and means carried by the bearing member for driving said pivoted member.

15. In a skid, the combination with a movable section, of a stationary section, means 45 for raising and lowering the movable section comprising a toothed segment pivoted to the movable section, a shaft journaled in the stationary section, a gear wheel upon said shaft adapted to intermesh with the toothed segment.
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16. In a skid, the combination with a movable section, of a stationary section, a toothed segment pivoted to the movable section, a 55 drive shaft journaled in the stationary section, a gear wheel fixed upon the drive shaft and intermeshing with said segment, and means for holding said segment in driving contact with the gears.
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17. In a skid, the combination with a movable section, of a stationary section and a toothed segment pivoted to the movable section, a shaft journaled in the stationary section, a gear wheel fixed upon the shaft and 65 intermeshing with said segment, a ratchet wheel fixedly secured to said drive shaft, and a pawl engaging said ratchet wheel.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST LEMKE.

Witnesses:

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W. J. BELKNAP.